RECLAMATION

Managing Water in the West

Final Environmental Assessment Marion Lower Ditch Piping Project

PRO-EA-16-003

Upper Colorado Region
Provo Area Office
Provo, Utah

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

December 2016

Mission Statements

The mission of the Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated 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.

Final Environmental Assessment
Marion Lower Ditch Piping Project

Upper Colorado Region
Provo Area Office
Provo, Utah

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U.S. Department of the Interior
Bureau of Reclamation
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FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment
Marion Lower Ditch Piping Project
Summit County, Utah

EA-16-003

Recommended by:

Peter Crookston
Environmental Group Chief

12/8/2016
Date

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12/8/2016
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Approved by:

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09 DEC 2016
Date

Introduction

In compliance with the National Environmental Policy Act (NEPA) of 1969, as amended, the Bureau of Reclamation - Provo Area Office has conducted an Environmental Assessment (EA) to determine the impacts of the Proposed Action on the human environment and to decide whether to authorize the Lower Marion Pipeline Company (LMPC) to replace 3.7 miles of the unlined earthen Marion Lower Ditch (MLD) with a pressurized pipeline.

The purpose of the Proposed Action is to replace the existing unlined earthen MLD with a pipeline to meet existing and future user needs. A report compiled by the Utah Foundation indicates that Summit County is the fourth fastest growing County in the State of Utah. The Utah Foundation predicts the population of Summit county to increase 143 percent from 2010 to 2050 (Utah Foundation 2014). This increased growth has impacted the Kamas Valley and will place additional demands on the LMPC's water supply as more residential and commercial development comes to the area.

The Proposed Action is needed for the following reasons: to increase the efficiency of the existing irrigation system, to reduce the water lost to seepage, evaporation, and operational water losses, and to decrease the required maintenance along the MLD. The project is also needed to reduce the energy consumption related to agricultural activities along the MLD.

Alternatives

The EA analyzed the No Action Alternative and the Proposed Action Alternative.

Minimization Measures Incorporated into the Proposed Action

The minimization measures, along with other measures listed under each resource in Chapter 3 and Chapter 4 of the EA, have been incorporated into the Proposed Action to lessen the potential adverse effects.

- The project construction area will be located in previously disturbed sites whenever possible and will have as small a footprint as possible.
- Staging areas will be located within specific areas in order to minimize new disturbance to soils and vegetation.
- Ground disturbance will be minimized to the greatest extent possible and will only take place within the staked construction areas (identified as the Proposed Action area in this EA).
- Only certified weed-free mulch and seed will be used to minimize the potential spread of nonnative invasive plants.
- Construction vehicles and equipment will be inspected and cleaned prior to entry into the project area to ensure that they are free of weed seed.

- Stockpiling of materials will be limited to those areas approved and cleared in this EA.

Environmental commitments that are integral to the Proposed Action are as follows:

1. **Standard Reclamation Best Management Practices** (BMP) - Standard Reclamation BMPs will be included in construction specifications and applied by the contractor during construction activities. Such practices and specifications include dust abatement, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, and migratory bird protection measures. 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 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 work areas beyond those outlined in this analysis are required, additional environmental analyses may be necessary.

3. **Utah Pollutant Discharge Elimination System (UPDES) Permit** - A UPDES Permit will be required because the Proposed Action will disturb more than one acre of ground. Appropriate measures will be taken to ensure that construction related sediments will not enter the Weber River either during or after construction. Settlement ponds and intercepting ditches for capturing sediments will be constructed (if necessary), 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 Utah Division of Air Quality regulates fugitive dust from construction sites, requiring compliance with rules for sites disturbing greater than 1/4 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 archaeologist 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 by a professional archaeologist.

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 State Historic Preservation Office (SHPO) and interested Native American Tribal representatives will be promptly notified. Consultation will begin immediately.

A Memorandum of Agreement (MOA) has been executed to mitigate the adverse effects to Site 42SM588 and Site 42SM697. Mitigation for the adverse effects, set forth in the stipulations of the MOA, must be completed before construction activities associated with the Proposed Action begin.

6. **Paleontological Resources** - Should vertebrate fossils be encountered during construction all activities must be suspended until a qualified paleontologist can be contacted to assess the find.

7. **Migratory Bird Protection** - All ground disturbing activities and vegetation clearing will be performed prior to migratory bird nesting season or after fledging.

8. **Previously Disturbed Areas** - Construction activities will be confined to previously disturbed areas wherever 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.

9. **Public Access** - Construction sites will be closed to public access. Temporary fencing, along with signs, will be installed to prevent public access. The LMPC staff will coordinate with landowners and other authorized parties regarding access to or through the project area.

10. **Disturbed Areas** - All disturbed areas 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 with a variety of appropriate species to help hold the soil around structures, and prevent excessive erosion. The composition of seed mixes will be coordinated with the project biologists. Weed control on all disturbed areas will be required.

11. **Stream Alteration Permit** - Stream Alteration Permit 16-35-24SA has been obtained from the State of Utah Division of Water Rights for work within and adjacent to the Weber River associated with the improvements to the diversion structure. Additional 404 permitting is required and will be obtained from the U.S. Army Corps of Engineers. All conditions set forth within these permits will be adhered to by the LMPC.

Related NEPA Documents

There are no other Environmental Assessments or Environmental Impact Statements related to the scope of this EA.

Decision and Finding of No Significant Impact

Based upon a review of the EA and supporting documents, I have determined that implementing the Proposed Action will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the area. No environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27. Therefore, an Environmental Impact Statement is not required for this Proposed Action. This finding is based on consideration of the context and intensity as summarized here from the EA.

Context

The affected locality is the area served by the LMPC irrigation system in Summit County, Utah. Affected interests include the LMPC shareholders receiving water from the MLD and adjacent private landowners.

Intensity

The following discussion is organized around the 10 significance criteria described in 40 CFR 1508.27. These criteria were incorporated into the resource analysis and issues considered in the EA.

1. **Impacts may be both beneficial and adverse.** The Proposed Action will impact resources as described in the EA. Minimization measures and environmental commitments to reduce impacts to cultural and biological resources were incorporated into the design of the Proposed Action. The following short-term effects of the Proposed Action are predicted: noise, ground disturbance along the construction alignment and identified staging areas, and minor impacts to access and transportation during construction. Long-term predicted effects are adverse effects to cultural resources (mitigated for in the MOA), potential permanent loss of riparian vegetation along abandoned sections of the MLD, and beneficial effects to water resources and adjacent agricultural lands. In the long-term, all affected water users supplied by the MLD will benefit from increased water efficiency and conservation.

None of the environmental effects discussed in detail in the EA are considered significant.

2. **The degree to which the selected alternative will affect public health or safety or a minority or low-income population.** The Proposed Action will have no significant impacts on public health or safety. No minority or low income community will be disproportionately affected by the Proposed Action.

3. **Unique characteristics of the geographic area.** There are no unique characteristics associated with the Project area. No critical wildlife habitat will be adversely affected by the

Proposed Action. There are no park lands, prime farmlands, wild and scenic rivers, or other ecologically critical areas that will be affected by the proposal.

4. **The degree to which the effects on the quality of the human environment are likely to be highly controversial.** Reclamation contacted representatives of other Federal agencies, state and local governments, Indian tribes, public and private organizations regarding the Proposed Action and its effects on resources. Based on the responses received, the effects from the Proposed Action on the quality of the human environment are not highly controversial.

5. **The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.** When uncertainty about impacts to the human environment was identified in the EA, mitigation and monitoring measures were identified and included in the formulation of the alternatives. There are no predicted effects on the human environment that are considered highly uncertain or that involve unique or unknown risks.

6. **The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.** The Proposed Action will not establish a precedent for future actions with significant effects.

7. **Whether the action is related to other actions which are individually insignificant but cumulatively significant.** Cumulative impacts are possible when the effects of the Proposed Action are added to other past, present, and reasonably foreseeable future actions as described under related NEPA documents above; however, significant cumulative effects are not predicted, as described in the EA.

8. **The degree to which the action may adversely affect sites, districts, buildings, structures, and objects listed in or eligible for listing in the National Register of Historic Places.** The project will result in an adverse effect to Site 42SM588 and Site 42SM697. The SHPO has agreed with the effects determination and prescribed mitigation measures. A MOA has been executed to mitigate the adverse effects to Site 42SM588 and Site 42SM697. Mitigation for the adverse effects, set forth in the stipulations of the MOA, must be completed before construction activities associated with the Proposed Action begin.

9. **The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.** No threatened or endangered species are found within Project area. Therefore, Reclamation's finding was No Effect.

10. **Whether the action threatens a violation of Federal, state, local, or tribal law, regulation or policy imposed for the protection of the environment.** The Project does not violate any Federal, state, local, or tribal law, regulation, or policy imposed for the protection of the environment. In addition, this Project is consistent with applicable land management plans, policies, and programs.

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Chapter 1 Purpose of and Need for Proposed Action

1.1 Introduction

This Environmental Assessment (EA) was prepared to examine the potential environmental impacts of the Lower Marion Pipeline Company (LMPC)[1] Water Conservation Project located in Summit County, Utah. If approved, the Bureau of Reclamation would authorize the use of Federal funds to replace 3.7 miles of the unlined earthen Marion Lower Ditch (MLD) with a pressurized pipeline.

1.2 Background

1.2.1 WaterSMART

As the U.S. Department of the Interior's primary water management agency, Reclamation's mission is to manage, develop, and protect water and water-related resources in an environmentally and economically sound manner. A key component of Reclamation's activities is to support water conservation and assist resource managers in making decisions regarding water use. Established in February 2010, by U.S. Secretary of the Interior Ken Salazar, the WaterSMART Program was developed to meet the goals outlined in the Omnibus Public Land Management Act of 2009. Subtitle F of the Act, also known as the SECURE Water Act, established that "adequate and safe supplies of water are fundamental to the health, economy and ecology of the United States" and authorized Federal agencies to work with local entities to address issues that jeopardize the security of water (Reclamation 2015). As such, Reclamation's WaterSMART Program administers grants, funds and scientific studies, and provides technical assistance to state and local entities to support conservation activities.

1.2.2 Marion Lower Ditch

The LMPC's service area is located between the Cities of Oakley and Kamas, Utah (Figure 1-1 Project Location Map). The MLD serves approximately 1,060 acres of agricultural land in the Kamas Valley in unincorporated Summit County. The primary crops in the LMPC's service area include hay, alfalfa, grasses and grains. The project is located at an average elevation of 6,500 feet above mean sea level (MSL). Water for the MLD is supplied by a diversion in the Weber

[1] During the fall of 2016, members of the Marion Upper Ditch Company (MUDC) formed the Lower Marion Pipeline Company (LMPC). Early communication efforts including the public open house and early agency coordination references the MUDC not the LMPC.

River, with additional water being diverted as necessary from the Smith and Morehouse Reservoir.

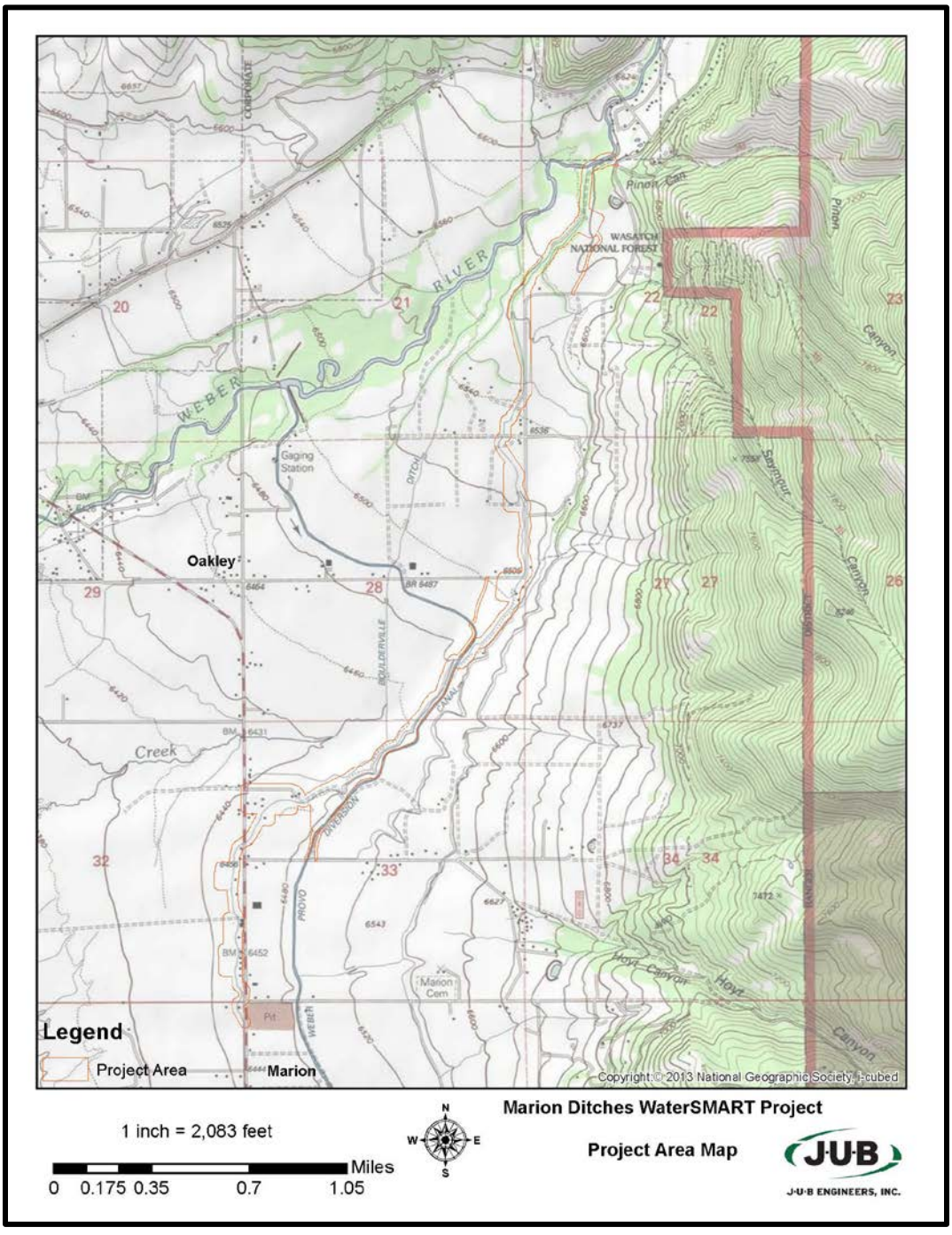


Figure 1-1 Project Location Map

1.3 Purpose of and Need for Proposed Action

This EA evaluates the potential effects of the Proposed Action in order to determine whether it would cause significant impacts to the human environment, as defined by the National Environmental Policy Act (NEPA) of 1969. If the EA shows no significant impacts associated with implementation of the Proposed Action, then a Finding of No Significant Impact (FONSI) will be issued by Reclamation. Otherwise, the completion of an Environmental Impact Statement (EIS) will be necessary prior to implementation of the Proposed Action.

