

# RECLAMATION

*Managing Water in the West*

## **Newton Service Canal Modification Project Final Environmental Assessment**

**PRO-EA-13-006**

**Cache County, Utah  
Provo Area Office  
Upper Colorado Region**



**U.S. Department of the Interior  
Bureau of Reclamation  
Provo Area Office  
Provo, Utah**

**February 2015**

## **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.

# Newton Service Canal Modification Project Final Environmental Assessment

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Cache County, Utah  
Provo Area Office  
Upper Colorado Region

*prepared by*

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U.S. Department of the Interior  
Bureau of Reclamation  
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February 2015

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**Figure 1      Newton Canal Project Site Location**

**Appendices**

**Appendix 1    Public Comment Summary**

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# Chapter 1 Purpose and Need for Proposed Action

## 1.1 Introduction

The Newton Water Users Association (Association) located in Cache County, Utah, has requested authorization from the Bureau of Reclamation to modify the existing Newton Canal (Canal) into a pressurized pipeline (herein referred to as the Project). The Association is made up of 118 farmer and 260 homeowner shareholders who hold 4,640 shares of water. The Newton Project was established to provide a firm water supply to land in the vicinity of the town of Newton. The Newton Project consists of Newton Dam, Reservoir, and Canal (Main, East, and Highline (or West) portions). The Main Canal starts at the toe of the dam and splits into the East and West canals approximately 0.5 miles from the dam. The Canal was finished in 1947. Over the last 67 years of operation, normal wear and tear has taken its toll. Much of the canal contains broken concrete and/or an open unlined canal that renders its use less efficient each year. An overview map showing the existing Newton Project facilities and the new proposed Project is shown in Figure 1.

The purpose of the Project is to minimize or eliminate loss of water to seepage and evaporation, maximizing the amount of water available for irrigation purposes in the vicinity of the town of Newton. The Association proposes converting the Canal into a pressurized pipeline and changing the alignment in some areas. The Canal is located partially within an existing easement owned by Reclamation. The Canal is currently operated and maintained by the Association under an agreement with Reclamation.

Reclamation has prepared the Environmental Assessment (EA) to comply with procedural requirements of the National Environmental Policy Act of 1969 (NEPA), Public Law 91-90, as amended, the Council on Environmental Quality, and the Department of the Interior regulations implementing NEPA. This EA analyzes the potential impacts of the Proposed Action (converting the existing Canal into a pressurized pipeline) in comparison with a No Action Alternative. Under the No Action Alternative, the existing Canal will remain unchanged. As required by the NEPA implementing regulations, if significant impacts to the human environment are identified, an Environmental Impact Statement will be prepared. If no significant impacts are identified, Reclamation will issue a Finding of No Significant Impact (FONSI).



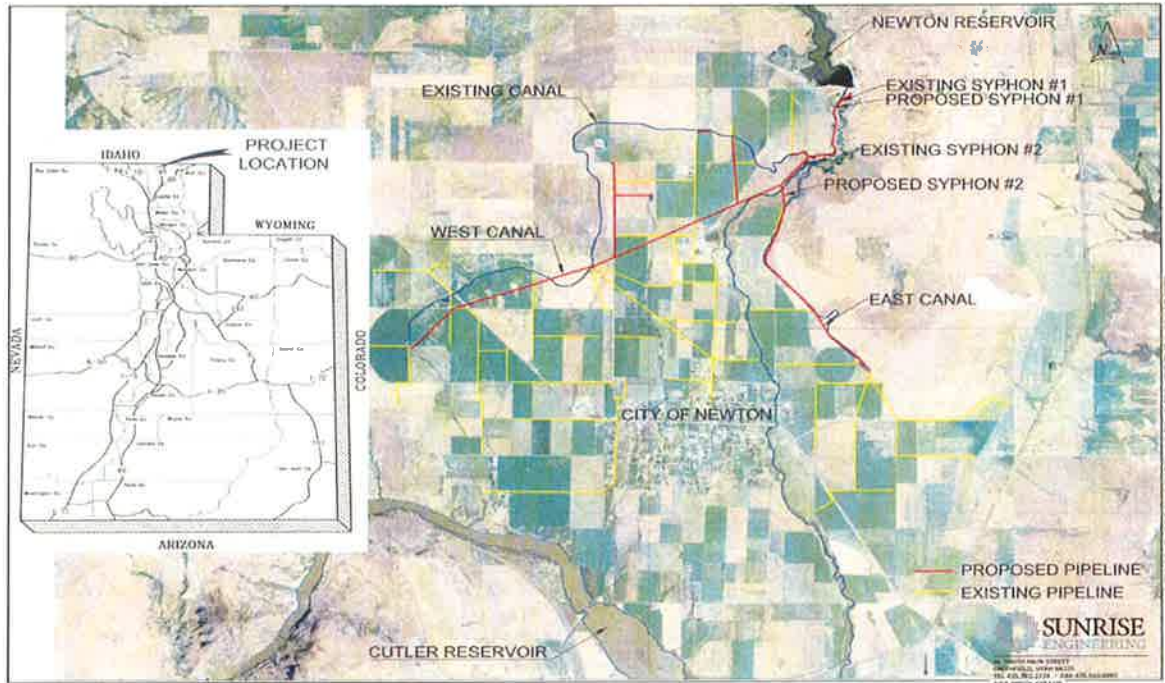


Figure 1 - Location and Layout of proposed Newton Canal Enclosure.

## 1.2 Background

The Canal was constructed between 1944 and 1946, and was partially lined with concrete, with initial delivery of water in June 1946 (McCune 2000). The Canal has been operated and maintained by the Association since January 1, 1948, when Reclamation transferred the 'care, operation, and maintenance' to them.

The entire Canal is approximately 35,000 feet-long and runs from the outlet works of Newton Dam approximately 0.6 miles before heading east (2.0 miles) and west (4.0 miles – Figure 1). The Canal carries a maximum of 25 cubic-feet per second (cfs) of irrigation water, at its head before being diverted into the east and west canals, to users in the Newton area, providing irrigation to approximately 2,500 acres of land. The Canal is used during the growing season, which generally occurs over a 5 month period each year.

Water rights within the Canal are owned by the Reclamation and the Association. These water rights include Water Right Numbers 35-3082 (May 1, 1869), 35-3802 (June 21, 1938), and 35-6870 (March 3, 1987) which allow water to be diverted from Clarkston Creek for agricultural use. Please note, over time, different agencies, organizations, and associations have used the names of Clarkston Creek, and Newton Creek, interchangeably. Therefore, throughout this document and others associated with this project, the two names refer to the same tributary running roughly south out of Newton Reservoir.

Because water shortages and delivery losses have limited the Association's use of the project water rights over the past several years, it desires to improve the delivery system. During the irrigation season of 2011, from July through September, the Association measured the flows coming into the Canal and compared them to the measured flows through the turnouts along the Canal. Approximately 36 percent of the water within the Canal was lost through seepage and evaporation (Table 1-1).

### 1.3 Purpose of and Need for the Proposed Action

The purpose of the Project is to eliminate water losses to seepage and evaporation by converting the existing Canal into an enclosed pressurized pipeline. This would help ensure the irrigation water supply near Newton. The Project is needed to improve water quality, increase public safety, reduce Canal maintenance, and prevent trash and debris from entering the water. The Federal Action being considered is whether or not Reclamation should authorize the Association to modify the existing Canal into a pressurized pipeline.

**Table 1-1  
Flows and Loss in Newton Canal from July – September 2011**

Date	Total Flow	East Pond Flume	West Ditch Flume	Flow East	Flow West	Flow Lost	%Flow Lost
21-Jul	21.00	3.48	1.86	2.51	10.03	3.13	15%
3-Aug	4.00	1.16	0.77	0.00	0.00	2.07	52%
10-Aug	18.50	1.16	2.30	0.67	5.35	9.02	49%
18-Aug	27.50	2.77	3.07	3.68	12.03	5.96	22%
24-Aug	32.50	3.80	3.37	3.34	11.36	10.62	33%
31-Aug	29.00	6.20	4.45	0.67	13.03	4.65	16%
7-Sep	14.00	2.12	1.54	0.00	3.34	7.00	50%
13-Sep	10.00	0.89	2.53	0.50	1.00	5.07	51%
<b>Average Flow Lost</b>						5.94	cfs
<b>Average Incoming Flow Through Canal</b>						19.56	cfs
<b>Average Percentage of Flow Lost</b>							36%
<b>High Percentage of Flow Lost</b>							52%
<b>Low Percentage of Flow Lost</b>							15%

Note: These losses take into account water allocated through turnouts and other water delivery. The measurements are taken at the intake of the Canal and at the last turnout near the terminus of the Canal.

#### 1.3.1 Prevent Evaporation and Seepage

From July through September 2011, the average loss due to seepage and evaporation in the Canal was estimated at 36 percent. Measured loss was highly

variable ranging from 15 to 52 percent during that time. Enclosing the Canal into a pipeline would eliminate this loss.

### **1.3.2 Improve Water Quality**

Development along the Canal has resulted in unauthorized storm water inflows and irrigation return flow, as well as the accumulation of debris and animals in the water. The enclosure of the Canal would eliminate outside contaminants from entering the water. Storm water would no longer have any means of entering the Canal.

### **1.3.3 Increase Public Safety**

The Canal corridor is infrequently used for unauthorized recreational activities. Enclosing the Canal would eliminate the possibility of someone entering the open water.

### **1.3.4 Reduce Time Maintaining the Canal**

The inflows from storm water discharge and irrigation return flow can result in additional sediment loads, which have to be periodically removed from the Canal. Enclosing the Canal would eliminate these inflows.

Enclosing the Canal would also greatly reduce Canal and right-of-way maintenance activities such as, moss control, grading, burning, weed control, rodent control, leak, and overall monitoring.

