BUREAU OF RECLAMATION

ENVIRONMENTAL ASSESSMENT
WEBER BASIN WATER CONSERVANCY DISTRICT
WEBER WEST WATER CAMPUS

PRO-EA-FY26-003

SEPTEMBER 2026

UNITED STATES DEPARTMENT OF THE INTERIOR
INTERIOR REGION 7 – UPPER COLORADO BASIN
PROVO AREA OFFICE
PROVO, UTAH

Mission Statements

The U.S. 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, Native Hawaiians, 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.

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WEBER BASIN WATER CONSERVANCY DISTRICT
WEBER WEST WATER CAMPUS
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1.0 INTRODUCTION AND BACKGROUND

The Weber Basin Water Conservancy District (WBWCD) operates seven reservoirs; three hydropower plants; 21 wells; four water treatment plants; and associated canals, tunnels, aqueducts, and pipelines. It delivers about 230,000 acre-feet of treated municipal water, agricultural irrigation water, industrial water, and replacement water to more than 700,000 residents in Davis, Weber, Morgan, Summit, and Box Elder Counties (WBWCD 2025a) (see Figure 1, *WBWCD Service Area*).

This environmental assessment (EA) has been prepared to disclose and analyze the environmental consequences of the Weber West Water Campus (WWWC) project (the Project) as proposed by the applicant, WBWCD. The Project includes the development of a recycled water treatment facility designed to enhance water recovery and storage. It also involves the construction of a drinking water treatment plant to ensure a safe potable water supply. Supporting infrastructure—such as pipelines and pump stations—would be installed to allow the transfer of water between facilities. Ownership and operation of the WWWC would remain with WBWCD. Figure 3, *WWWC Schematic*, is a schematic diagram illustrating the Project layout. Figure 2, *WBWCD WWWC and Pipeline Overview*, provides an overview of the WWWC.

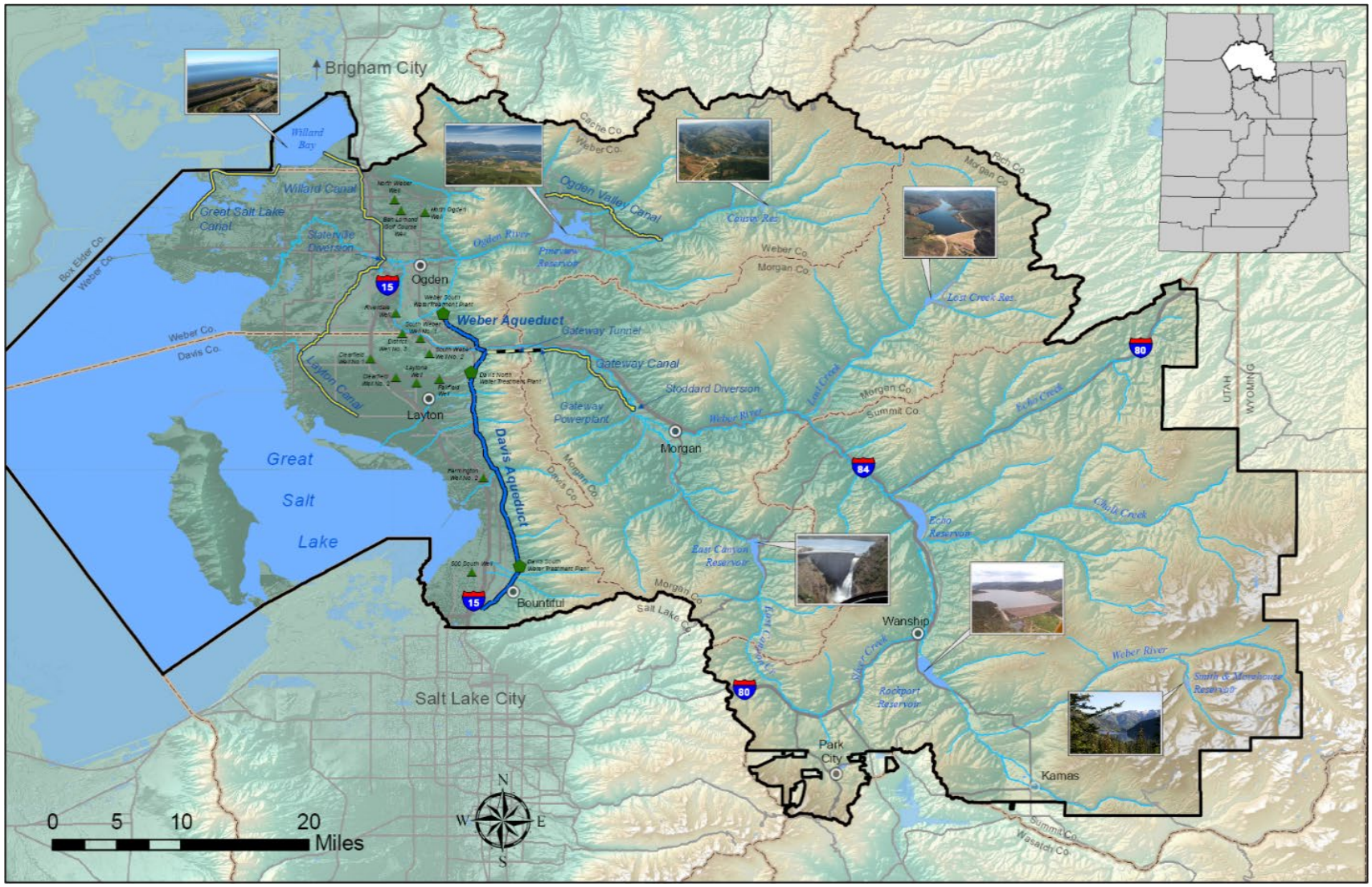
The WWWC would be at about 2100 West 1200 South in Marriott-Slaterville in Weber County, Utah. The WWWC would be constructed on private land, state land (Utah Department of Transportation right-of-way), and local road right-of-way (see Table 2, *Acquisitions and Easements*, and Figure 4, *Impacts to Waters of the U.S.*).

In support of the Project, WBWCD has received a Water Reclamation and Reuse grant through the Bureau of Reclamation's (Reclamation) Title XVI program and a Water Infrastructure Finance and Innovation Act (WIFIA) grant through the U.S. Environmental Protection Agency (USEPA). Because these federal funding sources would be used for the Project, the Project is considered a federal action.

WBWCD completed a *Project Definition Report: Weber North Water Supply Sustainability and Resiliency Project* in August 2024 (WBWCD 2024). The report documented the water demand and supply needs for western Weber County, evaluated site and facility options, and established design criteria for the site selected during this evaluation. The report also identified the main site location at about 2100 West 1200 South in Marriott-Slaterville as the preferred location for the WWWC. This site was subsequently purchased by, and is now owned by, WBWCD.

WBWCD subsequently prepared the *Preliminary Engineering Report: Weber Basin Water Conservancy District's Weber West Water Campus (WWWC)* in January 2025 (WBWCD 2025b). This report advanced the Project's design and included more detailed design information about the main site and pipeline facilities for the WWWC.

Figure 1. WBWCD Service Area



Source: WBWCD 2025a

The *Project Definition Report* and the *Preliminary Engineering Report* were used to define the purpose of and need for the Project as well as the alternatives described in this EA.

This EA is a site-specific analysis of potential impacts that could result in the funding and implementation of a proposed action or alternatives to the proposed action. The EA assists Reclamation in project planning, ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to if any "significant" impacts could result from the analyzed actions. An EA provides evidence for determining to prepare an environmental impact statement (EIS) or a statement of Finding of No Significant Impact (FONSI). If Reclamation's decision-maker determines that this project would result in "significant" impacts, as defined by NEPA, then an EIS would be prepared. If not, a FONSI would be prepared, and a decision would be made to approve the selected alternative.

1.1 PURPOSE AND NEED

1.1.1 WEBER BASIN WATER CONSERVANCY DISTRICT OBJECTIVES

From the perspective of WBWCD, the Proposed Action Alternative is needed to support population growth and increased water demands in western Weber County and to meet instream flow requirements for the Weber River. The following sections provide additional information about each of these needs.

Population Growth and Water Demands. As of 2023, Weber County was the fourth largest county by population in Utah, and it is expected to grow by 10% by 2033 (Kem C. Gardner Policy Institute 2024). By 2060, Weber County's population is expected to increase by 51% compared to 2020 (Kem C. Gardner Policy Institute 2022), and most of this growth is anticipated to occur in western Weber County or North Ogden (WFRC 2023).

WBWCD currently uses multiple water supply sources: the federal Weber Basin Project, WBWCD storage, groundwater, irrigation company stock water, Weber River decreed water, Wasatch Front customer agency potable and secondary water sources, and Wasatch Back municipal sources (WBWCD 2024).

By 2060, in a dry-year supply scenario without any achieved conservation efforts, WBWCD is projected to have a water supply gap of about 87,000 acre-feet in Weber and Davis Counties. WBWCD identified the lower Weber River as the best water source that could be used to provide water to meet the growth demands of western Weber County (WBWCD 2024).

Weber River Instream Flow Requirements. As part of the original federal Weber Basin Project, WBWCD is obligated to deliver water to the Ogden Bay Waterfowl Management Area and maintain minimum instream flow requirements in the Weber River to maintain aquatic life and river health. WBWCD currently maintains the minimum instream flow requirements by using water stored at Willard Bay or water from Echo or Pineview Reservoirs, which are located upstream in the Wasatch Mountains. Table 1 summarizes the instream flow requirements that WBWCD is obligated to deliver to the Weber River for the segment of the river between the Slaterville Diversion (which provides water to Willard Canal and Layton Canal) and the Ogden Bay Waterfowl Management Area.

Table 1. Weber River Instream Flow Requirements

Location	Dec. 12 to Feb. 28	Mar. 1 to Apr. 10	Apr. 11 to Jun. 15	Jun. 16 to Oct. 15	Oct. 16 to Dec. 11
Between the Slaterville Diversion and Ogden Bay Waterfowl Management Area	20 cfs	50 cfs	135 cfs	80 cfs	150 cfs

Definitions: cfs = cubic feet per second

Summary. The purpose of the Proposed Action Alternative is to increase the finished water supply to meet the increasing demands from population growth in western Weber County and meet instream flow requirements for the Weber River.

1.1.2 RECLAMATION PURPOSE AND NEED

Reclamation's need is to consider the environmental impacts from the allocation of federal funding and implementation of the Proposed Action Alternative. Reclamation's purpose is to ensure that considered actions comply with current Reclamation law and policy. The following sections describe how Reclamation is to make the decision to approve or deny the request and how agency action conforms with applicable law and related policies.

1.2 DECISION TO BE MADE

The federal decision to be made is to authorize or deny the WBWCD proposal to construct the WWWC project using Reclamation Title XVI and USEPA WIFIA funds.

1.3 RELATIONSHIP TO STATUTES, REGULATIONS, OR OTHER PLANS

The lead federal agency for this EA is Reclamation. This EA is prepared in compliance with all applicable federal statutes, regulations, and executive orders.

1. **National Environmental Policy Act of 1969, as Amended (42 *United States Code* [USC] Section 4321 et seq.)**
    - The U.S. Department of the Interior's NEPA Regulations (43 *Code of Federal Regulations* [CFR] Part 46)
    - Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Part 1500 et seq. and 43 CFR Part 46 et seq.)
2. **Endangered Species Act of 1973, as Amended (16 USC Section 1531 et seq.) and Related Statutes and Orders**
    - Fish and Wildlife Coordination Act of 1958, as amended (16 USC Section 661 et seq.)
    - Secretarial Order 3206, *American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act*

3. **National Historic Preservation Act of 1966, as Amended (16 USC Section 470 et seq.) and Related Statutes, Regulations, and Orders**

   - American Indian Religious Freedom Act of 1978 (42 USC Section 1996)
   - Archaeological Resources Protection Act of 1979 (16 USC Section 470)
   - Native American Graves Protection and Repatriation Act of 1990 (25 USC Section 3001 et seq.)
   - Protection and Enhancement of the Cultural Environment (Executive Order 11593)

4. **Clean Water Act of 1972, as Amended (33 USC Section 1251 et seq.) and Related Orders**

   - Protection of Wetlands (Executive Order 11990)
   - A U.S. Army Corps of Engineers (USACE) permit, in compliance with Section 404 of the Clean Water Act, would be required before dredged or fill material is discharged into waters of the United States.
   - A Stream Alteration permit under Section 404 of the Clean Water Act, Utah Code 73-3-29, and Utah Administrative Rule R655-13 would be required before impacts would occur to perennial streams or creeks. The Stream Alteration permit is issued by the Utah Division of Water Rights, Office of the State Engineer (State Engineer).

5. **Other Statutes, Regulations, and Orders**

   - Clean Air Act of 1972, as amended (42 USC Section 7401 et seq.)
   - Floodplain Management (Executive Order 11988)
   - Wild and Scenic Rivers Act of 1968 (Public Law 90-542; 16 USC Section 1271 et seq.)
   - Migratory Bird Treaty Act of 1918 (16 USC Section 703 et seq.) and Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*

6. **State Statutes**

   - A Utah Pollutant Discharge Elimination System (UPDES) permit from the Utah Division of Water Quality (UDWQ) would be necessary for stormwater discharges from construction activities because the Project would impact more than 1 acre of land.
   - Three UPDES permits from UDWQ would be necessary for permanent discharges from the Project.
   - A UPDES permit would be required for modification to the Central Weber Sewer Improvement District's (CWSID) existing UPDES permit to create a new point of discharge to the Renew plant's raw water pump station.

2.0 DESCRIPTION OF ALTERNATIVES

2.1 INTRODUCTION

Section 2.3 describes the Proposed Action Alternative. As described in Section 2.2, *No Action Alternative*, the No Action Alternative is a benchmark against which the Proposed Action Alternative can be evaluated. This section also includes a short description of the alternatives' development process, alternatives that were considered but eliminated from further study, and a designation of the Preferred Alternative.

2.2 NO ACTION ALTERNATIVE

The No Action Alternative consists of the reasonably foreseeable future conditions in the absence of the Project. The purpose of the No Action Alternative is to allow decision-makers to compare the impacts of approving the Project to the impacts of not approving the Project. The No Action Alternative reflects existing and expected future conditions in the Project area if no action is taken.

The No Action Alternative would not meet WBWCD's objectives for the Project. With the No Action Alternative, WBWCD would not construct a new recycled water treatment facility, drinking water treatment facility, or the associated pump stations and pipelines between the facilities, the Weber River, and Willard Canal. The current infrastructure would continue to be the only water source for residents of western Weber County.

2.3 PROPOSED ACTION ALTERNATIVE

The Proposed Action Alternative is the Preferred Alternative (Figure 2 and Figure 3).

The Proposed Action Alternative would meet WBWCD's objectives for the Project because it would increase the finished water supply to meet the increased demands caused by the population growth in western Weber County and meet instream flow requirements for the Weber River.

Figure 2. WBWCD WWWC and Pipeline Overview

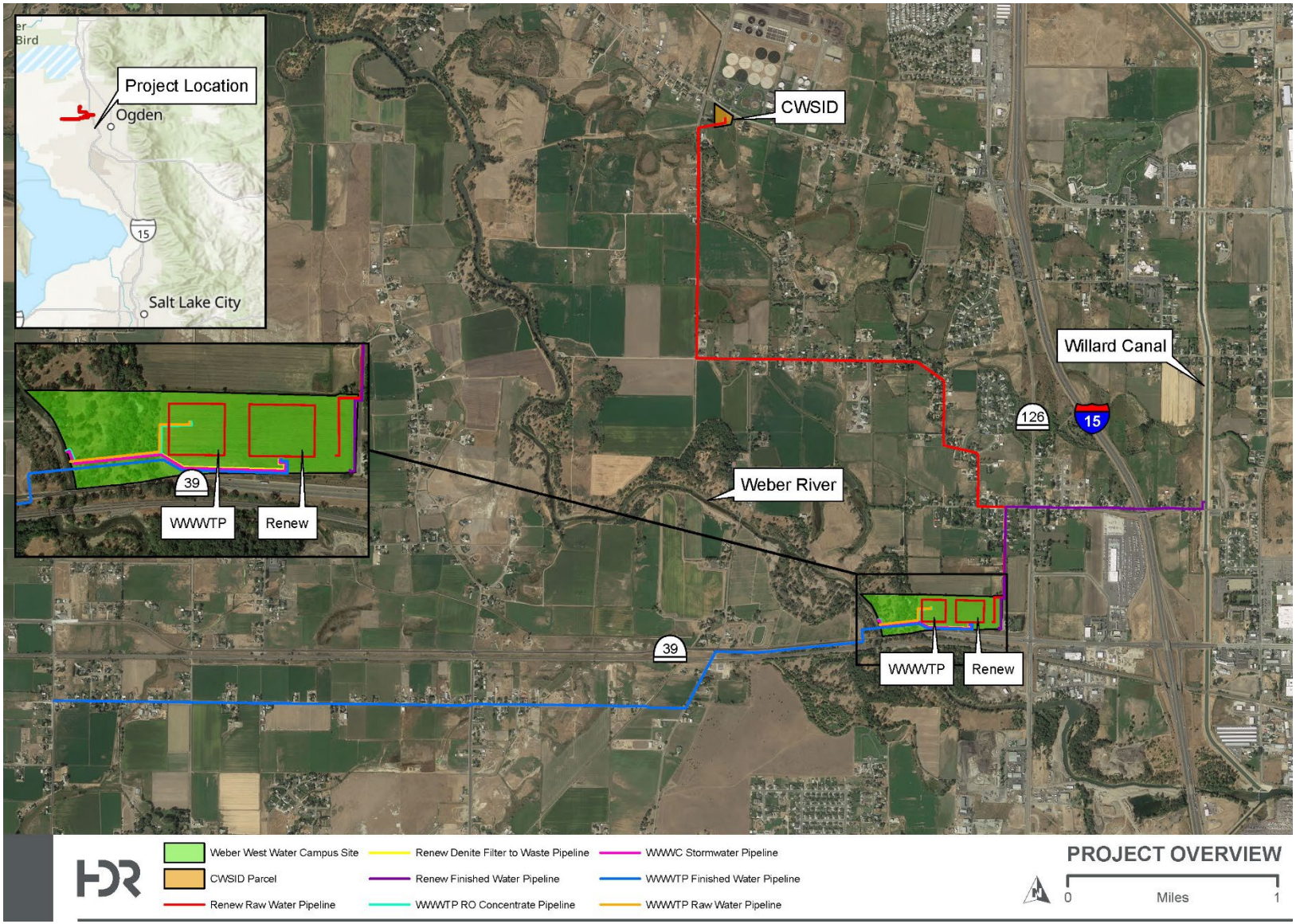


Figure 3. WWWC Schematic

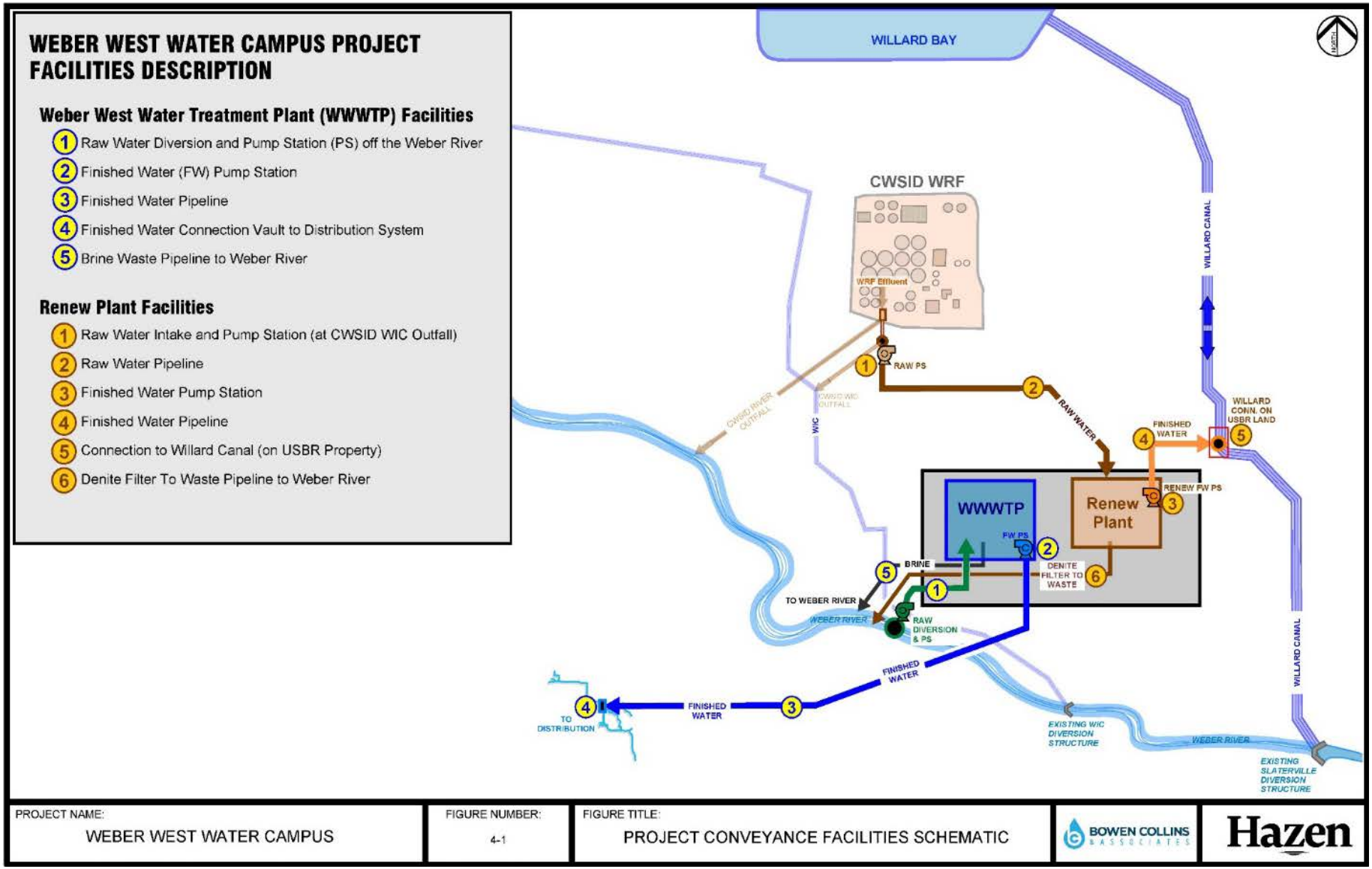


Figure 2 above shows the elements of the Proposed Action Alternative, and Figure 3 above shows a schematic diagram of the Proposed Action Alternative. The WWWC and all pipelines except the Weber West Water Treatment Plant (WWWTP) Finished Water Pipeline would be in Marriott-Slaterville. The WWWTP Finished Water Pipeline would extend into unincorporated Weber County. The road rights-of-way described below are for Marriott-Slaterville and Weber County.

The Proposed Action Alternative includes the following elements:

- **New WWWC Site and Facilities (Figure 2)**
    - The Renew facility would treat effluent from CWSID by removing nutrients, nitrogen, and phosphorus from the water. The treated water would then be discharged to Willard Canal for storage in Willard Bay during the winter months. The treated water could then be released from Willard Bay during the summer through Willard Canal back into the Weber River to meet instream flow requirements in the Weber River. The design treated water flow capacity for the Renew facility is for an average flow of 10 million gallons per day (mgd).
    - The WWWTP facility would treat raw water from the Weber River and distribute the treated drinking water to western Weber County. The initial design treated water flow capacity is 5 mgd; the ultimate-expansion capacity is 10 mgd.
- **New Pipeline, Pump Station, and Diversion Facilities (Figure 2 and Figure 3)**
    - The Renew Raw Water Pipeline would be an up to 36-inch-diameter pipe that extends about 15,500 linear feet. It would convey treated effluent from the CWSID treatment plant (at 2618 W. Pioneer Road, Ogden, UT) to the Renew facility. A new pump station for this pipeline would be constructed south of the CWSID treatment plant across Pioneer Road on a parcel currently owned by CWSID (this parcel is anticipated to be purchased by WBWCD in 2025).
        - The pipeline would begin at the CWSID treatment plant and would be aligned on the following rights-of-way before reaching the WWWC. From the CWSID treatment plant, the pipeline would go west through private property and connect to a local road right-of-way on 2800 West (all local roads in the Project area are owned by Weber County or Marriott-Slaterville City). Then, it would turn south using the 2800 West right-of-way, turn east using the 200 South right-of-way, turn south using the 2100 West right-of-way, turn east using the 500 South right-of-way, turn south using the 2050 West right-of-way, turn east using the 700 South right-of-way, and finally turn south using the 2000 West right-of-way, where it would connect to the Renew facility on the WWWC.
    - The Renew Finished Water Pipeline would be an up to 36-inch-diameter pipe that extends about 6,300 linear feet. It would convey treated water from the Renew facility to Willard Canal.
        - This pipeline would begin at the Renew facility, go north using the 2000 West right-of-way (using the same trench as the raw water pipeline), turn east using the

700 West right-of-way, cross under Interstate 15 (I-15), and discharge into Willard Canal north of 700 South.

- The Renew Denite Filter to Waste Pipeline would be an up to 36-inch-diameter pipe that extends about 2,000 linear feet. It would convey treated off-spec wastewater from the Renew denitrification filter to the Weber River.
  - The pipeline would go west from the Renew facility and discharge into the Weber River downstream of the WWWTP raw water diversion.
- The WWWTP Raw Water Pipeline would be an up to 36-inch-diameter pipe that extends about 1,200 linear feet. It would convey raw water from the Weber River to the WWWTP facility. A diversion structure would be constructed in or adjacent to the Weber River to provide a source of water for this pipeline. A new pump station for this pipeline would be constructed on the east or west side of the Weber River (the final location would be determined based on property acquisition and negotiation).
  - The pipeline would begin at the new diversion and pump station on the Weber River and go east to the WWWTP facility on the north side of 1200 South.
- The WWWTP Finished Water Pipeline would be an up to 36-inch-diameter pipe that extends about 18,500 linear feet. It would convey treated drinking water from the WWWTP facility to western Weber County connecting to WBWCD's existing distribution system.
  - The pipeline would begin at the WWWTP facility and go west using the 1200 South right-of-way (crossing from the north side to the south side of 1200 South, west of the Weber River), turn south using the 2900 West right-of-way, and turn west using the 1400 South right-of-way to 4700 West, where it would connect to an existing WBWCD 16-inch-diameter pipeline.
  - A valve vault for the WWWTP Finished Water Pipeline would be installed at the southwest corner of 1400 South 2900 West.
- The WWWTP Reverse Osmosis Concentrate Pipeline would be an up to 30-inch-diameter pipe that extends about 1,300 linear feet. It would convey concentrate from the WWWTP's reverse osmosis process to the Weber River.
  - The pipeline would go west from the WWWTP facility and discharge into the Weber River downstream of the WWWTP raw water diversion.
- The WWWC Stormwater Pipeline would be an up to 30-inch-diameter pipe that extends about 2,000 linear feet. It would convey collected stormwater from the WWWC to the Weber River.
  - The pipeline would go west from the WWWC and discharge into the Weber River downstream of the WWWTP raw water diversion.
- The WWWC Utility Water Pipeline would be an up to 6-inch diameter pipe that would convey water from the WWWC to the Weber River diversion structure.