The purpose of the project improvements is to replace the existing unlined earthen MLD with a pipeline to meet existing and future user needs. A report compiled by the Utah Foundation indicates that Summit County is the fourth fastest growing County in the State of Utah. The Utah Foundation predicts the population of Summit county to increase 143 percent from 2010 to 2050 (Utah Foundation 2014). This increased growth has already had noticeable impacts to the Kamas Valley and will place additional demands on the LMPC's water supply as more residential and commercial development comes to the area.

The Proposed Action is needed to increase the efficiency of the existing irrigation system; to reduce the water lost to seepage, evaporation, and operational water losses; and to decrease the required maintenance along the MLD. The project is also needed to reduce the energy consumption related to agricultural activities along the MLD.

1.4 Public Scoping and Involvement

Reclamation's scoping and public involvement process presents members of the general public, agencies, interest groups, and key stakeholders with opportunities to participate in and provide comment during the EA development process.

To help foster public involvement in the EA development process, an open house for the project was held on June 15, 2016, at the Kamas City Recreation Building. The open house allowed individual property owners the opportunity to meet with the project team, including consultants, Reclamation staff and LMPC board members, to discuss the project and to provide comments on the Proposed Action. Copies of the open house notice and meeting minutes may be found in Appendix A. Public Involvement.

A copy of the Draft EA was sent to interested agencies and key stakeholders.

1.5 Permits, Licenses, and Authorizations

Implementation of the Proposed Action may require a number of authorizations and permits from state or Federal agencies. The LMPC would be responsible for

obtaining all permits, licenses, and authorizations required for the Project Action. Potential authorizations or permits may include those listed in Table 1-1.

Table 1-1
Permits and Authorizations

Agency/Department	Purpose
Utah Division of Water Quality	Utah Pollutant Discharge Elimination System (UPDES) Permit for projects disturbing more than one acres of ground or with any discharge.
Utah Department of Natural Resources, Division of Water Rights (DWR)	Stream Alteration Permit under Section 404 of the Clean Water Act (CWA) and Utah statutory criteria of stream alteration described in the Utah Code.
Utah State Historic Preservation Office	Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470 USC 470.
United States Fish and Wildlife Service	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, would be required prior to the discharge of dredged or fill material into "waters of the United States".
Landowners	Right-of-way would be obtained through Grants of Easement. These easements would protect LMPC's facilities from encroachment and would ensure the ability to access and perform maintenance operations on LMPC's facilities along the MLD.

1.6 Related Projects and Documents

There are no known past, current, or future related projects within a 2 mile radius of the Proposed Action. However, the Natural Resources Conservation Service (NRCS) conducted a study in 2014 to evaluate the water efficiency of the Marion Upper and Lower Ditches. The NRCS study indicates that 38 percent of the water in the LMPC is lost to seepage (NRCS 2014). This equates to approximately 2,919 acre-feet of water that is lost annually in the entire LMPC system to seepage, evaporation, and operational losses. According to the NRCS study, approximately 2,071 acre-feet of water is lost along the MLD through the project

area. The Proposed Action would address concerns from the 2014 NRCS study relating to water loss along the MLD.

1.7 Scope of Analysis

The purpose of this EA is to determine whether or not Reclamation should authorize, provide funding, and enter into an agreement with LMPC to pipe 3.7 miles of the MLD. That determination includes consideration of whether there would be significant impacts to the human and natural environment. In order to pipe the MLD, this EA must be completed and a FONSI issued. Analysis in this EA includes temporary impacts from construction activities and permanent impacts that would result from implementation of the Proposed Action.

Chapter 2 Alternatives

2.1 Introduction

The Proposed Action evaluated in this EA is Reclamation's authorization of Federal funds for the improvements deemed most appropriate for the MLD under present day conditions. Information contained within this EA will be used to determine the potential effects on the human and natural environment. This document will guide Reclamation's decision on the implementation of the Proposed Action. The Proposed Action is analyzed in comparison with a No Action Alternative in order to determine potential effects to the existing/baseline conditions.

If Reclamation chooses to implement the Proposed Action, LMPC would be authorized to proceed with piping the MLD to conserve water by reducing transportation and operational water losses along the canal. If Federal funds are authorized for the project, the LMPC would construct, operate and maintain these new pipeline features in place of the existing open canal. The new pipeline, existing easements and newly acquired easements would become a feature of the LMPC irrigation system.

2.2 No Action Alternative

Under the No Action Alternative the MLD would not be piped. The open, unlined earthen ditch would continue to deliver irrigation water with no improvements to reduce seepage, evaporation or operational water losses. Water lost along the MLD would likely continue at the existing rate of 38 percent and may increase overtime as the canal and associated facilities continue to age. The system losses would require greater amounts of water to be diverted from the Weber River and/or would shorten agricultural seasons as strains on the water system increase with the growing population in the LMPC's service area.

2.3 Proposed Action (Preferred Alternative)

The Proposed Action would include the piping of approximately 3.7 miles of the MLD, construction of a new screening structure and new weirs at an existing diversion on the Weber River, and the installation of 4 meters. The improvements to the diversion structure would prevent trash and debris from entering the system and allow diverted water to be measured. One meter would be located at the diversion structure, while the other 3 meters would be placed at various locations

along the MLD. The meters would be used to measure water traveling along the new pipeline.

The proposed piping would conserve approximately 2,071 acre-feet of water annually. This conservation of water would act as a buffer against climate variability, drought, and water shortages**.** In addition to these reductions in water losses, the Proposed Action would result in approximately 63,396 kilowatt hours of energy saved annually. Currently, many of the farmers who rely on MLD water to irrigate their crops use pumps to transport water from the MLD. Piping the MLD would preclude the need for pumps. These energy savings are estimated to result in an annual cost savings of approximately $2,417.09.

2.3.1 Construction Schedule

The proposed project is anticipated to begin in the fall of 2016, pending environmental approval. Construction activities would take place outside of the typical irrigation season, with construction occurring between November 1st and April 1st. Construction would take place over two seasons and is anticipated to be completed by April 2018.

2.3.2 Construction Procedures

2.3.2.1 Pipeline Construction

Construction of the pipeline is anticipated to occur in the following sequence: mobilization of construction equipment, delivery of pipe to identified construction staging areas, excavation of the trenches, fusing of the pipelines, backfill over the pipe, compaction of the backfill, and restoration and reseeding of the disturbed areas. Excavation activities would be performed with the use of appropriately sized construction equipment to minimize disturbance to surrounding areas. All excavated material would be stockpiled to the side of trenches within the construction easement, and would be used as backfill around the new pipeline.

2.3.2.2 Construction Staging Areas

Staging areas would be used to stockpile pipe and other construction materials, to house equipment and to park vehicles. Staging areas have been identified and analyzed as part of this EA to determine potential project impacts throughout implementation of the Proposed Action (Figure 2-1, Project Alignment). These impacts are included in the discussion in Chapter 3.

2.3.2.3 Land Disturbance

The proposed pipeline alignment totals approximately 3.7 miles in length and would require a maximum construction easement of 100 feet (50 feet from the centerline of the alignment). Land disturbance would be confined within the identified staging areas and the 100 foot wide construction easement along the canal alignment. Transportation to the project area would follow existing access roads, wherever possible to minimize disturbance. If necessary, new access roads would be within the proposed 100 width construction easement wherever

possible. Areas where new access roads may extend outside of the 100 width have been identified and are examined in this EA (Figure 2-1 Project Alignment).

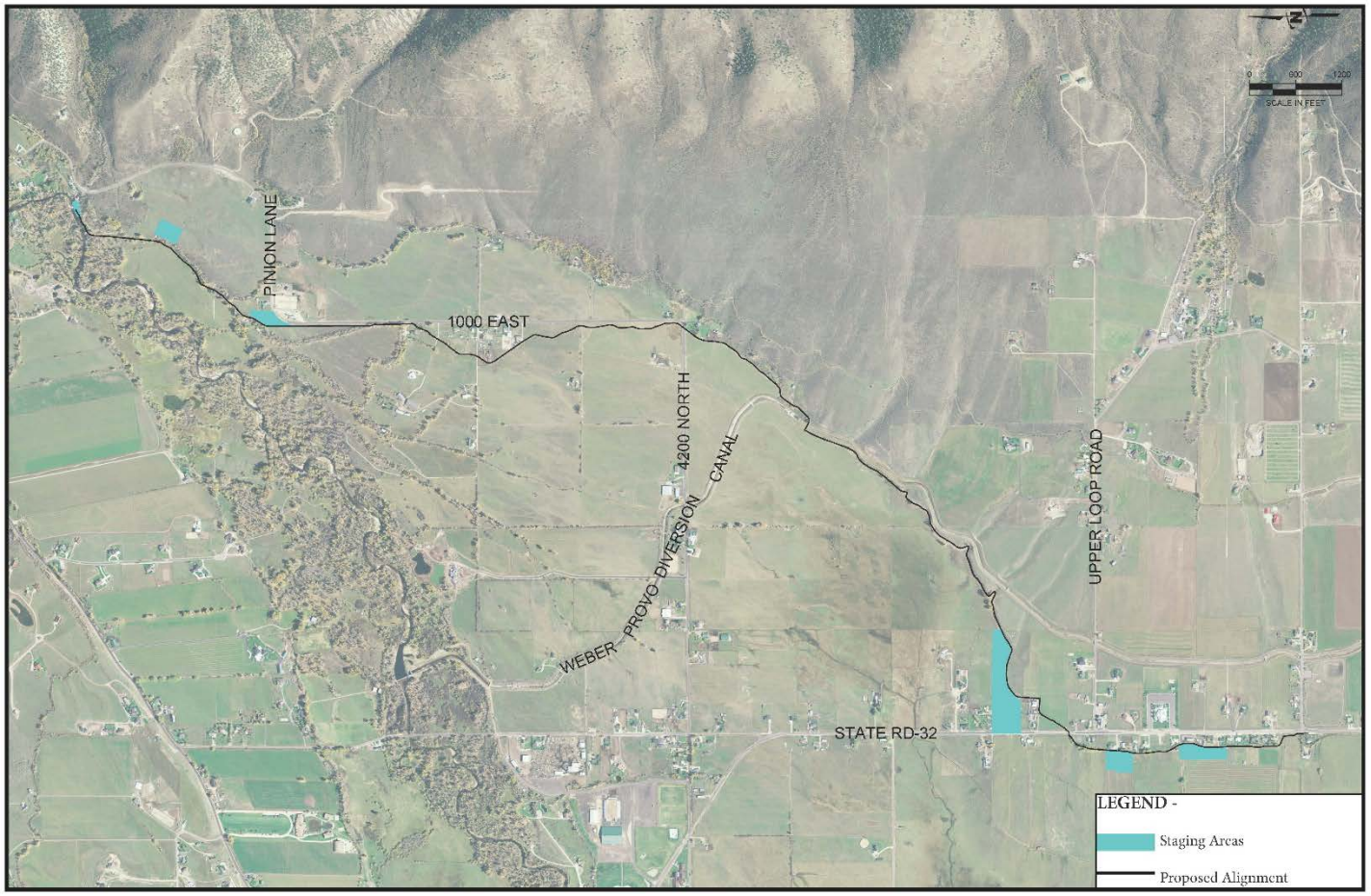


Figure 2-1, Project Alignment

2.4 Comparison of Alternatives

The suitability of the No Action Alternative and Proposed Action were compared based on five objectives identified for the project and anticipated environmental resource impacts. The objectives include:

- Prevent seepage and evaporation;
- Minimize operational water losses;
- Reduce energy consumption;
- Decrease maintenance; and
- Prevent trash and debris from entering the waterway.

As shown in Table 2-1, the No Action Alternative did not meet any of the Project's objectives while the Proposed Action met all five objectives.

Table 2-1
Comparison of Alternatives

Project Objective	Does the No Action Meet the Objective	Does the Proposed Action Meet the Objective
Prevent Seepage and Evaporation	No	Yes
Minimize Operational Water Losses	No	Yes
Reduce Energy Consumption	No	Yes
Decrease Maintenance	No	Yes
Prevent Trash and Debris	No	Yes

2.5 Minimization Measures Incorporated into the Proposed Action

The minimization measures, along with other measures listed under each resource in Chapters 3 and 4, have been incorporated into the Proposed Action to lessen the potential adverse effects. Minimization and mitigation measures include but are not limited to:

- The project construction area would be located in previously disturbed sites whenever possible and would have as small a footprint as possible.

- Staging areas would be located within specific areas in order to minimize new disturbance to soils and vegetation.

- Ground disturbance would be minimized to the greatest extent possible and would only take place within the staked construction areas (identified as the Proposed Action area in this EA).

- Only certified weed-free mulch and seed would be used to minimize the potential spread of nonnative invasive plants.

- Construction vehicles and equipment would be inspected and cleaned prior to entry into the project area to ensure that they are free of weed seed.

- Stockpiling of materials would be limited to those areas approved and cleared in this EA.

Chapter 3 Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the environment that could be affected by the Proposed Action. These impacts are discussed under the following resource categories: geology and soils resources; visual resources; cultural resources; paleontological resources; wilderness and wild and scenic rivers; hydrology; water quality; system operations; health, safety, air quality, and noise; prime and unique farmlands; floodplains; wetlands, riparian, noxious weeds and existing vegetation; fish and wildlife resources; threatened, endangered, and sensitive species; recreation; socioeconomics; access and transportation; water rights; Indian Trust Assets (ITAs); environmental justice; and cumulative effects. The present condition or characteristics of each resource are discussed first, followed by a discussion of the predicted impacts caused by the Proposed Action. The environmental effects are summarized in Section 3.7.

3.2 Resources Considered and Eliminated from Further Analysis

The following resources listed in Table 3-1 were considered but eliminated from further analysis because they did not occur in the project area or because the impact to them is so minor (negligible) that it was discounted.

Table 3-1
Resources Eliminated from Analysis

Resource	Rationale for Elimination from Further Analysis
Wilderness and Wild and Scenic Rivers	There are no designated Wilderness Areas or Wild and Scenic Rivers within or adjacent to the project area.
Water Rights	There would be no changes to existing water rights, nor would there be any new water rights as a result of the Proposed Action.

3.3 Affected Environment and Environmental Consequences

This chapter describes the affected environment (baseline conditions) and environmental consequences (impacts as a result of the Proposed Action) on the quality of the human and natural environment that could be impacted by Reclamation authorizing the use of Federal funds for the construction and operation of the Proposed Action, as described in Chapter 2. The human and natural environment is defined in this study as the environmental resources, including social and economic conditions occurring in the impact area of influence.