### **1.3.5 Prevent Trash and Debris from Entering the Water**

The open water Canal has the ability to collect trash and debris, which can impact the operation of turnouts and delivery systems along the Canal. Enclosing the Canal would eliminate trash and debris from entering into the system.

## **1.4 Scoping**

The Proposed Action was presented to the public and cooperating agencies through mailings. A letter was sent to approximately 40 landowners, multiple municipalities, non-governmental organizations (NGOs), state and Federal agencies, and other interested stakeholders. The letter invited the recipients to respond to Reclamation on or before July 18, 2014, and included a brief description of the Project and area map.

Comments were accepted by e-mail, facsimile, telephone, and standard mail. Using the comments, the interdisciplinary team identified and considered issues of public concern, which are included in Appendix 1 - Public Comment summary. The Project file at Reclamation's Provo Area Office, contains the comment letters, as well as a summary of how these comments were addressed. A complete record of all public involvement and consultation activities are also kept in the Project file.

## 1.5 Permits, Licenses, and Authorizations Required

Implementation of the Proposed Action may require a number of authorizations or permits from state and Federal agencies. The Association would be responsible for obtaining all permits, licenses, and authorizations required for the Project. Potential authorizations or permits may include those listed in Table 1-2 and others not listed.

**Table 1-2  
Permits and Authorizations Required**

Agency/Department	Purpose
Utah Division of Water Quality	Utah Pollution Discharge Elimination System (UPDES) Permit for dewatering.
Utah Division of Water Quality	Storm Water Discharge Permit under Section 402 of the Clean Water Act (CWA) if water is to be discharged as a point source into Clarkston Creek or other natural streams or creeks.
State of Utah Department of Natural Resources, Division of Water Rights (DWR)	Stream Alteration Permit under Section 404 of the CWA and Utah statutory criteria of stream alteration described in the Utah Code. This would apply for impacts to Clarkston Creek or other natural streams or creeks during Project construction.
Utah State Historic Preservation Office (SHPO)	Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470.
United States Fish and Wildlife Service (USFWS)	Consultation pursuant to Section 7 of the Endangered Species Act. (ESA)
United States Army Corps of Engineers (USACE)	A USACE permit in compliance with Section 404 of the CWA may be required if waters of the United States are proposed to be filled or dredged as part of the Project.
Bureau of Reclamation	A supplemental Operation and Maintenance (O&M) Agreement will be necessary in order for permission to be granted for the Association to modify Federal facilities.

## 1.6 Related Projects and Documents

There are no other related projects or documents in the action area.

## **1.7 Scope of Analysis**

The purpose of this EA is to determine whether or not Reclamation should authorize the enclosure of the Canal to develop a more secure and reliable irrigation water supply for the Newton area. That determination includes consideration of whether there would be significant impacts to the human environment. In order to enclose the Canal, this EA must be completed and a FONSI issued. Analysis in the EA includes temporary impacts from construction activities and permanent impacts as a result of enclosing the Canal.

## **1.8 Document Organization**

This EA consists of the following chapters:

1. Purpose and Need for Proposed Action
2. Alternatives
3. Affected Environment and Environmental Consequences
4. Environmental Commitments
5. Consultation and Coordination
6. References
7. Preparers
8. List of Acronyms
9. Figures

# **Chapter 2 Alternatives**

## **2.1 Introduction**

This chapter describes the features of the No Action and Proposed Action Alternatives, and presents a comparative analysis. It includes a description of each alternative considered. This section also presents the alternatives in comparative form, defining the differences between the two alternatives.

The Association has requested authorization to enclose the Canal. The irrigation water within the Canal would continue to be released from the Newton Reservoir. The yearly average volume of water transported through the Canal is 5,500 acre-feet measured over the 5 growing months of the year. The water is released into the Canal in May and shutoff in early to late fall of each year. The Canal is dry 6 to 7 months of the year.

## **2.2 No Action Alternative**

Under the No Action Alternative, the Canal would not be converted to a pressurized pipeline. The Canal would continue to deliver water through an open channel. The Association's maintenance and inspection activities would continue, including annual cleaning and dredging of the Canal, monitoring, and inspection. Canal operations would continue unchanged. Large amounts of water loss, by way of evaporation and seepage, would continue unabated. No changes to water quality, maintenance costs, or risks to public safety would be observed.

## **2.3 Proposed Action Alternative**

The Proposed Action Alternative consists of converting the existing Canal into a pressurized pipeline made from High Density Polyethylene (HDPE) pipe that connects directly to the dam. That connection structure would go through the outlet works and connect to the new pipeline at the toe of the dam. There would be a valve structure where the current diversion is that would divert water to the pipeline or permit water to flow down Clarkston Creek. The new pipeline would follow the same current alignment through the Primary Jurisdiction Zone from the toe of the dam towards the southwest.

In general, the pipeline would follow the existing canal alignment in the Main and East portions. However, along the Highline (West) canal a shorter, more direct

alignment has been chosen, with smaller diameter lateral lines branching off to service users (Figure 1). The main pipeline section is 4,700 feet long and crosses a small ravine where the first siphon is currently located. This section would need to be able to deliver approximately 80 cfs of water. At this point, the Canal forks into the East and Highline (West) segments.

The East pipeline segment would be approximately 2.0 miles long and would cross Clarkston Creek approximately 0.3 miles downstream of where the second siphon is currently located. The East pipeline segment will be sized to pass approximately 22 cfs. Appropriate valves and drains will be located in the siphon area to ensure draining of the pipe to prevent freezing.

The West segment, that will replace the existing Highline canal, is approximately 13,600 feet in length and will need to carry approximately 58 cfs. Four smaller lateral pipelines will also be installed along this segment in order to convey water to users. The total length of the laterals is 11,200 feet-long. Along the East and West segments, there will be valves and meters at each of the 34 service turnouts. The meters will be used to monitor water usage. Pipe sizes will range from 6 inches to 48 inches in diameter. In all, approximately 37,700 feet of pipelines (laterals and main lines) will be installed to replace the Canal.

The area of disturbance would be no greater than 50-feet-wide, which is the current width of the right-of-way. The pipe would be covered with a minimum of 3-feet of soil. Wherever possible, the cover soil would be graded to blend smoothly into the surrounding ground surface. The disturbed ground above the pipeline outside of farm ground would be revegetated using a mix of upland or rangeland plants approved by a biologist and appropriate for the area.

There would be no new water right diversions and water operations would remain the same.

Replacement of the two existing siphons would have to occur to make the Project fully functional (Figure 1). One of the siphons crosses Clarkston Creek; therefore, construction would require a USACE 404 Permit and a Stream Alteration Permit from the Utah DWR. The Association has contracted with a third party to apply for those permits. The Association would then hold those permits in perpetuity.

### **2.3.1 Timing and Duration of Construction of Canal Enclosure**

The Canal currently operates as an open Canal. Due to the limited time frame for construction (between irrigation seasons) and funding and design limitations, the Association will likely have to enclose the Canal in phases as funding becomes available. During the 2014 year, the environmental review, easements, design of the pipeline, and the construction of the pipeline system up to the dam would be completed. In addition, Reclamation would complete the design of the connection structure to the outlet works of the dam through

the dam. During the 2015 year, or as funding becomes available, the Project would be finalized by completing the connection structure to the outlet works of the dam, making a fully operational pressurized system. However, without the connection to the dam, the pipeline would still be functional, just not pressurized. The Project would be considered complete after the entire canal is enclosed and connected to the dam.

### 2.3.2 Road Crossings

Vehicular access over the Canal is provided by 10 major road crossings and 5 farm crossings. Major road crossings occur where highways and surface streets cross the Canal and consist of box culverts, siphons, or bridges paved with asphalt (see Table 2-1).

All major road crossings would remain following construction of the pipeline. Where possible, the pipeline would be installed without disturbing the overlying road. In the other locations, the road crossing would be shut down temporarily so that the road can be cut and the pipeline installed. Detours would be provided while the road crossing is out of service and the road would be repaired following pipeline construction.

Farm crossings provide access over the Canal for individual land owners and consist of wooden beam and plank bridges with concrete footings. All farm crossings will be removed and the existing canal filled in.

**Table 2-1  
Road and Farm Crossings along the Entire Pipeline Alignment.**

<b>Name</b>	<b>Proposed Canal Station</b>	<b>Type of Structure</b>
8900 N 5800 W	18+45	Gravel Road
8600 N 5800 W	43+80	Gravel Road
8600 N 6200 W	365+25	Gravel Road
8800 N 6400 W	400+00	Inside Culvert
6400 W	88+40	Paved Road
6800 W	117+75	Gravel Road
8600 N 6800 W	483+60	Gravel Road
Highway 142	169+80	UDOT Highway
7800 N	174+90	Paved Road
East Canal	265+25	Farm Crossing
East Canal	302+60	Farm Crossing
East Canal	319+60	Farm Crossing
East Canal	325+75	Farm Crossing
West Canal	406+00	Farm Crossing



### **2.3.3 Stream Crossing/Siphon**

The Canal crosses one active stream, Clarkston Creek. It runs through a siphon underneath the creek. The siphon would have to be replaced in order to maintain sufficient flows. Consideration was given to slip lining the siphon, but it is not possible to get a big enough pipe through the siphon to maintain the necessary flows.

The pipeline would be installed in two steps; approximately half of the stream would be crossed in both steps. Flows would be diverted to one side of the creek while the first half of the crossing is installed. Once that is done, the flows would be diverted to the first side of the stream and then second half of the crossing would be installed.

### **2.3.4 Other Crossings**

Other prominent features of the Canal include one irrigation crossing and a number of waterline crossings.

Each of these crossings would remain following pipeline construction. Service of these crossings may be temporarily disrupted during construction and some of the crossings may need to be modified, but they would all remain operable following construction.