- Fiber optic/communication and power utility lines would also connect the WWWC to the utility grids, most likely from 2000 West or 1200 South. Existing water and sewer utility infrastructure is in the 2000 West right-of-way and would connect to the east side of the WWWC.

2.3.1 DESIGN FEATURES

The following design features are included with the Proposed Action Alternative to avoid, reduce, or eliminate adverse effects.

Project-specific design features include the following:

- To maintain the instream flow requirements as growth, climate change, and drought affect the flows in the Weber River, with the Proposed Action Alternative's Renew facility, WBWCD would be able to treat and store treated wastewater effluent from the CWSID treatment plant in Willard Bay during the wetter winter months. The treated water could then be released from Willard Bay during the summer through Willard Canal back into the Weber River to meet instream flow requirements in the Weber River.
- The Renew Plant is being designed for nutrient removal to meet the water quality standards in Willard Canal and Willard Bay. The basis of design includes biological denitrification and chemical phosphorous removal through filtration. The Renew plant effluent would be disinfected before being pumped to Willard Canal.
- The WWWTP finished water quality would be designed to meet the Utah Division of Drinking Water (UDDW) R309-200-5 regulatory standards. Details regarding the treatment processes and water quality criteria are included in Section 1.2.2 of the preliminary engineering report (PER).
- The WWWC will have a storm water basin sized to accommodate a storage volume equal to the 100-year storm event (WBWCD 2025b, Section 3.8).

Needed permits and approvals include the following:

- WBWCD would also obtain approval for a new surface water source for the WWWTP with UDDW and UDWQ.
- A UPDES permit will be required for modification to CWSID's existing UPDES permit to create a new point of discharge to the Renew plant's raw water pump station.
- WBWCD will obtain three separate UPDES permits for the following discharges:
    - Renew Finished Water Pipeline discharge to Willard Canal
    - Renew Denite Filter to Waste Pipeline discharge to the Weber River
    - WWWTP Reverse Osmosis Concentrate Pipeline and WWWC Stormwater Pipeline discharge to the Weber River

- Because the WWWC would be larger than 1 acre, WBWCD's contractor will also be required to obtain a UPDES construction stormwater permit to ensure that discharges from the construction site will not adversely impact any applicable water quality standards.
- WBWCD would obtain a floodplain development permit from Marriott-Slaterville City for the location near the Weber River where the Proposed Action Alternative would encroach on a regulatory floodplain.
- WBWCD will obtain a stream alteration permit for the diversion at the Weber River as required by the State Engineer.
- Depending on the final amount of impacts to jurisdictional aquatic resources, WBWCD anticipates that either a PGP-10 or Nationwide Permit 58 would be required.
- WBWCD will coordinate with and obtain permits from the Utah Department of Transportation (UDOT) for the crossings of I-15, SR-39, SR-126, and SR-134. These permits will include any lane closures needed for roads during construction. WBWCD will coordinate with Marriott-Slaterville City and Weber County for any lane closures needed on the local roads during construction. WBWCD will coordinate with and obtain a permit from Union Pacific Railroad for the crossing under the Union Pacific Railroad Lucin Cutoff.

2.3.2 CONSTRUCTION AND PHASING

WBWCD anticipates that construction for the Proposed Action Alternative could begin in 2026 for the Renew facility and associated pipelines. If all facilities are constructed at the same time, WBWCD anticipates that construction would require 3 years and would be completed by 2029.

If sufficient funding is not available to construct the entire Proposed Action Alternative, WBWCD would likely construct the Proposed Action Alternative in two phases.

- Phase 1 would include constructing the Renew facility including some shared residuals-handling facilities, the Renew Raw Water Pump Station, the Renew Raw Water Pipeline, the Renew Finished Water Pipeline, the Renew Denite Filter to Waste Pipeline, and the WWWC Stormwater Pipeline.
- Phase 2 would include constructing the WWWTP, the WWWTP Raw Water Pipeline, the WWWTP Finished Water Pipeline, and the WWWTP Reverse Osmosis Concentrate Pipeline.

2.3.3 ACQUISITIONS AND EASEMENTS

Construction of the Proposed Action Alternative would require WBWCD to acquire fee title or easements on a number of private and public parcels. Public properties in the Project area are owned primarily by UDOT, Marriott-Slaterville City, Weber County, and Union Pacific Railroad. The Proposed Action Alternative's pipelines would be constructed primarily in existing public road rights-of-way. Where construction would occur outside of existing rights-of-way, WBWCD would need to acquire fee title or easements from private landowners before construction. WBWCD owns the property for the WWWC site. Table 2 summarizes the private parcels for which WBWCD would need to acquire fee title or purchase an easement to construct

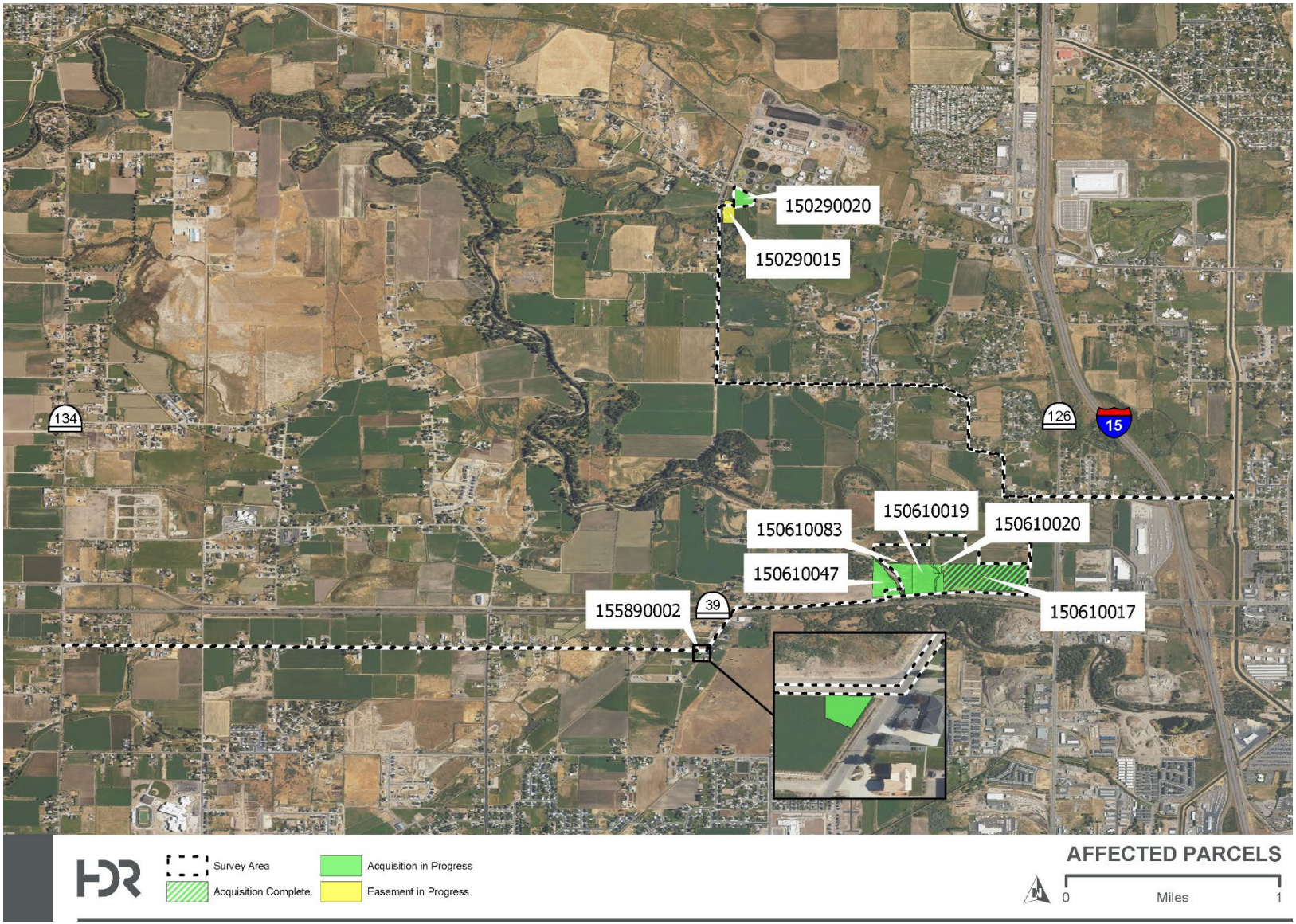
the Proposed Action Alternative. Table 2 shows the parcels for which WBWCD would need to acquire fee title or purchase an easement.

Table 2. Acquisitions and Easements

Feature/Location	Fee Title Acquisitions	Parcels or Roads with Easements
Weber West Water Campus Site	Parcel: 150610017 (24.1 acres) (owned by WBWCD)	None
Renew Raw Water Pump Station	Parcel: 150290020 (2.4 acres) (owned by CWSID)	None
Renew Raw Water Pipeline	None	Parcel: 150290015 (private parcel)
		Local road easements (in Marriott-Slaterville): • 2800 West • 200 South • 2100 West • 500 South • 2050 West • 700 South • 2000 West
Renew Finished Water Pipeline	None	Local road easements (in Marriott-Slaterville): • 700 South • 2000 West
		UDOT easements: • SR-126/1900 West • I-15
WWWTP Finished Water Pipeline	Parcel: 155890002 (0.1 acre of 16.61-acre parcel for a new valve vault on the southwest corner of 1400 South and 2900 West) (private parcel)	Railroad easements: • Parcel: 150610016 • Parcel: 150600128
		UDOT easements: • SR-39/1200 South • SR-134/4700 West
		Local road easements (in unincorporated Weber County): • 2900 West • 1400 South
Renew Denite Filter to Waste Pipeline, WWWTP Raw Water Pipeline, WWWTP Finished Water Pipeline, WWWTP Reverse Osmosis Concentrate Pipeline, WWWC Utility Water Pipeline, fiber optic/communication conduits, power conduits, and WWWC Stormwater Pipeline	WBWCD would need to purchase property from a private landowner with four parcels on the east and west sides of the Weber River west of the WWWC for the pipelines listed in this row. The four parcels and estimated impacted acreage are: • Parcel: 150610019 (8.7 acres) (private parcel) • Parcel: 150610083 (4.5 acres) (private parcel) • Parcel: 150610047 (6.75 acres) (private parcel) • Parcel: 150610020 (0.7 acre) (private parcel)	None

Definitions: SR = state route

Figure 4. Affected Parcels



2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED

WBWCD performed a plant siting and conveyance study as part of the Sustainability and Resilience Project (SaRP) to determine where the Renew and WWWTP facilities should be located (WBWCD 2024). In the siting study, WBWCD evaluated three site alternatives to see how well each would meet the preliminary conveyance system design criteria and additional site criteria (such as size, allowable land use, potential availability of property for purchase, access, proximity to the CWSID treatment plant, proximity to the Weber River and Willard Canal, and estimated construction costs).

Option #1, located south of the CWSID treatment plant on Pioneer Road, was considered because of its proximity to its source water and CWSID treatment plant; Option #2, located on the north side of SR-39/1200 South east of the Weber River, was considered because of its central location in the study area and proximity to the Weber River; and Option #3, located near 2500 South and 2500 West in Weber County, was considered as a shared site with Jordan Valley Water Conservancy District as a future use agreement with WBWCD (WBWCD 2024).

WBWCD selected the preferred site (Option #2, the Proposed Action Alternative in this EA) because it would provide the best access to raw water sources, have the fewest Weber River and rail crossings, and provide the best vehicle access. Option #1 was eliminated because the Renew and WWWTP facility would be too close to the CWSID treatment plant, which could create public concerns and limit future infrastructure improvements. Option #1 was also in a 500-year floodplain, which would require imported fill material and challenging construction conditions such as introduced groundwater and geotechnical difficulties. Option #3 was eliminated because it was too far from raw water sources and had disproportionately higher construction costs.

More information about the other evaluated alternatives is provided in the *Project Definition Report* (WBWCD 2024).

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

Reclamation considers a variety of legal and policy requirements when considering federal action. Elements of the human environment that are subject to the requirements of a statute, regulation, executive order, or similar requirement are shown in Table 3. Reclamation's interdisciplinary team identified issues through internal scoping and from known issues in the area. Issues determined to merit detailed analysis are identified in the table. A rationale is included in the table to explain how each resource was evaluated. If any element or issue was determined to potentially be impacted, it was carried forward for detailed analysis in this EA. If an element is not present or would not be affected, it was not carried forward for analysis. The following codes were used to explain the determination for each element or resource of the human environment:

- NP: Not present in the area impacted by the proposed or alternative actions
- NI: Present, but not affected to a degree that detailed analysis is required
- PI: Present with potential for impacts that need to be analyzed in detail in the EA
- NC: No change (DNAs only), and actions and impacts remain unchanged from those disclosed in the existing NEPA documents (The Rationale column might include NI and NP discussions.)

Table 3. Interdisciplinary Team Resource Checklist for NEPA Documents

Determination	Element/Resource	Rationale
NI	Air Quality and Greenhouse Gas Emissions	The Proposed Action Alternative would not result in substantial increases in greenhouse gas (GHG) emissions. USEPA GHG permitting programs only apply to major stationary sources emitting more than 100,000 tons carbon dioxide equivalent (CO_2e) per year (power plant, landfill, etc.) or modifications of major sources with emission increases greater than 75,000 tons CO_2e per year. Additionally, USEPA requires annual reporting for facilities with stationary sources that emit 25,000 metric tons CO_2e per year to provide a basis for future policy decisions and regulatory initiatives regarding GHGs. None of the circumstances listed above are considered within the scope of the Proposed Action Alternative; therefore, this resource is not considered for further analysis in the EA.
PI	Aquatic Resources: Fish, Wetlands, Riparian, Springs, Streams, Rivers, Lakes, Waters of the U.S., etc.	The Proposed Action Alternative would result in impacts to waters of the United States; therefore, this resource is brought forward for analysis.
NI	Cultural/Archaeological Resources	Eight archaeological sites and one isolated find were identified during the Class III inventory (Certus 2025); however, none would be adversely affected by the Proposed Action Alternative. Because all ground disturbance would be replaced in kind, Reclamation determined a finding of No Historic Properties Affected, with Utah State Historic Preservation Office (SHPO) concurring on November 21, 2025 (see Appendix A, *Project Correspondence*). Standard Reclamation unanticipated discovery protection protocols will be in effect for the project.

Determination	Element/Resource	Rationale
NP	Designated Areas: Wild and Scenic Rivers, Wilderness, Mitigation Lands, Primary Jurisdiction Zones, etc.	These resources are not present in the Project area; therefore, no analysis is needed.
NI	Health, Safety, Air Quality, and Noise	The Proposed Action Alternative would have short-term effects on air quality and noise during construction. Noise levels would temporarily increase during pipeline installation and WWWC construction because of the heavy equipment and truck traffic. Air quality could temporarily be reduced because of fugitive dust during construction of the pipelines and the WWWC. Pipelines used for the Project would be buried and have minimal effect on health, safety, air quality, or noise in the surrounding communities. Dust-suppressing measures will be used to reduce the increased short-term impacts of fugitive dust during construction of the pipelines and the WWWC. Management of hazardous substances, such as fuels or oils, will be described in the stormwater pollution prevention plan required for the UPDES permit.
NP	Indian Trust Assets (ITAs) Tribal Religious Concerns	ITAs are legal interests held in trust by the United States for federally recognized Tribes. A review of the most current American Indian/Alaska Native/Native Hawaiian Areas Shapefile confirmed that no ITAs are located in or adjacent to the Project area. Tribal consultation letters were mailed on January 14, 2026, to the Northwestern Band of the Shoshone Nation, the Eastern Shoshone Tribe, and the Shoshone-Bannock Tribes of the Fort Hall Reservation to notify them of the undertaking and invite comment. No comments have been received as of April 8, 2026. Because no ITAs are present and the Project does not intersect Tribal lands or trust resources, this element is present but not affected to a degree requiring detailed analysis.
NI	Paleontology	The Project area is underlain by late Quaternary lake and alluvial deposits associated with the Bonneville basin. Based on regional stratigraphic sections, these deposits are typically 15–40 feet thick, with localized deeper accumulations but no exposure of Mesozoic-age strata. Beneath these unconsolidated sediments, the bedrock consists of Paleozoic units that predate the time of dinosaurs by hundreds of millions of years. Because the Quaternary sediments are too young to preserve vertebrate fossils and Jurassic/Cretaceous formations are absent, the potential to encounter significant paleontological resources is extremely low. Therefore, paleontology is present but not affected to a degree requiring detailed analysis (NI). A copy of the clearance memo from the Utah Geological Survey is included in Appendix A.
PI	Prime and Unique Farmlands	Approximately 35–40 acres of Prime Farmland are in the Project area. No Unique Farmlands were found during a geographic information systems (GIS) review of available data (NP). Farmland in existing urban areas or committed to urban development does not meet the criteria for protection under the Farmland Protection Policy Act of 1981 (FPPA) and is not considered protected farmland in this analysis. Impacts to 3.05 acres of designated Prime Farmlands are expected in the 1400 South road right-of-way for the installation of water pipeline infrastructure. Therefore, this element will be carried forward for further analysis.

Determination	Element/Resource	Rationale
NP	Recreation	Based on the location and nature of the Proposed Action Alternative, recreation resources would not be impacted by the Project, resulting in no further need for analysis.
PI	Socioeconomics	Impacts to Socioeconomic conditions, specifically acquisitions and easements, and transportation and access, might occur through the implementation of the Project, and this resource is brought forward for analysis.
NI	System Operations	The Proposed Action Alternative's WWWTP would be able to provide a minimum design flow of 5 mgd with a peak design flow of up to 10.8 mgd to serve the water needs in western Weber County. The WWWTP would also include storage and pump station facilities that would improve WBWCD's storage and distribution operations. The Proposed Action Alternative would not impact the CWSID wastewater treatment plant or operations. The Renew Raw Water Pipeline would connect to the CWSID outfall system before it leaves the CWSID treatment plant and therefore would not affect their treatment operations. By increasing water and wastewater treatment capacity, the Project would support new development and population growth in western Weber County by helping to meet the increasing need for reliable water in the region. Economically, the Project would provide short-term construction jobs and long-term operational employment.
PI	Threatened, Endangered, Proposed, or Candidate Species	A field survey for Ute ladies'-tresses following the U.S. Fish and Wildlife Service's protocol was conducted by HDR environmental services during the 2025 flowering period (HDR 2025a). No individuals were discovered; however, a total of 0.57 acre of potentially suitable habitat was identified in the Project area. Survey efforts for Ute ladies'-tresses are expected to continue in 2026 and 2027. Therefore, this resource is brought forward for analysis.
PI	Vegetation (Including Invasive Species and Weeds) and Soils	The Proposed Action Alternative would result in impacts to existing vegetation where excavation, grading, or staging would occur and there is potential to circulate invasive or noxious weeds. Therefore, this resource is brought forward for analysis.
NI	Visual Resources	The Proposed Action Alternative would have short-term visual impacts during construction of the pipelines. Pipelines would be installed using an open-trench technique. Once construction is complete, the pipelines would be buried, and there would be no permanent adverse impacts to visual resources. The Proposed Action Alternative's Renew and WWWTP facilities generally would be 20 to 25 feet tall for most structures, although two buildings would be up to 45 feet tall. After construction, the WWWC would look similar to other institutional water treatment plants. All structures would be consistent with the commercial and industrial zoning requirements for Marriott-Slaterville City.
PI	Wastes: Hazardous and Solid	The Proposed Action Alternative would have the potential to introduce or produce solid or hazardous wastes. Therefore, this element is brought forward for analysis.
PI	Water: Water Quality and Hydrology	The Proposed Action Alternative would introduce recycled water as a new source entering Willard Bay and releasing into the Weber River, and it would have the potential to affect water quality in these waterbodies. Therefore, this resource is brought forward for analysis.

Determination	Element/Resource	Rationale
PI	Water: Water Rights	Reuse of up to 8,800 acre-feet annually of CWSID effluent has already been approved by the Utah State Engineer under Reuse Application NS028. However, a change application would be submitted to the Utah Division of Water Rights to change the location for the point of diversion to use the Proposed Action Alternative's point of diversion for the existing water rights.
PI/NI	Wildlife: General Wildlife and Migratory Birds	The Proposed Action Alternative would require construction of diversion features, discharge, and inflow pipelines resulting in temporary impacts to the Weber River and permanent impacts to associated riparian habitat that are expected to be minor and localized. NI: A Biological Resource Evaluation (HDR 2025a) identified potentially suitable habitat for the Columbia spotted frog and Bonneville cutthroat, two Conservation Agreement species, in the riparian areas of the Weber River. Potential impacts to these species' habitat might occur but are not likely to jeopardize the continued existence in the Project area. PI: Migratory birds might use the Project area for nesting habitat, and there is the potential for bald eagles to be present in the area. Therefore, this resource is brought forward for analysis.

3.1 AQUATIC RESOURCES: WATERS OF THE UNITED STATES

3.1.1 AFFECTED ENVIRONMENT

Waters of the United States (that is, wetlands and other surface waters) provide important and beneficial functions including protecting and improving water quality, providing fish and wildlife habitat, and storing floodwaters. Because they provide these important functions, this resource is protected via two acts: Section 10 of the Rivers and Harbors Act (1899) and Section 404 of the Clean Water Act of 1972, as amended. These acts require that Reclamation strive to first avoid adverse impacts, then minimize adverse impacts, and finally offset unavoidable adverse impacts to existing aquatic resources. For wetlands, Reclamation must strive to achieve a goal of no overall net loss of values and functions.

USACE has authority to regulate work in the Nation's waters (that is, waters of the United States) through the Rivers and Harbors Act. This act established permit requirements to prevent unauthorized obstruction or alteration of any navigable water. However, because there are no navigable waters in the Project area, WBWCD does not anticipate that a Section 10 permit would be required for the Proposed Action Alternative.

USACE also regulates work in, on, or over waters of the United States via the Clean Water Act, which authorizes USACE to require permits for discharging dredge and fill material into waters of the United States. Specifically, this EA determines whether a Clean Water Act Section 404 permit would be required for affecting wetlands and/or other surface waters.

Reclamation assessed the Project area for USACE jurisdictional aquatic resources by reviewing the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory maps in GIS format and aerial images, and through wetland delineation fieldwork. HDR prepared an *Aquatic*

Resources Delineation Report for the Weber West Water Campus (HDR 2025b). The delineation fieldwork was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008), the *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams* (USACE 2025), and USACE regulatory guidance letters and joint (USACE and USEPA) regulations, policies, references, and guidance.

The fieldwork identified 0.03 acre of wetlands, one perennial stream, 26 unnamed ditches, and three canals in the Project area (HDR 2025b). A total of 5.84 acres of aquatic resources were delineated in the survey area for waters of the United States. These resources consist of 2.06 acres (1,202 linear feet) of perennial stream, 2.31 acres (13,575 linear feet) of ditches, 1.44 acres (3,365 linear feet) of canals, and 0.03 acre of palustrine emergent wetlands. The characteristics of delineated aquatic resources are summarized in the *Aquatic Resources Delineation Report* (HDR 2025b) for the Project. The jurisdictional status of delineated aquatic resources is subject to determination by USACE.

3.1.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on waters of the United States because there would be no activities that would impact waters or other aquatic resources.