3.3.1 Geology and Soils Resources

The soils in the project area are primarily comprised of cobbly loams and outcrop complexes with slopes ranging from 0-15 percent (Appendix B. Soil Survey and Farmland Classification). The composition of the soil in the project area is detailed in Table 3-2 (NRCS 2016).

Table 3-2
Composition of Soils within the Project area

Soil Type	Percent of Project area
Snyderville cobbly loam (1-5% slopes)	35.2%
Ant flat loam (2-8% slopes)	22.0%
Snyderville gravelly loam (1-5% slopes)	21.3%
Ayoub cobbly loam (2-15% slopes)	13.0%
Harter gravelly loam (2-15% slopes)	6.5%
Wanship-Kovich loams (0-3% slopes)	1.6%
Kovich-Toddspan loams (0-3% slopes)	0.4%

According to the NRCS, the project area has a soil erosion rating of moderate along most of the project area with some areas listed as severe due to slope conditions. Soil erosion in sloped areas is common within the project area and in areas that receive periods of heavy wind (NRCS 2016).

3.3.1.1 No Action Alternative

The No Action Alternative would not disturb any ground nor would it change the composition or exposure of the soils in the project area. Therefore, the No Action Alternative would have no effect on the geology and soils resources within the project area.

3.3.1.2 Proposed Action

The Proposed Action includes ground disturbing activities such as excavation and backfilling of the canal alignment which have the potential to change the soil composition and increase the erosion rate in the project area. All excavated soils would be used to backfill and cover the pipeline. To mitigate for any short-term

impacts to the soils in the area, all disturbed areas would be re-contoured and reseeded. The Proposed Action would not create any new slopes, long-term exposure of barren areas or change in the soil composition, and the distribution of soils within the project area would remain relatively unaffected. Therefore, the Proposed Action would have no long-term impact on geology and soil resources.

3.3.2 Visual Resources

The project area is located within rural communities in Summit County. Except for roadways and a few commercial and government buildings, the project area and lands in the general vicinity of the project area are comprised of agricultural and residential uses. The area contains some relatively undisturbed land with established native vegetation. Visual resources in the area include adjacent hillsides, mountains and the Weber River.

3.3.2.1 No Action Alternative

Under the No Action Alternative, the project area would remain unchanged with no disruptions to the visual resources or the local viewshed. Therefore, the No Action Alternative would have no effect on the visual resources within the project area.

3.3.2.2 Proposed Action

The impacts of the Proposed Action on the visual resources would be minimal and short-term. During construction the equipment necessary for the Proposed Action would be present along sections of the alignment and within staging areas. The construction equipment may have minor impacts on the local viewshed throughout the duration of the construction activities. The ground along the MLD would be disturbed by both the movement of construction equipment and the excavation of soil for the new piping within the canal. The pipeline would be buried and the site would be restored to its original condition to mitigate for the ground disturbance. Visual impacts associated with construction activities would be temporary and there would be no long-term impacts to the visual resources within the project area.

3.3.3 Cultural Resources

A Class I records search and a Class III cultural resource inventory were completed for the Proposed Action's Area of Potential Effect (APE) by Certus Environmental Solutions, LLC. (Certus) in June 2016 (Appendix C. Cultural and Paleontological Resources). A total of 67 acres were inventoried during the Class III cultural resource inventory to identify any cultural resources within the Area of Potential Effect (APE). Certus identified three linear historic sites (canals) and three historic farmstead properties within the APE. No other historic properties or archaeological sites where discovered within the project area.

In accordance with 36 CFR 800.4, the 6 historic resources were evaluated for significance in terms of National Register of Historic Places (NRHP) eligibility. The significance criteria applied to evaluate cultural resources are defined in 36 CFR 60.4 as follows:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

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

b. That are associated with the lives of persons significant in our past; or

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

d. That have yielded, or may be likely to yield, information important in prehistory or history.

The file search indicated that Site 42SM458, the Weber Provo Diversion Canal, was determined eligible for the NRHP under Criterion A in 2002. A 3,400 long segment of this linear feature exists in the APE. Certus recommended that the segment of the canal located in the APE be considered as contributing to the overall eligibility of Site 42SM458 and that the canal site, as a whole, is still eligible for the NRHP.

Site 42SM588, the Marion Canal (Marion Upper Ditch), was determined eligible for the NRHP under Criterion A in 2011 by the NRCS. The segment of the canal that exists within the project area is recommended as contributing to the overall eligibility of the Site 42SM588 and the existing determination that the canal is eligible for the NRHP under Criterion A should be retained.

Site 42SM697, the MLD, extends through the project area for approximately 3.6 miles. Certus recommends that Site 42SM697 is eligible for the NRHP under Criterion A.

The three historic farmstead properties are not eligible for inclusion on the NRHP.

As indicated above, Certus recommended Site 42SM458 the Weber Provo Diversion Canal, Site 42SM588 the Marion Canal and Site 42SM697 the MLD as eligible for the NRHP under Criterion A. The Proposed Action would place a pipe under Site 42SM458, the Weber Provo Diversion Canal. The canal itself would not be altered by the Proposed Action. Therefore, the Proposed Action would have no adverse effect on Site 42SM458. The Proposed Action would cause an alteration to the characteristics of Site 42SM588 and Site 42SM697 which make them eligible for the NRHP and would, therefore, have an adverse effect on the sites according to 36 CFR 800.16(i).

In accordance with 36 CFR 800.5, the criteria of adverse effect were applied to Sites 42SM588 and 42SM697. An adverse effect is defined as an effect that could diminish the integrity of a historic property's location, design, setting, materials, workmanship, feeling, or association. The Proposed Action would diminish the integrity of the canals and would, therefore, have an adverse effect to the historic properties.

In compliance with 36 CFR 800.4(d)(2) and 36 CFR 800.11(e), a copy of the Class III cultural resource inventory report and a determination of historic properties affected have been submitted to the Utah State Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation (ACHP), and tribes which may attach religious or cultural significance to historic properties possibly affected by the Proposed Action for consultation.

Pursuant to 36 CFR 800.6(c), a Memorandum of Agreement (MOA) would be developed to resolve the adverse effects to sites 42SM588 and 42SM697. Signatories to the MOA would include all parties that assume a responsibility under the agreement, including, but not limited to, Reclamation, Utah SHPO, LMPC, USACE, and if they choose to participate, the ACHP and Tribes.

3.3.3.1 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 for pipe installation or staging areas. The existing condition of the cultural resources would remain intact and would not be affected.

3.3.3.2 Proposed Action

Under the Proposed Action, the open canals would be replaced with a buried pipeline. The modifications to the linear sites (42SM588 and 42SM697) would result in an adverse effect. Mitigation measures for the adverse effects to the canals would be outlined in a MOA in accordance with 36 CFR 800.6(c).

3.3.4 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 (ARPA) (16 U.S.C. 470bb(1)) and any cultural item as defined in Section 2 of the Native American Graves and Repatriation Act (NAGPRA) (25 U.S.C. 3001) are not considered paleontological resources. Section 6302 of the Paleontological Resources Preservation Act (PRPA) of 2009 (Sections 6301-6312 of the Omnibus Land Management Act of 2009 [Public Law 111-11 123 Stat. 991-1456]) requires the Secretary of the Interior to manage and protect paleontological resources on Federal land using scientific principles and expertise.

3.3.4.1 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 for any pipe installation or staging areas. The existing conditions would remain intact and would not be affected.

3.3.4.2 Proposed Action

Under the Proposed Action, there would be ground-disturbing activities which have the potential to disturb subsurface fossil material. The project would not disturb the bedrock layer and there are no known paleontological localities within the potential impact area. Therefore, the Proposed Action is not anticipated to have an impact on paleontological resources.

3.3.5 Hydrology

One natural waterway, the Weber River, exists in the project area. There are no other rivers or natural waterways within the project area. The irrigation water travelling through the MLD comes from the Weber River, and the Smith and Morehouse Reservoir. The MLD receives supplemental hydrology in the form of run-off from adjacent hillsides and other higher elevations. The hydrology of the project area is derived from natural seeps, springs, agricultural activities and irrigation waters.

3.3.5.1 No Action Alternative

The No Action Alternative may have a minor long term negative effect on the hydrology of the area as seepage from the existing MLD continues, and strains on water resources increase from population growth and associated development.

3.3.5.2 Proposed Action

The Proposed Action would not impact the hydrology of natural water resources within the vicinity of the project area. The Proposed Action would prevent seepage and increase the efficiency of water delivery through the MLD. This would result in an estimated 38 percent increase in water traveling to agricultural users along the MLD. Run-off that was previously collected by the canal would sheet flow over the piped MLD, be collected by adjacent canals and roadside ditches, and would infiltrate into the ground.

3.3.6 Water Quality

Section 303(d) of the Clean Water Act (CWA), requires each state to identify those water bodies that are not supporting their beneficial uses. The Utah Division of Water Quality (UDWQ) does not require monitoring within irrigation canals or ditches, so there are no water quality data for the MLD. Currently, the stretch of the Weber River containing the Marion Ditches diversion is classified as Assessment Category 3 (no assessment, more data required) by the Utah Department of Environmental Quality (DEQ). Consequently, water quality in the vicinity of the project is unknown and is considered to be affected by the adjacent land uses, primarily the agricultural activity in the area.

3.3.6.1 No Action Alternative

Under the No Action Alternative, the open canal would continue to collect runoff from nearby agricultural activities. The nutrient loading of the irrigation water from the runoff may have a cumulative long term negative impact to the water quality of the irrigation waters.

3.3.6.2 Proposed Action

The Proposed Action would pipe the existing open MLD. The piping of the open canal may have a minor long term beneficial impact on the water quality of the water delivered through the LMPC system. The Proposed Action would not have any long term impacts on the water quality of natural waterways, including the Weber River. Best Management Practices (BMPs) would be implemented throughout construction to prevent short term impacts to the water quality in the Weber River.

3.3.7 System Operations

The LMPC currently operates the MLD as an open canal lateral to transport irrigation water from the Weber River to water users along 3.7 miles of the MLD. The LMPC has 9 shareholders in the project area and 100 percent of the water traveling along the MLD is used for agricultural purposes. Roughly 80 percent of the LMPC service area is irrigated using sprinkler systems. This high rate of sprinkler use requires a lot of pumping (approximately 45 percent of water users require pumps) to get the required pressure to the sprinkler users.

3.3.7.1 No Action Alternative

Under the No Action Alternative, the LMPC system would continue to operate under its current conditions. Because of existing water losses in the system, the LMPC faces water shortages at the end of most irrigation seasons. To compensate for continued water loss, additional water would need to be released into the ditch to reach users at the end of the line. This additional water requirement due to the inefficiency of the existing system operations would place increasing pressure on water resources in the area.

3.3.7.2 Proposed Action

By pressurizing the MLD, the Proposed Action would reduce the energy requirements for system operations by an anticipated 63,396 kilowatt hours of energy per year. The Proposed Action is also anticipated to conserve approximately 2,071 acre-feet of water annually. The Proposed Action would also greatly reduce the required maintenance along the MLD as the enclosed pipe and new diversion structure would prevent debris from entering the system. Therefore, the Proposed Action would have a beneficial impact on system operations.

3.3.8 Public Health, Air Quality, and Noise

3.3.8.1 Public Health and Safety

The project area is located in Summit County in a rural, primarily agricultural setting. There are no known public health concerns in the project area. Safety concerns in the area are generally related to traffic along Utah State Highway 32 (SR-32) which is located in the project area. Safety concerns include those related to pedestrian and bicycle traffic traveling along the highway with trucks and other vehicles.

Public safety resources in the general vicinity of the project area include the South Summit Fire Protection Office which is located at SR-32 approximately 2-miles north of the project area and the South Summit Fire Station in Kamas located approximately 1 mile south of the project area. The Kamas City Offices and the Heber-Kamas Ranger District are also located within a few miles of the project area.

3.3.8.2 Air Quality

Air quality in the project area is regulated by the U.S. Environmental Protection Agency (EPA) and the Utah Division of Air Quality (UDAQ). The National Ambient Air Quality Standards (NAAQS) established by the EPA under the Clean Air Act (CAA) specify limits of air pollutants for carbon monoxide, particulate matter (PM 10 & PM 2.5), ozone, sulfur dioxide, lead, and nitrogen. If the levels of a criteria pollutant in an area are higher than the NAAQS, then the area is designated as a "nonattainment area." Areas that meet the NAAQS for criteria pollutants are designated as "attainment areas." The project area is in attainment for all criteria pollutants (UDAQ 2016).

3.3.8.3 Noise

The ambient noise within the project area includes a combination of natural sounds (wind, bird and insect calls) and mechanical sounds (cars, trucks, tractors, etc.). In general, noise levels are consistent with rural communities, likely averaging from 42 to 65 dBA based on their proximity to the state highway that runs through the project area.

3.3.8.4 No Action Alternative

Existing public health, air quality and noise conditions in the project area would be maintained. Therefore, the No Action Alternative would have no effect on public health, air quality or noise.

3.3.8.5 Proposed Action

The Proposed Action would have no impacts on public health and safety in the project area. Emergency dispatch service including the local fire, police and ranger stations would not be impacted by the Proposed Action. Although no temporary road closures are planned, any temporary road or access closure would be coordinated with local law enforcement and emergency services. The Proposed Action is anticipated to have short-term noise and air quality impacts

during active construction. Noise levels would be elevated during construction, but no new noise would be generated from the Proposed Action after construction. Air quality impacts from land disturbance activities such as excavation and compaction of soils along the project alignment would be short-term. Noise and air quality impacts would be mitigated through the implementation of BMPs throughout construction. The BMPs would include a dust mitigation plan and proper maintenance of construction equipment.

3.3.9 Prime and Unique Farmlands

The project area is located in a rural community in Summit County. Many of the adjacent land uses are related to agricultural activities. Crops in the general vicinity of the project area include alfalfa and hay grasses. A review of the NRCS's Soil Survey indicates that the project area contains areas that are classified Farmland of Statewide Importance (Appendix B, Soil Survey and Farmland Classification).

3.3.9.1 No Action Alternatives

Although there would be no direct impacts to farmlands, the No Action Alternative would continue to allow water losses from the MLD as it delivers water to agricultural users in the area. Under the No Action Alternative approximately 2,071 acre-feet of water would continue to be lost through seepage, evaporation and operational losses resulting in less water available for agricultural use and possibly shorter irrigation seasons. Thus, the No Action Alternative would likely result in a long-term indirect negative impact on farmlands in the general vicinity of the project area.

3.3.9.2 Proposed Action

The Proposed Action would not convert any existing farmland into nonagricultural uses. Any temporary disturbance of agricultural land would be mitigated through post-construction restoration of the disturbed land. Furthermore, the Proposed Action may have a long term beneficial impact on farmland by increasing the efficiency of the irrigation delivery system and conserving water.