### **2.3.5 Saved Water**

The water saved due to the elimination of seepage and evaporation losses does not constitute a new source of water previously unavailable to the users of the Canal. The saved water would help firm up the existing water supply, ensuring that users can receive their full allotment, even in dry years.

### **2.3.6 Recreation**

Reclamation and the Association are aware that increased efficiency of a pipeline may increase the amount and duration of water stored in Newton Reservoir. The public would be able to use the reservoir for a longer period of time. In addition, recreational use of the Canal right-of-way post enclosure is not within the scope of this project and will not be addressed in this EA.

### **2.3.7 Pipeline Construction Procedures**

#### **2.3.7.1 Construction Sequence**

Construction would likely occur in the following sequence:

- Construct or improve needed access roads
- Clear and grade Canal bottom
- Install pipeline bedding materials
- Haul pipeline to construction sites
- Place pipeline in Canal and connect
- Backfill around pipeline and grade surface

- Clean up and restore areas disturbed by construction
- Plant right-of-way and disturbed areas to provide for revegetation

#### **2.3.7.2 Clear and Grade Canal Bottom**

The existing Canal bottom, used for pipe placement, would be excavated and graded to provide an appropriate base for installation of the pipeline. All excess material would be disposed within the Canal right-of-way. Much of the excavated material could be used for backfill, and would be disposed along the enclosure in ways that blend with adjacent terrain. Base material for bedding the enclosure would be hauled to the site and placed in the Canal bottom once graded.

#### **2.3.7.3 Pipeline Installation**

The pipe would be transported from the manufacturer to the work site by flatbed truck and/or specially outfitted loaders. Needed bedding and backfill material would be imported from available commercial sources. Each pipeline section would be placed in the prepared Canal by the necessary construction equipment and connected to the previously laid section by field welding depending on the pipeline type. After the sections are connected, backfill would be carefully placed around the pipeline in lifts either from material available along the Canal or imported from local offsite commercial gravel pits. Typically, backfill would be mechanically compacted with a vibratory compactor.

Following construction, the contractor would remove all debris. Spoils in work areas would be spread evenly to blend with contours and maintain local drainage patterns.

#### **2.3.7.4 Road Crossings**

Where possible, road crossings would be completed by removing the bottom of the structure to allow installation of the pipeline. Controlled Low Strength Material would be used as backfill to the bottom of the structure to provide adequate strength below the structure. Where this option is not possible, the road crossings would be excavated and asphalt and concrete material would be removed offsite to an approved disposal site. Backfill would be compacted all the way to the ground surface at road crossings to prevent the road surface from subsiding under repeated traffic loads during and after construction. Temporary gravel surfaces at the road crossings would be installed and the final asphalt completed before spring. Road crossings would be restored to a condition better than or equal to existing conditions.

#### **2.3.7.5 Drainage Crossing**

Existing drainage crossings of the Canal would be maintained or improved during construction and would not collect drain water.

#### **2.3.7.6 Quality Control Procedures**

After backfilling and all construction work are completed, the contractor would ensure quality control of construction through visual inspection and hydrostatic testing. Each segment or reach of pipe would be filled with water and pressurized for hydro-testing through contractor-supplied pumps to ensure that the system operates to design specifications. If the pipe leaks or breaks, it would be repaired and re-tested until it meets specifications. Test segment lengths would be determined by construction season and availability of water through agreements consistent with Federal, state and local regulations and codes. After testing a segment, the water may be pumped into the next segment for testing, and would ultimately be disposed in accordance with water quality regulations.

#### **2.3.7.7 Construction Staging Areas**

The Project construction area would be a strip approximately 50 feet wide by 7 miles long. The crews involved, invert preparation, enclosure laying, and finish grading and restoration, would all move along the Canal from day to day. Each crew's equipment would move along the Canal with them.

Some of the pipe would be stockpiled at approved staging areas on private land. However, much of the pipe would be delivered as it is needed along the Canal right-of-way. As such, the Canal right-of-way would be a continuous staging area for the crews as they move up and down the Canal. Five separate staging areas along the Canal corridor were evaluated as part of the environmental process. These staging areas would be used for equipment staging, construction personnel vehicular parking, and occasional materials stockpiling.

#### **2.3.7.8 Operation and Maintenance**

Operation of the Canal after enclosure would remain essentially unchanged, and maintenance would be reduced significantly as a result of the enclosure. Operation would occur primarily from April 15 to October 15. Emergency situations, as defined by the Association, or when other conveyance systems are out of service, may require the enclosed Canal to be operated at other times.

#### **2.3.7.9 Land Disturbance**

The Canal right-of-way is approximately 37,700 feet in length and approximately 50 feet in width. The construction activity would be confined to the existing right-of-way, staging areas, and newly acquired right-of-way.

#### **2.3.7.10 Construction Material Requirements**

Table 2-2 lists major construction material requirements for the Proposed Action. All materials would be delivered from local suppliers.

**Table 2-2  
Estimated Major Construction Material Requirements  
for the Proposed Action**

<b>Type of Material</b>	<b>Use of Material</b>	<b>Quantity</b>
Bedding	Bed pipe	15,000 cy
Backfill	Bury pipe	36,000 cy
Pipe	Build pipeline	37,700 feet

**2.3.7.11 Transportation Requirement**

Construction transportation routes for the Project include the existing access road along the Canal and the cross streets shown on Table 2-1.

Transportation to the Project will be dispersed from each construction crew along the Canal and from day-to-day as the Project proceeds along the new Canal alignment.

**2.3.7.12 Standard Operating Procedures**

Standard Operating Procedures (SOPs) will be followed (except for unforeseen conditions that would require modifications) during construction and O&M of the Project to avoid or minimize adverse impacts on people and natural resources. The SOPs and features of the Proposed Action have been formulated to avoid or minimize adverse impacts. Chapter 3 presents the impact analysis for resources after SOPs have been successfully implemented.

**2.4 Comparison of Alternatives**

The suitability of the No Action and Proposed Action Alternatives were compared based on five objectives identified for the project. The objectives are:

- Prevent seepage and evaporation;
- Improve water quality;
- Increase public safety;
- Reduce maintenance; and
- Prevent trash and debris from entering the waterway.

As shown in Table 2-3, the No Action Alternative did not meet any of the Project’s objectives while the Proposed Action Alternative met all five objectives.

**Table 2-3  
Comparison of Alternatives**

<b>Project Objective</b>	<b>Does the <u>No Action Alternative</u> Meet the Objective</b>	<b>Does the <u>Proposed Action Alternative</u> Meet the Objective</b>
Prevent Seepage and Evaporation	No	Yes
Improve Water Quality	No	Yes
Increase Public Safety	No	Yes
Reduce Maintenance	No	Yes
Prevent Trash and Debris	No	Yes

## **2.5 Alternatives Considered and Eliminated From the Study**

No other alternatives were evaluated because they did not meet the purpose and need for the Project or were much too expensive to implement.

# Chapter 3 Affected Environment and Environmental Consequences

## 3.1 Introduction

This chapter describes the resources of the human environment that could be affected by the Proposed Action. Some of the environmental resources may not receive in-depth analysis due to no or negligible effects or due to their absence in the Project area. The table below (Table 3-1) provides each resource, whether it is present within the Project area and the rationale for inclusion or elimination from further analysis.

## 3.2 Resources Eliminated from Analysis

**Table 3-1**

**Listed below are Environmental Resources that may be affected by the Proposed Action. A short rationale for inclusion or elimination is included.**

<b>Resource</b>	<b>Present in Project Area</b>	<b>Rationale for inclusion or elimination from further analysis</b>
Wilderness and Wild and Scenic Rivers	Not Present	There are no wild and scenic rivers or wilderness found in the Project area; therefore, <b>NO additional analysis</b> is included.
Air Quality and Climate Change	Present	Negligible or no effects to air quality or climate change are expected; therefore, <b>NO additional analysis</b> is included.
Agricultural Farmlands	Present	Negligible or no effects to agricultural farmlands are expected; therefore, <b>NO additional analysis</b> is included.
Floodplains	Present	Floodplains may be affected based on the alignment of the pipeline; therefore, <b>further analysis</b> is warranted.
Water Resources and Water Quality	Present	Storm water and sedimentation would be reduced; <b>further analysis</b> is warranted.
Groundwater Resources	Present	Amount of seepage from existing canal may change; <b>further analysis</b> is warranted.
Water Rights	Present	Water rights are owned by Reclamation and no change is proposed; however, <b>further analysis</b> is included.

Geology and Soils	Present	No effects to geology, but the soil surface may be; <b>further analysis</b> is warranted.
Cultural and Paleontological Resources	Present	Cultural properties are present and SHPO consultation is required; therefore, <b>further analysis</b> is warranted.
Indian Trust Assets (ITAs)	Present	ITAs may be present; therefore, <b>further analysis</b> is warranted.
Wildlife Resources	Present	Multiple wildlife species may be affected; therefore, <b>further analysis</b> is warranted.
Sensitive Species	Present	Multiple sensitive species may be affected; therefore, <b>further analysis</b> is warranted.
Threatened and Endangered Species	Present	Multiple threatened and endangered species may be affected; therefore, <b>further analysis</b> is warranted.
Wetlands, Riparian, and Existing Vegetation	Present	Some vegetative characteristics may be affected due to the Proposed Action; therefore, <b>further analysis</b> is warranted.
Recreation	Present	Recreation occurs around Newton reservoir, but not along the canal; therefore, <b>NO additional analysis</b> is warranted.
Visual Resources	Present	Visual resources may be affected in this rural setting; therefore, <b>further analysis</b> is warranted.
Socioeconomics	Present	This resource may be affected; therefore, <b>further analysis</b> is warranted.
Health, Public Safety, Noise	Present	Health, public safety, and noise may be affected; therefore, <b>further analysis</b> is warranted.
Access and Transportation	Present	The Project crosses multiple county and farm roads; therefore, <b>further analysis</b> is warranted.
Environmental Justice	Present	Demographics of Cache County provide reason for addressing this resource; therefore, <b>further analysis</b> is warranted.