3.1.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

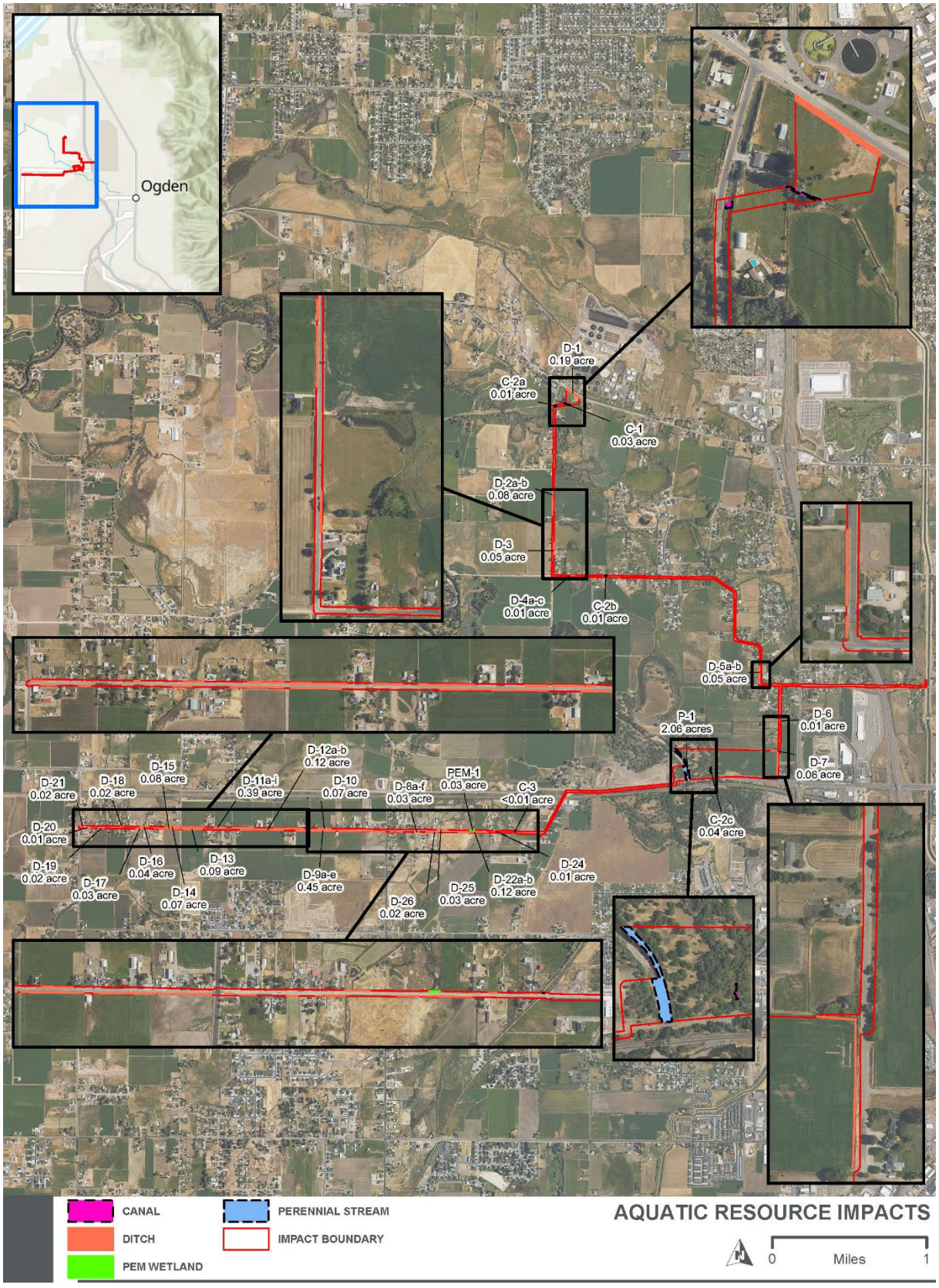
The Proposed Action Alternative would have temporary impacts to about 3.59 acres and permanent impacts to about 0.67 acre of aquatic resources from pipeline installation and the diversion in the Weber River. Temporary impacts during pipeline installation might occur to ditches, canals, and the Weber River, and would be restored after construction. Ditch D-7 would be permanently altered by being piped for the Proposed Action Alternative. These impacts are listed in Table 4 and shown in Figure 5.

Table 4. Impacts to Waters of the U.S.

Aquatic Resource	Proposed Action Alternative Components with Impacts to Aquatic Resource	Description of Effect
Slaterville Canal (C-1)	Renew Raw Water Pipeline	0.03 acre of Slaterville Canal would be temporarily impacted by construction of the Renew Raw Water Pipeline. Construction would occur during the nonirrigation season (October 15 to April 15). Slaterville Canal would be maintained as a canal after construction.
Warren Irrigation Canal (C-2a, C-2b, C-2c)	Renew Raw Water Pipeline (C-2a, C-2b) Renew Denite Filter to Waste Pipeline, WWWTP Raw Water Pipeline, WWWTP Finished Water	The Renew Raw Water Pipeline would have temporary impacts to 0.01 acre of Warren Irrigation Canal where it would cross at 2800 West in Marriott-Slaterville (C-2a) and 0.01 acre of temporary impact where it would cross at 200 South in Marriott-Slaterville (C-2b).

Aquatic Resource	Proposed Action Alternative Components with Impacts to Aquatic Resource	Description of Effect
	Pipeline, WWWTP Reverse Osmosis Concentrate Pipeline, WWWC Stormwater Pipeline, WWWC Utility Water Pipeline, fiber optic/communications conduit, and power conduit (C-2c)	The other eight pipelines would have temporary impacts to 0.04 acre of Warren Irrigation Canal (C-2c) where the pipelines would cross north of 1200 South in Marriott-Slaterville. Construction would occur during the nonirrigation season (October 15 to April 15). Warren Irrigation Canal would be maintained as a canal after construction in all impacted areas.
Hooper Canal (C-3)	WWWTP Finished Water Pipeline	<0.01 acre of Hooper Canal would be temporarily impacted by construction of the WWWTP Finished Water Pipeline. Construction would occur during the nonirrigation season (October 15 to April 15). Hooper Canal would be maintained as a canal after construction.
Weber River (P-1)	Weber River Diversion Structure and WWWTP Finished Water Pipeline	The Proposed Action Alternative would have a total of 2.06 acres of impact to the Weber River where the new diversion structure would be constructed in or adjacent to the Weber River to provide a source of water for the WWWTP Raw Water Pipeline. The 2.06 acres includes 1.45 acres of temporary impacts to the Weber River from construction of the WWWTP Finished Water Pipeline (which would cross under the Weber River) and construction of the Renew Denite Filter to Waste, WWWTP Reverse Osmosis Concentrate, and WWWTP Stormwater Pipelines where they discharge to the Weber River. Additionally, there would be 0.61 acre of permanent impacts north of the diversion dam where riprap would be placed on the east bank of the Weber River.
PEM-1	WWWTP Finished Water Pipeline	The WWWTP Finished Water Pipeline would temporarily impact 0.03 acre of PEM-1 on the north side of 1400 South near 3150 West. PEM-1 would be regraded and revegetated to existing conditions after construction.
Ditches D-1 through D-6	Renew Raw Water Pipeline and Pump Station	The Renew Water Pipeline and Pump Station would have temporary impacts to 0.40 acre of ditches on Pioneer Road, 2800 West, 200 South, 2050 West, and 2000 West. All ditches would be regraded and maintained as a ditch after construction in all impacted areas.
D-7	Renew Raw Water Pipeline and Renew Finished Water Pipeline	The Renew Raw Water Pipeline and Renew Finished Water Pipeline would have permanent impacts to 0.06 acre of Ditch D-7 on the east side of the WWWC parcel by 2000 West in Marriott-Slaterville. D-7 would be piped as part of the Proposed Action Alternative and would continue to deliver water similarly to the existing conditions.
Ditches D-8 through D-26 (excluding D-23)	WWWTP Finished Water Pipeline	The WWWTP Finished Water Pipeline would have 1.62 acres of impacts to ditches on 1400 South in unincorporated Weber County. All ditches would be regraded and maintained as a ditch after construction.

Figure 5. Aquatic Resource Impacts



Indirect effects on aquatic resources could occur from sediment discharges associated with stormwater, erosion, hydrologic modifications, and the establishment of noxious weeds. Most of these indirect effects could be reduced or eliminated through the mitigation measures listed below.

3.1.3.1 MITIGATION MEASURES

WBWCD will obtain a stream alteration permit for the diversion at the Weber River as required by the State Engineer. The stream alteration permit will require mitigation and rehabilitation or restoration of impacts to the Weber River channel or stream banks.

To fill jurisdictional aquatic resources, the Project must be authorized with a Clean Water Act Section 404 permit before construction. WBWCD anticipates that a Letter of Permission would be required. WBWCD would need to prepare a compensatory mitigation plan that describes the proposed mitigation efforts and how they will offset the functions and values eliminated by the Proposed Action Alternative. WBWCD anticipates this mitigation would consist of on-site mitigation through rehabilitation along the Weber River.

WBWCD will minimize potential temporary construction impacts to aquatic resources through considering construction methods and using best management practices (BMP), such as silt fences and other erosion-control features, in areas adjacent to wetlands and streams. Any necessary temporary construction impacts to aquatic resources that are authorized by the Clean Water Act Section 404 permit will be restored through regrading the ground surface to natural contours and revegetating disturbed areas.

3.2 PRIME AND UNIQUE FARMLANDS

3.2.1 AFFECTED ENVIRONMENT

Prime and unique farmlands are high-quality agricultural lands identified by the U.S. Department of Agriculture (USDA) for their suitability to grow common or specialty crops. They are protected under the FPPA, which requires federal agencies to evaluate and minimize impacts from projects that would convert these lands to nonagricultural uses. The USDA Natural Resources Conservation Service (NRCS) identifies and maps these farmland types based on soil characteristics and agricultural use.

The Project area includes a mix of agricultural land, rural residential development, and pockets of undeveloped land. With the exception of the western end of the WWWTP Finished Water Pipeline, which is in unincorporated Weber County, the rest of the Project area is in the incorporated city limits of Marriott-Slaterville and is designated as “urban” by the U.S. Census Bureau. Farmland in existing urban areas or committed to urban development does not meet the criteria for protection under the FPPA and is not considered protected farmland in this analysis.

The Project area contains about 2.23 acres of prime farmland if irrigated and 0.82 acre of prime farmland if irrigated and drained, primarily in the 1400 South road right-of-way where the WWWTP Finished Water Pipeline would be constructed with the Proposed Action Alternative.

3.2.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on prime or unique farmland. Existing conditions would remain unchanged and no impacts to prime and unique farmland would occur.

3.2.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

The only parts of the Proposed Action Alternative that would occur in areas designated as "rural" by the U.S. Census Bureau is the WWWTP Finished Water Pipeline. The WWWTP Finished Water Pipeline would affect 2.23 acres of prime farmland if irrigated and 0.82 acre of prime farmland if irrigated and drained that are primarily in the 1400 South road right-of-way and are not being actively used for farming operations.

3.2.3.1 MITIGATION MEASURES

No mitigation is necessary to address prime and unique farmlands because the Proposed Action Alternative is not expected to result in any long-term adverse effects to prime and unique farmlands, as described above.

3.3 SOCIOECONOMICS: ACQUISITIONS AND EASEMENTS

3.3.1 AFFECTED ENVIRONMENT

This section identifies the properties that could be affected by the Proposed Action Alternative.

The Project area contains a mix of public and private properties. Public properties are owned primarily by CWSID, Marriott-Slaterville City, Weber County, Southern Pacific Railroad, local utility companies, and UDOT.

Several irrigation canals not operated by WBWCD (including North Slaterville Canal, Taylor Canal, Warren Irrigation Canal, South Slaterville Canal, and West Weber Canal) are also in the Project area.

There are also several utility lines, including water lines, sewer lines, storm drains, fiber optic lines, petroleum pipelines, gas lines, and power lines, in the Project area. Most of these utility lines are in the road right-of-way (owned by UDOT, Marriott-Slaterville City, or Weber County).

3.3.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on land ownership. With the No Action Alternative, WBWCD would not construct a new water treatment facility, drinking water treatment facility, or the associated pipelines between the facilities, Weber River, and Willard Bay.

3.3.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

The Proposed Action Alternative's pipelines would cross several irrigation canals, but any impacts would be limited to temporary impacts during construction, and the timing of any temporary impacts would be scheduled to avoid any impacts to canal operations and deliveries. There would be no permanent impacts to the irrigation canals or canal operations from the Proposed Action Alternative.

Construction of the Proposed Action Alternative's pipelines would occur primarily in public right-of-way.

Utilities are in the Project area and could be affected by the Proposed Action Alternative. WBWCD anticipates that utilities will be protected in place with new crossings for the Proposed Action Alternative pipelines. If utility relocations are necessary, utility relocations will be coordinated with the appropriate utility providers. Utilities in the Project area that would likely be impacted are irrigation, communications, phone, fiber, high-pressure gas, power, sanitary sewer, stormwater, water, and community antenna television (CATV). For a comprehensive list of all utilities in the Project area, refer to Appendix B, *Utility Crossings*.

3.3.3.1 MITIGATION MEASURES

WBWCD will take measures to minimize impacts to residents and businesses, including maintaining property access where possible, coordinating with business owners, and providing fair compensation to property owners for any required property acquisitions.

WBWCD will provide compensation to impacted property owners pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the Utah Relocation Assistance Act (Utah Code Annotated Section 57-12-1 et seq.).

To minimize potential impacts to existing utilities, WBWCD will coordinate with utility providers before and throughout the Project. Utility location services will be used to verify the presence and alignment of underground and overhead utilities in the Project limits. Utilities will be protected in place where feasible. If relocation is required, it will be coordinated with the respective utility owners to minimize service interruptions and ensure compliance with applicable regulations and standards. Any Proposed Action Alternative pipeline crossings of irrigation canals would be coordinated with the canal companies, and construction would occur during the winter to avoid any impacts to canal operations and deliveries.

3.4 SOCIOECONOMICS: TRANSPORTATION AND ACCESS

3.4.1 AFFECTED ENVIRONMENT

This section describes existing access and transportation conditions in the Project area and evaluates how the Proposed Action Alternative would affect access and overall traffic flow. It also considers both short-term construction impacts and long-term operational changes, as well as consistency with local and regional transportation plans. The Project area is in a

predominantly rural area that is transitioning to a suburban area. The transportation network includes major freeways such as I-15, which is a major north-south corridor; SR-39 (1200 South in Marriott-Slaterville and unincorporated Weber County), which is a significant east–west arterial in the Project area; and SR-126 (1900 West in Mariott-Slaterville), which is another significant north–south arterial in the Project area. These major arterials are supplemented by local streets that provide direct access in and around the Project area. Because of the Project area's rural nature, traffic counts are low compared to more urban areas in the region.

The Union Pacific Railroad Lucin Cutoff is also located on the south side of 1200 South in Marriott-Slaterville and unincorporated Weber County and is an important freight rail corridor.

3.4.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on access and transportation because there would be no road temporary closures or delays from construction.

3.4.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

The Proposed Action Alternative would have short-term impacts to access and transportation during the construction of the new pipelines. These impacts could include temporary lane closures, detours, and restricted access to local roads or adjacent properties. These impacts could affect traffic circulation and access, especially where the new pipelines cross or intersect roads or right-of-way.

WBWCD anticipates that the following roads (which are located in Marriott-Slaterville except 1400 South, 3500 West, 4300 West, and SR-134/4700 West, which are located in unincorporated Weber County) would have temporary closures or delays during pipeline installation (also see Figure 6):

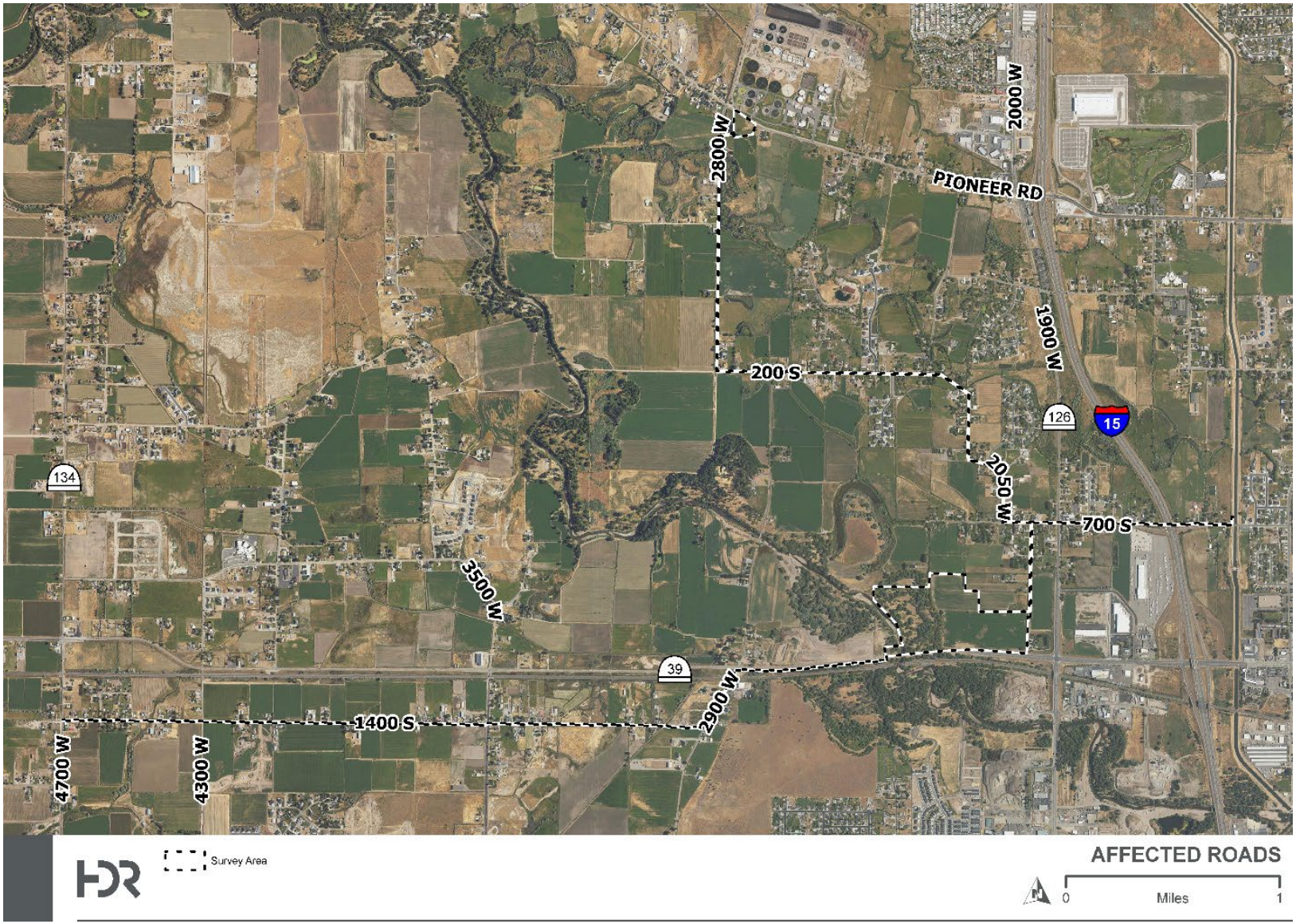
- Pioneer Road
- 2800 West
- 200 South
- 2100 West
- 500 South
- 2050 West
- 700 South
- 2000 West
- SR-126/1900 West
- SR-39/1200 South
- 2900 West
- 1400 South
- 3500 West
- 4300 West
- SR-134/4700 West

Additionally, the Proposed Action Alternative would involve installing new pipelines that would go under I-15 and the Union Pacific Railroad tracks. Both crossings would be installed with directional drilling in casings so that these facilities would not need to be closed.

Access along pipeline routes to allow maintenance of pipelines could require temporary access roads, easement agreements, or coordination with local property owners.

Long-term transportation or access impacts are not anticipated.

Figure 6. Affected Roads



3.4.3.1 MITIGATION MEASURES

WBWCD will mitigate impacts to transportation by coordinating with and obtaining permits from UDOT for the crossings of I-15, SR-39, SR-126, and SR-134. These permits will include any lane closures needed for roads during construction. WBWCD will also mitigate impacts to transportation and access by coordinating with Marriott-Slaterville City and Weber County for any lane closures needed on the local roads during construction and messaging these closures and detours to the affected public. WBWCD will coordinate with and obtain a permit from Union Pacific Railroad for the crossing under the Union Pacific Railroad Lucin Cutoff to minimize impacts to railroad operations.

3.5 THREATENED, ENDANGERED, PROPOSED, OR CANDIDATE SPECIES

3.5.1 AFFECTED ENVIRONMENT

The Endangered Species Act (ESA; 16 USC Sections 1531–1544) establishes a framework to protect and conserve species listed as threatened or endangered and their habitats. Under Section 7 of the ESA, federal agencies must consult with USFWS before taking any action that will likely affect any federally listed threatened or endangered species or designated critical habitat for an endangered species. In addition, federal agencies must ensure that their actions are not likely to jeopardize the continued existence of any listed species or to destroy or adversely modify any designated critical habitat. The USFWS Information for Planning and Consultation system (IPaC) identifies two federally listed species that might occur in the survey area for threatened and endangered species and/or might be affected by the Project: one bird species, yellow-billed cuckoo (*Coccyzus americanus*), and one plant species, Ute ladies'-tresses (*Spiranthes diluvialis*). The IPaC report also identified two insect species that are proposed to be listed under the ESA: monarch butterfly (*Danaus plexippus*) and Suckley's cuckoo bumble bee (*Bombus suckleyi*). The survey area does not include designated or proposed critical habitat for any of these species.

There is no suitable habitat in the survey area for yellow-billed cuckoo. Potentially suitable habitat exists in the survey area for Ute ladies'-tresses, monarch butterfly, and Suckley's cuckoo bumble bee.

More details are provided in the *Biological Resources Evaluation for the Weber West Water Campus* and the *Biological Assessment* (HDR 2025a and 2026) that were prepared for the Project.

3.5.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on threatened or endangered species because no new construction activities would occur that would impact potential threatened or endangered species habitat.

3.5.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

The Proposed Action Alternative would include soil disturbance, which could affect potentially suitable habitat for Ute ladies'-tresses, monarch butterfly, and Suckley's cuckoo bumble bee.

Milkweed is an essential feature of quality monarch habitat, and milkweed plants were observed growing in the survey area. Proposed species are not protected by the take prohibitions of Section 9 of the ESA until the rule to list is finalized. Under Section 7(a)(4) of the ESA, "Federal agencies must confer with the [USFWS] if their action will jeopardize the continued existence of a proposed species" (USFWS 2025). Given that the proposed critical habitat for this species is outside the survey area, the Project would not jeopardize the continued existence of monarch butterflies.

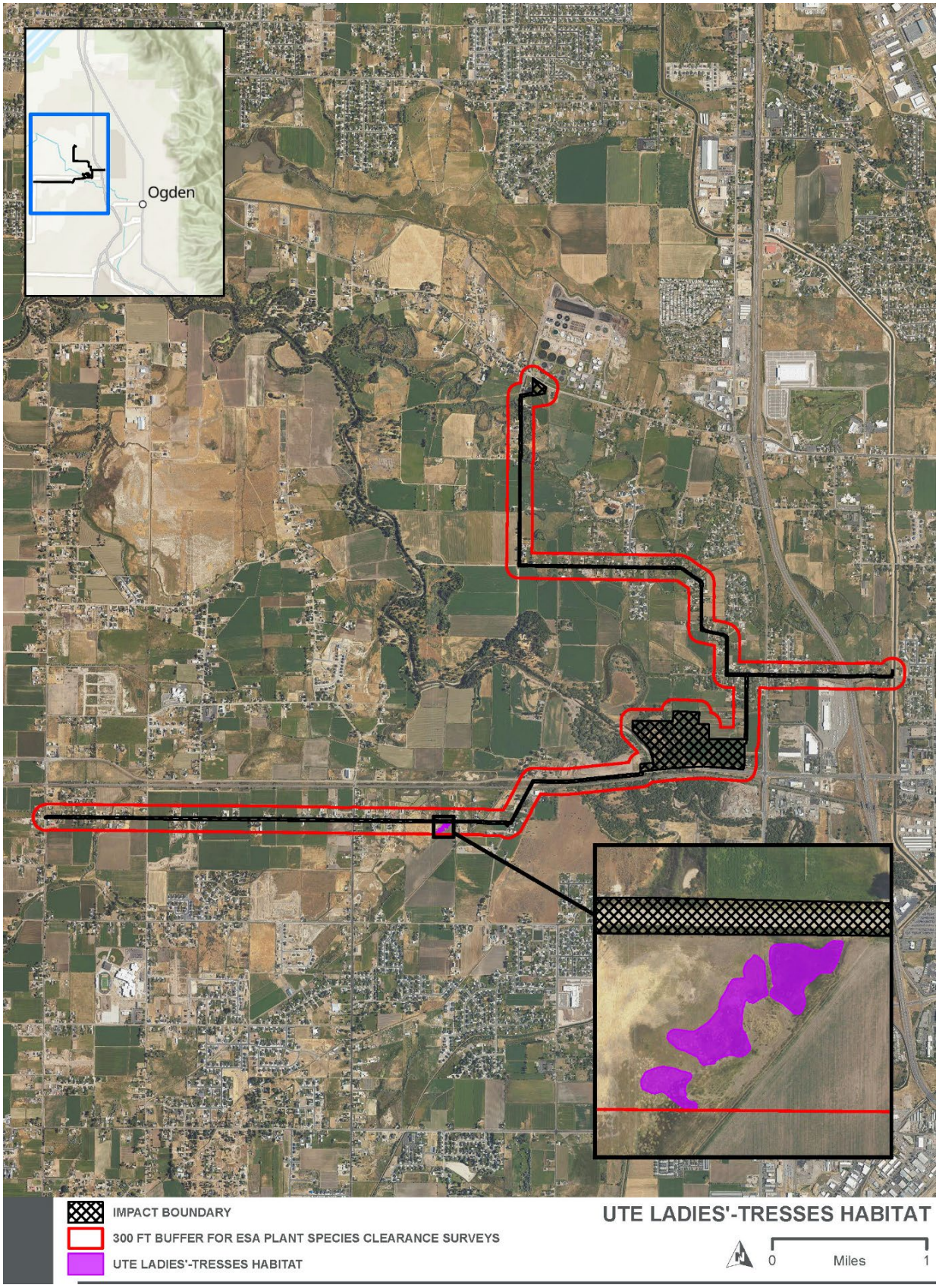
Suckley's cuckoo bumble bee is an obligate parasitic species that is entirely dependent on the workers of host colonies to raise its young; the western bumble bee is the most widely known host. Western bumble bees nest primarily in underground cavities and abandoned animal burrows. Suckley's cuckoo bumble bees are found across North America between 6 and 10,500 feet in elevation. They require diverse pollen and nectar resources for nutrition, and common habitat types include prairies, grasslands, meadows, woodlands, forests, croplands, and urban areas. Potentially suitable nesting and foraging habitat exists in the survey area. Ground disturbance would eliminate potential nesting sites, and vegetation removal would eliminate potential foraging material.