3.3.10 Floodplains

Executive Order 11988: Floodplain Management (E.O. 11988) (May 24, 1977) established Federal policy for each agency to take action to reduce the risk of flood loss. The E.O. 11988 defines a floodplain as lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a 1 percent or greater chance of flooding in any given year. Encroachment onto floodplains can reduce the flood-carrying capacity of the floodplain and extend the flooding hazard beyond the encroachment area.

According to the Flood Insurance Rate Map (FIRM), the majority of the project area is located in Flood Zone C. Flood Zone C corresponds to areas that have been determined to have minimal flood potential (500-plus years flood). A small

area located directly adjacent to the Weber River has been designated as Flood Zone A, which corresponds to a 100-year floodplain.

3.3.10.1 No Action Alternative

Under the No Action Alternative, the existing conditions of the project area would be maintained and there would be no impacts to the floodplain or the potential for flooding.

3.3.10.2 Proposed Action

The majority of the Proposed Action would take place outside of the active floodplain. The work in and directly adjacent to the Weber River would take place in an active floodplain. The work on the diversion structure would be minimal and would not create any new or expanded flooding hazards in the Project Area. Personal correspondence with the Summit County Floodplain Administrator indicates that no floodplain permit would be required for the Proposed Action.

3.3.11 Wetlands, Riparian, Noxious Weeds and Existing Vegetation

3.3.11.1 Wetlands and Riparian Vegetation

Woody riparian vegetation exists within the proposed project area along the banks of the Weber River. Riparian vegetation also exists intermittently in places along the MLD. Riparian vegetation that exists along the MLD consists primarily of willows (*Salix spp.*), wire rush (*Juncus balticus*), and narrowleaf cottonwood (*Populous augustifolia*). Reed canarygrass (*Phalaris arundinacea*) and Canada thistle (*Cirsium arvense*) are also found within the project area. There is no wetland vegetation in the project disturbance area outside of the existing canal alignment and along the Weber River.

3.3.11.2 Noxious Weeds

Noxious weeds and nonnative species exist throughout the project area, specifically along roadways, canals and other highly disturbed areas. Noxious weeds present in the project area include Scotch thistle (*Onoprodum acanthium*), spotted knapweed (*Centaurea maculosa*) and Dyer's woad (*Isatis tinctoria*).

3.3.11.3 Upland Vegetation

The majority of the project area consists of agricultural land, with some residential landscaping. Small pockets of upland vegetation exist in the project area. Upland vegetation in the area includes big sagebrush (*Artemisia tridentate*), rabbit brush (Chrysothamnus spp.), crested wheatgrass (*Agropyron cristatum*) and Canada thistle (*Cirsium arvense*).

3.3.11.4 No Action Alternative

Vegetation in the project area would remain in its current conditions experiencing minor fluctuations in quantity and quality, as naturally occurring precipitation patterns vary. Routine MLD maintenance would continue to disturb these areas, and the area is likely to see an increase in the composition and infestation of

noxious and non-native species, due to their ability to thrive in disturbed areas. Though periodically removed within the MLD during maintenance, nonnative species would likely increase their dominance within the project area, resulting in degradation of the native vegetation.

3.3.11.5 Proposed Action

Under the Proposed Action, work would occur along the open existing canal lateral. The existing vegetation within the alignment would be disturbed during construction activities. To minimize impacts to native vegetation, previously disturbed areas would be used for construction activities, wherever possible. The BMPs would be followed to reduce construction impacts. After any surface disturbance, proper rehabilitation procedures would be implemented to prevent the infestation of invasive riparian species.

It is anticipated that there would be permanent loss of riparian vegetation along the abandoned sections of the MLD that do not capture sufficient storm water, agricultural runoff, or other supplemental water sources to allow such vegetation to persist.

The replacement of the open channel with a pipe is considered an irrigation exemption under RGL No. 07-02 Exemption for Construction or Maintenance of Irrigation Ditches and Maintenance of Drainage under Section 404 Part 323.4(a)(3) of the Clean Water Act (Appendix D. Wetland Resources). Under this exemption, no Nationwide Permit is required for the impact to wetlands within the project area. A stream alteration permit would be required for the work on the diversion structure which is located in the Weber River.

3.3.12 Fish and Wildlife Resources

Fish and wildlife resources in the general vicinity of the project area include large mammals, small mammals, raptors, waterfowl, migratory songbirds, upland game birds, and a small number of reptiles and amphibians.

3.3.12.1 Mammals

The areas surrounding the project area provide year-round habitat to several species of big game, such as mule deer (*Odocoileus hemionus*) and elk (*Cervus elaphus nelsoni*). In addition, many small mammals frequent the general vicinity of the project area. These species include, coyote (*Canis latrans*), pocket gopher (*Thomomys talpoides*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*).

3.3.12.2 Birds

Various raptors, water fowl and upland game bird species may be found in and near the project area. Red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), turkey vulture (*Cathartes aura*), Canada goose (*Branta canadensis*), mallard (*Anas platryrhynchos*), mourning dove (*Zenaida macroura*), and California quail (*Callipepla californica*) are all known to frequent the general area.

3.3.12.3 Fish

The Weber River provides suitable fish habitat for a variety of native species including the brown trout (*Salmo trutta*), cutthroat trout (*Oncorhynchus clarkia*) and mountain whitefish (*Prosopium Williamson*). The MLD and other canals in the general vicinity of the project area do not provide suitable fish habitat.

3.3.12.4 No Action Alternative

Under the No Action Alternative, fish and wildlife habitat would remain in its current condition, and there would be no gains or losses to these resources attributable to the No Action Alternative.

3.3.12.5 Proposed Action

The vegetative disturbance associated with the Proposed Action may result in minor short-term impacts to wildlife species present in the project area. There would be some upland/agricultural habitat temporarily lost due to pipeline construction but similar habitat is available in the surrounding areas. After construction, areas disturbed by construction would be re-contoured, replanted, and reseeded with native vegetation except in agricultural fields, where appropriate crop seeds would be used. The BMPs would be followed to minimize impacts, including placing staging sites and access roads outside of sensitive areas. After any surface disturbance, proper rehabilitation procedures would be followed to prevent the infestation of invasive weed species. This would include seeding the disturbed areas with mixtures of desirable native species and agricultural species.

During the construction period and during pipeline maintenance there may be a short-term displacement (approximately 3 to 6 months) of wildlife that normally occupy the immediate area. Generally, wildlife would move easily and find alternative areas for forage and cover, and may return after construction and maintenance operations have been completed. The majority of the project area contains agricultural fields but some upland habitats would experience short-term disturbance until native vegetation components within these areas are restored (two to three growing seasons).

Impacts to small mammals, especially burrowing animals, could include direct mortality and displacement during construction activities. Small mammal species may experience reduced populations in direct proportion to the amount of disturbed habitat. These small mammal species and their habitats are relatively common throughout the area and any losses would be minor.
Impacts to raptors and other avian species may include minor short-term disturbance and displacement during construction, with no long-term impacts after construction. All vegetative clearing would occur in the fall and winter, outside of the migratory bird nesting season.

Fish species located in the Weber River may experience temporary short-term disturbance associated with the construction activities around the diversion structure. The BMPs would include measures to mitigate for any potential

impacts and the majority of the work on the diversion would occur in the dry season.

3.3.13 Threatened, Endangered, and Sensitive Species

3.3.13.1 Threatened, Endangered and Candidate Species

A site visit was conducted on April 12, 2016, by Trent Toler, qualified biologist with J-U-B Engineers, in order to review the existing conditions within the project action area. In order to identify species of concern associated with the project actions, a species list was obtained from the United States Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) system. According to the IPaC report, two federally listed species: the Canada lynx (*Lynx canadensis*) and the yellow-billed cuckoo (*Coccyzus americanus)* have the potential to occur in the project area. The species list summarized in Table 3-3 was derived from habitat conditions and potential species occurrence within the defined project action area.

Table 3-3 Federally Listed Species with Potential to Occur within the Project Area

Species	ESA Status	Documented Occurrence Within 2 Miles of Project Area
Canada lynx (*Lynx Canadensis*)	Threatened	No
Yellow-billed Cuckoo (*Coccyzus americanus*)	Threatened	No

3.3.13.2 State Sensitive Species

On April 19, 2016, the Utah Division of Wildlife Resources (UDWR) provided a response letter regarding information on federally listed species and species of special concern within the vicinity of the project action area (Appendix E. Biological Resources). According to the UDWR, there are no recorded occurrences of federally listed species within 2 miles of the project action area. The Utah State Sensitive Species with records of occurrence within 2 miles of the project action area are detailed in Table 3-4. Only the Bonneville cutthroat trout (*Oncorhynchus clarkii utah*) had records of occurrence within ½ mile of the project action area.

Table 3-4 Utah State Sensitive Species with Potential to Occur within the Project area

Species	List Status	Documented Occurrence Within 2 Miles of Project area
Bald eagle (*Haliaeetus leucocephalus)*	Wildlife Species of Concern	Yes
Bobolink (*Dolichonyx oryzivorus)*	Wildlife Species of Concern	Yes
Bonneville cutthroat trout (*Oncorhynchus clarkii utah)*	Conservation Agreement Species	Yes

3.3.13.3 No Action Alternative

The No Action Alternative would have no effect on any federally listed species. The No Action Alternative would have no impact on State Sensitive Species.

3.3.13.4 Proposed Action

There have been no documented occurrences of federally listed threatened, endangered, or candidate species within the project area. A biological site survey completed in April 2016, determined that the Proposed Action would have no effect on the federally listed species identified as potentially occurring within the project area (Appendix E, Biological Resources). Details on each species determination follows.

3.3.13.4.1 Canada Lynx

The Canada lynx (*Lynx canadensis*) is normally found in dense forested areas with an abundance of windfalls and brushy thickets. Lynx require heavy cover for concealment when stalking prey. The highly disturbed residential/agricultural environment and lack of multi-storied conifer cover surrounding the defined project action area is unsuitable habitat for this species. Based on lack of suitable habitat in the project area, the project actions would have no effect on the Canada lynx.

3.3.13.4.2 Yellow-billed Cuckoo

Yellow-billed cuckoo (*Coccyzus americanus)* in the West are considered a riparian obligate and are usually found in large forested tracts of native cottonwood/willow habitats with dense sub-canopies (below 33 feet). Moist river bottoms and deltas with high humidity and a lack of invasive tree species are also key habitat elements (USFWS 2013). The current habitat along the project corridor contains narrow cottonwood stands that parallel only the northern-most mile of the ditch through farmland areas, which do not meet the requirements of suitable habitat as outlined in the Federal Register. At the diversion structure on the Weber River, the cottonwood riparian woodlands are more complete than at any other location along the alignment. However, the riparian woodlands quickly thin out and the grove is relatively small in scope. The changes to the ditch would

not qualify as a loss or degradation of this riparian habitat as any permanent changes would only include the installation of a pipeline. Therefore, based on the lack of suitable habitat in the project area, the project actions would have no effect on the yellow-billed cuckoo.

3.3.13.4.3 Bald Eagle

Based on information obtained from the UDWR, there are recent documented occurrences of the bald eagle within 2 miles of the project action area (see attached UDWR letter). The project action could impact a small amount of cottonwood riparian habitat close to the diversion structure on the Weber River, including potential nesting or perching locations for the bald eagle. However, the project actions would begin after the nesting season in the fall (after the irrigation season) and would not affect nesting. The construction of the diversion structure and the piping by the Weber River could cause some temporary avoidance of the immediate work area by any wintering bald eagles. However, the bald eagle's prey base and foraging opportunities would not be affected by this project. Therefore, the project impacts to the bald eagle would be minimal and would not contribute to a trend toward federal listing.

3.3.13.4.4 Bobolink

Information obtained from the UDWR indicates there are recent documented occurrences of the bobolink within a 2 mile radius of the project action area. Irrigated pastures and hayfields do exist along several portions of the ditch alignment. These areas are unlikely to present suitable habitat because they are heavily disturbed from being frequently mowed as hayfields or maintained as short-grass pastures. The species may arrive in early May when construction activities are being completed. This could cause displacement of any birds that attempt to nest along the vegetation close to the work areas. However, the number of bobolink affected and the short-term (one season) duration of the construction activities excludes major effects. Since the majority of construction would occur outside the window of time when bobolink are present and very few acres of potentially suitable habitat would be affected, effects to the species are minimal and would not contribute to a trend toward Federal listing.

3.3.13.4.5 Bonneville Cutthroat Trout

Based on information obtained from the UDWR, there are recent documented occurrences of the Bonneville cutthroat trout within a ½ mile radius of the project action area (Appendix E. Biological Resources). It is likely that these occurrences were documented within the Weber River, and within ½ mile of the stretch of the river near the diversion structure. The existing ditch within the project action area does not contain suitable fish habitat. However, the section of the river where the diversion structure is located could potentially contain trout habitat. The existing diversion structure would be replaced, and that work would include a new overflow channel to be cut from the new screening structure back to the edge of the river channel. A minor diversion or cofferdam structure would have to be placed along the river bank and a small distance out into the river channel to

protect the work area, but it is not anticipated to extend more than 5 feet from the river bank. As the Weber River is approximately 40 to 45-feet-wide through this section of the river, this temporary construction activity is not anticipated to impact the activities of any active trout in the remaining unaffected river channel. The work would also be done during the fall and winter, outside of any potential spawning season. Based on lack of suitable habitat within the existing ditch and the limited disturbances from temporary actions along the Weber River banks, this project would have no impact on the Bonneville cutthroat trout.

3.3.14 Recreation

The Weber River is a valued recreation resource for those living in and traveling to Summit County. Although the portions of the Weber River near the project area are located primarily near privately-owned land, public access is available through walk-in access and angler access easements. The Weber River provides opportunities for fishing and other water activities such as kayaking and canoeing.

3.3.14.1 No Action Alternative

There would be no new impacts to the Weber River under the No Action Alternative. Irrigation company staff would continue to access the river to place and remove weirs that are used to divert water into the existing irrigation structure. These regular maintenance activities are not anticipated to impact recreational resources in the project area.

3.3.14.2 Proposed Action

The Proposed Action would include work in and near the Weber River to replace the existing diversion structure. The majority of the work on the diversion structure would be performed outside of the river. The required instream work would include the placement of a temporary cofferdam that would extend no more than 5 feet from the river bank. The Weber River is approximately 40 to 45-feet-wide in the project area. Therefore, the Proposed Action is not anticipated to have any impacts to the recreation opportunities available along Weber River. There would be no permanent impacts to the Weber River or any other surrounding recreation resources from the Proposed Action.