The present condition or characteristics of each included resource are discussed first (See Chapter 3.3), followed by a discussion of the predicted

impacts caused by the Proposed Action (See Chapter 3.4). The environmental effects are summarized in Table 3-4.

### **3.3 Affected Environment**

This chapter describes the affected environment (baseline conditions) of resources of the human environment that could be impacted by construction and operation of the Proposed Action, as described in Chapter 2.

#### **3.3.1 Floodplains**

There are approximately 78 acres of floodplains (FEMA delineated) that could be affected by implementation of the proposed action. These floodplains surround Clarkston Creek after it leaves the reservoir. Currently, in the creek, and within the floodplain, there are multiple man-made structures, and no base flows are required to be released into Clarkston Creek.

#### **3.3.2 Water Resources and Water Quality**

Water resources are described as the water in the Canal from Newton Reservoir to the Canal outlet, as well as lands located immediately adjacent to those features. The affected environment is defined by the baseline conditions of the hydrologic features within the Project area. Currently the Canal receives unauthorized inflows from storm water and irrigation return flow from lands adjacent to the Canal. There are no water quality data available on the Canal. Therefore, impacts will be analyzed on general characteristics of the water in the Canal.

#### **3.3.3 Groundwater Resources**

The analysis for ground water resources covers water wells and springs near and along the Canal alignment, from Newton Reservoir to the Canal outlet.

Aquifers underlying Cache Valley are likely recharged by surface water from canals and seepage from irrigated fields. Recharge from precipitation and subsurface inflow is minimal. Groundwater flow is generally downhill towards Clarkston Creek and the town of Newton. There are no known natural springs within the Project area boundary. The closest known spring to the proposed alignment is found 0.8 miles to the southwest.

#### **3.3.4 Water Rights**

Water rights held by Reclamation and the Association for the Newton Project includes the following:

**Water Right No. 35-3082.** Priority Date of June 21, 1938. This water right was established by the Application to Appropriate No. A12705 filed in 1938 by the Newton Irrigation Company. This right was transferred to Reclamation to support the Newton Project on May 29,



1944. According to the Certificate of Beneficial use this water right allows Newton Dam to divert/store 3,839 acre-feet of water to be used for the irrigation of 2,599.5 acres of lands that appear to fall within the project boundaries.

**Water Right No. 35-3082.** Priority Date of May 1, 1869, when use as a direct diversion from the river to the lands and priority date of May 1, 1873, when storing water under this right. This water right was established by Award Nos. 385-a and 385-b, of the February 21, 1922, Kimball Decree. This right was also transferred to Reclamation to support the Newton Project on May 29, 1944. According a September 22, 1958, Certificate of Beneficial Use, this water right can divert 24 cfs (and store up to 2000 acre-feet in Newton Reservoir) for the beneficial use of watering 300 livestock and irrigating 2,599.5 acres within lands that appear to fall within the Project boundaries.

**Water Right No. 35-6870.** Priority Date of March 3, 1987. This water right was established by the Application to Appropriate No. A46388, filed by the Association. This application states that it is filed to cover additional irrigated acreage that was made possible by “increased efficiency through the use of pipelines and sprinkler systems.” This water right is used as supplemental with the other two Newton Project Water Rights and allows for an additional 1,522.67 acre-feet water to be placed to beneficial use. When combined with the other Newton water rights, this right can supply irrigation water to a total of 3,490.2 acres with the Project boundaries.

The yield of these water rights depends on several factors including, the weather, river hydrology, and diversion of neighboring water rights. The flows and volume presented above are intended to represent typical canal diversion between April and October of each year (irrigation season).

### **3.3.5 Geology and Soils Resources**

The Project is located on the interface between the Middle Rocky Mountain and Basin and Range Physiographic Provinces, at the northwestern edge of Wasatch Mountain Ranges. The Project area is in west central portion of Cache County in northern Utah. The elevation ranges from 4,630 feet to 4,750 feet above mean sea level.

Geologically, the majority of the Project area consists of alluvial and lacustrine deposits from Lake Bonneville. They are unconsolidated, generally well-stratified, and well-sorted gravel, sand, silt, and clay deposited during the Provo stage (Pleistocene) of Lake Bonneville. In addition, the Project area contains the Salt Lake Formation and surficial Lake Bonneville deposits which are similar to the Provo stage.

The Project area sits southwest of Little Mountain in the north central part of Cache Valley. Little Mountain is a part of a ridge of bedrock that extends north/south along Little Mountain to just south of the Utah-Idaho border. This ridge is bound on the east by the Dayton fault and by the Newton fault on the west. The exposed rock and underlying bedrock of Little Mountain consist of sandstone and siltstone that are predominantly of the Tertiary Salt Lake Formation (Allison 1990; Solomon 1999).

Soils observed and mapped in the project area include: silty loams (SL), loams (L), and gravelly loams (GL). Almost the entire project area is farmed, mostly by irrigation, but also some dry land farming occurs as well.

### **3.3.6 Cultural Resources**

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 NHPA of 1966, 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.

The affected environment for cultural resources is identified as the area of potential effects (APE) 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 consists of both a 50-foot-wide linear corridor, approximately 7.1 miles in length. The APE encompasses the areas of potential ground disturbance associated with the proposed pipeline and staging areas.

A Class I records search and a Class III cultural resource inventory of the APE were completed by Utah State University Archaeological Services (USUAS - Peart et. al 2014) in July and August 2014, respectively. A total of 127.6 acres were inventoried during the Class III cultural resource inventory, to determine if the Proposed Action would have any effect on cultural resources. After final revisions of the cultural report were made, Reclamation initiated consultation with Utah SHPO and affected tribes. Findings from consultation with SHPO and tribal authorities are included in the cultural resources section of the Environmental Consequences section below.

### **3.3.7 Paleontological Resources**

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 of 2009 (Sections 6301-6312 of the Omnibus Land Management Act of 2009, [Public Law 111-11 123 Statute 991-1456]) requires the Secretary of the Department of Interior, to manage and protect paleontological resources on Federal land using scientific principles and expertise.

The APE for paleontological resources is consistent with the APE for cultural resources, as described in Section 3.3.7.

### **3.3.8 Indian Trust Assets (ITA)**

ITAs are legal interests in property held in trust by the United States for Indian tribes or individuals. The Department of the Interior's policy is to recognize and fulfill its legal obligations to identify, protect, and conserve the trust resources of federally recognized Indian tribes and tribal members, and to consult with tribes on a government-to-government basis, whenever plans or actions affect tribal trust resources, trust assets, or tribal safety (please refer to Departmental Manual, 512 DM 2). Under this policy, as well as Reclamation's ITA policy, Reclamation is committed to carrying out its activities in a manner which avoids adverse impacts to ITAs when possible, and to mitigate or compensate for such impacts when it cannot. All impacts to ITAs, even those considered insignificant, must be discussed in the trust analyses in NEPA compliance documents, and appropriate compensation or mitigation must be implemented.

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

Reclamation has contacted the Bureau of Indian Affairs (BIA) and any associated Tribes to identify any potential impacts to ITAs within the APE.

### **3.3.9 Wildlife Resources**

Wildlife resources within the general area of the Project include, fish, small mammals, raptors, water birds, and upland game birds, with a

variety of other migratory birds, reptiles, amphibians, and occasional big game. These are discussed below.

#### **3.3.9.1 Fish**

Newton Reservoir is home to a variety of fish including, black crappie (*Pomoxis nigromaculatus*), bluegill (*Lepomis macrochirus*), channel catfish (*Ictalurus punctatus*), smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), tiger musky, yellow perch (*Perca flavescens*), a few rainbow trout (*Oncorhynchus mykiss*), and carp (*Cyprinus carpio*), however, none of these fish or any others exist in the Canal.

#### **3.3.9.2 Small Mammals**

Small mammals common within the area include, badger (*Taxidea taxus*), black-tailed jackrabbit (*Lepus californicus*), Meadow vole (*Microtus pennsylvanicus*), deer mouse (*Peromyscus maniculatus*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*). They utilize much of the upland habitat, as well as the agricultural properties, and especially the edges between those habitats to locate prey and live.

#### **3.3.9.3 Raptors**

Birds of prey, or raptors, have been observed near the Project area. Nearby cottonwood trees, though sparse, provide nesting habitat for raptors such as red-tailed hawk (*Buteo jamaicensis*) and roosting sites for the great horned owl (*Bubo virginianus*). These trees may also provide potential nesting habitat for raptors such as Swainson's hawk (*Buteo swainsoni*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), Northern harrier (*Circus cyaneus*), and long-eared owl (*Asio otus*). The open grasslands and agricultural lands within the Project area provide suitable habitat for many of the small mammals that constitute a large portion of the raptor diet. Other raptors observed in the past include the sharp-shinned hawk (*Accipiter striatus*), northern harrier (*Circus cyaneus*), turkey vulture (*Cathartes aura*), and wintering bald eagles.

#### **3.3.9.4 Water Birds**

Occasionally, water birds or shore birds are observed near the reservoir, but it is somewhat rare to see them along the canal. In addition, infrequent sightings of Canada goose (*Branta canadensis*), mallards (*Anas platyrhynchos*), and other waterfowl are noted in the Canal itself, but most of these species are more likely to look for more ideal habitat around the reservoir or adjacent lakes and man-made reservoirs.

#### **3.3.9.5 Upland Game Birds**

Several species of upland game birds are likely to occur on or near the project area including California quail (*Callipepla californica*), gray partridge (*Perdix perdix*), ring-necked pheasant (*Phasianus colchicus*), and mourning dove (*Zenaida macroura*). In addition, there may be habitat for

chukar (*Alectoris chukar*). The Project area also encompasses habitat within the known distribution of two state listed sensitive species, the sharp-tailed grouse (*Tympanuchus phasianellus*) and greater sage-grouse (*Centrocercus urophasianus*). These two species will be addressed in the sensitive species section (3.3.11) below.