Proposed species are not protected by the take prohibitions of Section 9 of the ESA until the rule to list is finalized. Under Section 7(a)(4) of the ESA, "Federal agencies must confer with the [USFWS] if their action will jeopardize the continued existence of a proposed species" (USFWS 2025). Suckley's cuckoo bumble bees have not been observed in the United States since 2016 (USFWS 2024), and critical habitat has not been proposed for this species. Given the broad nature of potentially suitable nesting and foraging habitat, the lack of observations in the United States, and the fact that critical habitat has not been proposed, the Project would not jeopardize the continued existence of Suckley's cuckoo bumble bees.

Ute ladies'-tresses are found in moist to very wet meadows, along streams, in abandoned stream meanders, and near springs, seeps, and lake shores where competition for light, space, water, and other resources is normally kept low by periodic or recent disturbance. Ute ladies'-tresses are also known to grow in seasonally flooded river terraces, subirrigated or spring-fed abandoned stream channels and valleys, and lake shores. Populations have also been observed growing along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside barrow pits, reservoirs, and other human-modified wetlands.

A total of 0.57 acre of potentially suitable habitat was identified in an irrigated pasture meadow south of 1400 South in unincorporated Weber County within a 300-foot buffer around the survey area during field surveys on October 21 and 23, 2024, and May 21, June 12, and July 22, 2025 (see Figure 7). Fill or disturbance in potentially suitable habitat would eliminate these areas as suitable habitat. In addition, dust generated during construction could indirectly harm plants. The accumulation of fugitive dust on plants could inhibit photosynthesis. No Ute ladies'-tresses were identified during the flowering clearance survey for this area on August 26, 2025. Reclamation determined that the Proposed Action Alternative would have a finding of "may affect, not likely to adversely affect" for the Ute ladies'-tresses, and USFWS has concurred with this finding (see Appendix A, *Project Correspondence*, for a copy of the *Biological Assessment* and USFWS concurrence).

Figure 7. Ute Ladies’-tresses Habitat



3.5.3.1 MITIGATION MEASURES

USFWS requires 3 consecutive years of clearance surveys to determine whether Ute ladies'-tresses are present or absent in potentially suitable habitat. Three years of clearance surveys will be conducted in 2025, 2026, and 2027 during the Ute ladies'-tresses flowering period according to the *USFWS Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed, and Candidate Plants* (USFWS 2011) and the revised version of the 1992 *Interim Survey Requirements for Ute Ladies'-tresses Orchid (Spiranthes diluvialis)* (USFWS 2017).

Potentially suitable Ute ladies'-tresses habitat identified adjacent to the 1400 South roadway and Project footprint will be flagged and protected. Construction crews will be provided information about the importance of containing all work activities to the Project footprint and existing 1400 South roadway and instructed that no disturbance can occur outside the Project footprint and existing 1400 South roadway when adjacent to potentially suitable Ute ladies'-tresses habitat, nor in areas flagged for protection.

3.6 VEGETATION (INCLUDING INVASIVE SPECIES AND WEEDS) AND SOILS

3.6.1 AFFECTED ENVIRONMENT

Riparian areas and existing vegetation were evaluated in the Project survey area. Riparian areas are directly influenced by water bodies, typically along lakes, streams, and rivers and along constructed water bodies such as ditches, canals, ponds, and reservoirs. More details are provided in the *Biological Resources Evaluation for the Weber West Water Campus* (HDR 2025a) that was prepared for the Project.

In general, the survey area for riparian areas, existing vegetation, and noxious weeds is primarily on road shoulders. It also crosses an alfalfa (*Medicago sativa*) field north of 1200 South in Marriott-Slaterville, a wooded area near the Weber River north of 1200 South in Marriott-Slaterville, a pasture south of Pioneer Road in Marriott-Slaterville, a small wetland on 1400 South in unincorporated Weber County, and woody riparian communities along the banks of the Weber River and Warren Irrigation Canal.

Upland plant species observed in the survey area include smooth brome (*Bromus inermis*), Woods' rose (*Rosa woodsia*), Canada thistle (*Cirsium arvense*), Scotch cottonthistle (*Onopordum acanthium*), Fuller's teasel (*Dipsacus fullonum*), annual ragweed (*Ambrosia artemisiifolia*), cheatgrass (*Bromus inermis*), field bindweed (*Convolvulus arvensis*), alfalfa (*Medicago sativa*), rubber rabbitbrush (*Ericameria nauseosa*), whitetop (*Cardaria draba*), intermediate wheatgrass (*Thinopyrum intermedium*), common mallow (*Malva neglecta*), fivehorn smotherweed (*Bassia hyssopifolia*), curlycup gumweed (*Grindelia squarrosa*), foxtail barley (*Hordeum jubatum*), and strawberry clover (*Trifolium fragiferum*). The small wetland is dominated by broadleaf cattail (*Typha latifolia*) and hardstem bulrush (*Schoenoplectus acutus*). Plant species observed in the riparian corridor along the Weber River include narrowleaf willow (*Salix exigua*), saltcedar (*Tamarix ramosissima*), Russian olive (*Elaeagnus angustifolia*), boxelder (*Acer negundo*), peachleaf willow (*Salix amygdaloides*), Fremont cottonwood (*Populus*

fremontii), western goldentop (*Euthamia occidentalis*), and crack willow (*Salix fragilis*). Milkweed plants (*Asclepias* spp.) were also observed growing in the survey area.

3.6.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on riparian areas, existing vegetation, or noxious weeds because no new construction activities would occur.

3.6.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

The Proposed Action Alternative would impact riparian areas, soils, and existing vegetation, limited to small riparian areas by the Weber River and Warren Irrigation Canal, where pipelines would be installed.

The Proposed Action Alternative would have permanent impacts to existing vegetation where the Renew Plant and WWWC site facilities would be constructed. There would be temporary impacts to existing vegetation in all areas where excavation, grading, and staging activities would occur, including pipeline installation. Temporary impacts would include removing some existing vegetation prior to construction.

3.6.3.1 MITIGATION MEASURES

Impacted areas will be treated to control weeds and revegetated after construction. Topsoil will be preserved and replaced following pipeline installation, and disturbed areas will be reseeded with appropriate vegetation. BMPs will be used to treat and control noxious weeds after construction.

WBWCD's contractor will implement standard BMPs to mitigate and minimize adverse impacts to vegetation and soil during construction. These measures include limiting construction activities to the smallest practicable area, minimizing exposed soil, identifying and protecting undisturbed vegetation, and flagging construction limits before ground disturbance. To prevent the introduction and spread of noxious weed seeds, WBWCD's contractor will ensure that all equipment and materials are free of noxious weed seeds before entering the project site, will clean all equipment before exiting the construction site, and will not haul dirt or excess material away from the construction site area. Disturbed areas will be reseeded with a certified weed-free seed mix. WBWCD's contractor will coordinate with the local NRCS office to confirm recommended seed mix varieties that are appropriate for the Project area. Topsoil will be preserved and replaced following pipeline installation to support successful revegetation.

Following construction, WBWCD will monitor disturbed areas for noxious weed establishment for a minimum of 5 years after project completion. If noxious weeds are identified during the monitoring period, WBWCD will implement appropriate control measures, including mechanical removal or herbicide application, in accordance with applicable federal, state, and local requirements. Noxious weed control activities will be carried out in accordance with a formal noxious weed contract to be established before construction.

3.7 WASTES: HAZARDOUS AND SOLID

3.7.1 AFFECTED ENVIRONMENT

Reclamation reviewed the Utah Department of Environmental Quality's (UDEQ) Environmental Interactive Map to determine whether there are any hazardous waste or solid waste sites in the Project area (UDEQ 2026). No hazardous or solid waste sites were identified in the Project area.

3.7.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on hazardous waste because no new construction activities would occur and no hazardous waste or solid waste would be generated or need to be disposed of.

3.7.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

The Proposed Action Alternative would generate concrete waste from construction of the WWWC site facilities and pump stations. Activities such as cutting pipes for pipelines and rebar for site facilities could generate hazardous waste. Diesel fuel, gasoline, and small quantities of hazardous materials, including solvents or lubricants, would be used during construction and could result in hazardous waste. Construction of the Proposed Action Alternative would require the use of heavy machinery that uses petroleum-based products, which could result in the generation of hazardous waste or accidental spills at the construction site.

3.7.3.1 MITIGATION MEASURES

WBWCD will monitor and ensure compliance with construction activities. If hazardous waste is generated from construction activities, mitigation measures will be used to properly manage and dispose of the waste. WBWCD's contractor will remove concrete or other debris generated from construction of facilities or pipelines, and this debris will be hauled to an off-site location for disposal. There will be a lined concrete washout area on site to avoid potential contamination. WBWCD's contractor will refuel heavy machinery on-site. Above-ground diesel and regular gasoline storage tanks will be used, equipped with secondary containment and monitoring systems to prevent leaks and spills. Standard operating procedures will be in place to avoid contamination from minor incidentals such as solvents and lubricants.

3.8 WATER: FLOODPLAINS

3.8.1 AFFECTED ENVIRONMENT

Reclamation reviewed Federal Emergency Management Agency (FEMA) flood zone maps to determine whether the Project area is in an area of flood risk (FEMA 2025). Flood zones are geographic areas that FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Risk Maps, which reflect the severity or type of flooding that could occur.

In the Project area, there is Zone AE floodplain associated with the Weber River on the north side of 1200 South in Marriott-Slaterville. FEMA defines Zone AE as the "area with a 1 percent chance of flooding [in a given year], or the 100-year floodplain." Base flood elevations are provided for the Zone AE area. Additionally, parts of the Project area around 2800 West and 200 South in Marriott-Slaterville are considered to be Zone X, which has a 0.2% annual chance of flooding. The rest of the Project area is considered by FEMA to be an "area of minimal flood hazard" (Figure 8).

3.8.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on the floodplain associated with the Weber River. Existing conditions would remain unchanged and no ground disturbance for pipeline installation would occur.

3.8.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

The Proposed Action Alternative would be implemented in a 2.77-acre Zone AE floodplain associated with the Weber River on the north side of 1200 South in Marriott-Slaterville. In the Zone AE floodplain, the Proposed Action Alternative would construct the WWWTP Finished Water pipeline from the WWWC, which would be constructed westward, under the Weber River. The WWWC Stormwater, Renew Denite Filter to Waste, and WWWC Reverse Osmosis Concentrate Waste Pipelines from the WWWC would go west and discharge into the Weber River, crossing the Zone AE floodplain. The WWWTP Raw Water Pipeline would have a diversion to pull water from the Weber River and go east to the WWWC, crossing the Zone AE floodplain. These pipelines would be buried, and constructing the lines would not permanently impact or affect the elevation of the Zone AE floodplain associated with the Weber River. The WWWC would be constructed outside the Weber River floodplain, so no impacts are anticipated.

The Proposed Action Alternative would also construct the Renew Raw Water Pipeline, which would cross a Zone X special flood hazard area (which has a 0.2% annual chance of flooding) around 2800 West and 200 South in Marriott-Slaterville. The 0.2% annual chance of flooding is not typically considered in design. The Renew Raw Water Pipeline would be buried, and construction would not permanently impact the Zone X special flood hazard area.

WBWCD would obtain a floodplain development permit from Marriott-Slaterville City for the location near the Weber River where the Proposed Action Alternative would encroach on a regulatory floodplain.

3.8.3.1 MITIGATION MEASURES

After construction, any disturbed areas would be restored to match existing grades and revegetated (for more information, see Section 3.6). With this restoration of existing grades and other requirements of the floodplain development permit, the Proposed Action Alternative would not cause a rise in base flood elevation for the Weber River Zone AE floodplain and would not have any permanent impacts to floodplains.

Figure 8. Floodplains



3.9 WATER: HYDROLOGY

3.9.1 AFFECTED ENVIRONMENT

The Weber River is the primary river in western Weber County. Most of its tributaries begin in the Uinta Mountains, and the river terminates at the Great Salt Lake.

3.9.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on hydrology compared to existing conditions. There would be no changes to hydrology of the Weber River or other water bodies with the No Action Alternative.

3.9.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

Table 5 summarizes the instream flow requirements that WBWCD is obligated to deliver to the Weber River for the segment of the river between the Slaterville Diversion (which provides water to Willard Canal and Layton Canal) and the Ogden Bay Waterfowl Management Area.

Table 5. Weber River Instream Flow Requirements

Location	Dec. 12 to Feb. 28	Mar. 1 to Apr. 10	Apr. 11 to Jun. 15	Jun. 16 to Oct. 15	Oct. 16 to Dec. 11
Between the Slaterville Diversion and Ogden Bay Waterfowl Management Area	20 cfs	50 cfs	135 cfs	80 cfs	150 cfs

Definitions: cfs = cubic feet per second

To maintain the instream flow requirements as growth, climate change, and drought affect the flows in the Weber River, with the Proposed Action Alternative's Renew facility, WBWCD would be able to treat and store treated wastewater effluent from the CWSID treatment plant in Willard Bay during the wetter winter months. The treated water could then be released from Willard Bay during the summer through Willard Canal back into the Weber River to meet instream flow requirements in the Weber River. Because the stored treated water would be available to offset the WWWTP diversions and satisfy the existing instream flow requirements in the Weber River, the Proposed Action Alternative is not expected to substantially impact the hydrology of the Weber River.

For these same reasons, the Proposed Action Alternative will maintain annual flows to the Great Salt Lake from the Weber River and there would be no decrease in flows to the Great Salt Lake. The treated wastewater effluent from the CWSID treatment plant will be stored in Willard Bay during the winter. This stored water will be released in the summer from Willard Bay to the Weber River to meet instream flow requirements and will continue to the Great Salt Lake. WBWCD has worked with the Deputy Great Salt Lake Commissioner to document how the Proposed Action Alternative would not decrease flows to the Great Salt Lake and would benefit the Great Salt Lake by providing additional flow during the summer months.

3.9.3.1 MITIGATION MEASURES

No mitigation is necessary to hydrology impacts because the Proposed Action Alternative is not expected to result in any hydrology impacts, as described above.

3.10 WATER: WATER QUALITY

3.10.1 AFFECTED ENVIRONMENT

UDWQ and UDDW within UDEQ regulate the quality of Utah's water bodies. These agencies act pursuant to delegated authority to enforce the federal Clean Water Act and the federal Safe Drinking Water Act and act pursuant to Utah's water quality laws and regulations.

Under the Clean Water Act, every State must establish and maintain water quality standards designed to protect, restore, and preserve the quality of the waters of the state. UDEQ oversees these water quality standards in Utah. Utah's water quality regulations broadly consist of three types of standards: an antidegradation policy, beneficial-use designations and their associated numeric water quality criteria, and narrative standards that apply to all waters within the state boundaries.

Utah's antidegradation policy states that waters whose existing quality is better than the established standards for their designated beneficial uses should be maintained at high quality (Utah Administrative Code Rule [R] 317-2-3.1). Discharges that could lower or degrade water quality are allowable if UDEQ determines that these discharges are necessary for important economic or social development. However, discharges must not impair the existing in-stream beneficial uses of these high-quality waters.

UDEQ designates all surface water bodies in the state according to how the water is used, and each use designation has associated standards. Table 6 lists the applicable beneficial uses of the surface waters from Utah Administrative Code R317-2-6, Use Designations.

Table 6. Designated Beneficial Uses for Surface Waters

Class	Description
1C	Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.
2A	Protected for frequent primary contact recreation where there is a high likelihood of ingestion of water or a high degree of bodily contact with the water. Examples include, but are not limited to, swimming, rafting, kayaking, diving, and water skiing.
2B	Protected for infrequent primary-contact recreation. Also protected for secondary-contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.
3A	Protected for cold-water species of game fish and other cold-water aquatic life, including the necessary aquatic organisms in their food chain.
3B	Protected for warm-water species of game fish and other warm-water aquatic life, including the necessary aquatic organisms in their food chain.
3C	Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.

Class	Description
3D	Protected for waterfowl, shore birds, and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
4	Protected for agricultural uses including irrigation of crops and stock watering.

When a lake, river, or stream fails to meet the water quality standards for its beneficial uses, the State places the water body on a list of "impaired" waters—also known as a 303(d) list, from Section 303(d) of the Clean Water Act—and prepares a study called a total maximum daily load (TMDL). The objective of a TMDL study is to determine the allowable load of a given pollutant for that water body and to allocate that load among different pollutant sources so that the appropriate actions can be taken, and controls implemented, to maintain water quality standards. The TMDL process is important for improving water quality because it serves as a link in the chain between water quality standards and implementing control actions designed to attain those standards. Willard Bay is designated Classes 1C, 2A, 3B, and 4 on the numeric criteria for designated use and pollution indication. These classifications set the water quality requirements for any water discharged that can be conveyed to Willard Bay, including discharges to Willard Canal. Willard Bay is not listed on the Utah Section 303(d) list (UDWQ 2024; USEPA 2025).

Weber River, from the Great Salt Lake to the Slaterville Diversion, is designated Classes 2B, 3C, 3D, and 4 on the numeric criteria for designated use and pollution indication. These classifications set the water quality requirements for any water discharges to the Weber River. This section of the Weber River is listed in the State of Utah's *2024 Integrated Report on Water Quality* [commonly referred to as the 303(d) list] as impaired. This section of the Weber River does not meet beneficial uses for Classes 3C (nongame fish and other) and 3D (waterfowl, shore birds, and other) due to benthic macroinvertebrates and bioassessments that do not meet state water quality parameters (UDWQ 2024; USEPA 2025). In the State of Utah's *2024 Integrated Report on Water Quality*, the TMDL status of this section of the Weber River is listed as "TMDL needed," and the 303(d) priority is low (UDWQ 2024).

3.10.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on water quality compared to existing conditions because there would be no new discharges to Willard Bay or the Weber River.

3.10.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

This section evaluates the Proposed Action Alternative's effect on water quality in the Weber River and Willard Bay. This section assesses the impacts and identifies additional permits and coordination needed with UDEQ to determine the status of impairment and determine BMPs during and after construction.

Effluent limits for the Renew discharge to Willard Canal for treated Renew water to be stored in Willard Bay would be set by UDEQ after a Waste Load Allocation and Antidegradation Level II review have been completed. As of August 2025, WBWCD had initiated coordination with UDEQ on the Waste Load Allocation and Antidegradation Level II review. The Renew Plant is being designed for nutrient removal to meet the water quality standards in Willard Canal and

Willard Bay. The basis of design includes biological denitrification and chemical phosphorous removal through filtration. The Renew plant effluent would be disinfected before being pumped to Willard Canal. More information regarding the Renew plant's treatment processes and water quality criteria are included in Section 2 of the *Preliminary Engineering Report: Weber Basin Water Conservancy District's Weber West Water Campus (WWWC)* (WBWCD 2025b).

The WWWTP finished water quality would be designed to meet the UDDW R309-200-5 regulatory standards. Details regarding the treatment processes and water quality criteria are included in Section 1.2.2 of the PER.

The Proposed Action Alternative would require WBWCD to obtain three separate UPDES permits for the following discharges:

- Renew Finished Water Pipeline discharge to Willard Canal
- Renew Denite Filter to Waste Pipeline discharge to the Weber River
- WWWTP Reverse Osmosis Concentrate Pipeline and WWWC Stormwater Pipeline discharge to the Weber River
- A UPDES permit will be required for modification to CWSID's existing UPDES permit to create a new point of discharge to the Renew plant's raw water pump station.
- WWWC will have a storm water basin sized to accommodate a storage volume equal to the 100-year storm event (WBWCD 2025b, Section 3.8).
- Because the WWWC would be larger than 1 acre, WBWCD's contractor will also be required to obtain a UPDES construction stormwater permit to ensure that discharges from the construction site will not adversely impact any applicable water quality standards.

3.10.3.1 MITIGATION MEASURES

WBWCD will monitor effluent quality pursuant to the requirements of the UPDES discharge permits. If the discharges become out of compliance, the plants will be shut down until changes can be made to ensure that compliance is met on all discharges.

With the treatment measures proposed as part of the WWWC Renew and WWWTP and permits and approvals described above, WBWCD does not anticipate that these discharges would affect the current water quality standards for the designated beneficial uses in Willard Canal and the Weber River based on the above analysis and required approvals.

3.11 WATER: WATER RIGHTS

3.11.1 AFFECTED ENVIRONMENT

Reclamation owns four water rights on the Weber River through the Weber Basin Project, and WBWCD holds the express contractual water rights for project needs (Table 7). The Weber Basin Project was planned to conserve and use available flows from the natural drainage of the Weber River, including those from the Ogden River, its principal tributary. The vast majority of

water made available through Weber Basin Project water rights and facilities is from excess flows on the Weber and Ogden Rivers. The Weber Basin Project also stores those excess flows in Willard Bay and upstream reservoirs. Table 7 provides details on these water rights.

Table 7. WBWCD Water Rights

Water Right/ Application Number	Ownership	Point of Diversion	Quantity of Water (acre-feet)	Intended Use Facility
35-827	Reclamation	Pineview Dam Slaterville Diversion	66,000	WWWTP
35-828	Reclamation	Wanship Dam Stoddard Diversion Gateway Pumping D&W Counties Canal Layton Canal Slaterville Diversion	60,000	WWWTP
35-829	Reclamation	Lost Creek Dam Stoddard Diversion Gateway Pumping D&W Counties Canal Layton Canal Slaterville Diversion	15,000	WWWTP
35-830	Reclamation	East Canyon Dam Stoddard Diversion Gateway Pumping D&W Counties Canal Layton Canal Slaterville Diversion	17,000	WWWTP
NS028	WBWCD	Willard Canal CWSID Admin Office	8,800	Renew facility

3.11.2 NO ACTION ENVIRONMENTAL EFFECTS

There would be no changes to water rights with the No Action Alternative. The existing WBWCD system operations would continue to use the existing WBWCD water rights.

3.11.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

The Proposed Action Alternative's WWWTP would use the Weber River/Willard Canal as the source of water. The point of diversion for the raw water conveyance would be in the Weber River just north of 1200 South in Marriott-Slaterville. The Proposed Action Alternative's WWWTP would use Reclamation's existing Weber Basin Project water rights on the Weber River (described above in Table 7). WBWCD already has an existing point of diversion for water from the Weber River downstream of the Proposed Action Alternative's diversion point (Table 7). The Utah Division of Water Rights administers state law to prevent impairments on existing water rights holders. A change application would be made to the Utah Division of Water Rights to change the location for the point of diversion to use the Proposed Action Alternative's

point of diversion for the existing water rights. Potential effects to other water rights holders will be addressed through this regulatory process.

WBWCD would also obtain approval for a new surface water source for the WWWTP with UDDW and UDWQ.

WBWCD received approval from the Utah Division of Water Rights State Engineer's Office on November 22, 2024, through Sewage Effluent Reuse Application Number NS028 to use 36.7 cfs, or 8,800 acre-feet per year, of treated CWSID effluent water that would be diverted to the Proposed Action Alternative's Renew facility. A copy of this letter is provided in Appendix A, *Project Correspondence*.

3.11.3.1 MITIGATION MEASURES

No mitigation is necessary to water rights impacts because the Proposed Action Alternative is not expected to result in any water rights impacts with the changes, approvals, and permits described above.

3.12 WILDLIFE: GENERAL WILDLIFE AND MIGRATORY BIRDS

3.12.1 AFFECTED ENVIRONMENT

The Migratory Bird Treaty Act (16 USC Sections 703–712) makes it unlawful to pursue, hunt, take, capture, kill, possess, sell, barter, purchase, transport, export, or import any migratory bird, or any part, nest, or egg of any such bird, with the exception of taking game birds during established hunting seasons. Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* (January 10, 2001), directs federal agencies taking actions likely to affect migratory birds to support the implementation of the Migratory Bird Treaty Act.

The Bald and Golden Eagle Protection Act (16 USC Sections 668–668d) makes it unlawful to take, import, export, sell, purchase, transport, or barter any bald or golden eagle or their parts, products, nests, or eggs. "Take" includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing eagles.