3.3.15 Socioeconomics

The Proposed Action is located in Summit County, which has the fourth fastest growing population by County in Utah (Utah Foundation, 2014). Socioeconomic resources in the vicinity of the project area are related primarily to agricultural activities and recreation/tourism.

3.3.15.1 No Action Alternative

Existing conditions would continue under the No Action Alternative. The continued inefficiency of the MLD water delivery system could make it more difficult for the irrigation system to meet the needs of the agricultural activities in the area. If water resources continue to be strained due to the growing population and climatic conditions, the No Action Alternative may present a long-term

negative impact on agricultural activities in the area and therefore may have a negative impact on the socioeconomic resources in the region.

3.3.15.2 Proposed Action

The Proposed Action would have no negative impacts on the socioeconomic resources within the project area. During the construction period, there would be a short-term economic boost to the area due to construction crews buying fuel, food, and other supplies. As there are no major manufacturing facilities in the area, most of the pipe and other materials would need to be imported from other locations. There may be a need for temporary labor and construction related employment, which could be filled by persons unemployed in the area. Summit County currently has an unemployment rate of 3.9 percent. The project improvements would pipe an existing canal and would have no impacts on community infrastructure or public facilities. The Proposed Action would not require the relocation of any residences or businesses. The Proposed Action may have a minor long-term beneficial impact on agricultural activities in the project area by improving the efficiency of the irrigation water delivery system and therefore reducing the amount of water that is lost to seepage along the irrigation line. This water conservation may help lengthen and/or maintain the irrigation season and provide a more secure water source.

3.3.16 Access and Transportation

The only major transportation resource in the project area is SR-32. In addition to SR-32, there are several local and county roads servicing the residential and agricultural areas in the general vicinity of the project area. These roads include Pinion Lane, 4700 North Road, Boulderville Road, 3200 North Road and 2700 North Road.

3.3.16.1 No Action Alternative

Under the No Action Alternative, existing conditions within the project area would be maintained. The No Action Alternative would have no effect on public access, or transportation.

3.3.16.2 Proposed Action

The Proposed Action requires the replacement of a box culvert located under SR-32. These construction activities would not cause the closure of the roadway but may cause limited delays along SR-32 due to construction vehicles entering and exiting the highway. The public would also be notified of any temporary lane closures that take place due to the Proposed Action.

3.4 Indian Trust Assets

The ITAs are legal interests in property held in trust by the United States for federally recognized Indian Tribes or Indian individuals. Assets can be real property, physical assets, or intangible property rights, such as lands, minerals, hunting and fishing rights, and water rights. The United States has a

responsibility to protect and maintain rights reserved by or granted to such tribes or individuals by treaties, statutes, and executive orders. These rights are sometimes further interpreted through court decisions and regulations. This trust responsibility requires that Federal agencies take all actions reasonably necessary to protect trust assets. Reclamation carries out its activities in a manner which protects these assets and avoids adverse impacts when possible. When impacts cannot be avoided, Reclamation provides appropriate mitigation or compensation. There are no known ITAs in the general vicinity of the project area and implementation of the Proposed Action would have no foreseeable negative impacts on ITAs.

3.5 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. Information obtained regarding the demographics in the general vicinity of the project area indicate that a minority and/or low-income population may exist. Implementation of the Proposed Action would not disproportionately affect any low-income or minority communities within the project area. The Proposed Action would not involve major facility construction, population relocation, health hazards, hazardous waste, property takings, impacts to community facilities/resources or substantial economic impacts. This action would therefore have no adverse human health or environmental effects on minority and low-income populations.

3.6 Cumulative Effects

In addition to project-specific impacts, Reclamation analyzed the potential for significant cumulative impacts to resources affected by the project and by other past, present, and reasonably foreseeable activities within the watershed. According to the Council on Environmental Quality (CEQ) regulations for implementing NEPA (50 CFR §1508.7), a “cumulative impact” is an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. It focuses on whether the Proposed Action, considered together with any known or reasonably foreseeable actions by Reclamation, other Federal or state agencies, or some other entity combined to cause an effect.

There are no other known Federal, State, or local projects occurring within the general vicinity of the project area. The Proposed Action would comply with all relevant Federal, State and local permits. The duration of disturbance to the project area by the Proposed Action would be relatively minor and short-term.

Long-term impacts are not expected to create negative cumulative impacts to environmental resources.

3.7 Summary of Environmental Effects

Table 3-5 summarizes effects to environmental resources analyzed in this EA under the No Action and the Proposed Action Alternatives.

Table 3-5
Summary of Environmental Effects

Project Resource	No Action	Proposed Action
Geology and Soils Resources	No Effect	Minor short-term effects during and shortly after construction. Mitigate with soil compaction, contouring and reseeding disturbed areas.
Visual Resources	No Effect	Some short-term, minor impacts to visual resources during construction.
Cultural Resources	No Effect	Adverse effect to Site 42SM588 and Site 42SM697. Mitigate with stipulations outlined in the MOA.
Paleontological Resources	No Effect	No Effect
Hydrology	Potential minor long-term negative impact from continued seepage along MLD.	Potential long-term benefit to the natural hydrology of the area from the increased efficiency of the LMPC irrigation system.
Water Quality	No Effect	No Effect
System Operations	Potential long term negative impact from deteriorating infrastructure.	Beneficial Effect
Health, Safety, Air Quality and Noise	No Effect	Temporary, short-term air quality and noise impacts due to

Project Resource	No Action	Proposed Action
		construction activities. Mitigate with BMPs.
Prime and Unique Farmlands	Potential minor long-term negative impact.	No Effect
Floodplains	No Effect	No Effect
Wetlands, Riparian, Noxious Weeds and Existing Vegetation	No effect	Minor, short-term impacts from construction activities. Potential permanent loss of riparian vegetation.
Fish and Wildlife Resources	No Effect	No Effect
Threatened and Endangered Species, Sensitive Species	No Effect	No Effect
Recreation	No Effect	Potential minor, short-term impacts from construction activities in the Weber River.
Socioeconomics	No Effect	No Effect
Access and Transportation	No Effect	No Effect
Indian Trust Assets	No Effect	No Effect
Environmental Justice	No Effect	No Effect
Cumulative Effects	No Effect	No Effect

Chapter 4 Environmental Commitments

Environmental commitments, along with the minimization measures detailed in Section 2.5, have been developed to lessen the potential adverse effects of the Proposed Action.

4.1 Environmental Commitments

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

1. Standard Reclamation Best Management Practices - Standard Reclamation BMPs will be applied during construction activities to minimize environmental effects and will be implemented by the contractor and included in construction specifications. Such practices and specifications include dust abatement, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, and migratory bird protection measures. 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 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 work areas beyond those outlined in this analysis are required, additional environmental analyses may be necessary.

3. UPDES Permit - A UPDES Permit will be required because the Proposed Action will disturb more than one-acre of ground. Appropriate measures will be taken to ensure that construction related sediments will not enter the Weber River either during or after construction. A cofferdam will be used for instream work associated with the improvements to the diversion structure. Settlement ponds and intercepting ditches for capturing sediments will be constructed (if necessary), 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 UDAQ regulates fugitive dust from construction sites, requiring compliance with rules for sites disturbing greater than 1/4 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 archaeologist 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 by a professional archaeologist.

   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.

   A MOA will be executed to mitigate the adverse effects to Site 42SM588 and Site 42SM697. Mitigation for the adverse effects, set forth in the stipulations of the MOA, must be completed before construction activities associated with the Proposed Action begin.

6. Paleontological Resources - Should vertebrate fossils be encountered during construction all activities must be suspended until a qualified paleontologist can be contacted to assess the find.

7. Migratory Bird Protection - All ground disturbing activities and vegetation clearing will be performed prior to migratory bird nesting season or after fledging.

8. Previously Disturbed Areas - Construction activities will be confined to previously disturbed areas wherever 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.

9. Public Access - Construction sites will be closed to public access. Temporary fencing, along with signs, will be installed to prevent public access. The LMPC staff will coordinate with landowners and other authorized parties regarding access to or through the project area.

10. Disturbed Areas - All disturbed areas 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 with a variety of appropriate species to help hold the soil around structures, and prevent excessive erosion. The composition of seed mixes will be coordinated with the project biologists. Weed control on all disturbed areas will be required.

11. Stream Alteration Permit - Stream Alteration Permit 16-35-24SA has been obtained from the State of Utah Division of Water Rights for work within and adjacent to the Weber River associated with the improvements to the diversion structure. Additional 404 permitting is required and will be obtained from the USACE. All conditions set forth within these permits will be adhered to by the LMPC.

Chapter 5 Consultation and Coordination

5.1 Introduction

This chapter details 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. The NEPA requires full disclosure about major actions taken by Federal agencies and accompanying alternatives, impacts, and potential mitigation of impacts.

5.2 Public Involvement

Reclamation's public involvement process presents the public with opportunities to obtain information about a given project and allows all interested parties to participate in the project through written comments. The key objective is to create and maintain a well-informed, active public that assists decision-makers throughout the process, culminating in the implementation of an alternative.

To help foster public involvement in the EA development process, an open house was held on June 15, 2016, at the Kamas City Recreation Building. During the open house, individual property owners and project stakeholders met with members of the project team including consultants, Reclamation staff and LMPC members. Information presented at the open house included the project alignment, information regarding the NEPA process and ways that members of the public could comment on the Proposed Action. Copies of the public open house notice, open house materials and meeting minutes may be found in Appendix A. Public Involvement.

A copy of the Draft EA was made available to interested agencies and key stakeholders in October 2016, with an invitation to comment. The public comment period ended on November 2, 2016. Four comments were received which have been considered and addressed in the EA. All comments will be in the project administrative record and available for public review upon request.

5.3 Native American Consultation

Reclamation conducted Native American consultation throughout the public involvement process. This consultation was conducted in compliance with 36 CFR 800.2(c)(2) on a government-to-government basis. Through this effort the tribe is given a reasonable opportunity to identify any concerns about historic properties; to advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance; to express their views on the effects of the Proposed Action on such properties; and to participate in the resolution of adverse effects. A consultation letter and copy of the Class III Cultural Resource Inventory Report were sent to Eastern Shoshone Tribe of the Wind River Reservation, Wyoming, Northwest Band Shoshone Tribe, Shoshone-Bannock Tribes of the Fort Hall Reservation, and the Ute Indian Tribe of the Uintah and Ouray Reservation. Reclamation received no response from the consulted tribes.

5.4 Utah Geological Survey

Reclamation requested a paleontological file search from the Utah Geological Survey (UGS) to determine the nature and extent of paleontological resources within the APE. In a letter dated December 5, 2016, the UGS concluded that there are no paleontological localities recorded within the proposed project area and that the project should have no impact on paleontological resources (Appendix C. Cultural and Paleontological Resources).

5.5 Utah State Historic Preservation Office

A copy of the Class III cultural resource inventory report and a recommendation of historic properties affected for the Proposed Action were submitted to the SHPO (Appendix C. Cultural and Paleontological Resources). The SHPO concurred with Reclamation's findings of adverse effect on September 2, 2016.

5.6 US Army Corps of Engineers

Reclamation consulted with the USACE Project Manager for Summit County. Consultation included a meeting in August 2016 to discuss the Proposed Action and agricultural exemption. The USACE was also notified of the availability of the Draft EA for review and comment.

Chapter 6 Preparers

The following table provides a list of the agency representatives and consultants who participated in the preparation of the Draft EA.

Table 6-1
Environmental Summary Preparers

Name	Title	Company
Seth Coleman	Biologist	J-U-B Engineers, Inc.
Ryan Cosby	GIS Specialist	Gateway Mapping, Inc.
Brian Deeter	Project Manager	J-U-B Engineers, Inc.
Jon Frazier	Design Engineer	J-U-B Engineers, Inc.
Marti Hoge	Senior Environmental Planner	J-U-B Engineers, Inc.
Sheri Murray Ellis	Archaeologist	Certus Environmental Solutions, LLC.
Trent Toler	Biologist	J-U-B Engineers, Inc.

Table 6-2
Reclamation Team Members

Name	Title	Company
C. Shane Mower	ID Team Lead, Fish & Wildlife Biologist	Bureau of Reclamation
Rick Baxter	Water, Environmental, & Lands Division Manager	Bureau of Reclamation
Dale Hamilton	Resource Management Division Manager	Bureau of Reclamation
Peter Crookston	Environmental Group Chief	Bureau of Reclamation
Gary Henrie	Hydrologist	Bureau of Reclamation
Zachary Nelson	Archaeologist	Bureau of Reclamation
Scott Blake	Recreation Specialist	Bureau of Reclamation
Jeff Hearty	Economist	Bureau of Reclamation
Prashant Singh	Economist	Bureau of Reclamation
David Snyder	Fish & Wildlife Biologist	Bureau of Reclamation
Linda Morrey	Secretary	Bureau of Reclamation

Chapter 7 Acronyms and Abbreviations

Acronym/Abbreviations	Meaning
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
ARPA	Archaeological Resource Protection Act
BA	Biological Assessment
BIA	Bureau of Indian Affairs
BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEQ	State of Utah Department of Environmental Quality
DWR	State of Utah Division of Water Rights
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
IPaC	Information Planning and Conservation
ITA	Indian Trust Assets
LMPC	Lower Marion Pipeline Company
MLD	Marion Lower Ditch
MOA	Memorandum of Agreement
MSL	Mean Sea Level
MUDC	Marion Upper Ditch Company
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
PRPA	Paleontological Resources Preservation Act
Reclamation	U.S. Bureau of Reclamation
SHPO	Utah State Historic Preservation Office
UDAQ	Utah Division of Air Quality

Acronym/Abbreviations	Meaning
UDWQ	Utah Division of Water Quality
UDWR	Utah Division of Wildlife Resources
UGS	Utah Geological Survey
UPDES	Utah Pollutant Discharge Elimination System
USFWS	U.S. Fish and Wildlife Service
USC	United States Code
USACE	U.S. Army Corps of Engineers

Chapter 8 References

Godfrey, Bruce. 2005. Summit County Agricultural Profile. Utah State University.

Natural Resources Conservation Service [NRCS]. Marion Ditch Water Loss Study 2014. Obtained from NRCS Field Office on January 7, 2015.

Natural Resources Conservation Service [NRCS]. Web soil survey. Accessed June 16, 2016 at http://websoilsurvey.nrcs.usda.gov.

Federal Reserve Economic Data. Summit County Utah Unemployment; June 2016. Accessed 2016 at https://fred.stlouisfed.org/series/UTSUMM3URN

U.S. Bureau of Reclamation. WaterSMART (Sustain and Management America's Resources for Tomorrow). Accessed on May 16, 2016 at http://www.usbr.gov/watersmart/.

U.S. Census. 2010 Census. Accessed on May 16, 2016 at http://www.census.gov/2010census.