#### **3.3.9.6 Migratory and Other Birds**

The most common birds are migratory songbirds and similar species associated with terrestrial upland habitats, agricultural fields, and lowland riparian habitats. Lowland riparian habitats are rare in Utah (UDWR 2005) and support a high quantity and diversity of migratory birds. Some of the birds in the project area include: American robin, (*Turdus migratorius*), starlings (*Sturnus vulgaris*), and various species of sparrows and swallows (*Passeridae*), warblers (*Parulidae*), thrushes (*Turdidae*), vireos (*Vireonidae*), blackbirds, and hummingbirds (*Trochilidae*). Another group of birds frequently observed are the corvids, including jays (*Cyanocitta spp.*), the black-billed magpie (*Pica pica*), and the common raven (*Corvus corax*).

#### **3.3.9.7 Reptiles and Amphibians**

Reptiles and amphibians with potential to occur in proximity to the Project area include, the common gartersnake (*Thamnophis sirtalis*), common sagebrush lizard (*Sceloporus graciosus*), Eastern racer (*Coluber constrictor*), gophersnake (*Pituophis catenifer*), Great Basin rattlesnake (*Crotalus oreganus lutosus*), terrestrial gartersnake (*Thamnophis elegans*), Great Basin spadefoot (*Spea intermontana*), Great Plains toad (*Bufo cognatus*), tiger salamander (*Ambystoma tigrinum*), and Woodhouse's toad (*Bufo woodhousii*) (UDWR 2014).

#### **3.3.9.8 Big Game**

The Project area contains limited or potential summer and fall habitat for mule deer (*Odocoileus hemionus*). The canal corridor, as well as the riparian area of Clarkston Creek, is considered a preferred movement corridor for the species. It is also likely that deer use adjacent agricultural fields at night for feeding.

#### **3.3.10 Sensitive Species**

The species in Table 3-2 are sensitive species as described by the DWR that could occur in Cache County, Utah.

**Table 3-2**  
**State listed sensitive species that could occur in Cache County, Utah.**  
**Many of these species do not occur in the Project area.**

<b>Common Name</b>	<b>Species or habitat present near or in Project area?</b>
American white pelican ( <i>Pelecanus erythrorhynchos</i> )	<b>Yes</b> , observed in reservoir
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	<b>Yes</b> , occasional winter nesting near reservoir
Black swift ( <i>Cypseloides niger</i> )	<b>No</b> , not observed in area
Bluehead sucker ( <i>Catostomus discobolus</i> )	<b>No</b> , not present in Project area
Bobolink ( <i>Dolichonyx oryzivorus</i> )	<b>No</b> , not observed in area
Bonneville cutthroat trout ( <i>Oncorhynchus clarkii</i> )	<b>No</b> , observed in reservoir in the past, but not present now
Grizzly bear ( <i>Ursus arctos</i> )	<b>No</b> , not present in Project area
Burrowing owl ( <i>Athene cunicularia</i> )	<b>No</b> , not present in Project area
California floater ( <i>Anodonta californiensis</i> )	<b>No</b> , not present in Project area
Canada lynx ( <i>Lynx canadensis</i> )	<b>No</b> , not present in Project area
Deseret mountainsnail ( <i>Oreohelix peripherica</i> )	<b>Yes</b> , the species may occur in the Project area
Ferruginous hawk ( <i>Buteo regalis</i> )	<b>Yes</b> , the species and its habitat may occur in the Project area
Fringed myotis ( <i>Myotis thysanoides</i> )	<b>Yes</b> , the species may occur in the Project area
Grasshopper sparrow ( <i>Ammodramus savannarum</i> )	<b>Yes</b> , the species and its habitat may occur in the Project area
Great plains toad ( <i>Bufo cognatus</i> )	<b>Yes</b> , the species and its habitat may occur in the Project area
Greater sage-grouse ( <i>Centrocercus urophasianus</i> )	<b>Yes</b> , the species and its habitat may occur in the Project area
Lewis's woodpecker ( <i>Melanerpes lewis</i> )	<b>No</b> , not observed in area
Long-billed curlew ( <i>Numenius americanus</i> )	<b>Yes</b> , the species may occur in the Project area
Lyrate mountainsnail ( <i>Oreohelix haydeni</i> )	<b>Yes</b> , the species may occur in the Project area
Northern goshawk ( <i>Accipiter gentilis</i> )	<b>No</b> , not present in Project area

Pygmy rabbit ( <i>Brachylagus idahoensis</i> )	No, not present or known to occur in Project area
Sharp-tailed grouse ( <i>Tympanuchus phasianellus</i> )	Yes, the species and its habitat may occur in the Project area
Short-eared owl ( <i>Asio flammeus</i> )	Yes, the species and its habitat may occur in the Project area
Three-toed woodpecker ( <i>Picoides tridactylus</i> )	No, not present or known to occur in Project area
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	Yes, the species and its habitat may occur in the Project area

The bald eagle has additional protection under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act (MBTA). There are no known nesting pairs at or near the Project area; however, it is an occasional winter resident of the area.

### 3.3.11 Threatened and Endangered Species

Federal agencies are required to ensure that any action federally authorized, funded, or carried out, will not adversely affect a federally listed threatened or endangered species. Table 3-3 describes the species potentially present in or near the Project area.

**Table 3-3  
Threatened (T) and Endangered (E) species listed as potentially occurring in Cache County, UT, including Candidate (C), and Proposed (P).**

Status	Common and Scientific Name	Species or habitat present near or in Project area?
<b>Bird</b>		
C	Greater sage-grouse ( <i>Centrocercus urophasianus</i> )	Yes, the species and its habitat may occur in the Project area
P	Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	No, not present or known to occur in Project area
<b>Fish</b>		
C	Least chub ( <i>Iotichthys phlegethontis</i> )	No, not present or known to occur in Project area
<b>Animal</b>		
T	Canada lynx ( <i>Lynx canadensis</i> )	No, not present or known to occur in Project area
<b>Plant</b>		
T	Maguire primrose ( <i>Primula maguirei</i> )	No, not present or known to occur in Project area

T	Ute ladies'-tresses ( <i>Spiranthes diluvialis</i> ) or ULT	Yes, potential habitat present, but surveys in August 2014 by Reclamation and Bio-West found no Ute ladies'-tresses in the Project area
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As Greater sage-grouse are not officially listed as Threatened or Endangered, so they were addressed in the sensitive species section.

The yellow-billed cuckoo, least chub, Canada lynx, and Maguire primrose may occur somewhere in Cache County, but do not occur in the Project area.

Finally, upon discovery that the ULT was observed once before in Cache County, Reclamation knew it could potentially be present in the Project area, especially along the existing Canal based on the leaky nature of the line and unlined portions. Therefore, Bio-West, independent of Reclamation, surveyed the Project area for the species, knowing they were in bloom in other parts of the state. A week later, Reclamation surveyed the same Project area for the second time. Neither of the surveys found ULT, despite finding areas of favorable habitat and observing other plants flowering during the survey. As no ULT were observed, Reclamation will not prepare a Biological Assessment (BA) analyzing the effects of the Proposed Action, and our determination is that there will be **no effect** to ULT.

### 3.3.12 Wetlands, Riparian and Existing Vegetation

The Canal corridor largely passes through agricultural lands (formerly uplands), and some wetland and riparian vegetated areas. As the Canal has been there for more than 50 years, there is also, small amounts of emergent wetland vegetation that has been created on the edges.

#### Wetlands

A preliminary wetland delineation study was completed along the Project area, and approximately 0.13 acres of wetlands were located that could be affected. A total of 0.03 acres was classified as emergent wetland ditches and 0.10 acres were classified as riparian wetland associated with Clarkston Creek. The areas located along the banks of the Canal, were not connected to any waterways and therefore, may not be jurisdictional in nature, or regulated by the USACE under Section 404 of the CWA. According to the USACE Sacramento Regulatory Branch, the Proposed Action may be exempted (if deemed jurisdictional) under the Irrigation Ditch Construction or Maintenance exemptions under Section 404 of the CWA. Regardless, the Association, through their contractor, has contacted the USACE and requested a 404 Permit.

In addition, 0.46 acres were classified as unvegetated irrigation ponds that could be affected. These and other project area wetlands were dominated by woody riparian scrub and scrub/tree species or weedy herbaceous wetland species. Wetlands must exhibit three parameters to meet the USACE definition of a wetland: hydrophytic vegetation, hydric soils, and hydrology. The soils within



the wetlands exhibited these required indicators. The wetland assessment was performed in accordance with the 1987 USACE Wetland Delineation Manual, and is on file at the Provo Area Office of Reclamation.

### **Riparian**

Clarkston Creek is the main riparian corridor that parallels the Canal. It is thought that Clarkston Creek receives some of the seepage or loss from the Canal to the stream channel. There are approximately 30 acres of lowland riparian habitat in the project area, which is rare habitat throughout the state of Utah (UDWR 2005). Multiple species of birds (migratory and non-migratory) and wildlife can be found there.

Clarkston Creek is highly incised with eroded banks. The Project area contains several excavated irrigation ponds that are maintained annually and kept free of rooted vegetation. The Project area contains extensive concrete-lined and earthen irrigation canals. These canals are also maintained annually and free of rooted vegetation. The canals are human made, not located in wetlands, and can be turned on and off; therefore, the canals were not delineated as potential surface waters of the United States.

### **Existing Vegetation**

The vegetation in the Project area is predominantly agricultural crops like: wheat, barley, corn, and alfalfa. However, small portions of upland and riparian vegetation remain intact in the area along and adjacent to the Canal and Clarkston Creek. Most of the Project area has been disturbed since settlement of the area. In Appendix 2, there is a list of riparian and upland plants observed in the Project area in 2014.