USFWS considers candidate species to be those plants and animals that are candidates for listing under the ESA. These are species for which there is enough information regarding their biological status and threat to propose them as threatened or endangered, but listing is currently precluded by higher-priority listing activities. Candidate species are not subject to the legal protections of the ESA. A Candidate Conservation Agreement is a formal voluntary agreement among USFWS and one or more parties to address the conservation needs of candidate species or species that could be candidates in the near future. The survey area for wildlife resources includes a wooded area near the Weber River north of 1200 South in Marriott-Slaterville and woody riparian communities along the banks of the Weber River and Warren Irrigation Canal. These areas provide suitable foraging and/or nesting habitat for migratory birds. The USFWS Environmental Conservation Online System (ECOS) identified three species under conservation agreement that are known to occur in Weber County: one amphibian species, Columbia spotted frog (*Rana luteiventris*); one bird species, greater sage-grouse (*Centrocercus urophasianus*); and

one fish species, Bonneville cutthroat trout (*Onchophynchus clarkii utah*). There is no suitable habitat in the survey area for greater sage-grouse. Potentially suitable habitat exists in the survey area for Columbia spotted frog and Bonneville cutthroat trout.

More details are provided in the *Biological Resources Evaluation* (HDR 2025a) that was prepared for the Project.

3.12.2 NO ACTION ENVIRONMENTAL EFFECTS

The No Action Alternative would have no effect on wildlife resources because no new construction activities would occur that would impact wildlife habitat.

3.12.3 PROPOSED ACTION ENVIRONMENTAL EFFECTS

Potentially suitable nesting and foraging habitat is available in the wooded area and riparian tree cover in the survey area near the Weber River and Warren Irrigation Canal. Tree removal would eliminate these areas as potential nesting and foraging habitat, and construction work would temporarily disturb nesting and browsing activities of avian species.

Columbia spotted frogs are highly aquatic and are rarely found far from permanent quiet water. Breeding typically occurs in small pools or ponds with little or no current surrounded by dense aquatic vegetation. Potentially suitable breeding habitat exists in the survey area along grassy parts of the banks of the Weber River. Fill in or disturbance to this area would eliminate this site as potentially suitable habitat for Columbia spotted frogs.

Habitat for Bonneville cutthroat trout ranges from high-elevation streams with coniferous and deciduous riparian trees, to low-elevation streams in sage-steppe grasslands containing herbaceous riparian zones, to lakes. Potentially suitable habitat exists in the Weber River. However, although this species is known to occur farther upstream in the Weber River, it is not known to occur in the survey area. Impacts to the stream channel could result in a loss of potentially suitable habitat.

The Proposed Action Alternative would construct a new diversion and pump station on the Weber River for discharge. Construction activities occurring near the Weber River could affect Bonneville cutthroat trout and Columbia spotted frogs. However, Bonneville cutthroat trout are known to occur farther upstream in the Weber River and are not known to occur in the survey area. Impacts to the stream channel could result in loss of potentially suitable habitat for Columbia spotted frogs.

3.12.3.1 MITIGATION MEASURES

WBWCD will ensure compliance with the Migratory Bird Treaty Act. Trees and shrubs will be removed during the non-nesting season (about August 1 to April 14). If removing trees and shrubs during this period is not possible, the contractor will arrange for preconstruction nesting surveys of the area that would be disturbed. The preconstruction surveys will be conducted by a qualified biologist no more than 10 days before ground-disturbing activities. The surveys will

determine whether active bird nests are present. If active nests are found, the construction contractor will coordinate to avoid impacts to migratory birds.

Disturbance to the Weber River that might cause sedimentation or removal of habitat will be limited to reduce impacts to potential habitat for Bonneville cutthroat trout and Columbia spotted frogs.

4.0 CONSULTATION AND COORDINATION

4.1 INTRODUCTION

The issue identification section of Chapter 1 identifies those issues that are analyzed in detail in Chapter 3. The issues were identified through the public and agency involvement process described below.

4.2 PERSONS, GROUPS, AND AGENCIES CONSULTED

Table 8 lists the persons, groups, and agencies that were coordinated with or consulted with when preparing this EA. Table 8 also summarizes the conclusions of the coordination and consultation.

Table 8. Coordination and Consultation

Name	Purpose and Authorities for Consultation or Coordination	Findings and Conclusions
Utah State Historic Preservation Office; Tribal Historic Preservation Office	National Historic Preservation Act Section 106	Reclamation determined a finding of **no historic properties affected**; the SHPO concurred on November 21, 2025 (see Appendix A, *Project Correspondence*).
U.S. Fish and Wildlife Service	Endangered Species Act Section 7	Reclamation determined a finding of **may affect, not likely to adversely affect** for Ute ladies'-tresses; the USFWS concurred on June 9, 2026 (see Appendix A).
Native American nations and tribal organizations	Executive Order 13175 Executive Order 13007	Tribal consultation letters were mailed on January 14, 2026, to the Northwestern Band of the Shoshone Nation, the Eastern Shoshone Tribe, and the Shoshone-Bannock Tribes of the Fort Hall Reservation to notify them of the undertaking and invite comment. No comments were received as of April 8, 2026.

4.3 LIST OF PREPARERS

The specialists listed in Table 9 and Table 10 assisted with preparing this EA.

Table 9. Reclamation Preparers and Reviewers

Name	Title	Responsible for the Following Section(s) of This Document
Wyatt Carter	Wildlife Biologist	Biologic and Ecologic Resources; Public Health and Safety
Maggie Erlick	Archaeologist	Project Coordination, Cultural Resources, and Indian Trust Assets
Bridget Navarro	Civil Engineer – Water Rights	Water Resources
Nason Saltsgaver	Wildlife Biologist	Biological and Ecological Resources
Mark Wimmer	Manager	NEPA Compliance and Oversight

Table 10. Other Preparers

Name	Organization	Title	Responsible for the Following Section(s) of This Document
Kevin Kilpatrick	HDR	Environmental Lead	EA preparation
Kate Wollman	HDR	Environmental Planner	EA preparation
Evan Blanford	HDR	Biologist	Waters of the United States, riparian areas, threatened and endangered species, and wildlife resources
Mike Perkins	HDR	Senior Biologist	Waters of the United States, riparian areas, threatened and endangered species, and wildlife resources
Amy Croft	HDR	Senior Biologist	Waters of the United States, riparian areas, threatened and endangered species, and wildlife resources
Lauren Cole	HDR	GIS	GIS data, figures, and analysis
Carrie Ulrich	HDR	Senior Technical Editor	Technical editing of EA and technical reports
Sheri Ellis	Certus Environmental Solutions, LLC	Archaeologist	Cultural resources
Parry Osborn	Hazen and Sawyer	Project Manager	Project design and oversight
Thayne Clark	Bowen Collins and Associates	Pipeline Design	Pipeline design

5.0 REFERENCES, GLOSSARY, AND ACRONYMS

5.1 REFERENCES CITED

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Kem C. Gardner Policy Institute

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5.2 LIST OF ACRONYMS

BMP	best management practice
CFR	*Code of Federal Regulations*
cfs	cubic feet per second
CO_2e	carbon dioxide equivalent
CWSID	Central Weber Sewer Improvement District
EA	environmental assessment
ECOS	Environmental Conservation Online System
EIS	environmental impact statement
ESA	Endangered Species Act
et seq.	and subsequent sections
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act of 1981
GHG	greenhouse gas
GIS	geographic information systems
I-15	Interstate 15
IPaC	Information for Planning and Consultation system
ITA	Indian Trust Asset
mgd	million of gallons per day
NEPA	National Environmental Policy Act of 1969
NRCS	Natural Resources Conservation Service
PER	preliminary engineering report
Project	Weber West Water Campus project
Reclamation	Bureau of Reclamation
SaRP	Sustainability and Resiliency Project
SHPO	State Historic Preservation Office
SR	state route
State Engineer	Utah Division of Water Rights, Office of the State Engineer
TMDL	total maximum daily load
U.S.	United States
UDDW	Utah Division of Drinking Water

UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation
UDWQ	Utah Division of Water Quality
UPDES	Utah Pollutant Discharge Elimination System
USACE	U.S. Army Corps of Engineers
USC	*United States Code*
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WBWCD	Weber Basin Water Conservancy District
WIFIA	Water Infrastructure Finance and Innovation Act
WWWC	Weber West Water Campus
WWWTP	Weber West Water Treatment Plant

APPENDIX A: PROJECT CORRESPONDENCE

SPENCER J. COX
Governor
DEIDRE M. HENDERSON
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES
Division of Water Rights

JOEL FERRY
Executive Director
TERESA WILHELMSEN
State Engineer/Division Director

NOV 2 2 2024

ORDER OF THE STATE ENGINEER

For Sewage Effluent Reuse Application Number NS028

Sewage Effluent Reuse Application Number NS028, in the name of Weber Basin Water Conservancy District (WBWCD) was filed on June 1, 2023. It is proposed to reuse 36.7 cubic feet per second (cfs) or 8,800 acre-feet per year of treated effluent water from the WBWCD treatment facility via Central Weber Sewer Improvement District (CWSID). The notification states that Water Right Numbers 31-2590, 31-3855, 35-828, 35-840, 35-1213 and 35-1214 are the basis for the proposed reuse. Under this notification, it is proposed to reuse the treated effluent water to deliver water to the Utah Division of Wildlife Resources Ogden Bay Waterfowl Management Area in satisfaction of the April 18, 1967 contract when natural flows are insufficient and deliver water to the Great Salt Lake through the Willard Bay Reservoir.

Notice of the application was published in the Standard Examiner on June 6, 2024 and June 13, 2024. No protests were received.

The State Engineer has reviewed the Reuse Application and the underlying water rights to ensure compliance with applicable statute. USA Bureau of Reclamation owns the underlying rights and contracts with WBWCD to supply water for municipal use within the service area of WBWCD. WBWCD is a public water supplier that delivers treated water to its municipal customers, which in turn discharge their wastewater to the CWSID. Therefore WBWCD qualifies for reuse in accordance with Utah Code § 73-3c-201. The State Engineer is left to determine the extent to which the proposal could allow the treated effluent water to be put to beneficial use consistent with, while not enlarging the underlying water rights.

The reuse application requires an evaluation of the depletion from the hydrologic system caused by the water reuse. The applicant's evaluation makes the statement that return flows from the water rights have always been reserved for WBWCD's uses and that none of the water rights have return flow requirements.

Under this application, effluent from CWSID will be delivered to WBWCD's new facility for final treatment. The treated effluent will be discharged to the Willard Canal, conveyed to Willard Bay Reservoir and blended with other WBWCD water that is stored in the reservoir. The treated effluent will yield up to 8,800 acre-feet of water with a dry year yield of 3,000 acre-feet. Effluent reuse discharge will be seasonal, operating for 121 days during the non-irrigation periods (mid-December through mid-April). This stored water can then be used to supply water to the Ogden Bay Waterfowl Management Area under the terms of a contract between the parties when flows of the river are insufficient. Water not used for the waterfowl management area would be included in the WBWCD delivery of Willard Bay water to the Great Salt Lake.

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ORDER OF THE STATE ENGINEER
Sewage Effluent Reuse Application Number
NS028

The following table lists the water rights and diversion amounts that support the contract water supplied to the entities that discharge to CWSID:[1]

Water Right	Owner	Application Number	Status	Diversion Flow (cfs)	Diversion (acre-feet)
31-2590	USA Bureau of Reclamation	A27651	Certificated	7.5[2]	-
31-3855	USA Bureau of Reclamation	A27658	Certificated	7.5	-
35-828	USA Bureau of Reclamation	a31534	Certificated	-	60,000
35-840	USA Bureau of Reclamation	a24881	Approved	7	-
35-1213	USA Bureau of Reclamation	a31534	Certificated	-	6,200

The following table documents the assumed volumetric diversions and depletions associated with the water rights supporting the application, as detailed in the application:

Water Right	Owner	Diversion (acre-feet)	Depletion (acre-feet)	Perfected (Y/N)
31-2590	USA Bureau of Reclamation	5,431	5,431	Y
31-3855	USA Bureau of Reclamation	5,431	5,431	Y
35-828	USA Bureau of Reclamation	60,000	60,000	Y
35-840	USA Bureau of Reclamation	5,071	5,071	N

[1] Rights with no diversion or depletion values were either certificated or approved for flow rates only. Rights with no flow rate values were certificated with volumetric diversion and depletion limitations only.
[2] Water rights 31-2590 and 31-3855 have been certificated for 10.0 cfs for municipal use. The applicant apparently only wishes to evidence this reuse application with a portion of this approved flow rate.

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35-1213	USA Bureau of Reclamation	6,200	6,200	Y
35-1214	USA Bureau of Reclamation	5,000	5,000	Y

WBWCD possesses perfected water rights that grant the opportunity to divert and deplete more than the 82,062 acre-feet. The applicant reports the quantity of water for this application as 36.7 cfs, but this value does not correspond with the State Engineer's records for these rights. The evidencing water rights are a combination of perfected storage rights (i.e. Water Right Numbers 35-828 and 35-1213), together with perfected underground rights (i.e. Water Right Numbers 31-2590 and 31-3855). Also included is Water Right Number 35-840[3], an application to appropriate, which permits the diversion of an additional 7 cfs of water for municipal use. The Division approached WBWCD to understand these figures and was provided a reuse feasibility report. Based on information in this report WBWCD supplies, on average, 11,556 acre-feet of treated water to nine water purchasing agencies that discharge water to CWSID facilities. The applicant calculated a projected annual discharge to the CWSID facility of 8,818 acre-feet. This value is calculated using average summer water purchases with deductions for water supplied for secondary irrigation and also incorporates a 5% depletion rate for indoor domestic usage. It should be noted by the applicant that the State Engineer commonly uses a depletion value of 20% for indoor domestic use unless actual measurements are provided to support a lower value.

It is evident that the applicant maintains the right to divert sufficient water such that 8,800 acre-feet of water may be available for reuse under their water rights. The applicant's rights permit the depletion of far in excess of this value.

The State Engineer has evaluated the underlying water rights for this Sewage Effluent Reuse Application and concludes, in accordance with Utah Code § 73-3c-302(5), that the reuse of water does not enlarge the underlying water rights and any return flow requirements of the underlying rights is satisfied.

It is noted that the proposed reuse water would have otherwise been discharged into a tributary of the Great Salt Lake. The State Engineer has determined that under Utah Code §73-3c-302(6), the applicant has submitted an adequate water replacement plan by proposing that the reuse water be delivered to Ogden Bay Bird Refuge or directly released from Willard Bay. The State Engineer concludes that an equivalent amount of water is being supplied to the Great Salt Lake and this reuse application meets the requirements of Utah Code § 73-3c-302(7).

[3] In 2023, 580 acre-feet was diverted from the North Weber Well and the Ben Lomand Golf Course Well which appear to be the only wells currently constructed that are authorized under 35-840. (North Weber Well 318.49 acre feet, Ben Lomand GC well 261.34 acre feet,)

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The applicant is responsible to maintain accurate records to determine: the amount of water diverted under the listed water rights; the amount of water delivered to CWSID[4] by WBWCD and the amount of water reused. Those records should be kept monthly and submitted to the State Engineer annually or as requested by the State Engineer to demonstrate that the applicant's use and reuse of the water are within the limits of the water rights. If this is done, the applicant's reuse of effluent should be consistent with and not enlarge the underlying water rights.

The State Engineer finds that the WBWCD Effluent Reuse Application is consistent with the water rights that provide its use, subject to certain limits proposed.

It is, therefore, the **CONCLUSION** of the State Engineer that the proposed use of treated effluent water under this notification is **CONSISTENT WITH** Water Right Numbers 31-2590, 31-3855, 35-828, 35-840, 35-1213 and 35-1214 subject to the conditions listed below:

1) This reuse application is limited to a maximum reuse amount of 8,800 acre feet of water from the CWSID as described in this application under Water Right Numbers 31-2590, 31-3855, 35-828, 35-840, 35-1213 and 35-1214.

2) Depletion for indoor domestic use is to be accounted at 20% of the diverted amount unless the applicant produces actual measurements that support a lower value.

3) It is the applicant's responsibility to determine the applicability of any other permits needed for this reuse project. Specifically, the applicant shall receive written authorization from the Water Quality Board in accordance with Utah Code § 73-3c-301.

4) The applicant shall construct or install and maintain controlling works and a measuring device as required by Utah Code § 73-5-4.

5) It is the sole responsibility of the applicant to collect all data documenting the water diverted under these water rights and all water reused under this application by metering. The applicant shall maintain monthly records to demonstrate that the depletion limitations have not been exceeded. The diversion and reuse data shall be reported annually to the **Division of Water Rights Water Use Program**. The costs of data collection and reporting are the sole responsibility of the applicant.

[4]The total amount of water diverted minus the amount of water delivered to the treatment plant by WBWCD is a representation of water depleted and available for reuse as part of the first time use. The applicant is only allowed to reuse water as long as the total depletion of the underlying water rights is not exceeded.

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ORDER OF THE STATE ENGINEER
Sewage Effluent Reuse Application Number
NS028

It is the applicant's responsibility to maintain a current address with this office and to update ownership of their water right. Please notify this office immediately of any change of address or for assistance in updating ownership. Additionally, if ownership of this water right or the property with which it is associated changes, the records of the Division of Water Rights should be updated. For assistance in updating title to the water right please contact the Division at the phone number below.

Your contact with this office, should you need it, is with the Weber River/West Desert Regional Office. The telephone number is 801-538-7240.

This Order is subject to the provisions of Utah Admin. Code R655-6-17 of the Division of Water Rights and to Utah Code §§ 63G-4-302, 63G-4-402, and 73-3-14 of the Utah Code which provide for filing either a Request for Reconsideration with the State Engineer or for judicial review with the appropriate District Court. A Request for Reconsideration must be filed in writing with the State Engineer within 20 days of the date of this Order. The written request shall be filed in-person, by mail, or electronically. If the request is filed electronically it shall be submitted to: waterrights@utah.gov, which is the authorized general email for the Division. However, a Request for Reconsideration is not a prerequisite to filing for judicial review. A petition for judicial review must be filed within 30 days after the date of this Order or, if a Request for Reconsideration has been filed, within 30 days after the date the Request for Reconsideration is denied. A Request for Reconsideration is considered denied when no action is taken 20 days after the Request is filed.

Dated this 22 day of NOVEMBER, 2024.

Teresa Wilhelmsen

Teresa Wilhelmsen, P.E., State Engineer

SCANNED SB

ORDER OF THE STATE ENGINEER
Sewage Effluent Reuse Application Number
NS028

Mailed a copy of the foregoing Order this 22 day of NOVEMBER, 2023 to:

Weber Basin Water Conservancy District
2837 East Hwy 193
Layton, UT 84040

USA Bureau of Reclamation
ATTN: Water Rights Specialist
302 East 1860 South
Provo, UT 84606-7317

Utah Division of Water Quality
PO Box 144870
Salt Lake City, UT 84114-4870

Division of Water Rights
Water Use Program

BY: _____
Garrett Hayes, Applications/Records Secretary

SCANNED SB

State of Utah

SPENCER J. COX
Governor

DEIDRE M. HENDERSON
Lieutenant Governor

Department of Natural Resources

JOEL FERRY
Executive Director

Utah Geological Survey
L. DARLENE BATATIAN
State Geologist/Division Director

July 10, 2025

Kevin Kilpatrick
HDR Engineering, Inc.
2825 E Cottonwood Parkway, Suite 200
Salt Lake City UT 84121-7077

RE: Paleontological file search and recommendations for the Weber Basin Water Conservancy District Western Weber Water Campus Project, Weber County, Utah.
U.C.A. 79-3-508 (Paleontological) Compliance; Request for Confirmation of Literature Search.

Dear Kevin:

I have conducted a paleontological file search for the Weber Basin Water Conservancy District Western Weber Water Campus Project in response to your request of July 10, 2025.

There are no fossil localities recorded in our files in this project area. Quaternary and Recent alluvial and lacustrine deposits that are exposed in these project locations and rights-of-way have a low potential for yielding significant fossil localities (PFYC 2). Unless fossils are discovered as a result of construction activities, this project should have no impact on paleontological resources.

If you have any questions, please call me at (801) 537-3311.

Sincerely,

Martha Hayden

Martha Hayden
Paleontological Assistant

Spencer J. Cox
Governor

Deidre M. Henderson
Lieutenant Governor

Donna Law
Interim Executive Director

Utah SHPO

Christopher Merritt
State Historic Preservation Officer
Utah State Historic Preservation Office

November 21, 2025

Rick Baxter
Area Manager
Bureau of Reclamation

RE: A Cultural Resource Assessment for the Weber West Water Campus Project, Weber County, Utah

For future correspondence, please reference Case No. 25-2149

Dear Rick Baxter,

The Utah State Historic Preservation Office received your submission and request for our comment on the above-referenced undertaking on November 14, 2025.

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

This letter serves as our comment on the determinations you have made within the consultation process specified in §36CFR800.4. If you have questions, please contact me at (801) 535-2502 or by email at rmcgrath@utah.gov.

Sincerely,

Ryan P McGrath

Ryan McGrath
Compliance Archaeologist

United States Department of the Interior

BUREAU OF RECLAMATION
Provo Area Office
302 East Lakeview Parkway
Provo, UT 84606

IN REPLY REFER TO:
49-630-3
2.1.1.04

VIA ELECTRONIC SUBMISSION ONLY

Christopher Merritt, Ph.D.
State Historic Preservation Officer
Utah State Historic Preservation Office
3760 South Highland Drive
Millcreek, Utah 84106

Subject: Cultural Resource Assessment for the Weber West Water Campus Project – Weber County, Utah – Request for SHPO Concurrence – PRO-EA-FY26-003 – Bipartisan Infrastructure Law – State Historic Preservation Office Project No. U25HY0191

Dear Dr. Merritt:

In compliance with 36 CFR 800, Section 106 of the National Historic Preservation Act of 1966, and all other applicable laws, regulations, and directives that are pertinent to this federal undertaking, the Bureau of Reclamation, Provo Area Office, is initiating consultation with you regarding the above-referenced project in Weber County, Utah.

Reclamation proposes to provide federal funding to the Weber Basin Water Conservancy District (WBWCD) to support improvements to their water system to enhance sustainability and resiliency. The proposed undertaking consists of installing new pipelines and constructing a water reuse facility in Marriott-Slaterville, Weber County, Utah.

The Area of Potential Effect (APE) includes approximately 113.8 acres within portions of T. 6 N., R. 2 W., sec. 10, 13, 14, 15, 20, 21, 22, 23, on private and municipal land. The APE represents the maximum extent of anticipated ground disturbance associated with the proposed undertaking.

Certus Environmental Solutions (Certus) conducted a search of Utah State Historic Preservation Office (SHPO) online records on September 10, 2024, and March 16, 2025, covering a 1/2-mile buffer around the survey area. The search identified 25 prior inventories in the vicinity, eleven of which included portions of the current survey area, including a 2024 survey by Logan Simpson that covered nearly the entire block area.

SHPO records indicate 14 previously reported archaeological sites within the search area, five of which are located wholly or partially within the current survey area: 42WB348 (Union Pacific Railroad Lucin Cutoff), 42WB451 (Willard Canal), 42WB480 (Warren Canal System), 42WB484 (South Slaterville Canal), and 42WB600 (Unnamed channelized slough). A sixth site (42WB495) is mapped as extending into the survey area; however, Certus confirmed that the actual site is limited to a bridge situated outside the survey area.

Certus also reviewed historical maps and aerial imagery, which suggested additional historical linear features, particularly canals and irrigation ditches, may be present though previously undocumented. Intensive-level survey methods (sub-15-meter pedestrian transect spacing) were applied to identify cultural resources. Date(s) of Fieldwork: September 23–24 and October 13, 2024, and March 20, 2025.

The survey identified eight archaeological sites and one isolated find. Sites and NRHP eligibility recommendations are summarized below.

Site #	Description	NRHP Eligibility Recommendation
42WB348	Union Pacific Railroad Lucin Cutoff	Eligible
42WB442	Taylor Canal System Willard Canal	Not eligible
42WB451	Willard Canal	Eligible
42WB480	Warren Canal	Eligible
42WB484	South Slaterville Canal	Eligible
42WB553	South Branch West Weber Canal	Not eligible
42WB600	Unnamed Channelized Slough	Not eligible
42WB604	North Slaterville Canal	Not eligible

Based on this Class III inventory and supporting research, and because any ground disturbance associated with the project will be replaced in kind, Reclamation has determined a finding of No Historic Properties Affected.

Reclamation invites your review and welcomes any comments or concerns you may have regarding the proposed undertaking, particularly in relation to historic properties or properties of religious or cultural significance.

Thank you for your continued involvement in the Section 106 process. If you have any questions, please contact Mrs. Maggie Erlick at (801) 379-1170 or by email at merlick@usbr.gov. For the deaf, hard of hearing, or speech impaired, please dial 7-1-1 to access the telecommunication relay system.

