BUREAU OF RECLAMATION

ENVIRONMENTAL ASSESSMENT
WELLSVILLE-MENDON UPPER CANAL PIPELINE PROJECT

PRO-EA-FY25-044
JANUARY 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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1.0 INTRODUCTION AND BACKGROUND

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the Wellsville-Mendon Upper Canal Pipeline Phase II project as proposed by the applicant Wellsville-Mendon Conservation District (WMCD). The U.S. Bureau of Reclamation (Reclamation) is analyzing the proposed funding for this project which includes the proposal to enclose and pressurize 2.1 miles of the Wellsville-Mendon Upper Canal. This EA is a site-specific analysis of potential impacts that could result in the 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 whether any "significant" impacts could result from the analyzed actions. An EA provides evidence for determining whether 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.

The WMCD operates two canals on a water right (25-1945) filed under the Bureau of Reclamation. The WMCD Upper Canal is 5.1 miles long, and the WMCD Lower Canal is 14 miles long. Typical canal conveyance during irrigation season fluctuates between 5-15 cubic feet per second (cfs), with the average daily discharge being 7.8 cfs between 2015 and 2020. In the past decade, WMCD has enclosed segments of the two canals that experience substantial seepage losses, including a mile of the Lower Canal and 3.1 miles of the Upper Canal.

There are thirty diversions along the Upper Canal's alignment. These are primarily small, unmetered, individual pump stations. Previous efforts have resulted in 3.1 miles of the Upper Canal being enclosed, funded through non-federal sources. This EA is to evaluate work related to the installation of new turnouts to accommodate the proposed Phase II enclosure work, with funding provided by Reclamation's Water and Energy Efficiency Grant (WEEG) program.

The Upper Canal was previously owned by Reclamation until ownership was transferred to the WMCD in January 2021. However, the water rights for the segment of the canal covered in this EA are still owned by Reclamation.

1.1 PURPOSE AND NEED

Reclamation's need is to consider the environmental impacts from the allocation of federal funding and implementation of the Proposed Action. Reclamation's purpose is to ensure that considered actions comply with current Reclamation law and policy. The WMCD objectives are to reduce water losses to seepage in the WMCD Upper Canal and install other associated

improvements. The goals of the Proposed Action would be to improve conservation of water in the WMCD by reducing seepage loss in the canal, improve operations and management options for the WMCD, and improve water use efficiency in the Upper Canal. 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 issue a notice to proceed that would authorize the distribution of funds from the WEEG WaterSMART program for implementation of the Proposed Action, as described in Section 2.2.

1.3 RELATIONSHIP TO STATUTES, REGULATIONS, OR OTHER PLANS

This EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), the Endangered Species Act of 1973, the National Historic Preservation Act of 1966 (NHPA), the Clean Water Act of 1972, and other federal and state statutes and regulations, as applicable.

2.0 DESCRIPTION OF ALTERNATIVES

2.1 ALTERNATIVE A – NO ACTION

Under the No Action Alternative, Reclamation would not authorize the funding to implement the Proposed Action as described in Section 2.2. Existing facilities would continue to operate under current agreements.

2.2 ALTERNATIVE B – PROPOSED ACTION

The Proposed Action would enable WMCD to design and construct various improvements to the Upper Canal and its unenclosed segment. The project area evaluated in this EA runs through Mount Sterling and Wellsville in Cache County, Utah, approximately 9 miles south of Logan City. Design features would be implemented as identified for achieving the purpose and need of the funding authorization request. New infrastructure and improvements would be constructed in compliance with State and Federal regulations.