Utah Department of Environmental Quality. Interactive Map. Accessed June 1, 2016 at http://enviro.deq.utah.gov/Utah Department of Environmental Quality. Utah's Water Resources, Planning for the Future. May 2001. Accessed June 2, 2016 at http://www.water.utah.gov/planning.

Utah Department of Wildlife Resources (UDWR), Utah Conservation Data Center. 2016. Accessed April 18, 2016 at http://dwrcdc.nr.utah.gov/ucdc/default.asp.

Utah Division of Air Quality 2016. Nonattainment Area Map. Accessed on June 2, 2016 at http://www.airquality.utah.gov/.

Utah Foundation 2014. A Snapshot of 2050: An Analysis of Projected Population Change in Utah. Accessed on October 3, 2016 at utahfoudnation.org.

Utah Governor's Office of Management and Budget. Demographics and Population Report: The State of Utah and Counties 1940-2011. Accessed on May 25, 2016 at http://governor.utah.gov/DEA/demographics.html.

Chapter 9 Appendices

Appendix A. Public Involvement

Lower Marion Pipeline Company
Water Conservation Project
Public Involvement Summary

The public involvement efforts associated with the Lower Marion Pipeline Company's Water Conservation Project (the Project) began prior to submittal of the funding application to the Bureau of Reclamation. Staff and project team members met with users along the Marion Lower Ditch to discuss the project, potential alignment, possible staging areas and other projects concerns. Once funding was received from the Bureau of Reclamation's WaterSMART program, the project team met again with the irrigation company and the stakeholders in the project area.

On May 30, 2016 invitation letters to a project open house were sent to property owners adjacent to the proposed project alignment. A copy of this invitation letter is attached. The public open house was held on June 15, 2016 at the Kamas City Park Building. Approximately 15 people attended the open house. The project team, members of the irrigation company and Bureau of Reclamation staff were on hand to present information, answer questions and seek comments from those in attendance. Materials presented during the open house are attached.

No formal written comments were submitted during or after the open house. Verbal comments and questions presented during the open house centered specifically on the project alignment, impacts to landscaping and potential costs associated with proposed project.

The public involvement efforts will continue throughout the completion of the environmental assessment and the implementation of the project.

J-U-B ENGINEERS, INC.

J-U-B COMPANIES THE LANGDON GROUP GATEWAY MAPPING INC.

May 30, 2016

Subject: Public Open House Notice for
the Marion Upper Ditch Company Piping Project

Dear Dear Sir or Madam,

The Marion Upper Ditch Company, in cooperation with the U.S. Bureau of Reclamation, is preparing an Environmental Assessment (EA) for a proposed piping project along the Upper Marion Ditch. The proposed project would replace approximately 7.9 miles of open canal laterals with 6.25 miles of pressurized pipe within the Marion Upper Ditch System. The project, which is funded as part of the Bureau of Reclamation's WaterSMART Program, is anticipated to conserve approximately 3,000 acre-feet of water annually. The conceptual project alignment is shown on the attached exhibit. Construction of the proposed project is anticipated to begin in fall 2016, pending environmental approval.

Public input is a key element in determining the scope of environmental issues that will be addressed in the EA. As such, you are invited to attend a public open house on Wednesday, June 15, 2016, from 5:00 pm to 7:00 pm at the Kamas City Park Building located 400 South Main Street in Kamas, Utah. Members of the project team will be available throughout the event to answer questions and document public feedback.

For more information about the open house, the EA or the proposed project, please contact me at (801)886-9052 or at mhoge@jub.com.

Sincerely,

Marti Hoge
Environmental Specialist, J-U-B ENGINEERS, Inc.

Enclosure

a 2875 S. Decker Lake Dr., Suite 575, Salt Lake City, UT 84119 p 801 886 9052 f 801 886 9123 w www.jub.com

Welcome to the Marion Upper Ditch Company WaterSMART Project Open House

June 15, 2016
5:00 - 7:00 p.m.

WHAT IS THE PROPOSED PROJECT?

WaterSMART

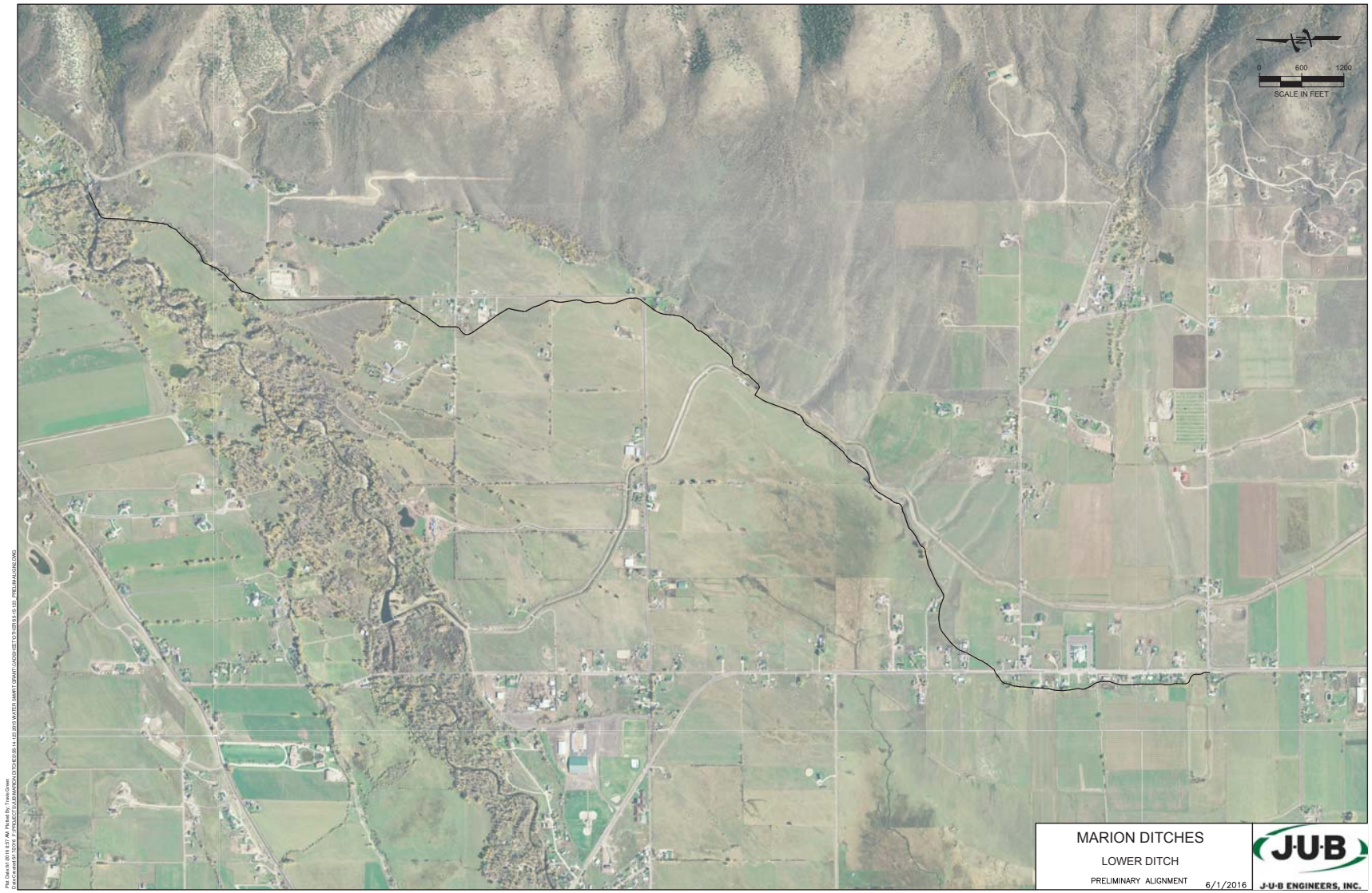
The Department of the Interior established the WaterSMART program in February 2010 to allow all bureaus of the Interior to work with States, Tribes, local governments and non-governmental organizations to pursue a sustainable water supply for the Nation by providing technical and financial assistance. The Bureau of Reclamation's WaterSMART program provides grants, scientific studies, and technical assistance for water conservation projects.

Marion WaterSMART Project

The Marion Upper Ditch Company has received funding from the Bureau of Reclamation's WaterSMART program to pipe approximately 3.7-miles of the Marion Lower Ditch. The project is anticipated to conserve 2,071 acre feet of water, reduce energy requirements by 63,000 kWh and save water users $2,147 annually. The project would require less water to be diverted from the Weber River and local reservoirs. This water conservation can act as a buffer against climate variability, drought and water shortages.

Marion Upper Ditch Company WaterSMART Project

PROPOSED PROJECT ALIGNMENT



Marion Upper Ditch Company WaterSMART Project

THE NEPA PROCESS

Initiate Environmental Assessment

- Develop project purpose & need
- Collect baseline data
- Conduct agency & public scoping
- Alternative development

Collect Data

- Analyze existing conditions
- Identify needed resource surveys
- Agency consultation & coordination

Analyze Alternatives

- Analyze alternatives
- Evaluate potential impacts to environmental resources

Draft Environmental Assessment

- Release Draft EA to public for review and comment
- Review all public and agency comments
- Prepare Final EA

Decision Document

- Reclamation will prepare a Finding of No Significant Impact or recommend an Environmental Impact Statement

ANTICIPATED SCHEDULE

Prepare Draft EA
Summer 2016

→

Public /Agency Comment Period
July/August 2016

→

Decision Document
September 2016

→

Begin Project Construction *
Fall 2016

***(pending environmental approval)**

HOW CAN YOU BE INVOLVED?

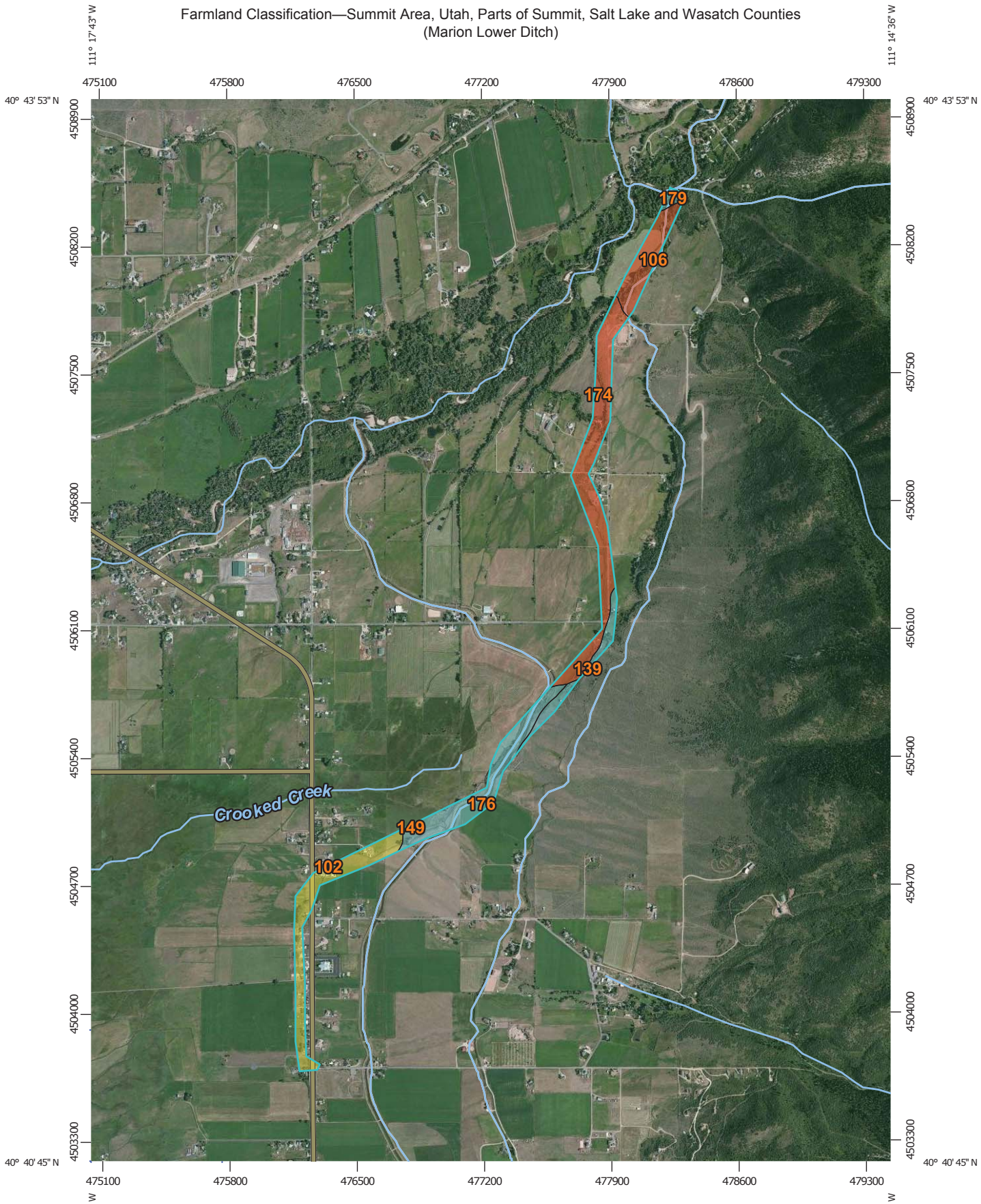
The Bureau of Reclamation and the Marion Upper Ditch Company Project Team is interested in your comments and suggestions regarding the proposed piping project. Please use one of the following methods to contact the project team and share your input.

- Fill out a comment card and leave it in the box provided.
- Take a comment card home and return it to the address indicated.
- Take a comment card home for friends and family to complete.
- Schedule a one-on-one meeting with a project team member.
- Email the project team at mhoge@jub.com

Public involvement is an important part of the Environmental Assessment. If you would like a response to your comment, please indicate that on your comment and a member of our project team will respond as soon as possible. Thank you for your participation.