#### **3.3.13 Visual Resources**

The visual resource of the area would be of a rural and urban setting with irrigated crops, residential development, farms, fences, dirt access roads for farm equipment, and major access roads for thoroughfare.

The Canal corridor is relatively clear of larger vegetation and understory, with the exception of grasses and weeds. The impact area of influence for visual resources is the area adjacent to the alignment of the Proposed Action. The Canal presents an introduction of line and color into the landscape through the lined vegetation outside of the Canal corridor and the open water during the irrigation season. Right-of-way maintenance of the Canal is visible where vegetation is cleared, burned, or chemically treated to minimize impacts to the water flow and continue to provide maintenance access. Currently, the existing Canal right-of-way is dominated by bare ground and weeds but provides a clear, open visual corridor.

#### **3.3.14 Socioeconomics**

The proposed Canal enclosure would continue to provide a supplementary irrigation water supply to the shareholders and customers of the Association.

The majority of the use of water would continue for irrigation of crops, and the principal benefit to the water users would be reduced annual maintenance costs and increased efficiency, which would help to conserve valuable resources.

### **3.3.15 Health, Public Safety, and Noise**

This section identifies potential public safety hazards and health risks from the construction and operation of the Proposed Action and No Action Alternative. Under normal operation of the Canal, ambient noise levels are very low. There are spikes in noise levels when tractors are in operation, but they are very temporary in duration. There is almost no noise from traffic, industry, or recreation around the Canal. With an open Canal, there are inherent risks to the public and wildlife. Due to the size of the Canal an adolescent or adult could easily stand up and get out. However, in certain portions of the Canal a child could drown. In addition, under current O&M, the Canal right-of-way is burned, sprayed, or mowed to remove the vegetation. There are temporary negative impacts to air quality and increases in fugitive dust, due to the maintenance of the Canal, but they are not considered a health issue. This is the current state of the health, public safety, and noise related to current operation of the Canal.

### **3.3.16 Access and Transportation**

The Project is located within Cache County, and can be accessed from several cross streets, a county road, and a few farm roads. The impact area of influence for transportation includes, roads that would be used during construction and O&M of the Proposed Action and the No Action Alternative. The impact area of influence for utilities includes any utilities that would be moved, replaced, or experience service interruptions under the Proposed Action or No Action Alternative.

During construction, it is estimated that up to about 15 construction vehicles per day would travel to the site. The majority of the vehicle trips would be for transporting construction materials including concrete, excavation and backfill materials. The contractor would be transporting heavy construction equipment at the beginning and end of the Project. Upon completion of construction, vehicle trips are expected to be reduced to no more than 2 per day for O&M purposes during irrigation season.

### **3.3.17 Environmental Justice**

Executive Order 12898, established environmental justice as a Federal agency priority, to ensure that minority and low-income groups are not disproportionately affected by Federal actions. The Canal is located in Cache County. The estimated Cache County population for 2013 was 116,909. Statistics for the year 2010, the most recent census data, shows a county population of 112,656, consisting (16 percent) of individuals living below poverty level and (16.4 percent) belonging to various minority groups, with (<1 percent) belonging to the American Indian group (US Census Bureau).

## **3.4 Environmental Consequences**

This chapter documents the environmental consequences (impacts as a result of the Proposed Action) on the quality of the human environment. The human environment is defined in this study as all of the environmental resources, including social and economic conditions, occurring in the Project area.

The analysis presented in this chapter includes impacts that would occur from construction of the Proposed Action and continued existing conditions under the No Action Alternative.

### **3.4.1 Floodplains**

#### **3.4.1.1 No Action Alternative**

The No Action Alternative would have no effect on floodplains.

#### **3.4.1.2 Proposed Action Alternative**

Under the Proposed Action Alternative, there would be approximately 2.3 acres of disturbance of mapped floodplains. This represents approximately 2.9 percent of the 78 acres of floodplains in the Project area. These are primarily upland or non-irrigated agriculture fields. There would be a temporary disturbance of the soil and vegetation during the construction phase. However, those effects would be ameliorated within the same season, as the land would be reclaimed to its original state post-construction. Based on this analysis and rationale, **effects** to floodplains would be **minimal**.

### **3.4.2 Water Resources and Water Quality**

#### **3.4.2.1 No Action Alternative**

The No Action Alternative would have no effect on water resources and water quality beyond that described in the Affected Environment section above.

#### **3.4.2.2 Proposed Action Alternative**

The Proposed Action would require construction activities to take place between August (or water shutoff) and April/May (or water turn on), which is the period when the Canal is not in use, and therefore, would be dry. Consequently, water quality of transported water would not be jeopardized since the Proposed Action would be conducted before the normal delivery of water within the Canal. Clarkston Creek would be affected during construction of this Project; however, it would not need to be rerouted as part of this Project. The Project would be constructed during the months when Clarkston Creek is dry. A Stream Alteration Permit from the DWR, for the Clarkston Creek Crossing (Section 73-3-29 of the Utah Code), and a CWA Section 404 Permit for the discharge of dredged or fill material into waters of the United States, are being obtained. Coordination with the USACE and Utah DWR would occur to ensure proper permitting of this activity.

Best Management Practices (BMPs) would be in place during construction to protect surface water quality from erosion during construction. By implementing these measures, drainage issues would be controlled by the Canal itself. The use of silt fences, straw bales, etc., downstream of the construction activities would allow for the Canal to be a continuous basin as construction proceeds along the Canal. These measures would ensure that in the case of heavy precipitation events, sediment losses from the disturbed areas would be controlled on site.

The construction impacts of this Project would not adversely impact water resources and water quality. The amount of water to be delivered through the Proposed Action would remain the same. However, by enclosing the Canal, water quality would improve by eliminating adjacent surface water influence, irrigation return flows, and debris from entering the Canal water. Therefore, there would be a **beneficial effect and no adverse effect**.

### **3.4.3 Groundwater Resources**

#### **3.4.3.1 No Action Alternative**

Under the No Action Alternative, the Project would not be built. This would have no effect on groundwater resources.

#### **3.4.3.2 Proposed Action Alternative**

The Proposed Action Alternative would require construction activities to take place between October and April. Following the enclosure of the Canal, groundwater recharge directly from Canal seepage would essentially be eliminated. The impact to groundwater supplies, as a result of virtual elimination of this seepage, is unknown. Though recorded losses in 2011 were unusually high, there were no known or observed signs of water movement off the slope of the Canal into adjacent areas. Rather than water recharging directly by seepage under the Canal, infiltration by irrigation and losses after each turnout off the enclosed Canal would continue to feed the underlying aquifer. It is likely that existing seepage penetrated no further than the shallow groundwater table. However, the extent of the shallow groundwater usage is predominately for domestic purposes, with well depths ranging between 30 and 75 feet below ground surface (all within alluvial fill material). The **effects would likely be minimal** to groundwater due to the proposed action, although the extent of those effects are somewhat unknown until the Canal enclosure is completed.

### **3.4.4 Water Rights**

#### **3.4.4.1 No Action Alternative**

Under the No Action Alternative, the Project would not be built. This would have no effect on water rights.

#### **3.4.4.2 Proposed Action Alternative**

Under the Proposed Action, there would be no changes to the beneficial use of existing water rights. However, as stated in Section 2, within the new piped system “saved water” would allow shareholders to fully utilize their allocation of water due to elimination of water losses associated with seepage and evapotranspiration. Therefore, there would be **no effect**.

### **3.4.5 Geology and Soils Resources**

#### **3.4.5.1 No Action Alternative**

Under the No Action Alternative, the Project would not be built. This would have no effect on geology and soils.

#### **3.4.5.2 Proposed Action Alternative**

Temporary surface soil impacts during construction are anticipated. Construction erosion and sediment controls would serve to minimize these impacts.

Construction of the high density polyethylene HDPE pipe would minimize impacts due to operating pressures and the potential for possible seismic activity. Construction documents would address any additional appropriate pipe construction methods or materials. In all, there would be **minimal and temporary impacts** to soils and geology.

### **3.4.6 Cultural Resources**

#### **3.4.6.1 No Action Alternative**

Under the No Action Alternative, there would be no foreseeable impacts to cultural resources. There would be no need for ground disturbance associated with pipeline installation or staging. The existing conditions would remain intact and would not be affected.

#### **3.4.6.2 Proposed Action Alternative**

Under the Proposed Action Alternative, there would be no effects to cultural resources, based on the fact that there were no eligible or listed resources. In our consultation with SHPO, they concurred with our determinations of eligibility and effect. Please see Appendix 3 for the letter from SHPO.

### **3.4.7 Paleontological Resources**

#### **3.4.7.1 No Action Alternative**

Under the No Action Alternative, there would be no foreseeable impacts to paleontological resources. There would be no need for ground disturbance associated with pipeline installation or staging. The existing conditions would remain intact and would not be affected.

#### **3.4.7.2 Proposed Action Alternative**

Under the Proposed Action Alternative, any effects to paleontological resources will be disclosed, be subject to the consultation process with Utah SHPO, and be summarized in the Final EA.

### **3.4.8 Indian Trust Assets**

#### **3.4.8.1 No Action Alternative**

Under the No Action Alternative, there would be no foreseeable impacts to ITAs. The existing conditions would remain intact and would not be affected.

#### **3.4.8.2 Proposed Action Alternative**

Under the Proposed Action Alternative, any impacts to ITAs, if found, would be avoided. Correspondence with BIA and related Tribes did not identify any potential assets that could be affected. Therefore there will be no effects to Indian Trust Assets.

### **3.4.9 Wildlife Resources**

#### **3.4.9.1 No Action Alternative**

The No Action Alternative would have no negative effects on wildlife.