Sincerely,

Digitally signed by RICK BAXTER
Date: 2025.10.28 14:27:44 -06'00'

Rick Baxter
Area Manager

Enclosures: Project Overview Map

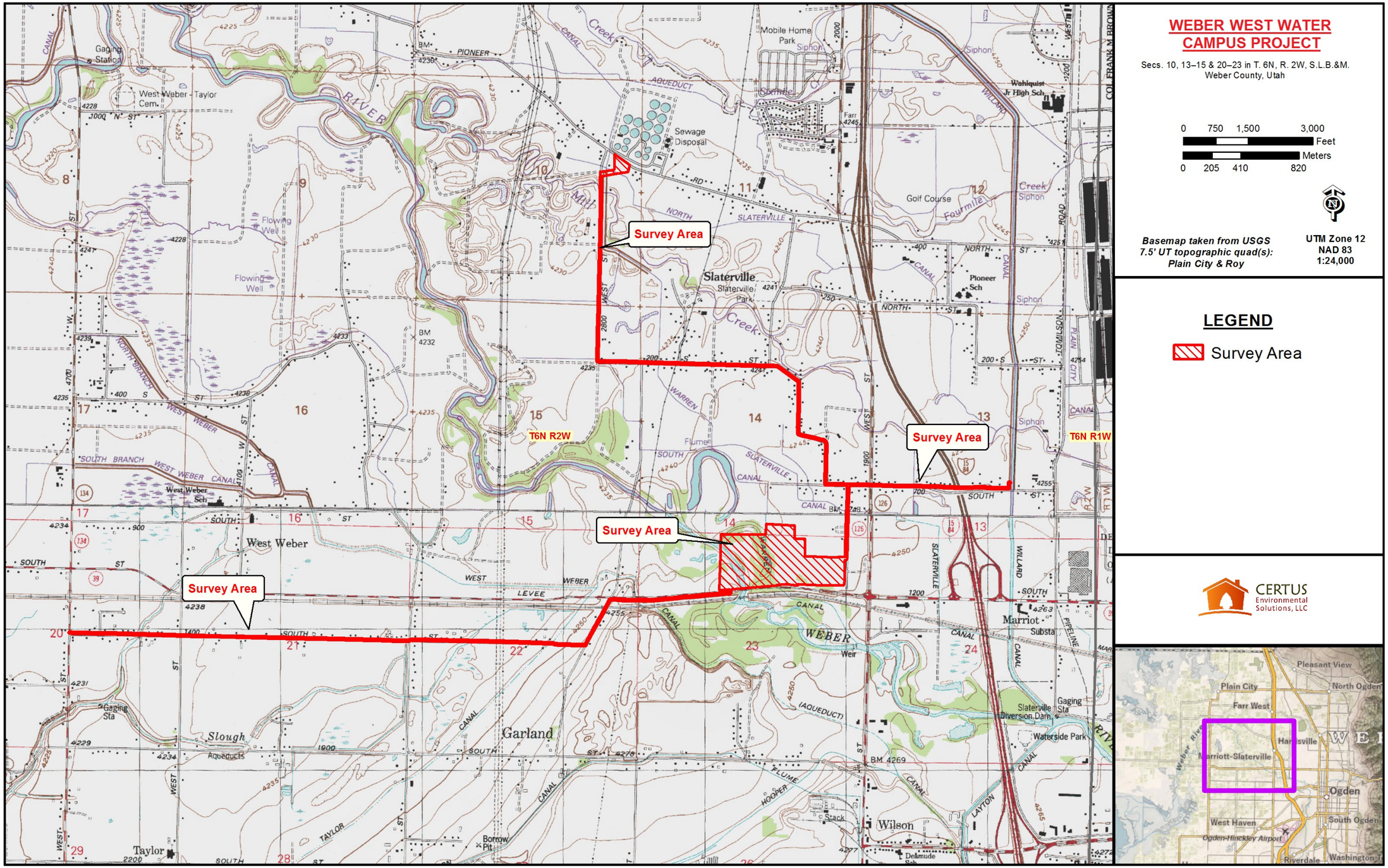


Figure 2. Location cultural resources survey area; Topographic Map

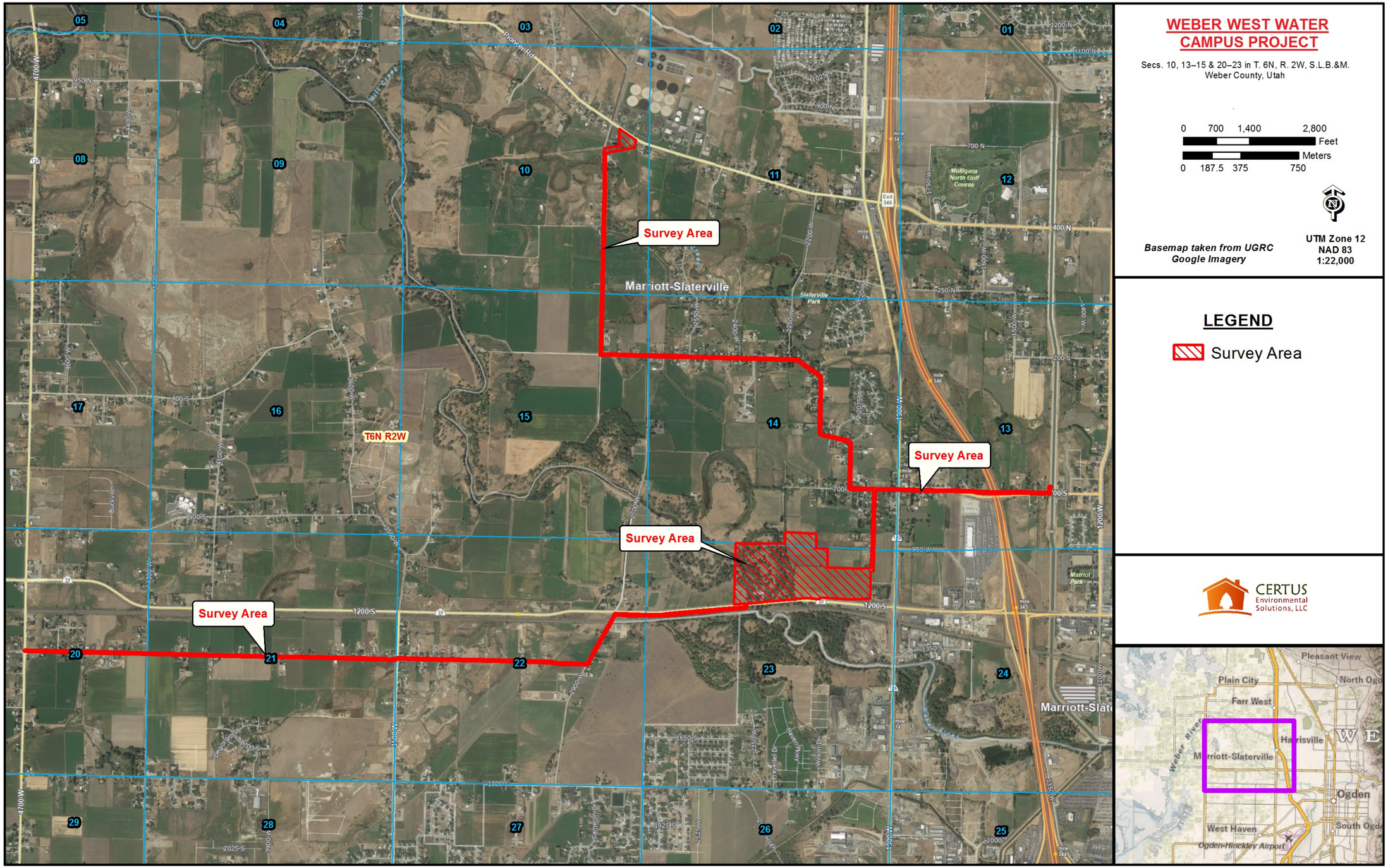


Figure 3. Location of cultural resources survey area; Aerial Map

The U.S. Fish and Wildlife Service concurs with your determination that the proposed action *may affect, andis not likely to adversely affect:*
Species: Ute ladies-tresses (*Spiranthes diluvialis*)

Critical Habitat: N/A

The proposed action is expected to be:
Insignificant X_ Discountable X_ Beneficial _

The U.S. Fish and Wildlife Service concurs with your determination that the action is *not likely tojeopardize the continuing existence of:*
Species: Monarch butterfly (*Danaus plexippus*), Suckley's cuckoo bumble bee (*Bombus suckleyi*)

RITA REISOR
Digitally signed by RITA REISOR
Date: 2026.06.09 08:52:36 -06'00'

U.S. Fish and Wildlife Utah Field Supervisor (Acting)

Office Code: 06E23000 Project Code: 2025-0135830

Biological Assessment

Weber West Water Campus

Lead agency:
Weber Basin Water Conservancy District

May 28, 2026

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Attachments

Attachment A. IPaC Report
Attachment B. Ute Ladies'-tresses Habitat Evaluation and Survey Report

Abbreviations

CFR	*Code of Federal Regulations*
CWSID	Central Weber Sewer Improvement District
EA	environmental assessment
ESA	Endangered Species Act
GIS	geographic information systems
IPaC	Information, Planning, and Conservation System
IPaC	Information, Planning, and Conservation System
mgd	million gallons per day
Project	Weber West Water Campus project
PUP	Pesticide Use Permit
Reclamation	Bureau of Reclamation
ssp.	subspecies
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WBWCD	Weber Basin Water Conservancy District
WWWC	Weber West Water Campus
WWWTP	Weber West Water Treatment Plant

1 Introduction

The Weber Basin Water Conservancy District (WBWCD) is preparing an environmental assessment (EA) to evaluate the Weber West Water Campus (WWWC) project (the Project). The Project would include developing a water treatment facility to enhance water recovery and storage in Weber County as well as a drinking water treatment plant to ensure a safe potable water supply. Supporting infrastructure, such as pipelines and pump stations, would also be installed to allow transferring water between facilities.

The purpose of the Project is to support population growth and increased water demands in western Weber County and meet instream flow requirements for the Weber River.

This biological assessment analyzes the expected effects on listed species and/or their designated and proposed critical habitat from the Project under the provisions of the federal Endangered Species Act (ESA). The Project is receiving funds from the Bureau of Reclamation (Reclamation) and the U.S. Environmental Protection Agency (USEPA) and requires Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) for federal actions.

2 Project Description

The Project would meet WBWCD's objectives for meeting increased water demands in western Weber County and instream flow requirements for the Weber River. The WWWC and all pipelines except the Weber West Water Treatment Plant (WWWTP) Finished Water Pipeline would be located in Marriott-Slaterville. The WWWTP Finished Water Pipeline would extend into unincorporated Weber County. The road rights-of-way described below are for Marriott-Slaterville and Weber County.

The Proposed Action Alternative includes the following elements:

- **New WWWC Site and Facilities**
  - The Renew facility would treat effluent from the Central Weber Sewer Improvement District (CWSID) plant by removing nutrients, nitrogen, and phosphorus from the water. The treated water would then be discharged to Willard Canal for storage in Willard Bay during the winter months. The treated water could then be released from Willard Bay during the summer through Willard Canal back into the Weber River to meet instream flow requirements in the Weber River. The design treated water flow capacity for the Renew facility is for an average flow of 10 million gallons per day (mgd).
  - The WWWTP would treat raw water from the Weber River and distribute the treated drinking water to western Weber County. The initial design treated water flow capacity is 5 mgd; the ultimate-expansion capacity is 10 mgd.
- **New Pipeline, Pump Station, and Diversion Facilities**
  - The Renew Raw Water Pipeline would be an up to 36-inch-diameter pipe that extends about 15,500 linear feet. It would convey treated effluent from the CWSID plant to the Renew facility. A new pump station for this pipeline would be

constructed south of the CWSID plant across Pioneer Road on a parcel currently owned by CWSID (this parcel is anticipated to be purchased by WBWCD).

- The pipeline would begin at the CWSID plant and would be aligned on the following rights-of-way before reaching the WWWC. From the CWSID plant, the pipeline would go west through private property and connect to a local road right-of-way on 2800 West (all local roads in the Project area are owned by Weber County or Marriott-Slaterville City). Then, it would turn south using the 2800 West right-of-way, turn east using the 200 South right-of-way, turn south using the 2100 West right-of-way, turn east using the 500 South right-of-way, turn south using the 2050 West right-of-way, turn east using the 700 South right-of-way, and finally turn south using the 2000 West right-of-way, where it would connect to the Renew facility on the WWWC.

- The Renew Finished Water Pipeline would be an up to 36-inch-diameter pipe that extends about 6,300 linear feet. It would convey treated water from the Renew facility to Willard Canal.
  - This pipeline would begin at the Renew facility, go north using the 2000 West right-of-way (using the same trench as the raw water pipeline), turn east using the 700 West right-of-way, cross under Interstate 15, and discharge into Willard Canal north of 700 South.
- The Renew Denite Filter to Waste Pipeline would be an up to 36-inch-diameter pipe that extends about 2,000 linear feet. It would convey treated off-spec wastewater from the Renew denitrification filter to the Weber River.
  - The pipeline would go west from the Renew facility and discharge into the Weber River downstream of the WWWTP raw water diversion.
- The WWWTP Raw Water Pipeline would be an up to 36-inch-diameter pipe that extends about 1,200 linear feet. It would convey raw water from the Weber River to the WWWTP. A diversion structure would be constructed in or adjacent to the Weber River to provide a source of water for this pipeline. A new pump station for this pipeline would be constructed on the east or west side of the Weber River (the final location would be determined based on property acquisition and negotiation).
  - The pipeline would begin at the new diversion and pump station on the Weber River and go east to the WWWTP on the north side of 1200 South.
- The WWWTP Finished Water Pipeline would be an up to 36-inch-diameter pipe that extends about 18,500 linear feet. It would convey treated drinking water from the WWWTP to western Weber County connecting to WBWCD's existing distribution system.
  - The pipeline would begin at the WWWTP and go west using the 1200 South right-of-way (crossing from the north side to the south side of 1200 South, west of the Weber River), turn south using the 2900 West right-of-way, and turn west using the 1400 South right-of-way to 4700 West, where it would connect to an existing WBWCD 16-inch-diameter pipeline.

        - A valve vault for the WWWTP Finished Water Pipeline would be installed at the southwest corner of 1400 South and 2900 West.
    - The WWWTP Reverse Osmosis Concentrate Pipeline would be an up to 30-inch-diameter pipe that extends about 1,300 linear feet. It would convey concentrate from the WWWTP's reverse osmosis process to the Weber River.
        - The pipeline would go west from the WWWTP and discharge into the Weber River downstream of the WWWTP raw water diversion.
    - The WWWC Stormwater Pipeline would be an up to 30-inch-diameter pipe that extends about 2,000 linear feet. It would convey collected stormwater from the WWWC to the Weber River.
        - The pipeline would go west from the WWWC and discharge into the Weber River downstream of the WWWTP raw water diversion.
    - The WWWC Utility Water Pipeline would be an up to 6-inch diameter pipe that would convey water from the WWWC to the Weber River diversion structure.
    - Fiber optic/communication and power utility lines would also connect the WWWC to the utility grids, most likely from 2000 West or 1200 South. Existing water and sewer utility infrastructure is located in the 2000 West right-of-way and would connect to the east side of the WWWC.

2.1 Construction

The Project could begin in 2026 and be completed by 2029.

2.2 Ute Ladies'-tresses (*Spiranthes diluvialis*) Avoidance and Minimization Measures

WBWCD commits to the following avoidance and minimization measures to avoid or minimize impacts to Ute ladies'-tresses from the Project:

1. The Project has been designed to avoid any direct disturbance to any potentially suitable habitat for Ute ladies'-tresses.
2. Temporary construction fencing will be installed to delineate areas where construction activities will occur and to prevent surface disturbances beyond the fence perimeter.
3. Erosion and sediment controls (silt fence, silt sock, etc.) will be placed prior to construction within 50 feet of suitable habitat.
4. If erosion and sediment controls are damaged or destroyed, they will be repaired or replaced before construction or equipment use resumes.
5. WBWCD will conduct 2 more years of clearance surveys for Ute ladies'-tresses (2026 and 2027). All surveys will be conducted according to the *U.S. Fish and Wildlife Service (USFWS) Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed, and Candidate Plants* (USFWS 2011) and the revised version of the 1992 *Interim Survey Requirements for Ute Ladies'-tresses Orchid (Spiranthes diluvialis)* (USFWS 2017a).

6. The action agency will reinitiate Section 7 consultation with USFWS immediately if any loss of plants or occupied habitat for Ute ladies'-tresses is anticipated as a result of Project activities.
7. The action agency will submit a postconstruction final report to USFWS that will include a final calculation of any Ute ladies'-tresses suitable habitat impacted by the Project.
8. Project design will avoid altering site hydrology and concentrating water flows and/or sediments into or out of occupied habitat.
9. Equipment and vehicles will stay in approved areas and on designated routes.
10. To prevent spreading seeds from noxious and invasive species, vehicles and equipment will be power-washed before entering areas within 300 feet of suitable Ute ladies'-tresses habitat or when moving between infested areas.
11. No aerial or broadcast herbicide treatments will be applied for vegetation management within 500 feet of suitable or occupied Ute ladies'-tresses habitat.
12. For noxious weed treatment within 500 feet of suitable or occupied habitat, spot treatments (that is, using backpack sprayers) or manual weed removal will be used, and the following restrictions apply to the use of herbicides:
    a. No herbicide shall be applied within suitable or occupied Ute ladies'-tresses habitat during the blooming period (July–September).
    b. A Pesticide Use Permit (PUP) shall be approved through authorizing federal or state agency.
    c. Treatments shall not be done when wind speeds exceed 6 miles per hour.
    d. Drift-reducing agents shall be used when practical.
    e. A reduced application rate shall be used.
    f. Pump pressure shall be reduced per label instructions.
    g. Droplet size shall be increased to the largest size possible while still effectively covering the target vegetation. This could be accomplished using larger nozzles or reduced pressure.
    h. Herbicides shall be stored in spill-proof containers away from special-status plant habitats.
    i. Herbicide containers, such as backpack sprayers, shall be filled off site and with secondary spill containment in place (such as a plastic bucket or tray).

3 Project Action Areas

The ESA regulations define a project action area as all areas that would be affected directly or indirectly by the federal action (50 *Code of Federal Regulations* [CFR] Section 402.02). In this biological assessment, specific action areas are defined for federally listed plants, wildlife, and insects because not all impacts from construction and operation would occur equally across these taxa. The action areas for the plants, birds, and insects evaluated in the following sections are described below.

- **Plants.** The *U.S. Fish and Wildlife Service (USFWS) Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed, and Candidate Plants* (USFWS 2011) stipulates that a 300-foot buffer be applied to a project footprint to account for potential indirect impacts to plants. Therefore, the action area for plants consists of the Project's footprint plus a 300-foot buffer.
- **Birds.** The action area for birds consists of the Project's footprint plus a 0.5-mile buffer.
- **Insects.** The action area for insects consists of the Project's footprint.

The action area for the Project is part of the Moist Wasatch Front Footslopes subregion of the Central Basin and Range Ecoregion (Woods and others 2001). This subregion supports most of Utah's population and commercial activity and is fed by perennial streams and aqueducts that originate in the Wasatch Range. The action area for the Project is located the Lower Weber watershed, hydrologic unit code 16020102 (USGS 2025). Three named aquatic features cross the survey area: the Weber River, the Warren Canal, and the Slaterville Canal. Waters in the survey area drain toward the Great Salt Lake.

The action area for the Project consists primarily of road shoulders. It also crosses an alfalfa (*Medicago sativa*) field north of 1200 South, a wooded area near the Weber River north of 1200 South, a pasture south of Pioneer Road, a small wetland on 1400 South, and woody riparian communities along the banks of the Weber River and the Warren Canal.

Upland plant species observed in the action area include smooth brome (*Bromus inermis*), Woods' rose (*Rosa woodsia*), Canada thistle (*Cirsium arvense*), Scotch cottonthistle (*Onopordum acanthium*), Fuller's teasel (*Dipsacus fullonum*), cheatgrass (*Bromus inermis*), field bindweed (*Convolvulus arvensis*), alfalfa, rubber rabbitbrush (*Ericameria nauseosa*), whitetop (*Cardaria draba*), common mallow (*Malva neglecta*), fivehorn smotherweed (*Bassia hyssopifolia*), curlycup gumweed (*Grindelia squarrosa*), foxtail barley (*Hordeum jubatum*), strawberry clover (*Trifolium fragiferum*) and mountain rush (*Juncus articus* ssp. *littoralis*).

The wetland on 1400 South is dominated by broadleaf cattail (*Typha latifolia*) and hardstem bulrush (*Schoenoplectus acutus*).

Plant species observed in the riparian corridor along the Weber River and the Warren Canal include narrowleaf willow (*Salix exigua*), saltcedar (*Tamarix ramosissima*), Russian olive (*Elaeagnus angustifolia*), boxelder (*Acer negundo*), peachleaf willow (*Salix amygdaloides*), Fremont cottonwood (*Populus fremontii*), western goldentop (*Euthamia*

occidentalis), and crack willow (*Salix fragilis*). Milkweed plants (*Asclepias* spp.) were also observed growing in the action area.

4 Federally Listed Species Considered

USFWS's Information, Planning, and Conservation System (IPaC) website was used to obtain a list of federally threatened, endangered, or candidate species that might occur in the action areas and/or might be affected by the Project (USFWS 2026a). The IPaC reports for each bridge are provided as Attachment A, *IPaC Report*.

The IPaC report identified two federally listed species that might occur in the action area and/or might be affected by the Project: one bird species, yellow-billed cuckoo (*Coccyzus americanus*), and one plant species, Ute ladies'-tresses. The IPaC report also identified two insect species that are proposed to be listed under the ESA: monarch butterfly (*Danaus plexippus*) and Suckley's cuckoo bumble bee (*Bombus suckleyi*). The action area does not include designated or proposed critical habitat for any of these species.

Table 1 describes the preferred habitat for each species. Biologist conducted field surveys for wildlife; vegetation; rare, threatened, and endangered species; and aquatic resources on October 21 and 23, 2024, and May 21, June 12, and July 22, 2025.

4.1 Species Dismissed from Further Consideration

Yellow-billed cuckoo was eliminated from further evaluation because habitat surveys found no suitable habitat for this species in the action area for birds. Consequently, the Project would have **no effect** on yellow-billed cuckoo.

Potentially suitable habitat for monarch butterfly was identified in the action area for insects; however, the proposed critical habitat for this species is outside this action area. For this reason, the Project would not jeopardize the continued existence of monarch butterflies.

Potentially suitable nesting and foraging habitat for Suckley's cuckoo bumble bee was identified in the action area for insects. However, critical habitat has not been proposed for this species, and it has not been observed in the United States since 2016 (USFWS 2024a). Given the broad nature of potentially suitable nesting and foraging habitat, the lack of observations in the United States, and the fact that critical habitat has not been proposed, the Project would not jeopardize the continued existence of Suckley's cuckoo bumble bees.

4.2 Species Carried Forward for Evaluation

Potentially suitable habitat for Ute ladies'-tresses was identified in the action areas for plants. Therefore, this species has a potential to occur in or near this action area and is carried forward for evaluation in this biological assessment.

Table 1. Federally Listed Species That Might Occur in the Action Area and/or Might Be Affected by the Proposed Action Alternative

Common Name[a] (Scientific Name)/ Federal Status	Preferred Habitat[b]	Critical Habitat Present?[c]	Suitable Habitat Present?
Birds			
Yellow-billed cuckoo (*Coccyzus americanus*)/ Threatened	Yellow-billed cuckoos prefer to nest in tall cottonwood and willow riparian woodland with dense understory foliage. They prefer patches of at least 25 acres of dense riparian forest with a canopy cover of at least 50% in both the understory and overstory. USFWS's suitable habitat guidelines for this species for Utah require patches of multilayered vegetation that are at least 12 acres in extent and at least 100 meters (328 feet) wide by 100 meters long (USFWS 2017b).	Final critical habitat has been designated for this species. The action area is outside the critical habitat.	There is no suitable habitat in the action area or within a 0.5-mile radius. The existing riparian vegetation does not meet habitat size requirements.
Insects			
Monarch butterfly (*Danaus plexippus*)/ Proposed Threatened[d]	In the spring, summer, and early fall, monarch butterflies can be found wherever there are milkweeds in fields, meadows, and parks. They overwinter in the cool, high mountains of central Mexico and woodlands in central and southern California. Milkweed (*Asclepias* spp.) is an essential feature of quality monarch habitat. Female monarch butterflies lay their eggs on the underside of young leaves or flower buds of milkweed. Common places milkweed occurs include short- and tall-grass prairies, livestock pastures, agricultural margins, roadsides, wetland and riparian areas, sandy areas, and gardens. In addition to milkweed, other nectar sources, trees for roosting, and close proximity to water are key components of monarch habitat (Western Association of Fish and Wildlife Agencies 2019).	Critical habitat has been proposed for this species. The action area is outside the critical habitat.	Potentially suitable habitat exists in the action area. Milkweed plants were observed during the field survey.
Suckley's cuckoo bumble bee (*Bombus suckleyi*)/ Proposed Endangered[d]	Suckley's cuckoo bumble bee is an obligate parasitic species that is entirely dependent on the workers of host colonies to raise their young. Suckley's cuckoo bumble bee has two confirmed hosts, the western bumble bee (*Bombus occidentalis*) and the Nevada bumble bee (*Bombus nevadensis*); the western bumble bee is the most widely known host. Western bumble bees are known to nest primarily in underground cavities and abandoned animal burrows more often than they do in aboveground structures. Suckley's cuckoo bumble bee has a broad distribution across North America, primarily in the western half of the United States and the Yukon of Canada. It has been found between 6 and 10,500 feet in elevation in various habitat types including prairies, grasslands, meadows, woodlands, forests, croplands, and urban areas from 6 to 10,500 feet in elevation. Suckley's cuckoo bumble bees require a diversity of native floral resources (pollen and nectar) for nutrition (USFWS 2024a).	Critical habitat has not been designated for this species.	Potentially suitable habitat exists in the action area. The area offers potential nesting sites and diverse native floral resources for foraging.