Appendix B. Soil Survey and Farmland Classification

Farmland Classification—Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties
(Marion Lower Ditch)



Map Scale: 1:28,300 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 400 800 1600 2400

Feet
0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

Farmland Classification

102	Ant Flat loam, 2 to 8 percent slopes	Prime farmland if irrigated	28.3	22.0%
106	Ayoub cobbly loam, 2 to 15 percent slopes	Not prime farmland	16.8	13.0%
139	Harter gravelly loam, 2 to 15 percent slopes	Farmland of statewide importance	8.3	6.5%
149	Kovich-Toddspan loams, 0 to 3 percent slopes	Farmland of statewide importance	0.5	0.4%
174	Snyderville cobbly loam, 1 to 5 percent slopes	Not prime farmland	45.3	35.2%
176	Snyderville gravelly loam, 1 to 5 percent slopes	Farmland of statewide importance	27.5	21.3%
179	Wanship-Kovich loams, 0 to 3 percent slopes	Farmland of statewide importance	2.1	1.6%
Totals for Area of Interest			**128.8**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Appendix C. Cultural and Paleontological Resources

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Julie Fisher
Executive Director
Department of Heritage & Arts

Utah Division of State History

Brad Westwood
Director

PRO Official File Copy
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SJT90816002

September 2, 2016

Wayne G. Pullan
Area Manager
Bureau of Reclamation
Provo Area Office
302 East 1860 South
Provo, Utah 84606-7317

RE: Cultural Resource Assessment for the Marion Upper and Marion Lower Ditch Piping and Realignment Project, Summit County - Bureau of Reclamation Project No. PRO-EA--16-003 - WaterSMART Grant

For future correspondence, please reference Case No. 16-1087

Dear Mr. Pullan:

The Utah State Historic Preservation Office received your request for our comment on the above-referenced undertaking on August 30, 2016.

We concur with your determinations of eligibility and effect for this undertaking. We agree that sites 42SM588 (the Marion Canal, or Upper Marion Ditch) and 42MS697 (the Marion Lower Ditch) are historic properties that would be adversely effected by this undertaking, and that a determination of no adverse effect is appropriate for site 42SM458 (the Provo Diversion Canal). After discussion with Chris Hansen, UTSHPO also concurs that the proposed actions associated with this undertaking would have no adverse effect on the historic farmsteads in your APE.

We look forward to working with your agency on developing a Memorandum of Agreement that will mitigate adverse effects to these historic properties. If we can be of any assistance or if you have any questions, please contact me at 801-245-7241 or by email at ehora@utah.gov.

Sincerely,

Elizabeth Hora-Cook (for Chris Merritt)
Cultural Compliance Reviewer

Appendix D. Wetland Resources

US Army Corps of Engineers

Irrigation Exemption Summary

Sacramento District
1325 J Street
Sacramento, CA 95814-2922

FARM OR STOCK POND OR IRRIGATION DITCH CONSTRUCTION OR MAINTENANCE

Pursuant to Section 404 of the Clean Water Act (33 USC 1344) and Federal Regulations (33 CFR 323.4(a)(3)), certain discharges for the construction or maintenance of farm or stock ponds or irrigation ditches have been exempted from requiring a Section 404 permit. Included in the exemption are the construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance (but not the construction) of drainage ditches. Discharges associated with siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are included in this exemption.

A Section 404 permit is required if either of the following occurs:

(1) Any discharge of dredged or fill material resulting from the above activities which contains any toxic pollutant listed under Section 307 of the Clean Water Act shall be subject to any applicable toxic effluent standard or prohibition, and shall require a permit.

(2) Any discharge of dredged or fill material into waters of the United States incidental to the above activities must have a permit if it is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration. For example, a permit will be required for the conversion of a wetland from silvicultural to agricultural use when there is a discharge of dredged or fill material into waters of the United States in conjunction with construction of dikes, drainage ditches, or other works or structures used to effect such conversion. A discharge which elevates the bottom of waters of the United States without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the United States.

If the proposed discharge satisfies all of the above restrictions, it is automatically exempted and no further permit action from the Corps of Engineers is required. If any of the restrictions of this exemption will not be complied with, a permit is required and should be requested using ENG Form 4345 (Application for a Department of the Army permit). A nationwide permit authorized by the Clean Water Act may be available for the proposed work. State or local approval of the work may also be required.

For general information on the Corps' Regulatory Program please check our web site at www.spk.army.mil/regulatory. For additional information or for a written determination regarding a specific project, please contact the Corps at the following addresses:

Sacramento Main Office-1325 J Street, Room 1480, Sacramento, CA 95814	(916) 557-5250
Redding Field Office-152 Hartnell, Redding, CA 96002	(530) 223-9534
Reno Office-300 Booth Street, Room 2103, Reno, NV 89509	(775) 784-5304
Intermountain Region Main Office-533 West 2600 South, Suite 150, Bountiful, UT 84010	(801) 295-8380
Colorado/Gunnison Basin Office-402 Rood Ave., Room 142, Grand Junction, CO 81501	(970) 243-1199
Durango Office-278 Sawyer Dr., Unit #1, Durango, CO 81301	(970) 375-9506
Frisco Office-301 W Main, Suite 202, P.O. Box 607, Frisco, CO 80443	(970) 668-9676
St. George Office-321 North Mall Drive, Suite L-101, St. George, UT 84790	(435) 986-3979

Appendix E. Biological Resources

Biological Assessment for the Lower Marion Pipeline Project

Summit County, Utah

May 20, 2016

Prepared for:
United States Department of the Interior
Bureau of Reclamation
Upper Colorado Region
Provo Area Office

Prepared by:
J-U-B Engineering, Inc.
2875 South Decker Dr. Ste. 575
Salt Lake City, UT 84119

INTRODUCTION

This Biological Assessment (BA) has been prepared the Bureau of Reclamation (Reclamation) as required by Section 7(c) of the Endangered Species Act (ESA), for the proposed Marion Ditches Piping Project. The proposed project is located in Summit County, Utah, beginning at the diversion structure at the Weber River off of Pinion Lane in Oakley and following the existing ditch southward to Marion, Utah, for approximately 3.7 miles. An Environmental Assessment (EA) is being prepared for the Lower Marion Pipeline Project to analyze the potential impacts of the proposed action (converting the existing ditch into a pipeline) in comparison with a no-action alternative.

Purpose

The objective of this BA is to assess the potential environmental impacts of the proposed Lower Marion Pipeline Project. This report focuses on federally-listed plant and animal species in accordance with the requirements of Section 7 of the ESA, as well as sensitive species listed by the State of Utah. This BA includes species accounts, analysis of potential project-related impacts, and effects determinations for each species. This document is intended to provide the U.S. Fish and Wildlife Service (USFWS) with the information necessary to 1) evaluate the potential impacts associated with the proposed project, and 2) describe the project committed conservation measures for species with expected effects or impacts.

Proposed Action

The proposed piping activities would occur along or adjacent to the existing alignment of the Lower Marion Ditch in Summit County, east of the City of Oakley and to the north side of Marion. More specifically, these improvements would be contained within Sections 15, 21, 22, 27, 28, 32 and 33, Township 1 South, Range 6 East, and Sections 4 and 5, Township 2 South, Range 6 East, Salt Lake Base and Meridian, Summit County, Utah (see Appendix A - Site Map). For illustrations of typical conditions throughout the project area, please refer to the attached Photo Inventory. The elevation of the project area ranges from approximately 6,450 to 6,600 feet above sea level.

The Marion Ditches Piping Project would enclose an approximately 3.7-mile section of an existing open gravity-flow ditch in the Kamas Valley. The entire ditch begins at the Weber River east of Oakley and proceeds south to Marion. The project would include installation of approximately 19,500 linear feet of high-density polyethylene (HDPE) ranging from 22 to 26 inches in diameter within the current ditch easement or immediately adjacent to it. The project would install four flowmeters downstream of the concrete screening structure.

The project would also replace the existing Weber River diversion and headgate structure with two, side-by-side concrete-lined channels in the existing ditch channel. The water for the Upper Marion Ditch would continue to flow into the existing ditch downstream of the new headgate and concrete channel. The water for the Lower Marion Ditch would enter a new screening structure at the end of the concrete channel, and then flow into the new 24-inch pipe to be placed in the edge of the existing ditch bank. In addition, an overflow structure and concrete channel would be cut into the berm between the Weber River and the Marion Ditch to allow any overflow from the “on-demand”, pressured system to flow back into the Weber River.

Construction is anticipated to take place over a two-year period beginning in the fall of 2016. Construction activities would occur October to early May, outside of the typical irrigation season.

DESCRIPTION OF PROPOSED ACTION

Ditch Enclosure

The purpose of the proposed action is to enclose an approximately 3.7-mile section of the open, unlined ditch and to provide an irrigation delivery system (See Appendix A – Site Map). The need for the proposed action, consistent with Reclamation's WaterSMART program, is to improve the efficiency of the existing system and reduce the amount of water lost to seepage, evapotranspiration, and operational water losses.

Road Crossings

Existing ditch roadway crossings would be maintained during construction. The pipe would either be installed in existing culverts or by an open cut across the pavement depending on the existing conditions at each street crossing. All crossings would be beneath local streets with the exception of the crossing under State Highway 32.

Construction Activities

The anticipated construction equipment includes: compactors, excavators, backhoes, graders, and dump trucks for hauling materials. The most prevalent construction noise source would come from equipment powered by internal combustion engines (usually diesel). Noise from equipment used on this project would likely peak at approximately 89 decibels (dBA) when measured from a distance of 15 meters (50 feet). To reduce the impact of construction noise, most construction activities would be confined to weekdays between 7:00 a.m. and 7:00 p.m.

Best Management Practices (BMPs)

Best Management Practices (BMPs) would be in place to minimize direct, short-term construction impacts. Some of these measures include replanting barren locations (post-construction) with native vegetation and limiting noise/human-induced disturbances. BMPs are mandatory and would become part of the project design. They would include, but are not limited to the following:

1. Temporary Erosion and Sediment Control (TESC) structures (e.g. silt fences) would be in place during construction to limit sediment delivery into any adjacent drainage channels.
2. Excavation activities, staging areas, stock piling areas and embankment placement would occur only within staked limits of the project action area.
3. Temporary construction equipment noise would be minimized by regular inspection and replacement of defective mufflers and parts that do not meet the manufacturer's specifications.
4. Fueling of excavation equipment (e.g. excavators, backhoes, etc.) would be completed within the project action area only after ground surface protection is implemented to facilitate spill mitigation. The fueling truck would utilize drip pans and absorbent cloths during fueling activities. Additionally, the Contractor would have emergency spill equipment onsite at all times and must have a Spill Prevention Plan approved and in place prior to any construction activities. Dump trucks, pickups and other general construction equipment would be fueled offsite at a commercial facility.

5. Noxious weed management, following Bureau of Reclamation's standard operating procedures for invasive weed control, shall be implemented within the project footprint.
6. The project action area would be monitored on a regular basis by a designated construction monitor. The monitoring would consist of observing the TESC structures so that sediment does not reach active drainage channels. If any structure fails, it must be replaced immediately. If sediment deposits are observed beyond the control structures following a failure, the sediment must be removed immediately.

PROJECT ACTION AREA

The project action area would be contained within the existing easement held by the Lower Marion Pipeline, LLC for the operation and maintenance of the Lower Marion Ditch, a 50-foot wide corridor extending approximately 3.7 miles. Staging areas and access roads have been defined and evaluated as part of this biological evaluation.

The Marion Ditch currently carries irrigation water from the Weber River by the east side of the City of Oakley, along the farmland close to the base of the eastern foothills of the Kamas Valley and into the northern part of Marion. Land use through the 3.7-mile project action area is primarily agriculture with some residential uses. Three surface street crossings exist through the project action area: 4700 North, Boulderville Road, and SR-32. Habitats along the canal through the project action area reflect the land uses along the ditc and include managed agricultural fields and pastures (alfalfa and planted grasses), landscaped, residential development, and a narrow and intermittent wooded corridor (cottonwoods and native shrubs) mostly in the north-most mile of the alignment that is potentially supported at least in part by the ditch leakage.

STATUS OF LISTED SPECIES AND ASSOCIATED CRITICAL HABITAT

A site visit was conducted on April 12, 2016 by Trent Toler, Qualified Biologist with J-U-B ENGINEERS, INC. to assess the existing conditions within the project action area. In order to identify species of concern associated with the proposed project actions, a species list was obtained from USFWS's Information, Planning, and Conservation (IPaC) system. According to the IPaC report (See Appendix B – Federal & State Agency Correspondence), two species have potential to exist within the project action area that are federally listed. The species list summarized in Table 1 was derived from habitat conditions and potential species occurrence within the defined project action area.

Table 1: Summary of Potential TES Species.

THREATENED			
Canada lynx	*Lynx canadensis*	None	No Effect
Yellow-billed cuckoo	*Coccyzus americanus*	Low	No Effect

[a] Occurrence = None = no habitat or known records; Low = some potential habitat adjacent to or within project action area, or known presence records near but not in the project action area; High = habitat and/or known presence records in project action area.

On April 19, 2016, the Utah Division of Wildlife Resources (UDWR) provided a response letter regarding information on ESA species and species of special concern in the vicinity of the proposed project action area (See Appendix B – Federal & State Agency Correspondence). There are no occurrence records specified by the UDWR relating to the above mentioned federally-listed species or any others within 2 miles of the project action area. The species of special concern with records of occurrence within 2 miles of the project action area are detailed in Table 2. Only the Bonneville cutthroat trout had records within a ½-mile of the project action area.

Table 2: Summary of Species of Special Concern

Bald eagle	*Haliaeetus leucocephalus*	Low	No Impact
Bobolink	*Dolichonyx oryzivorus*	Low	No Impact
Bonneville cutthroat trout	*Oncorhynchus clarkii utah*	Low	No Impact

EFFECTS OF THE PROPOSED PROJECT ON SPECIES AND CRITICAL HABITAT

This section documents any direct, indirect, or cumulative effects or impacts to the habitat or species relevant to this project and overall effects to threatened, endangered, candidate, or sensitive species (Table 1).

Threatened Species

Canada Lynx

The Canada lynx (*Lynx canadensis*) is normally found in dense forested areas with an abundance of windfalls and brushy thickets. Lynx require heavy cover for concealment when stalking prey. In terms of their prey base, lynx depend on snowshoe hares and red squirrels. In addition, lynx are most likely to persist in areas that receive deep snow, for which the lynx is highly adapted (USFWS 2005). In the western U.S., lynx occurrences generally are found only above 4,000 feet in elevation (McKelvey et al. 2000).

Based on information obtained from the UDWR, there are no recent documented occurrences of the Canada lynx near the project action area. The highly disturbed residential/agricultural environment that lacks multi-storied conifer cover surrounding the defined project action area is unsuitable habitat for this species. Based on lack of suitable habitat in the project area, the proposed project actions would have **no effect** on the Canada lynx.

Yellow-billed Cuckoo (YBC)

The yellow-billed cuckoo is a federally listed candidate species. As the name suggests, this avian species has a yellow lower mandible. It has rufous wings that contrast against the gray-brown wing coverts and upperparts. The underparts are white and they have large white spots on a long black undertail (Alsop 2001). Yellow-billed cuckoos arrive in Utah in late May or early June and breed in late June through July. Cuckoos typically start their southerly migration by late August or early September. Yellow-billed cuckoos in the West are considered a riparian obligate and are usually found in large forested tracts of native cottonwood/willow habitats with dense sub-canopies (below 33 feet). Moist river bottoms and deltas with high humidity and a lack of invasive tree species are also key habitat elements (USFWS 2013). More specifically, the Proposed Rule for Critical habitat in the Federal Register (Vol. 79 No. 158 Pp. 48548-48652) describes habitat and space needs for normal life history behavior (non-critical habitat). Therein (Pp. 48551), it describes that YBC require “large

tracts of willow-cottonwood or mesquite (*Prosopis sp*.) forest or woodland for nesting season habitat. Western YBCs rarely nest at sites less than 50 acres in size and sites less than 37 acres are considered unsuitable habitat." Based on our analysis, it is estimated that the project area, taking into consideration the entire length (3.7 miles) and width of the canal ROW, contains approximately 3.1 acres of habitat close to residential and agricultural areas along the Weber River.