#### **3.4.9.2 Proposed Action Alternative**

Under the Proposed Action there would be no major long-term detrimental effects to wildlife. During construction, temporary and minor negative impacts would occur due to noise, dust, displacement, and temporary loss of habitat. In addition, some wildlife would have to find other free-water sources (irrigation ponds, Clarkston Creek, or Newton Reservoir) for drinking after the Canal is enclosed.

For birds, specifically migratory birds and raptors, no displacement or harassment of nesting activities or rearing of young would occur because ground disturbing activities, including upland vegetation clearing and lowland riparian habitat manipulation, would occur during the late fall/winter months when birds have migrated to other locations. In the event that construction would occur in the spring when birds return, compliance with MBTA and adherence to the guidance from USFWS (Romin and Muck 2002) would occur. A few cottonwood trees and willows, though avoided as much as possible would be lost during construction across Clarkston

Creek. A total of 0.13 acres of the 30 acres of lowland riparian habitat in the project area would be temporarily disturbed. These effects would be short term or very limited in extent and would have no long term significant negative effects, because these birds would be able to use abundant similar roost sites or other habitat elements in the immediate vicinity of the Project.

Effects to fish, small mammals, reptiles and amphibians, and big game would be minimal. Disturbance may occur, if the species was present, during construction, but most of the area has already been disturbed and is continually treated (burned, mowed, or treated with herbicides). Wildlife in the area are likely accustomed to the activities that will be occurring. Therefore, Reclamation anticipates **minimal effects** to wildlife.

### **3.4.10 Sensitive Species**

#### **3.4.10.1 No Action Alternative**

The No Action Alternative would have no negative effects on wildlife.

#### **3.4.10.2 Proposed Action Alternative**

Under the Proposed Action there would be no long-term detrimental effects to sensitive species.

During construction, if species are present, temporary and minor negative impacts would occur. Initial construction activity would cause stress to some wildlife species from noise, dust, displacement, and temporary loss of habitat, until construction was completed. Temporary changes in habitat for sensitive species would be negligible. There would be almost no effect to sharp-tailed and Greater sage grouse habitat or behavior. Therefore, Reclamation anticipates **minimal** effects to sensitive species, with no effect that would cause one of these species to be listed federally.

### **3.4.11 Threatened and Endangered Species**

#### **3.4.11.1 No Action Alternative**

The No Action Alternative would have no effects on Threatened or Endangered species.

#### **3.4.11.2 Proposed Action Alternative**

As none of the federally listed species were found in the project area (see 3.3.12), there would be **no effect** to those species. No BA will be created.

### **3.4.12 Wetlands, Riparian, and Existing Vegetation**

#### **3.4.12.1 No Action Alternative**

The No Action Alternative would have no negative effect on wetlands, riparian, or existing vegetation.

#### **3.4.12.2 Proposed Action Alternative**

The Proposed Action would impact approximately 0.13 acres of wetlands and riparian habitat in the project area. A total of 0.03 acres was classified as emergent wetland ditches and 0.10 acres were classified as riparian wetland associated with Clarkston Creek. In addition, only 59 lineal feet of Clarkston Creek would be crossed. Nonetheless, the Association is trying to obtain permits from the USACE and DWR to construct the pipeline.

Of the almost 30 acres of lowland riparian habitat in the project area, the Proposed Action would only temporarily disturb 0.10 acres. Over time the riparian vegetation would fill back in due to mesic nature of the site. Therefore, the effect to lowland riparian habitats is negligible.

The enclosure of the Canal would eliminate water loss through seepage along the Canal. This may affect riparian wetlands near the creek, but water is released through the outlet works at the dam into Clarkston Creek. Therefore, there is water in the channel most of the irrigation season until the reservoir is drained. Effects to riparian vegetation should be minimal in the creek channel. Very little riparian habitat exists at the edges of the Canal and it is constantly removed as part of O&M of the Canal, so effects would be negligible.

Upland vegetation would be disturbed during the dormant season and a seed mix representative of the area would be used to insure revegetation of disturbed areas. Seeding other native and desirable non-native species should minimize the competitive advantage of weedy and invasive species. As the majority of the new alignment is to be in agricultural fields, the amount of vegetation that would be disturbed is negligible.

Overall, **effects** to wetland, lowland riparian, upland, and existing vegetation would be **minimal**.

#### **3.4.13 Visual Resources**

##### **3.4.13.1 No Action Alternative**

The No Action Alternative would have no impact on visual resources.

##### **3.4.13.2 Proposed Action Alternative**

The Canal corridor is an open area cleared of most vegetation. The understory consists of grasses and weeds. The impacts to the visual environment from the Proposed Action would be noticeable by the adjacent landowners and occasional recreationist, but only for a short time until the area is revegetated. The Proposed Action would contour and seed the corridor to help mitigate the action once construction is complete. Therefore, there would be **no long-term effect** to visual resources.



### **3.4.14 Socioeconomics**

#### **3.4.14.1 No Action Alternative**

Under the No Action Alternative there would be no adverse effects to socioeconomics.

#### **3.4.14.2 Proposed Action Alternative**

Under the Proposed Action Alternative, the water supply to the intended irrigation shareholders would be secured to help insure a constant and regular source of water for irrigation. Construction would occur during the non-irrigated season; therefore, **no significant effect** is anticipated due to the Proposed Action.

### **3.4.15 Health, Public Safety, and Noise**

#### **3.4.15.1 No Action Alternative**

Under the No Action Alternative there would be no adverse effects to health, public safety, air quality, and noise.

#### **3.4.15.2 Proposed Action Alternative**

The Proposed Action Alternative would have minor short-term effects during construction, but there would be **no long-term effects** on health, public safety, and noise.

### **3.4.16 Access and Transportation**

#### **3.4.16.1 No Action Alternative**

The No Action Alternative would have no impact on access and transportation.

#### **3.4.16.2 Proposed Action Alternative**

The Proposed Action Alternative would have **minor short-term effects** during construction, but no long-term effects on access and transportation are anticipated.

### **3.4.17 Environmental Justice**

#### **3.4.17.1 No Action Alternative**

The No Action Alternative would have no impact on environmental justice.

#### **3.4.17.2 Proposed Action Alternative**

Implementation of the Proposed Action would not disproportionately (unequally) affect any low-income or minority communities within the Project area. The reason for this is that the Proposed Action would not involve major facility construction, population relocation, health hazards, hazardous waste, or substantial economic impacts. This alternative would therefore, have **no adverse human health or environmental effects** on minority and low-income populations as defined by environmental justice policies and directives.

### 3.5 Summary of Environmental Effects

Table 3-4 summarizes environmental effects under the No Action Alternative and the Proposed Action Alternative.

**Table 3-4  
Summary of Environmental Effects**

<b>Project Resource</b>	<b>No Action Alternative</b>	<b>Proposed Action Alternative</b>
Prime and Unique Farmlands	No Effect	Minimal Effect
Floodplains	No Effect	Minimal Effect
Water Resources and Water Quality	No Effect	No Adverse Effect, but a Beneficial Effect
Groundwater Resources	No Effect	Minimal Effect
Water Rights	No Effect	No Effect
Geology and Soils	No Effect	Minimal Effect
Cultural Resources	No Effect	Effects unknown until after consultation with SHPO
Paleontological Resources	No Effect	No Effect
Indian Trust Assets	No Effect	No Effect
Wildlife Resources	No Effect	Minimal Effect
Sensitive Species	No Effect	Minimal Effect
Threatened and Endangered Species	No Effect	No Effect
Wetland, Riparian and Vegetation	No Effect	Minimal Effect
Visual Resources	No Effect	No Effect
Socioeconomics	No Effect	No Effect
Health, Public Safety, and Noise	No Effect	No Effect
Access and Transportation	No Effect	Minimal Effect
Environmental Justice	No Effect	No Effect

### 3.7 Cumulative Effects

Cumulative effects are an aggregate of many direct and indirect effects, and include past, present actions, or actions that can reasonably be expected to occur. The potential for direct adverse effects to the environmental resources resulting from the alternatives is discussed in the previous sections.

Cumulative effects for this Project may include maintenance and repair work on the pipeline. Any impacts from this work would be temporary in nature with no long-term impacts.

# Chapter 4 Environmental Commitments

## 4.1 Commitments

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

1. **Standard Reclamation BMPs** - Standard Reclamation BMPs will be applied during construction activities to minimize environmental effects and will be implemented by construction forces, or included in construction specifications. Such practices or specifications include sections in the present EA on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, wildlife and threatened and endangered species. Excavated material and construction debris may not be wasted in any stream or river channel in flowing waters. This includes material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be wasted at a Reclamation approved 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 will 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. **UPDES Permit** - A UPDES Permit will be required from the State of Utah before any discharges of water, if such water is to be discharged as a point source into a regulated water body. Appropriate measures will be taken to ensure that construction related sediments will not enter the stream either during or after construction. Settlement ponds and intercepting ditches for

capturing sediments will be constructed, and the sediment and other contents collected will be hauled off the site for appropriate disposal upon completion of the Project.

4. **Fugitive Dust Control Permit** - The Division of Air Quality regulates fugitive dust from construction sites, requiring compliance with rules for sites disturbing greater than one-quarter of an acre. Utah Administrative Code R307-205-5, requires steps be taken to minimize fugitive dust from construction activities. Sensitive receptors include those individuals working at the site or motorists that could be affected by changes in air quality due to emissions from the construction activity.
5. **Cultural Resources** - In the case that any cultural resources, either on the surface or subsurface, are discovered during construction, Reclamation's Provo Area Office archeologist shall be notified and construction in the area of the inadvertent discovery will cease until an assessment of the resource and recommendations for further work can be made.

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 will stop until the proper authorities are able to assess the situation onsite. This action will 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 will be promptly notified. Consultation will 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).

6. **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.
7. **Wildlife Resources - Migratory Bird Protection**
  - a. Perform any ground-disturbing activities or vegetation treatments before migratory birds begin nesting or after all young have fledged.