(*Continued on next page*)

Table 1. Federally Listed Species That Might Occur in the Action Area and/or Might Be Affected by the Proposed Action Alternative

Common Name[a] (Scientific Name)/ Federal Status	Preferred Habitat[b]	Critical Habitat Present?[c]	Suitable Habitat Present?
Plants			
Ute ladies'-tresses (*Spiranthes diluvialis*)/ Threatened	This white-flowered orchid is found below 7,000 feet in elevation in moist to very wet meadows, along streams, in abandoned stream meanders, and near springs, seeps, and lake shores where competition for light, space, water, and other resources is normally kept low by periodic or recent disturbance. Ute ladies'-tresses are also known to occur in seasonally flooded river terraces, subirrigated or spring-fed abandoned stream channels and valleys, and lake shores. Populations have also been observed along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside barrow pits, reservoirs, and other human-modified wetlands (Fertig and others 2005).	Critical habitat has not been designated for this species.	A total of 0.57 acre of potentially suitable habitat was identified in an irrigated pasture meadow within the 300-foot buffer around the action area.

[a] Sources: Species list from USFWS 2026a

[b] Sources: Audubon, no date; Cornell Lab of Ornithology 2019; NatureServe, no date; UDWR, no date; Utah Native Plant Society, no date; and recovery plans found in the USFWS Environmental Conservation Online System (USFWS 2026b)

[c] "Critical habitat" is a term defined in the ESA (Section 3(5)(A)); it refers to specific areas that contain physical or biological features that are essential to the conservation of a species and that might need special management or protection.

[d] A "proposed" species is any species that USFWS has determined is likely to become endangered within the foreseeable future throughout all or a significant portion of its range or is in danger of extinction throughout all or a significant portion of its range, and USFWS has proposed a draft rule to list the species as threatened or endangered. Proposed species are not protected by the take prohibitions of Section 9 of the ESA until the rule to list is finalized. Under Section 7(a)(4) of the ESA, "Federal agencies must confer with the [USFWS] if their action will jeopardize the continued existence of a proposed species" (USFWS 2026c).

5 Environmental Baseline

5.1 Ute Ladies'-tresses Biology

5.1.1 Description

Ute ladies'-tresses are a perennial, terrestrial orchid with erect stems that are 4 to 23 inches tall and arise from tuberous, thickened roots. Basal leaves are narrow, linear, and about 11 inches long, with leaves that become progressively smaller up the stem (Fertig and others 2005; USFWS 1992). Flowers consist of 3 to 15 small, white or ivory-colored flowers clustered into a 1-to-6-inch spike at the top of the stem. The plants typically bloom from early July through late October (Fertig and others 2005). Ute ladies'-tresses are thought to reproduce exclusively by seed. The life cycle of Ute ladies'-tresses consists of four stages: seedling, dormant, vegetative, and reproductive (flowering or fruiting) (Fertig and others 2005).

5.1.2 Status and Trends

Ute ladies'-tresses were listed as threatened under the ESA on January 17, 1992 (57 *Federal Register* 2048). At the time of listing, the species was reported from 10 existing populations and 7 historic locations known in Colorado, Nevada, and Utah. The species was considered vulnerable to extinction from habitat loss and modification, small population size, and low reproductive rate. Since 1992, the known range has expanded to include Idaho, Montana, Nebraska, Washington, and Wyoming and includes nearly 100 different locations (Fertig and others 2005).

At the time of listing, existing populations of Ute ladies'-tresses in Utah were found in Daggett, Duchesne, Garfield, Uintah, Utah, and Wayne Counties, and historical occurrences were known from Salt Lake, Tooele, and Weber Counties (Fertig and others 2005). These populations were dispersed across 10 different watersheds (Duchesne, Escalante, Fremont, Jordan, Lower Green, Lower Weber, Southern Great Salt Lake Desert, Spanish Fork, Upper Green–Flaming Gorge Reservoir, and Utah Lake). Since 1992, a dozen new sites have been documented along the Wasatch Front and in the Uinta Basin. These sites extend the known range of Ute ladies'-tresses into Wasatch County and the Ashley-Brush, Provo, and Strawberry watersheds (Fertig and others 2005).

A draft recovery plan was written for this species in 1995 but has not been finalized (USFWS 1995). USFWS has recommended that Ute ladies'-tresses be delisted as of August 2023 (USFWS 2023).

5.1.3 Habitat

The *Species Status Assessment Report for Ute Ladies'-tresses (Spiranthes diluvialis)* (USFWS 2024b) describes adequate soil moisture, direct sunlight, pollinators, and mycorrhizae as critical needs for Ute ladies'-tresses. Adequate soil moisture can come from surface or subsurface water, but it needs to provide a year-round hydrologic regime that supplies consistent soil moisture without prolonged inundation. Direct sunlight is also a critical need for Ute ladies'-tresses in aboveground life stages. An open canopy,

characteristic of early to mid-seral stage successional habitats, is needed to provide direct sunlight. Habitat maintained in an early to mid-seral successional stage is typically achieved by some sort of disturbance such as flooding events, livestock grazing, and/or agricultural mowing; however, overly frequent disturbance is detrimental to Ute ladies'-tresses.

Additionally, because Ute ladies'-tresses flower for only a short time and in unpredictable numbers each year, the species needs to be part of a larger flowering plant community to maintain pollination needs. Finally, the presence of soil mycorrhizae is a critical need for Ute ladies'-tresses. Little is known about the appropriate species of fungi needed to form mycorrhizal associations with Ute ladies'-tresses, but they likely depend on specific soil types, soil moisture, and the surrounding plant community.

Ute ladies'-tresses are known to grow in moist meadows associated with perennial stream terraces, alluvial banks, floodplains, and oxbows where vegetation cover is relatively open and not overly dense, overgrown, or overgrazed (Fertig and others 2005; USFWS 1992). A few populations are found in riparian woodlands, but the orchid seems generally intolerant of shade and prefers open, grass- and forb-dominated sites (USFWS 1995). Associated vegetation typically falls into the facultative wetland vegetation classification category (USFWS 2017a). Facultative wetland plants usually grow in wetlands but can grow in non-wetlands (Lichvar and others 2012). Ute ladies'-tresses populations can be found at elevations up to 7,000 feet in Utah (Fertig and others 2005; USFWS 2017a).

Over one-third of all known Ute ladies'-tresses populations are found on perennial stream features including alluvial banks, point bars, floodplains, or oxbows. These sites are subject to periodic floods that rework stream features and create early successional conditions that are beneficial to the establishment and persistence of Ute ladies'-tresses. Most streamside populations are dominated by perennial graminoids and forbs, particularly creeping bentgrass (*Agrostis stolonifera*), quackgrass (*Elymus repens*), mountain rush (*Juncus arcticus* ssp. *littoralis*), and smooth horsetail (*Equisetum laevigatum*) (Fertig and others 2005).

Ute ladies'-tresses are also known to grow on seasonally flooded river terraces, in subirrigated or spring-fed abandoned stream channels and valleys, and on lake shores. Populations have also been observed along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside barrow pits, reservoirs, and other human-modified wetlands (Fertig and others 2005).

5.2 Ute Ladies'-tresses Survey Methodology

5.2.1 Habitat Suitability Surveys

Habitat Evaluation

Geographic information systems (GIS) software was used to develop suitable habitat polygons for Ute ladies'-tresses in the action area for plants. Biologists used tablets equipped with the ESRI data-collection application ArcGIS Field Maps for both field navigation and data entry. ArcGIS Field Maps included data layers for aerial images, the action area for plants, and the USFWS Ute ladies'-tresses range map. All areas where

the USFWS range map and the action areas overlap were visually inspected to confirm whether these areas displayed characteristics consistent with the criteria for suitable Ute ladies'-tresses habitat described above in Section 5.1.3, *Habitat*, and the revised version of the 1992 *Interim Survey Requirements for Ute Ladies'-tresses Orchid (Spiranthes diluvialis)* (USFWS 2017a). The following habitat types do not qualify as Ute ladies'-tresses habitat (USFWS 2017a):

- Sites above 7,000 feet in elevation
- Sites that are highly disturbed or modified, such as highway rights-of-way built on compacted soils or rock fill, rock or soil fills with steep back slopes, active construction sites, or landscaped bluegrass lawns
- Upland sites
- Sites entirely inundated by standing water
- Sites composed entirely of heavy clay soils
- Very saline sites such as dense monospecific stands of saltgrass (*Distichlis spicata*)
- Sites composed entirely of dense stands of reed canarygrass, tamarisk (*Tamarix* species), greasewood (*Sarcobatus vermiculatus*), teasel (*Dipsacus sylvestris*), or common reed (*Phragmites australis*)

Polygons were mapped around areas that met the criteria for suitable habitat for Ute ladies'-tresses. The habitat evaluations were conducted on October 21 and 23, 2024, and May 21, June 12, and July 22, 2025.

5.2.2 Clearance Surveys

After identifying and mapping the suitable habitat, biologists performed clearance surveys to determine whether Ute ladies'-tresses were present or absent in the suitable habitat polygons in the action area for plants. The clearance surveys were conducted according to the *U.S. Fish and Wildlife Service (USFWS) Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed, and Candidate Plants* (USFWS 2011) and the revised version of the 1992 *Interim Survey Requirements for Ute Ladies'-tresses Orchid (Spiranthes diluvialis)* (USFWS 2017a).

Botanical surveys must be conducted in a manner that will maximize the likelihood of finding the target species. Many target species are difficult to see except when they are flowering because the flowers make a target species stand out from the surrounding plants. The flowering period for Ute ladies'-tresses across its range is early July through late October, but most plants bloom between July 20 and August 31 (USFWS 2017a). Before proceeding with clearance surveys, WBWCD coordinated with USFWS to confirm that reference populations of Ute ladies'-tresses were flowering or otherwise identifiable.

Systematic belt transects were established every 5 feet to cover 100% of the suitable habitat mapped in the action area for plants.[1] To achieve a 100% visual inspection of the ground surface, biologists conducted the surveys by walking the transects to determine

[1] Proposed survey times and transect widths are those specified by USFWS (2011).

whether Ute ladies'-tresses were present. Field data were collected according to the *U.S. Fish and Wildlife Service (USFWS) Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed, and Candidate Plants* (USFWS 2011). A clearance survey was conducted on August 26, 2025. Detailed information about the methodology used to conduct the clearance survey is provided in Attachment B, *Ute Ladies'-tresses Habitat Evaluation and Survey Report*.

In addition, Ute ladies'-tresses might not flower every year. Therefore, in drainages where Ute ladies'-tresses are known to occur, USFWS recommends that surveys be conducted annually for 3 consecutive years (USFWS 2017a). The survey results presented in this biological assessment are for the first-year surveys (conducted on September 6, 2025). Additional surveys are planned for 2026 and 2027.

5.3 Results

5.3.1 Habitat Suitability Surveys

A total of 0.57 acre of suitable Ute ladies'-tresses habitat was identified in an irrigated pasture meadow, outside the Project footprint but within the 300-foot buffer area. Figure 1 provides an overview map of this action area and the mapped suitable habitat.

The irrigated pasture meadow was dominated by mountain rush and foxtail barley. Both plant species are commonly associated with Ute ladies'-tresses across its range in Utah. This habitat found in the irrigated pasture meadow provides adequate soil moisture, an open canopy, and additional flowering plants to attract pollinators, all of which are critical needs for Ute ladies'-tresses. See Figure 2 and Figure 3 for representative photos of the mapped suitable habitat in the action area for plants.

5.3.2 Clearance Survey

The clearance survey was conducted in 2025 on the 0.57 acre of potentially suitable Ute ladies'-tresses habitat that was identified. The clearance survey did not identify any Ute ladies'-tresses individuals in the action area for plants. Because USFWS recommends that Ute ladies'-tresses surveys be conducted annually for 3 consecutive years (USFWS 2017a), 2 more years of clearance surveys will be conducted on this 0.57 acre (in 2026 and 2027).

Figure 1. Overview Map of the Action Area for Plants and the Mapped Suitable Habitat for Ute Ladies'-tresses

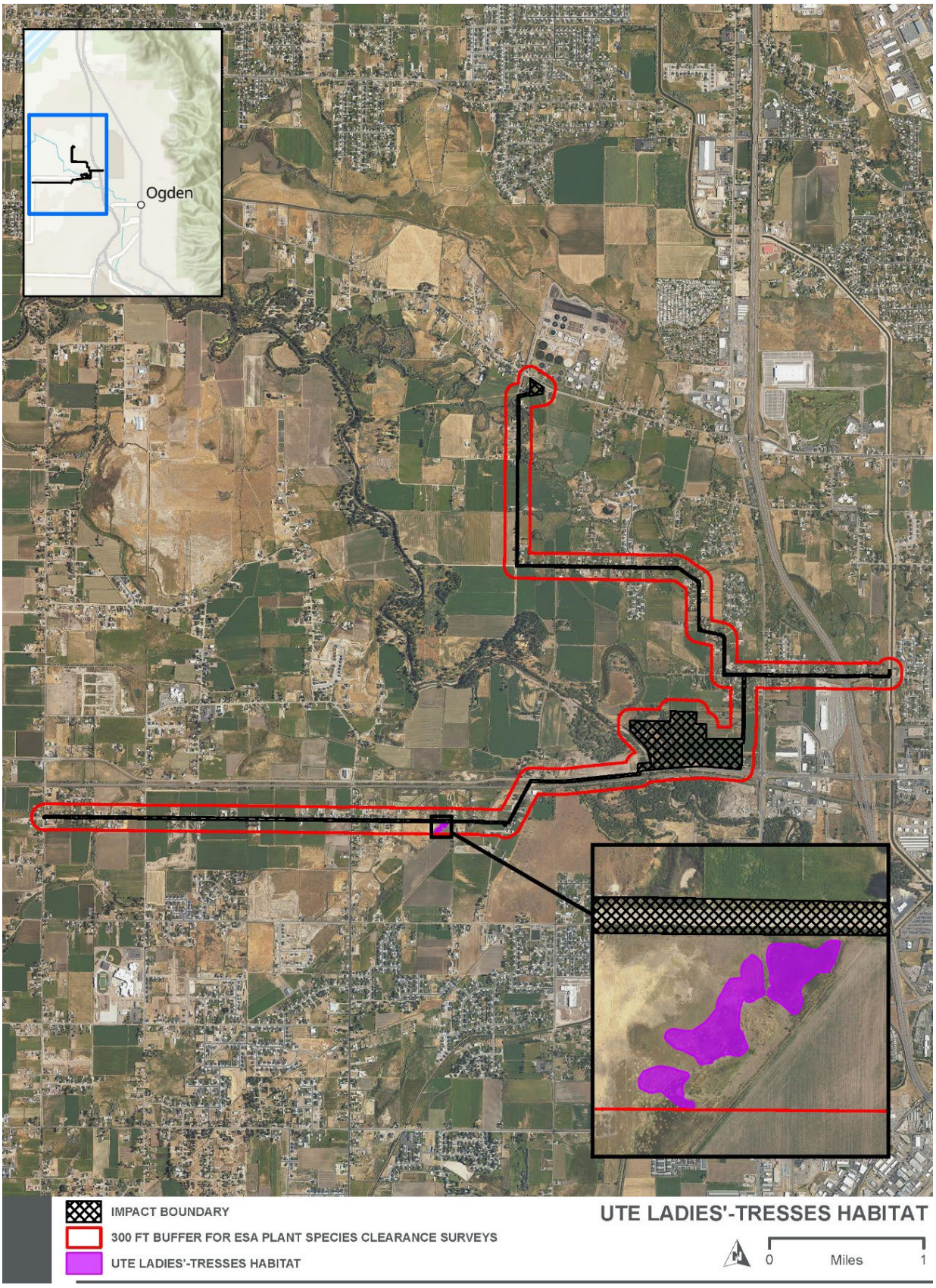


Figure 2. Potentially Suitable Ute Ladies'-tresses Habitat (Looking East)



Figure 3. Potentially Suitable Ute Ladies'-tresses Habitat (Looking West)



6 Effects Analysis

6.1 Direct Effects

Potentially suitable Ute ladies'-tresses habitat in the action area for plants is located outside the Project footprint. Construction activities would be restricted to the footprint; therefore, construction and operation of the Project would not result in clearing, excavating, filling, or altering any potentially suitable Ute ladies'-tresses habitat in this action area. There would be no direct effects on Ute ladies'-tresses plants or potentially suitable habitat.

6.2 Indirect Effects

A total of 0.57 acre of potentially suitable Ute ladies'-tresses habitat were identified in the action area for plants but outside the Project footprint. Construction could affect Ute ladies'-tresses plants or potentially suitable habitat as a result of fugitive dust emissions and the introduction and/or spread of noxious and invasive weeds.

The operation of construction equipment would generate fugitive dust from loose soil. Accumulation of fugitive dust on Ute ladies'-tresses plants or potentially suitable habitat near the Project footprint could restrict plant growth by inhibiting photosynthesis. However, any potential for dust-induced effects would be temporary and would be minimized by implementing fugitive-dust-control measures during construction.

Construction would remove vegetation and could introduce noxious and invasive weeds into the surrounding areas. Noxious and invasive weeds introduced or spread during construction activities would compete with native vegetation, including Ute ladies'-tresses plants, resulting in altered vegetation structure, a reduction in plant species richness, and an overall decline in potentially suitable habitat. The potential for introducing or spreading invasive species would be minimized during construction by implementing the mitigation measures specified in Section 2.2, *Ute Ladies'-tresses (Spiranthes diluvialis) Avoidance and Minimization Measures*.

6.3 Interrelated and Interdependent Effects

Interrelated activities are those that are part of a proposed project and depend on the proposed action for their justification, and *interdependent activities* are those that have no independent utility apart from a proposed project. There are no interrelated or interdependent actions associated with this Project; therefore, there would be no anticipated interrelated or interdependent effects.

6.4 Cumulative Effects

The ESA regulations define *cumulative effects* as those effects of future state or private activities, not involving federal activities, that are reasonably certain to occur within the action area of the federal action subject to consultation (50 CFR Section 402.02). No state or private activities that would contribute to cumulative effects have been identified for this Project.

7 Determination of Effects Findings

All construction and operations activities would be restricted to the Project footprint and would not result in any direct impacts to potentially suitable Ute ladies'-tresses habitat. Potentially suitable habitat adjacent to the Project footprint will be flagged and protected. Construction crews will be provided information about the importance of restricting all work activities to the Project footprint and existing roadway and will be instructed that no disturbance can occur outside of that, nor in areas flagged for protection.

Additionally, mitigation measures have been developed to minimize potential indirect effects to Ute ladies'-tresses plants and potentially suitable habitat. Any indirect effects from implementing the Project would be considered insignificant and discountable, and there are no reasonably foreseeable interrelated, interdependent, or cumulative effects of the Project.

Based on surveys completed to date and the evaluation of direct, indirect, interrelated, interdependent, and cumulative effects presented in this biological assessment, Reclamation has determined that the Project **may affect, but is not likely to adversely affect** Ute ladies'-tresses.

WBWCD plans to complete additional clearance surveys for Ute ladies'-tresses during the 2026 and 2027 growing seasons. If plants are found before constructing the Project or if there is any loss of occupied habitat, the action agency would reinitiate Section 7 consultation.

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Attachment A. IPaC Report

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 84119-7603
Phone: (801) 975-3330 Fax: (801) 975-3331
https://fws.gov/office/utah-ecological-services

In Reply Refer To: 05/07/2026 20:47:06 UTC
Project Code: 2026-0019773
Project Name: WBWCD WWWC

Subject: List of threatened and endangered species that may occur in your proposed project location 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 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 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:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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 Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Utah Ecological Services Field Office
2369 West Orton Circle, Suite 50
West Valley City, UT 84119-7603
(801) 975-3330

PROJECT SUMMARY

Project Code: 2026-0019773
Project Name: WBWCD WWWC
Project Type: Water Supply Facility - New Constr
Project Description: WBWCD WWWC.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.25691435,-112.03130538159432,14z



Counties: Weber County, Utah

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Suckley's Cuckoo Bumble Bee *Bombus suckleyi* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10885	Proposed Endangered

FLOWERING PLANTS

NAME	STATUS
Ute Ladies'-tresses *Spiranthes diluvialis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2159	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Weber Basin Water Conservancy District
Name: Kate Wollman
Address: 2825 E Cottonwood Parkway, Suite 200
City: Salt Lake City
State: UT
Zip: 84121
Email katherine.wollman@hdrinc.com
Phone: 3853186929

LEAD AGENCY CONTACT INFORMATION

Lead Agency: County of Weber

Attachment B. Ute Ladies'-tresses Habitat Evaluation and Survey Report

Ute Ladies'-tresses Habitat Evaluation and Survey

Weber West Water Campus

Lead agency:
Weber Basin Water Conservancy District

May 28, 2026

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Abbreviations

ESA	Endangered Species Act
GIS	geographic information systems
Project	Weber West Water Campus project
spp.	multiple unknown or unspecified species within a genus
USFWS	U.S. Fish and Wildlife Service
var.	variety
WBWCD	Weber Basin Water Conservancy District
WWWC	Weber West Water Campus

1 Introduction

The Weber Basin Water Conservancy District (WBWCD) is preparing an environmental assessment to evaluate the Weber West Water Campus (WWWC) project (the Project). The Project would include developing a water treatment facility to enhance water recovery and storage in Weber County as well as a drinking water treatment plant to ensure a safe potable water supply. Supporting infrastructure, such as pipelines and pump stations, would also be installed to allow transferring water between facilities.

This report describes the habitat evaluation conducted for Ute ladies'-tresses (*Spiranthes diluvialis*), a plant species listed as threatened under the Endangered Species Act, for the Project.

2 Regulatory Setting

The Endangered Species Act (ESA; 16 *United States Code* Sections 1531–1544) establishes a framework to protect and conserve species listed as threatened or endangered and their habitats. The ESA prohibits the "take" of endangered species except when the take is incidental to, and not the purpose of, carrying out an otherwise lawful activity, or when the take is for scientific purposes, or to enhance the propagation or survival of the species.

Under Section 7 of the ESA, federal agencies must consult with the U.S. Fish and Wildlife Service (USFWS) before taking any action that will likely affect a federally listed threatened or endangered species or designated critical habitat for an endangered species. In addition, federal agencies must ensure that their actions are not likely to jeopardize the continued existence of any listed species or to destroy or adversely modify any designated critical habitat.

3 Ute Ladies'-tresses Biology

3.1 Description

Ute ladies'-tresses are perennial, terrestrial orchid with erect stems that are 4 to 23 inches tall and arise from tuberous, thickened roots. Basal leaves are narrow, linear, and about 11 inches long, with leaves that become progressively smaller up the stem (Fertig and others 2005; USFWS 1992). Flowers consist of 3 to 15 small, white or ivory-colored flowers clustered into a 1-to-6-inch spike at the top of the stem. The plants typically bloom from early July through late October (Fertig and others 2005). Ute ladies'-tresses are thought to reproduce exclusively by seed. The life cycle of Ute ladies'-tresses consists of four stages: seedling, dormant, vegetative, and reproductive (flowering or fruiting) (Fertig and others 2005).

3.2 Status and Trends

Ute ladies'-tresses were listed as threatened under the ESA on January 17, 1992 (57 *Federal Register* 2048). At the time of listing, the species was reported from 10 existing populations and 7 historic locations known in Colorado, Nevada, and Utah. The species was considered vulnerable to extinction from habitat loss and modification, small population size, and low reproductive rate. Since 1992, the known range has expanded to include Idaho, Montana, Nebraska, Washington, and Wyoming and includes nearly 100 different locations (Fertig and others 2005).

At the time of listing, existing populations of Ute ladies'-tresses in Utah were found in Daggett, Duchesne, Garfield, Uintah, Utah, and Wayne Counties, and historical occurrences were known from Salt Lake, Tooele, and Weber Counties (Fertig and others 2005). These populations were dispersed across 10 different watersheds (Duchesne, Escalante, Fremont, Jordan, Lower Green, Lower Weber, Southern Great Salt Lake Desert, Spanish Fork, Upper Green–Flaming Gorge Reservoir, and Utah Lake). Since 1992, a dozen new sites have been documented along the Wasatch Front and in the Uinta Basin. These sites extend the known range of Ute ladies'-tresses into Wasatch County and the Ashley-Brush, Provo, and Strawberry watersheds (Fertig and others 2005).

A draft recovery plan was written for this species in 1995 but has not been finalized (USFWS 1995). USFWS has recommended that Ute ladies'-tresses be delisted as of August 2023 (USFWS 2023).

3.3 Habitat

The *Species Status Assessment Report for Ute Ladies'-tresses (Spiranthes diluvialis)* (USFWS 2024) describes adequate soil moisture, direct sunlight, pollinators, and mycorrhizae as critical needs for Ute ladies'-tresses. Adequate soil moisture can come from surface or subsurface water, but it needs to provide a year-round hydrologic regime that supplies consistent soil moisture without prolonged inundation. Direct sunlight is also a critical need for Ute ladies'-tresses in aboveground life stages. An open canopy, characteristic of early to mid-seral stage successional habitats, is needed to provide direct sunlight. Habitat maintained in an early to mid-seral successional stage is typically achieved by some sort of disturbance such as flooding, livestock grazing, and/or agricultural mowing; however, overly frequent disturbance is detrimental to Ute ladies'-tresses.