2.2.1 DESIGN FEATURES

The Proposed Action would include all, or parts of, the activities described in this subsection:

1. **Piping and Pressurizing the WMCD Upper Canal**
   - Enclosing 2.1 miles of earthen Upper Canal and pressurize the pipeline for improved operations and reduced environmental impacts.
     - The system would be enclosed using 8-inch to 36-inch plastic irrigation pipe (PIP) pipe and fittings for the transmission line.
     - Structural fill for the support of the pipe would be accomplished with native material backfill.
     - Four-inch air-vac valves, two 24-inch isolation valve, and a 3-inch pressure relief valve on all of the turnouts.
     - The Proposed Action area is defined as occurring within a construction corridor that encompasses the area immediately surrounding the existing ditch. The construction corridor would be up to between five and ten feet in width for the pipeline installation. This corridor is shown in Figure 2 and in the design drawings which are available upon request.
     - The final pipeline alignment may be adjusted within this corridor, up to 10 feet within the above defined corridor. Any alignment selected within this corridor would result in the same types and relative magnitude of environmental impacts disclosed in this EA. No construction outside of the corridor analyzed herein would occur without additional environmental review.
2. **Canal Turnout Meter Installation**
   - Install one flow meter at each of the turnouts on the canal alignment for improved water accounting.
     - Replace turnouts on the previously enclosed portion of the canal and install new turnouts in the currently unenclosed section. The turnouts would utilize 2-inch to 10-inch galvanized steel pipe and magnetic meters that would be configured to deliver pressurized irrigation water.
     - Thirty-two meters would be installed, one for every diversion in the system, to measure the flow leaving the system. These meters typically have an accuracy of plus or minus 0.5%.
3. **Construct Booster Pump Station**
   - Construct a booster pump station to improve water delivery efficiency and to pressurize the Upper Canal.
     - The pump would consolidate the 14 existing small pumps along the canal into a single booster pump station located at the beginning of the canal.
     - The pump station site would be located on Reclamation land. The concrete pad the pump station would sit on would measure 25-ft 4-in by 23-ft 6-in. The regulating tank would be 192 feet by 8 feet in size.
     - The booster pump station would be configured with three vertical turbine pumps and magnetic meters downstream of each to measure flow.

4. **Install Drain Line from Pump Station**
    - Install a buried 15-in diameter drain line to carry overflow water from the pump station north to the Wellsville Mendon Conservation District Lower Canal. The drain line would be installed as a subsurface pipe, consistent with the license agreement (contract number 25-LM-41-0090), which identifies a total pipe length of 750 feet. Figure 2 and Figure 3 illustrate the disturbance footprint and easement width along the drain line. Additional details are also included in the design drawings which are available upon request.
        - A drain line would be constructed to capture spillage and other unneeded water and carry it down the hill to a vault on the Lower Canal, where the Lower Canal siphon ends, to disperse in the Lower Canal system until adjustments can be made to stop the spillage. The drain line will have a top capacity of 15 cfs. The siphon operates using a hydraulic pump that cannot be automated, so if the pumps at the regulating tank were to shut down—or if a power outage or other flow change occurred without immediate adjustment at the reservoir—the resulting back-pressure on the siphon and hydraulic pump could cause the pump to dead-head and/or lead to the regulating tank overflowing and discharging water uncontrolled on the top of the hill.
        - Site reclamation will involve salvaging and stockpiling topsoil prior to construction, then re-spreading it, fertilizing, and applying the seed mix by evenly seeding in intersecting directions, raking in, lightly compacting, and mulching. Weed control will occur throughout establishment through regular monitoring, targeted herbicide application, and reseeding of any bare areas. The seed mix used to reclaim the site following disturbance will consist of the following species: Bluebunch Wheatgrass, Great Basin Wildrye, Sandberg Bluegrass, Streambank Wheatgrass, and Western Wheatgrass.
5. **Install Three-Phase Power to Pump Station**
    - Install three-phase power from Hyrum City to power the Booster Pump Station
        - Hyrum City would provide three-phase power to the pump station by installing a buried electrical line within the existing access road, which is approximately 25-feet in width. Only the junction box would be located off the road and would be the only portion of the electrical conduit area that would need to be reclaimed. See Figure 2 and Figure 3 for the alignment of the electrical conduit within the roadway as well as the design drawings in which are available upon request.
        - Once construction of the conduits and pump station is completed, Hyrum Power would install the power lines to provide power to the station.
        - A temporary power generator would be required to operate the pump station until the roadway is available for construction. This interim solution would remain in place until completion of the Hyrum Project allows for the safe installation of the permanent electrical conduit along the existing road corridor. The fuel tank on the power generator would be propane fueled and would need to be filled at least every two weeks.