- b. If activities must be scheduled to start during the migratory bird breeding season, take appropriate steps to prevent migratory birds from establishing nests in the potential impact area. These steps could include covering equipment and structures and use of various excluders (e.g., noise). Prior to nesting, birds can be harassed to prevent them from nesting on the site.
- c. If activities must be scheduled during the migratory bird breeding season, a site-specific survey for nesting birds should be performed starting at least two weeks prior to groundbreaking activities or vegetation treatments. Established nests with eggs or young cannot be moved, and the birds cannot be harassed (see b., above), until all young have fledged and are capable of leaving the nest site.
- d. If nesting birds are found during the survey, appropriate spatial buffers should be established around nests. Vegetation treatments or ground-disturbing activities within the buffer areas should be postponed until the birds have left the nest. Confirmation that all young have fledged should be made by a qualified biologist.

### **Raptor Protection**

Raptor protection measures will be implemented to provide full compliance with environmental laws. Raptor surveys will be developed using the *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (Romín and Muck 2002), to ensure that the proposed project will avoid adverse impacts to raptors, including bald and golden eagles. Locations of existing raptor nests and eagle roosting areas will be identified prior to the initiation of project activities. Appropriate spatial buffer zones of inactivity will be established during breeding, nesting, and roosting periods. Arrival at nesting sites can occur as early as December for certain raptor species. Nesting and fledging can continue through August. Wintering bald eagles may roost from November through March.

- 8. **Wetland Resources** - Surveys will be conducted to evaluate temporary and permanent impacts to lowland riparian migratory bird habitat. The following measures will be implemented:
  - a. Disclose the acreage and linear footage of riparian habitat lost as a result of enclosing the Newton Canal; and

- b. Develop and implement a compensatory mitigation plan to restore and conserve an equivalent type and amount of habitat.
9. **Previously Disturbed Areas** - Construction activities will 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 will be minimized as much as possible.
  10. **Public Access** - Construction sites will be closed to public access. Temporary fencing, along with signs, will be installed to prevent public access. The Association will coordinate with landowners or those holding special permits and other authorized parties regarding access to or through the Project area.
  11. **Disturbed Areas** - All disturbed areas resulting from the Project will be smoothed, shaped, contoured, and rehabilitated to as near the pre-Project construction condition as practicable. After completion of the construction and restoration activities, disturbed areas will 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 will be coordinated with wildlife habitat specialists and Reclamation biologists. Weed control on all disturbed areas will be required. Successful revegetation efforts must be monitored and reported to Reclamation, along with photos of the completed Project.

# **Chapter 5 Consultation and Coordination**

## **5.1 Introduction**

Consultation with the USFWS pursuant to the ESA is discussed throughout this EA. This chapter details other consultation and coordination between Reclamation and other Federal, state, and local Government Agencies, Native American Tribes, and the public during the preparation of this EA. Compliance with NEPA is a Federal responsibility that involves the participation of all of these entities in the planning process. NEPA requires full disclosure about major actions taken by Federal agencies and accompanying alternatives, impacts, and potential mitigation of impacts.

## **5.2 Public Involvement**

The Proposed Action was presented to the public and cooperating agencies through mailings. A letter was sent to approximately 40 landowners, multiple municipalities, NGOs, state and Federal agencies, and other interested stakeholders. The letter invited the recipients to respond to the Bureau of Reclamation on or before July 18, 2014, and included a brief description of the Project and area map. Reclamation received two comment letters which were taken into consideration. The EA was carefully updated to reflect relevant comments regarding the environmental analysis.

## **5.3 Native American Consultation**

Reclamation conducted Native American consultation throughout the public involvement process. A consultation letter and copy of the Class III Cultural Resource Inventory Report was sent to the potentially affected tribes. This consultation was conducted in compliance with 36 CFR 800.2(c)(2) on a government-to-government basis. Through this effort the tribe was 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 one letter. Reclamation sent a response letter and made multiple follow up phone calls in order to address concerns. This represents Reclamation's reasonable and good faith attempts to carry out appropriate identification efforts.

## **5.4 Utah Geological Survey**

Reclamation requested a paleontological file search from the UGS to determine the nature and extent of paleontological resources within the APE. File search results and recommendations from the UGS have not yet been received.

## **5.5 Utah State Historic Preservation Office**

A copy of the Class III Cultural Resource Inventory Report and a determination of historic properties affected for the Proposed Action Alternative was submitted to the Utah SHPO. SHPO concurred with the finding of no historic properties affected (Appendix 3).

## **5.6 Bureau of Indian Affairs**

A letter from the Reclamation archaeologist requested an evaluation of ITAs within the APE from the BIA. Reclamation did not received a response from the BIA identifying any ITAs impacted by the Proposed Action.



## Chapter 6 References

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## Chapter 7 Preparers

The following is a list of preparers who participated in the development of the Draft EA. They include environmental summary preparers, Reclamation team members, and Federal, state and Association members.

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### Federal, State or Association Members

Mr. Val Jay Rigby	President	Newton Water Users Association
Mr. Jessi Brunson	Botanist	U.S. Fish and Wildlife Service
Ms. Jena Lewinsohn	Terrestrial Botanist	U.S. Fish and Wildlife Service

## Chapter 8 List of Acronyms

APE	Area of Potential Effect
Association	Newton Water User Association
BA	Biological Assessment
BIA	Bureau of Indian Affairs
Canal	Newton Service Canal
cfs	Cubic Feet Per Second
CWA	Clean Water Act
DWR	State of Utah Division of Wildlife Resources
EA	Environmental Assessment
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
HDPE	High Density Polyethylene
ITA	Indian Trust Assets
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
O&M	Operation and Maintenance
Reclamation	U.S. Bureau of Reclamation
SHPO	Utah State Historic Preservation Office
SOPs	Standard Operating Procedures
UGS	Utah Geological Service
ULT	Ute-ladies'-tresses
UPDES	Utah Pollutant Discharge Elimination System
USACE	US Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

# Chapter 9 Figures

Figure 1 – Newton Canal Project Site Location

## Appendix 1. Public Comment Summary

<b>Comment letter Reference number</b>	<b>Commenter</b>	<b>Issues</b>	<b>Where issues were addressed</b>
14-CPA-0034	U.S. Fish and Wildlife Service	Migratory birds and section 7 consultation if needed	Environmental Assessment
14-0799	Utah Division of State History	Reminder of consultation with SHPO	Environmental Assessment and cultural report

## Appendix 2. Plant Species in Project Area

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS
intermediate wheatgrass	<i>Thinopyrum intermedium</i>	UPL
coyote willow	<i>Salix exigua</i>	FACW
deadly nightshade	<i>Solanum dulcamara</i>	FAC
poison hemlock	<i>Conium maculatum</i>	FACW
golden rod	<i>Solidago lepida</i>	FAC
dyer's woad	<i>Isatis tinctoria</i>	UPL
Baltic rush	<i>Juncus balticus</i>	FACW
box elder	<i>Acer negundo</i>	FACW
choke cherry	<i>Prunus virginiana</i>	FAC
cheat grass	<i>Bromus tectorum</i>	UPL
yarrow	<i>Achillea millifolium</i>	FACU
Canada thistle	<i>Cirsium arvense</i>	FACU
sagebrush	<i>Artemisia tridentata</i>	UPL
annual sunflower	<i>Helianthus annuus</i>	FACU
hound's tongue	<i>Cynoglossum officinale</i>	FACU
prickly lettuce	<i>Lactuca serriola</i>	FACU
wild mint	<i>Mentha arvensis</i>	FACW
Redosier dogwood	<i>Comus alba</i>	FACW
water speedwell	<i>Veronica anagallis aquatica</i>	OBL
common teasle	<i>Dipsacus fullonum</i>	FAC
stinging nettle	<i>Urtica dioica</i>	FAC
cattail	<i>Typha latifolia</i>	OBL
curlycup gumweed	<i>Gnaphalium squarrosus</i>	FACU
golden currant	<i>Ribes aureum</i>	FAC
eastern cottonwood	<i>Populus deltoides</i>	FAC
twinberry	<i>Lonicera involucrata</i>	FAC
spike rush	<i>Eleocharis palustris</i>	OBL
yellow sweet clover	<i>Melilotus officinalis</i>	FAC
false Solomon's seal	<i>Maianthemum racemosum</i>	FAC
reed canary grass	<i>Phalaris arundinacea</i>	FACW
fireweed	<i>Kochia scoparia</i>	UPL
western wheatgrass	<i>Pascopyrum smithii</i>	FAC
foxtail barley	<i>Hordeum jubatum</i>	FAC
bulbous bluegrass	<i>Poa bulbosa</i>	UPL

UPL = upland species, FAC = facultative species, FACU = facultative upland species, FACW = facultative wetland species, OBL =obligate wetland species.

# Appendix 3. SHPO consultation concurrence letter



GARY R. HERBERT  
*Governor*

SPENCER J. COX  
*Lieutenant Governor*

Jutte Fisher  
*Executive Director*  
*Department of*  
*Heritage & Arts*

November 20, 2014



Utah Division of  
**State History**

Brad Westwood  
*Director*

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Kerry Schwartz  
Manager, Water and Environmental  
Resources Division  
Bureau of Reclamation  
Provo Area Office  
302 East 1860 South  
Provo, Utah 84606-7317

RE: Newton Pressurized Irrigation Project, U-14-UJ-0731p, Cache County, Utah

For future correspondence, please reference Case No. 14-1485

Dear M. Schwartz:

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

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

This letter serves as our comment on the determinations you have made, within the consultation process specified in §36CFR800.4. If you have questions, please contact me at 801-245-7263 or Lori Hunsaker at 801-245-7241 [lhunsaker@utah.gov](mailto:lhunsaker@utah.gov).

Sincerely,

Chris Merritt, Ph.D.  
Senior Preservation Specialist  
[cmerritt@utah.gov](mailto:cmerritt@utah.gov)



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