Additionally, because Ute ladies'-tresses flower for only a short time and in unpredictable numbers each year, the species needs to be part of a larger flowering plant community to maintain pollination needs. Finally, the presence of soil mycorrhizae is a critical need for Ute ladies'-tresses. Little is known about the appropriate species of fungi needed to form mycorrhizal associations with Ute ladies'-tresses, but they likely depend on specific soil types, soil moisture, and the surrounding plant community.

Ute ladies'-tresses are known to grow in moist meadows associated with perennial stream terraces, alluvial banks, floodplains, and oxbows where vegetation cover is relatively open and not overly dense, overgrown, or overgrazed (Fertig and others 2005; USFWS 1992). A few populations are found in riparian woodlands, but the orchid seems generally intolerant of shade and prefers open, grass- and forb-dominated sites (USFWS 1995). Associated vegetation typically falls into the facultative wetland vegetation

classification category (USFWS 2017). Facultative wetland plants usually grow in wetlands but can grow in non-wetlands (Lichvar and others 2012). Ute ladies'-tresses populations can be found at elevations up to 7,000 feet in Utah (Fertig and others 2005; USFWS 2017).

Over one-third of all known Ute ladies'-tresses populations are found on perennial stream features including alluvial banks, point bars, floodplains, or oxbows. These sites are subject to periodic floods that rework stream features and create early successional conditions that are beneficial to the establishment and persistence of Ute ladies'-tresses. Most streamside populations are dominated by perennial graminoids and forbs, particularly creeping bentgrass (*Agrostis stolonifera*), quackgrass (*Elymus repens*), mountain rush (*Juncus arcticus* ssp. *littoralis*), and smooth horsetail (*Equisetum laevigatum*) (Fertig and others 2005). See Table 1 for a complete list of plant species commonly associated with Ute ladies'-tresses across its range in Utah (Fertig and others 2005).

Ute ladies'-tresses are also known to grow on seasonally flooded river terraces, in subirrigated or spring-fed abandoned stream channels and valleys, and on lake shores. Populations have also been observed along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside barrow pits, reservoirs, and other human-modified wetlands (Fertig and others 2005).

3.4 Life History

Ute ladies'-tresses are long-lived perennial forbs that are thought to reproduce exclusively by seed. The life cycle of Ute ladies'-tresses consists of four stages: seedling, dormant, vegetative, and reproductive (flowering or fruiting) (Fertig and others 2005).

Seedling Stage. Fruits are produced in late August or September, and seeds are shed shortly after. Ute ladies'-tresses seeds are microscopic and readily dispersed by wind or water. It is thought that germinated seedlings require a symbiotic relationship with mycorrhizal soil fungi to survive, the absence of which might be a limiting factor in establishing new populations. Seedlings likely develop slowly into larger, dormant mycorrhizal roots or grow directly into above-ground vegetative shoots, but neither has been confirmed in the wild.

Dormant Stage. No data are available regarding the number of years required for Ute ladies'-tresses roots to reach sufficient size to develop above-ground leafy shoots. Long-term monitoring studies have shown that vegetative or reproductive Ute ladies'-tresses plants can revert to dormancy for one to four or more growing seasons before re-emerging with new above-ground shoots.

Vegetative Stage. New vegetative shoots are produced in October and persist through the winter as small rosettes. These rosettes resume growth in the spring and develop into leafy plants. These plants might remain in this state all summer or develop flowers. Vegetative individuals die back in the winter to subterranean roots or persist as winter rosettes. Monitoring studies show that plants can remain in the vegetative stage for 2 or more years or transform to dormant or reproductive condition in subsequent years.

Reproductive Stage. Across its range, Ute ladies'-tresses typically bloom from early July to late October. Bees, particularly solitary bees, are the species' primary pollinator. Individual flowers are arranged in a spiral.

Table 1. Plant Species Commonly Associated with Ute Ladies'-tresses across Its Range in Utah

Scientific Name[a]	Common Name[a]	Scientific Name[a]	Common Name[a]
Achillea millefolium	common yarrow	*Lepidium latifolium*	broadleaved pepperweed
Agrostis stolonifera	creeping bentgrass	*Lonicera involucrata*	twinberry honeysuckle
Alnus incana	gray alder	*Lycopus americanus*	American water horehound
Ambrosia psilostachya	Cuman ragweed	*Maianthemum stellatum*	starry false lily of the valley
Apocynum cannabinum	Indianhemp	*Malva neglecta*	common mallow
Arctium minus	lesser burdock	*Medicago lupulina*	black medick
Asclepias speciosa	showy milkweed	*Medicago sativa*	alfalfa
Astragalus cicer	chickpea milkvetch	*Melilotus officinalis*	sweetclover
Betula occidentalis	water birch	*Mentha arvensis*	wild mint
Bidens frondosa	devil's beggartick	*Mentha spicata*	spearmint
Calamagrostis canadensis	bluejoint	*Muhlenbergia asperifolia*	scratchgrass
Carduus nutans	nodding plumeless thistle	*Oenothera elata*	Hooker's evening primrose
Carex aquatilis	water sedge	*Parnassia palustris*	marsh grass of Parnassus
Carex aurea	golden sedge	*Phalaris arundinacea*	reed canarygrass
Carex nebrascensis	Nebraska sedge	*Phleum pratense*	timothy
Carex pellita	woolly sedge	*Phragmites australis*	common reed
Carex rostrata	beaked sedge	*Platanthera hyperborea*	northern green orchid
Castilleja minor	lesser Indian paintbrush	*Poa pratensis*	Kentucky bluegrass
Cicuta maculata	spotted water hemlock	*Populus angustifolia*	narrowleaf cottonwood
Cirsium arvense	Canada thistle	*Populus fremontii*	Fremont cottonwood
Cirsium vulgare	bull thistle	*Prunella vulgaris*	common selfheal
Cornus sericea	redosier dogwood	*Pseudognaphalium stramineum*	cottonbatting plant
Dactylis glomerata	orchardgrass	*Ranunculus cymbalaria*	alkali buttercup
Deschampsia cespitosa	tufted hairgrass	*Rhus aromatica*	fragrant sumac
Descurainia sophia	herb sophia	*Rosa woodsii*	Woods' rose
Elaeagnus angustifolia	Russian olive	*Salix boothii*	Booth's willow
Eleocharis palustris	common spikerush	*Salix exigua*	narrowleaf willow
Eleocharis rostellata	beaked spikerush	*Salix lucida*	shining willow
Elymus canadensis	Canada wildrye	*Salix lutea*	yellow willow
Elymus repens	quackgrass	*Schoenoplectus acutus*	hardstem bulrush
Epilobium ciliatum	fringed willowherb	*Shepherdia argentea*	silver buffaloberry
Equisetum arvense	field horsetail	*Sisyrinchium demissum*	stiff blue-eyed grass
Equisetum hyemale	scouringrush horsetail	*Solidago canadensis*	Canada goldenrod
Equisetum laevigatum	smooth horsetail	*Sonchus arvensis*	field sowthistle
Erigeron lonchophyllus	shortray fleabane	*Spartina pectinata*	prairie cordgrass
Erodium cicutarium	redstem stork's bill	*Spiranthes romanzoffiana*	hooded lady's tresses
Euthamia occidentalis	western goldentop	*Stachys palustris* var. *pilosa*	hairy hedgenettle

(*Continued on next page*)

Table 1. Plant Species Commonly Associated with Ute Ladies'-tresses across Its Range in Utah

Scientific Name[a]	Common Name[a]	Scientific Name[a]	Common Name[a]
Geum macrophyllum	largeleaf avens	*Symphyotrichum frondosum*	short-rayed alkali aster
Glaux maritima	sea milkwort	*Symphyotrichum lanceolatum*	white panicle aster
Glyceria grandis	American mannagrass	*Toxicodendron rydbergii*	western poison ivy
Glycyrrhiza lepidota	American licorice	*Tragopogon dubius*	yellow salsify
Helianthus annuus	common sunflower	*Trifolium pratense*	red clover
Helianthus nuttallii	Nuttall's sunflower	*Trifolium repens*	white clover
Hordeum jubatum	foxtail barley	*Triglochin maritima*	seaside arrowgrass
Juncus arcticus ssp. *littoralis*	mountain rush	*Typha latifolia*	broadleaf cattail
Juncus ensifolius	swordleaf rush	*Verbascum thapsus*	common mullein
Juncus torreyi	Torrey's rush		

Source: Fertig and others 2005

[a] Naming convention according to U.S. Department of Agriculture Natural Resources Conservation Service Plant Database (https://plants.usda.gov).

4 Methodology

4.1 Survey Area

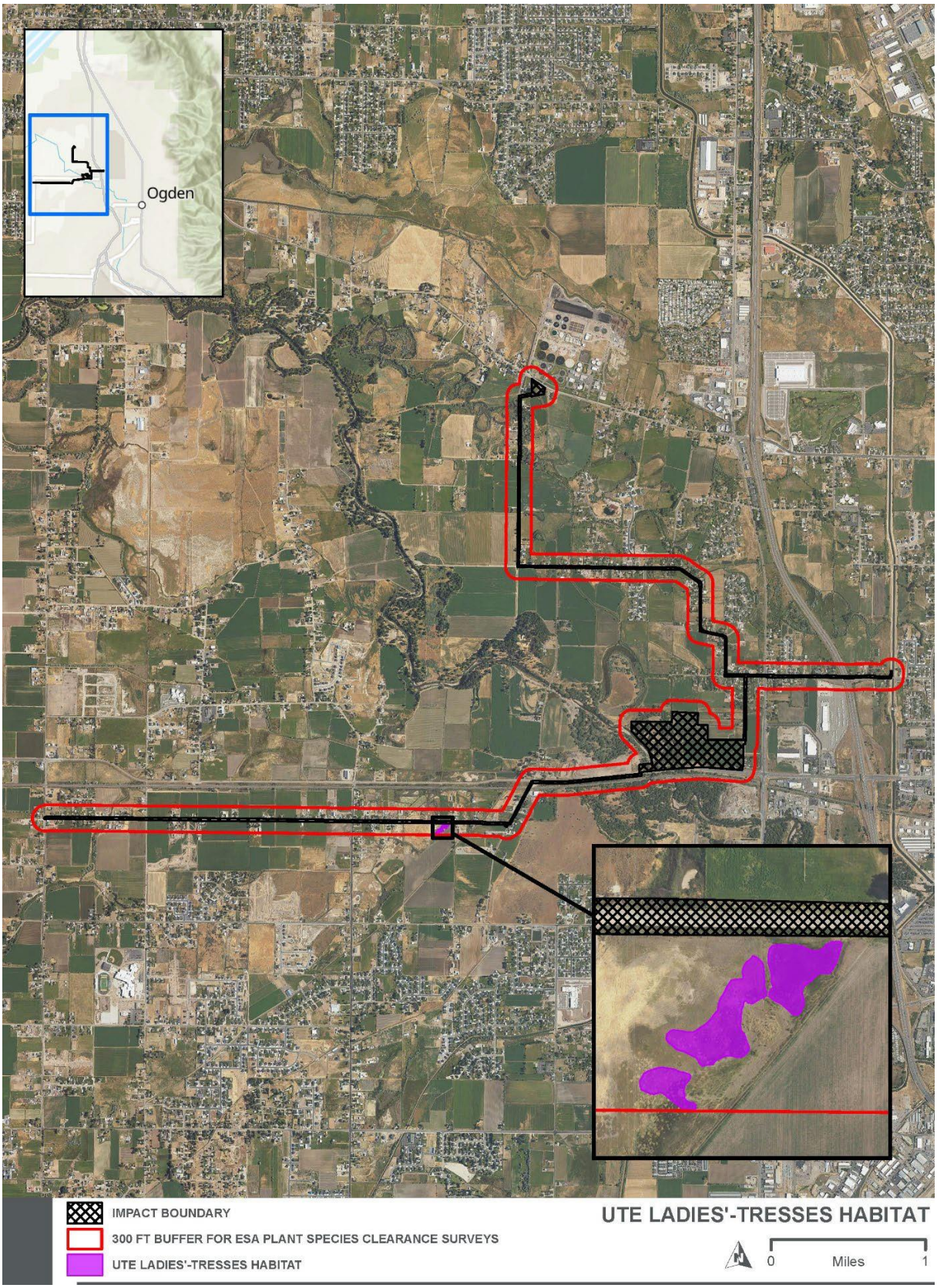
The survey area for the Project is located in Marriott-Slaterville and West Weber in Weber County, Utah. The survey area is located at about 4,440 feet in elevation and totals 112.76 acres. Figure 1 provides an overview of the survey area. In general, the survey area is located primarily on road shoulders. It also crosses an alfalfa (*Medicago sativa*) field north of 1200 South, a wooded area near the Weber River north of 1200 South, a pasture south of Pioneer Road, a small wetland on 1400 South, and woody riparian communities along the banks of the Weber River and the Warren Canal.

4.2 U.S. Fish and Wildlife Service Botanical Clearance Survey Area

The USFWS Utah Field Office has established guidelines for the minimum standards for conducting botanical surveys for plant species listed under the ESA in Utah (USFWS 2011). Clearance surveys, which are used to document compliance with the provisions of Section 7 of the ESA, are one type of survey described in these guidelines. Clearance surveys cover 100% of a project area to determine whether a target species is present. "Project area" is the area in which a target species might be impacted by a proposed activity. Clearance surveys also determine species distribution and abundance before ground-disturbing activities begin. Clearance surveys must include an assessment of all potential habitat in the project area, as well as a buffer. The standard buffer for clearance surveys is 300 feet from the project area.

In accordance with the *U.S. Fish and Wildlife Service (USFWS) Utah Field Office Guidelines for Conducting and Reporting Botanical Inventories and Monitoring of Federally Listed, Proposed, and Candidate Plants* (USFWS 2011), a 300-foot buffer was applied to the survey area. Figure 1 shows the USFWS clearance survey buffer area in relation to the survey area.

Figure 1. Overview Map of the Survey Area, USFWS Clearance Survey Buffer Area, and Potentially Suitable Habitat for Ute Ladies'-tresses



4.3 Habitat Evaluation

Geographic information systems (GIS) software was used to develop potentially suitable habitat polygons for Ute ladies'-tresses in the survey area and buffer area. Biologists used tablets equipped with the ESRI data collection application ArcGIS Field Maps for both field navigation and data entry. ArcGIS Field Maps included data layers for aerial images, the project survey area plus the 300-foot buffer for USFWS botanical surveys, and the USFWS Ute ladies'-tresses range map. All areas where the USFWS range map and the survey area plus the 300-foot buffer overlap were visually inspected to confirm whether these areas displayed characteristics consistent with the criteria for suitable Ute ladies'-tresses habitat described above in Section 3.3, *Habitat*, and the revised version of the 1992 *Interim Survey Requirements for Ute Ladies'-tresses Orchid (Spiranthes diluvialis)* (USFWS 2017). The following habitat types do not qualify as Ute ladies'-tresses habitat (USFWS 2017):

- Sites above 7,000 feet in elevation
- Sites that are highly disturbed or modified, such as highway rights-of-way built on compacted soils or rock fill, rock or soil fills with steep back slopes, active construction sites, or landscaped bluegrass lawns
- Upland sites
- Sites entirely inundated by standing water
- Sites composed entirely of heavy clay soils
- Very saline sites such as dense monospecific stands of saltgrass (*Distichlis spicata*)
- Sites composed entirely of dense stands of reed canarygrass (*Phalaris arundinacea*), tamarisk (*Tamarix* species), greasewood (*Sarcobatus vermiculatus*), teasel (*Dipsacus sylvestris*), or common reed (*Phragmites australis*)

Polygons were mapped around areas that met the criteria for suitable habitat for Ute ladies'-tresses. The habitat evaluation for the survey area was conducted on October 21 and 23, 2024, and May 21, June 12, and July 22, 2025.

5 Results

Survey results identified potentially suitable Ute ladies'-tresses habitat, including 0.57 acre identified in an irrigated pasture meadow. Figure 1 above provides an overview map of the mapped habitat in the survey area and buffer area.

Plant species observed in the Ute ladies'-tresses potential habitat include foxtail barley (*Hordeum jubatum*), mountain rush (*Juncus articus* ssp. *littoralis*), strawberry clover (*Trifolium fragiferum*), and Fuller's teasel (*Dipsacus fullonum*).

Foxtail barley, mountain rush, and strawberry clover are plants species commonly associated with Ute ladies'-tresses across its range in Utah. Habitat found in the irrigated pasture meadow provides adequate soil moisture, an open canopy, and additional flowering plants to attract pollinators, all which are critical needs for Ute ladies'-tresses.

Figure 2 and Figure 3 provide representative photos of the mapped potentially suitable habitat for Ute ladies'-tresses.

Figure 2. Potentially Suitable Ute Ladies'-tresses Habitat in the Irrigated Pasture Meadow in the Survey Area (Looking East)



Figure 3. Potentially Suitable Ute Ladies'-tresses Habitat in the Irrigated Pasture Meadow in the Survey Area (Looking West)



6 References

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APPENDIX B: UTILITY CROSSINGS

Project Feature	Type of Utility (Count)	Owner	Street	Size (in)
WWWTP FW	CATV (1)	Comcast	1400 S	2.5
	Electric (2)	Rocky Mountain Power	1400 S	4
		Rocky Mountain Power	2900 W	3
	Fiber (2)	Lumen/Century Link	1200 S	2
		Utopia	1400 S	(2) 4
	Gas (8)	Enbridge/Dominion	1400 S	2
		Enbridge/Dominion	1400 S	2
		Enbridge/Dominion	1400 S	2
		Enbridge/Dominion	1400 S	2
		Enbridge/Dominion	1400 S	2
		Enbridge/Dominion	1400 S	3
		Enbridge/Dominion	1400 S	6
		Enbridge/Dominion	1400 S	8
	Gas (HP) (1)	Enbridge/Dominion	1200 S	8
	Irrigation (6)	Hopper Irrigation Co.	1200 S	48
		Hopper Irrigation Co.	1200 S	48
		Hopper Irrigation Co.	1400 S	48
		Warren Irrigation Co.	1200 S	OC Canal
		Unknown	1400 S	4
		Unknown	2900 W	12
	Phone (12)	Comcast	2900 W	2
		Lumen/Century Link	1200 S	2
		Lumen/Century Link	1200 S	2
		Lumen/Century Link	1400 S	0.5
		Lumen/Century Link	1400 S	0.5
		Lumen/Century Link	1400 S	0.5
		Lumen/Century Link	1400 S	0.5
		Lumen/Century Link	1400 S	0.5
		Lumen/Century Link	1400 S	0.5
		Lumen/Century Link	1400 S	0.75
		Lumen/Century Link	2900 W	2
	Sanitary Sewer (1)	Central Weber Sewer	1400 S	42
	Sanitary Sewer (FM) (1)	Unknown	1200 S	8
	Storm	Weber County	1400 S	15

Project Feature	Type of Utility (Count)	Owner	Street	Size (in)
	(18)	Weber County	1400 S	15
		Weber County	1400 S	30
		Weber County	1400 S	18
		Weber County	1400 S	12
		Weber County	1400 S	18
		Weber County	1400 S	24
		Weber County	1400 S	8
		Weber County	1400 S	24
		Weber County	1400 S	12
		Weber County	1400 S	24
		Weber County	1400 S	6
		Weber County	1400 S	20
		Weber County	1400 S	15
		Weber County	1400 S	24
		Weber County	1400 S	15
		Weber County	1400 S	8
		Weber County	2900 W	12
	Water (9)	Taylor-West Weber Water	1200 S	12
		Taylor-West Weber Water	1400 S	12
		Taylor-West Weber Water	1400 S	14
		Taylor-West Weber Water	1400 S	6
		Taylor-West Weber Water	1400 S	6
		Taylor-West Weber Water	1400 S	6
		Taylor-West Weber Water	1400 S	10
		Taylor-West Weber Water	1400 S	6
		Taylor-West Weber Water	2900 W	12
WWWTP RAW	Irrigation (1)	Warren Irrigation Co.	1200 S	OC Canal
RENEW FW	Communications (4)	Comcast	2000 W	Unknown
		Lumen/Century Link	700 S	Unknown
		Lumen/Century Link	700 S	Unknown
		Lumen/Century Link	700 S	Unknown
	Fiber	Lumen/Century Link	700 S	Unknown

Project Feature	Type of Utility (Count)	Owner	Street	Size (in)
	(6)	MCI Verizon	700 S	Unknown
		UDOT/Syringa	700 S	Unknown
		Zayo	700 S	4
		Zayo	700 S	5
		Zayo	700 S	Unknown
	Gas (6)	Enbridge/Dominion	700 S	2
		Enbridge/Dominion	700 S	2
		Enbridge/Dominion	700 S	2
		Enbridge/Dominion	700 S	2
		Enbridge/Dominion	700 S	2
		Enbridge/Dominion	700 S	12
	Irrigation (4)	Marriott-Slaterville	700 S	24
		Marriott-Slaterville	700 S	18
		Marriott-Slaterville	700 S	12
		Marriott-Slaterville	700 S	12
	Oil (1)	Marathon	700 S	8
	Phone (1)	Lumen/Century Link	700 S	1
	Sanitary Sewer (4)	Central Weber Sewer	2000 W	48
		Central Weber Sewer	700 S	15
		Central Weber Sewer	700 S	15
		Marriott-Slaterville	700 S	8
	Sewer (1)	Central Weber Sewer	700 S	Unknown
	Storm (5)	Marriott-Slaterville	2000 W	24
		Marriott-Slaterville	2000 W	18
		Marriott-Slaterville	2000 W	12
		Marriott-Slaterville	700 S	
		South Slaterville Irrigation Co.	2000 W	40
	Water (5)	Bona-Vista Water	700 S	6
		Bona-Vista Water	700 S	8
		Bona-Vista Water	700 S	8
		Bona-Vista Water	700 S	10
		Bona-Vista Water	700 S	16
Renew Raw	Communications (10)	Comcast	200 S	Unknown
		Comcast	200 S	Unknown
		Comcast	200 S	2
		Lumen/Century Link	200 S	4
		Lumen/Century Link	2000 W	Unknown

Project Feature	Type of Utility (Count)	Owner	Street	Size (in)
		Lumen/Century Link	2050 W	DBC (1.25”)
		Lumen/Century Link	2100 W	1
		Lumen/Century Link	2100 W	1
		Lumen/Century Link	2100 W	Unknown
		Lumen/Century Link	500 S	2
	Electric (1)	Rocky Mountain Power	2800 W	4
	Fiber (1)	Lumen/Century Link	200 S	2
	Gas (10)	Enbridge/Dominion	200 S	2
		Enbridge/Dominion	200 S	2
		Enbridge/Dominion	200 S	2
		Enbridge/Dominion	2050 W	2
		Enbridge/Dominion	2100 W	2
		Enbridge/Dominion	500 S	2
		Enbridge/Dominion	500 S	2
		Enbridge/Dominion	700 S	2
		Enbridge/Dominion	700 S	2
		Enbridge/Dominion	2800 W	2
	Irrigation (10)	Marriott-Slaterville	200 S	6
		South Slaterville Irrigation Co.	200 S	15
		South Slaterville Irrigation Co.	200 S	24
		South Slaterville Irrigation Co.	200 S	30
		South Slaterville Irrigation Co.	200 S	36
		South Slaterville Irrigation Co.	2000 W	40
		South Slaterville Irrigation Co.	2800 W	36
		Unknown	Unknown	OC Canal
		Warren Irrigation Co.	200 S	OC Canal
		Warren Irrigation Co.	Unknown	OC Canal
	Power (2)	Rocky Mountain Power	200 S	4
		Rocky Mountain Power	200 S	4
	Sanitary Sewer (7)	Abandoned	200 S	6
		Central Weber Sewer	200 S	48
		Central Weber Sewer	2000 W	48
		Central Weber Sewer	700 S	15
		Central Weber Sewer	Unknown	60

Project Feature	Type of Utility (Count)	Owner	Street	Size (in)
		Marriott-Slaterville	2050 W	12
		Marriott-Slaterville	700 S	12
	Sanitary Sewer (FM) (6)	Central Weber Sewer	2800 W	22
		Marriott-Slaterville	200 S	4
		Marriott-Slaterville	200 S	4
		Marriott-Slaterville	2050 W	4
		Marriott-Slaterville	500 S	4
		Marriott-Slaterville	700 S	10
	Storm (11)	Marriott-Slaterville	200 S	12
		Marriott-Slaterville	200 S	15
		Marriott-Slaterville	200 S	18
		Marriott-Slaterville	2000 W	18
		Marriott-Slaterville	2000 W	12
		Marriott-Slaterville	2050 W	12
		Marriott-Slaterville	2800 W	12
		Marriott-Slaterville	2800 W	8
		Marriott-Slaterville	2800 W	8
		Marriott-Slaterville	2800 W	8
		Marriott-Slaterville	2800 W	Box Culvert
	Water (10)	Bona-Vista Water	200 S	8
		Bona-Vista Water	200 S	8
		Bona-Vista Water	200 S	`10
		Bona-Vista Water	200 S	6
		Bona-Vista Water	200 S	8
		Bona-Vista Water	2050 W	8
		Bona-Vista Water	2100 W	8
		Bona-Vista Water	500 S	8
		Bona-Vista Water	700 S	8
		Bona-Vista Water	2800 W	8
WWWC	Communications (1)	Lumen/Century Link	2000 W	DBC (1.25”)
	Gas (2)	Enbridge/Dominion	1100 S	8
		Enbridge/Dominion	2000 W	2
	Irrigation (1)	Warren Irrigation Co.	Unknown	OC Canal
	Oil (1)	Marathon	1100 S	8
	Sanitary Sewer (1)	Central Weber Sewer	2000 W	48