No occurrence for YBC has been recorded by the UDWR within 2 miles of the project action area. The current habitat along the project corridor contains narrow cottonwood stands that parallel only the northern-most mile of the ditch through farmland areas, which do not meet the requirements of suitable habitat as outlined in the Federal Register. At the diversion structure with the Weber River, the cottonwood riparian woodlands are more complete than at any other location along the alignment. However, the riparian woodlands quickly thin out and the grove is relatively small in scope. The proposed changes to the ditch would not qualify as a loss or degradation of this riparian habitat as any permanent changes would only include the installation of a pipeline. Therefore based on the lack of suitable habitat in the project area, the proposed project actions would have **no effect** on the yellow-billed cuckoo.

Species of Special Concern

Bald Eagle

Bald eagles are a large dark raptorial bird with a white head and a white tail when mature. They eat mostly fish but will eat some small mammals, such as rabbits (Stokes, 1996). The bald eagle constructs massive nests on cliff edges or in large trees. Eagles congregate in feeding areas in late winter and early spring. Bald eagles generally select habitat located near water. In a survey of 2,732 nests, 99% were within 200 meters (650 feet) of the water and averaged only 40 meters (130 feet) from the shoreline (Stalmaster 1987). Eagle perches are generally close to the water, especially those used for foraging. Nearly all birds will perch within 50 meters (165 ft) of a shoreline, because fish, waterfowl, seabirds, and other prey can be acquired there (Stalmaster 1987). Eagles select trees within that habitat for nesting and perching sites. The most important characteristic of the nesting tree is that it is the tallest in the forest stand. Selecting a tall tree ensures a structure that will adequately support a large nest, provide an open flight path to and from the nest, and have a panoramic view of the surrounding terrain (Stalmaster 1987). An eagle's nesting season is between the start of February, when they initiate construction of their nests and mid-August when the young fledge the nest. The incubation period ranges between 31 and 46 days (Alsop 2001). Hatchlings can remain in the nest for 70 to 98 days (Alsop 2001).

Based on information obtained from the UDWR, there are recent documented occurrences of the bald eagle within 2 miles of the project action area (see attached UDWR letter). The proposed project action could impact a small amount of cottonwood riparian habitat close to the diversion structure on the Weber River. However, the project actions would begin after the nesting season in the fall (after the irrigation season) and would not affect nesting. The construction of the diversion structure and the piping by the Weber River may cause some temporary avoidance of the immediate work area by any wintering birds. However, the bald eagle's prey base and foraging opportunities would not be affected by this project. Therefore, the project impacts to the bald eagle would be minimal and would not contribute to a trend toward federal listing.

Bobolink

The bobolink has one of the longest annual migrations of any North American songbird (approximately 12,500 miles) (UDWR 2016). These birds typically arrive in Utah in early May and start their migration south around mid-August. They primarily nest and forage in wet meadows and irrigated but unmanaged or abandoned hayfields. The nests are built on the ground, often near the base of large forbs or the transition into sedges (UDWR 2016). The female generally lays three to seven eggs and exclusively incubates them for eleven to thirteen days. Young fledge after approximately 10-14 days. Only one brood is produced each year. Forage includes insects, grass seeds and grain (Alsop 2001).

Information obtained from the UDWR indicates there are recent documented occurrences of the bobolink within a 2-mile radius of the project action area. Irrigated pastures and hayfields exist along several portions of the ditch alignment. These areas are unlikely to present suitable habitat because they are heavily disturbed from agricultural activities. The species may arrive in early May when construction activities are being completed. Since the majority of construction would occur outside the window of time when bobolink are present and very few acres of potentially suitable habitat would be affected, effects to the species are minimal and would not contribute to a trend toward federal listing.

Bonneville Cutthroat Trout

The Bonneville cutthroat trout is a subspecies of cutthroat trout native to the Bonneville Basin of Utah, Wyoming, Idaho, and Nevada. The Bonneville cutthroat trout habitat includes mountain streams and lakes to grassland streams, rivers, and large reservoirs. Known populations of this species in Utah include Bear Lake and Strawberry Reservoir and specific reaches of streams and rivers. Bonneville cutthroat trout are included on the Utah Sensitive Species List, as a result of habitat loss, predation and competition (UDWR 2016). The species feeds primarily on insects. Spawning occurs, in spring to early summer, over gravel substrate but in locations where strong currents or heavy siltation will not remove or smother the eggs (USFWS 2008).

Based on information obtained from the UDWR, there are recent documented occurrences of the Bonneville cutthroat trout within a 1/2-mile radius of the project action area (see attached UDWR letter). It is likely that these occurrences were documented within the Weber River, and within a ½ mile of the stretch of the river near the diversion structure. The existing ditch within the project action area does not contain suitable fish habitat. However, the section of the river where the diversion structure is located could potentially contain trout habitat. The existing diversion structure will be replaced, and that work will include a new overflow channel to be cut from the new screening structure back to the edge of the river channel. A minor diversion or cofferdam structure would have to be placed along the river bank and a small distance out into the river channel to protect the work area, but it is not anticipated to extend more than 5 feet from the river bank. As the Weber River is approximately 40 to 45 feet wide through this section of the river, this temporary construction activity is not anticipated to impact the activities of any active trout in the remaining unaffected river channel. The work would also be done during the fall and winter, outside of any potential spawning season. Based on lack of suitable habitat within the existing ditch and little to no effect from temporary actions along the Weber River banks, this project would have no impact on the Bonneville cutthroat trout.

Impact Avoidance and Minimization Measures

No species record of presence or presence of potential habitat exist within the project action area, therefore no impact avoidance and minimization measures would be necessary.

Conclusions and Determination of Effect

Anticipated construction activities to enclose a 3.7-mile section of the Marion Ditch through the northern Kamas Valley are scheduled to begin in the fall of 2016, depending on the timing of the final environmental clearances. The Marion Ditches Piping Project would have no effect on the federally-listed (ESA) species Canada lynx and yellow-billed cuckoo. The project would also have no impact on the state of Utah listed sensitive species bald eagle, bobolink, and Bonneville cutthroat trout.

LITERATURE CITED

Alsop, F. 2001. *Birds of North America (Western Region*). DK Publishing, Inc. New York, New York.

McKelvey, K.S., K.B. Aubry, and U.K. Ortega. 2000. History and distribution of lynx in the contiguous United States. Pp. 207-264. In Ruggiero, L.F. K.B. Aubry, S.W. Buskirk, G.M. Koehler, C.J. Krebs, K.S. McKelvey, and J.R. Squires. (Tech. Eds.) Ecology and conservation of lynx in the United States. Univ. Press of Colorado. Boulder, Colorado. 480 pp.

Stalmaster, M.V. 1987. *The Bald Eagle.* Universe Books, New York, New York.

Stokes, D. and L. 1996. *Stokes Field Guide to Birds.* Little, Brown and Company, New York, New York.

Utah Department of Wildlife Resources (UDWR), Utah Conservation Data Center. 2016. http://dwrcdc.nr.utah.gov/ucdc/default.asp. Accessed April 18.

U.S. Fish and Wildlife Service (USFWS)

1995. Ute ladies'-tresses (*Spiranthes diluvialis*) Draft Recovery Plan. Denver, Colorado.

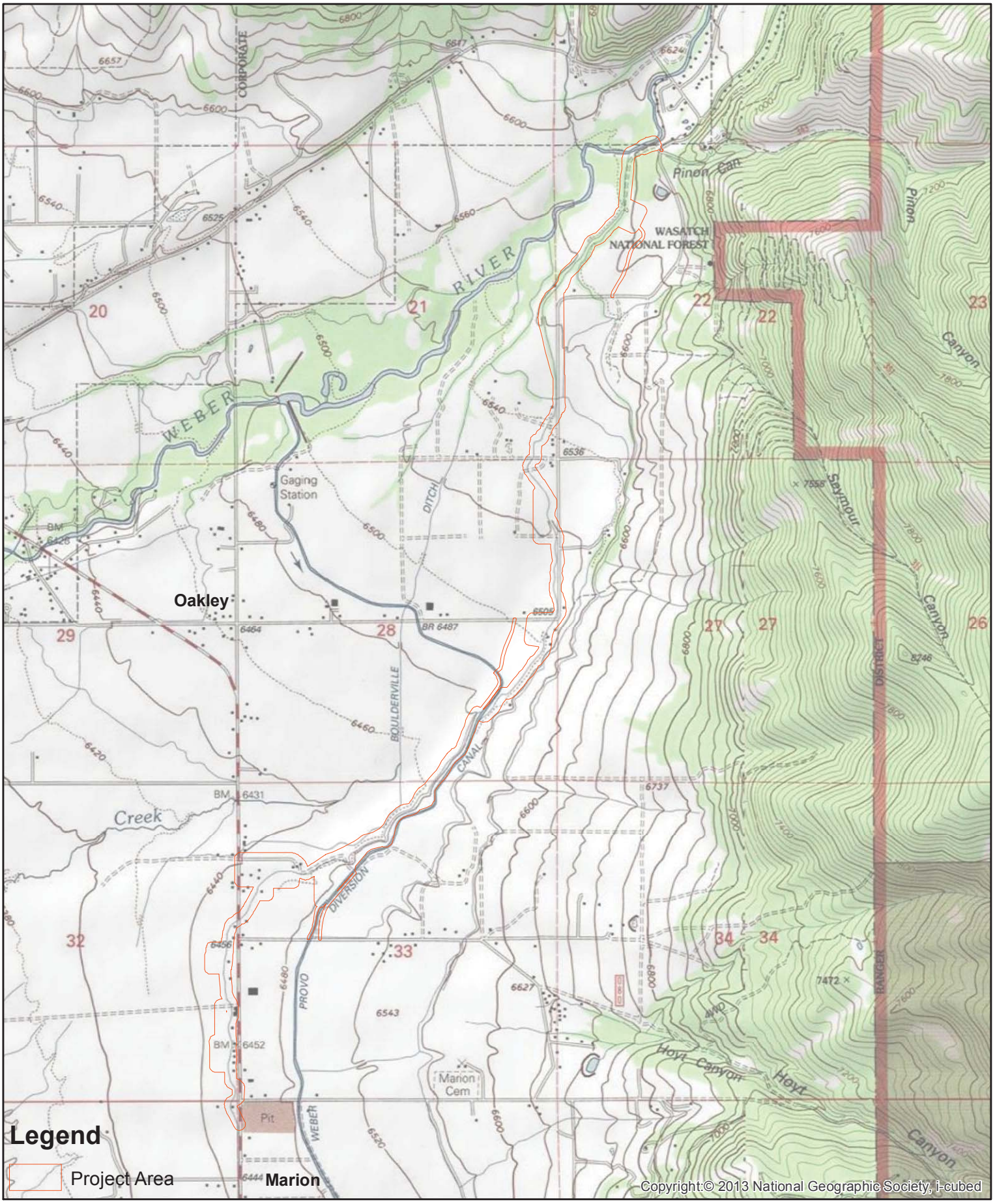
2005. Recovery Outline for the Contiguous United States Distinct Population Segment of the Canada Lynx (*Lynx canadensis*). Montana Field Office. Approved September 14, 2005.

2008. 12-month Finding on a Petition to List the Bonneville Cutthroat Trout as Threatened or Endangered. 73 FR 52235-52256.

2013. Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*); Proposed Rule. 50 CFR Part 17 (October 3, 2013), pp. 61622-61666.

Appendix A.

Site Map



1 inch = 2,083 feet

0 0.175 0.35 0.7 1.05 Miles

N W E S

Marion Ditches WaterSMART Project

Project Area Map

J-U-B ENGINEERS, INC.

Appendix B.

Federal & State Agency Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Utah Ecological Services Field Office
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UT 84119
PHONE: (801)975-3330 FAX: (801)975-3331
URL: www.fws.gov; www.fws.gov/utahfieldoffice/

Consultation Code: 06E23000-2016-SLI-0213 April 14, 2016
Event Code: 06E23000-2016-E-00464
Project Name: Marion Ditches - WaterSmart

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment

Official Species List

Provided by:

Utah Ecological Services Field Office
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UT 84119
(801) 975-3330
http://www.fws.gov
http://www.fws.gov/utahfieldoffice/

Consultation Code: 06E23000-2016-SLI-0213
Event Code: 06E23000-2016-E-00464

Project Type: AGRICULTURE

Project Name: Marion Ditches - WaterSmart
Project Description: BOR WaterSmart project involving piping sections of irrigation ditches, with staging areas and access roads.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Summit, UT

Endangered Species Act Species List

There are a total of 2 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
Yellow-Billed Cuckoo *(Coccyzus americanus)* Population: Western U.S. DPS	Threatened	Proposed	
Mammals			
Canada Lynx *(Lynx canadensis)* Population: Contiguous U.S. DPS	Threatened	Final designated	

Critical habitats that lie within your project area

There are no critical habitats within your project area.

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Wildlife Resources
GREGORY SHEEHAN
Division Director

April 19, 2016

Trent Toler
J-U-B Engineers, Inc.
2875 S. Decker Lake Drive, Suite 757
Salt Lake City, Utah 894119

Subject: Species of Concern Near the Marion Ditches Project, Summit County, Utah

Dear Trent Toler:

I am writing in response to your email dated April 13, 2016 regarding information on species of special concern proximal to the proposed Marion Ditches Project located in Sections 15, 21, 22, 27, 28, 32 and 33 in Township 1 South, Range 6 East, and Sections 4 and 5 in Township 2 South, Range 6 East, Salt Lake Base and Meridian, in Summit County, Utah.

Within a ½-mile radius of the project area, the Utah Division of Wildlife Resources (UDWR) has recent records of occurrence for Bonneville cutthroat trout. In addition, within a two-mile radius there are recent records of occurrence for bobolink and bald eagle. All of the aforementioned species are included on the *Utah Sensitive Species List*.

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

In addition to the information you requested, other significant wildlife values might also be present on the designated site. Please contact UDWR's habitat manager for the northern region, Scott Walker, at (801) 476-2776 if you have any questions.

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

Sincerely,

Sarah Lindsey

Sarah Lindsey
Information Manager
Utah Natural Heritage Program

cc: Scott Walker