- The junction box, which is not located within the roadway would be reclaimed using the same seed mix described above and utilizing the same methods.

2.2.2 PROJECT AREA MAP, PROPOSED ACTION MAPS, OWNERSHIP MAP

The following figures include the project area map, a map of the Proposed Action, and a detailed map of Proposed Action activities near the booster pump station site.

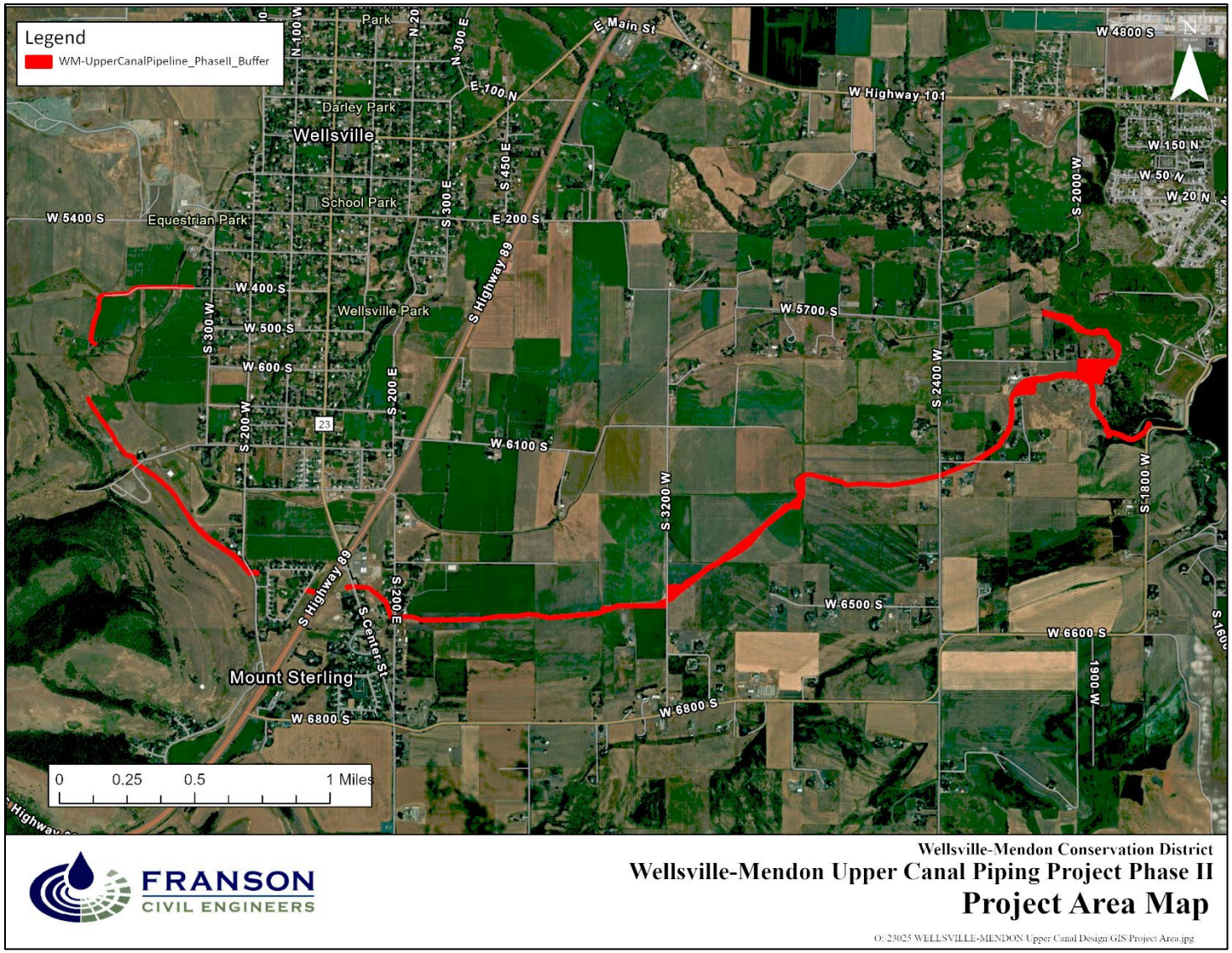

FIGURE 1: PROJECT AREA MAP

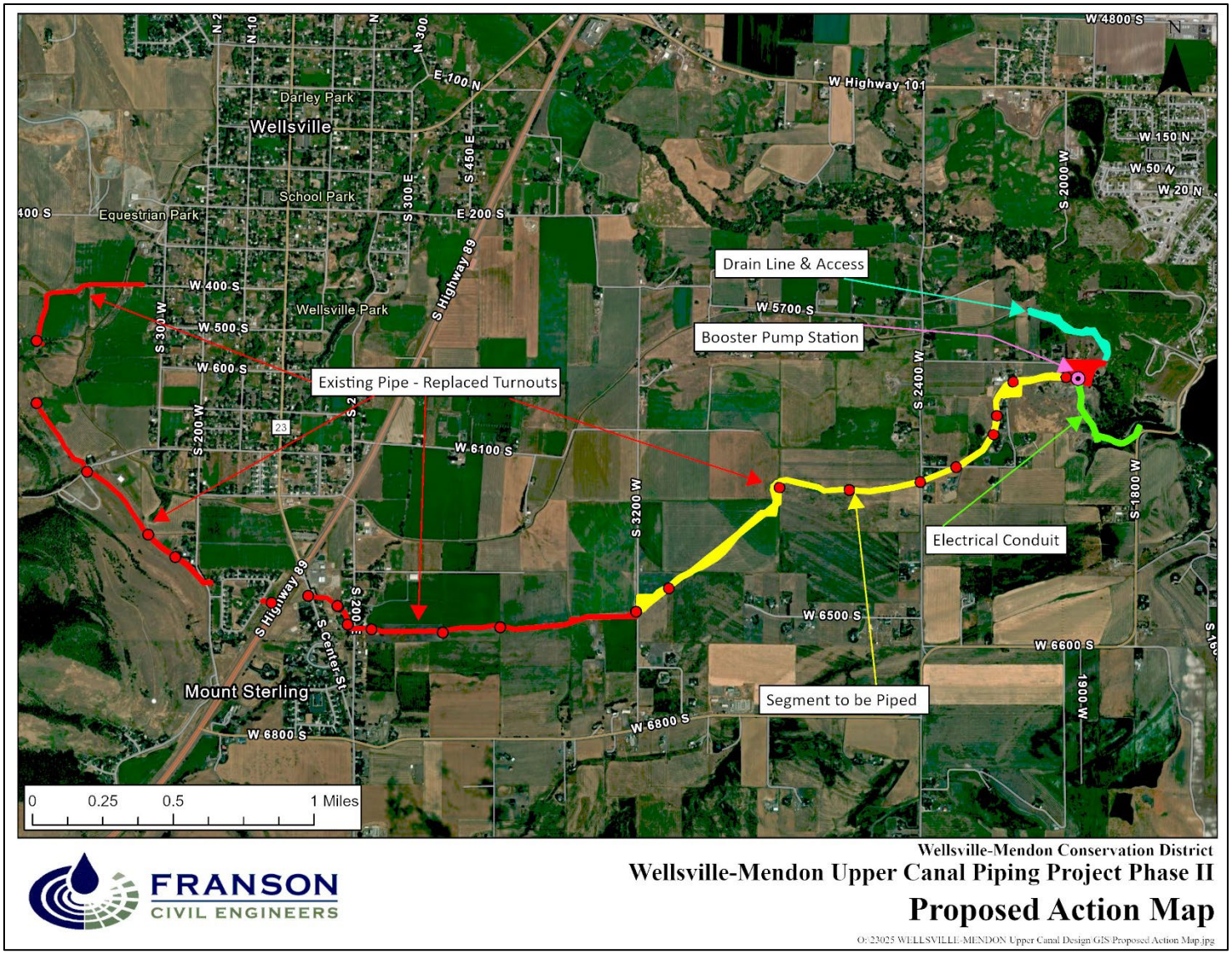

FIGURE 2: PROPOSED ACTION MAP

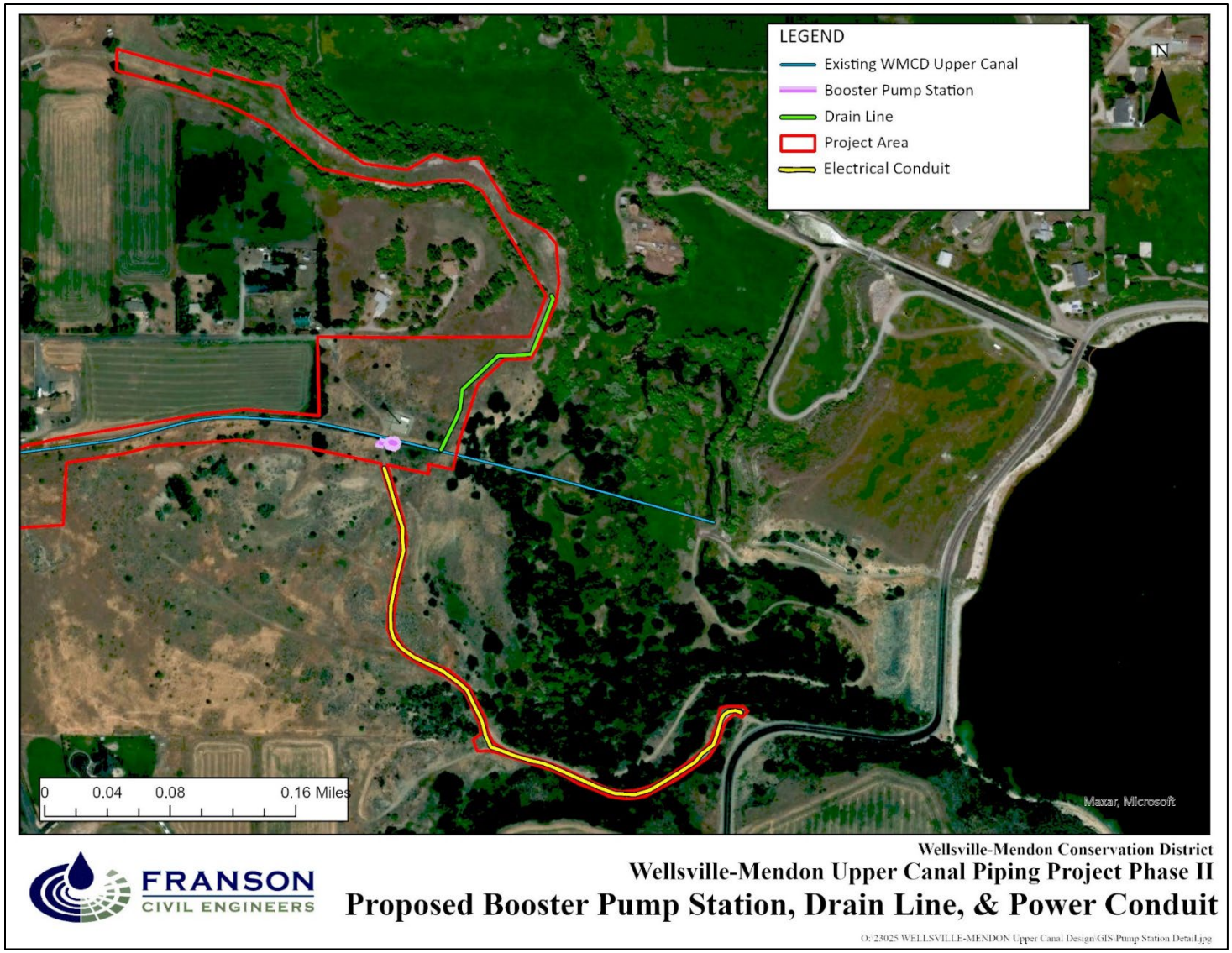

FIGURE 3 PROPOSED BOOSTER PUMP STATION, DRAIN LINE, & POWER CONDUIT

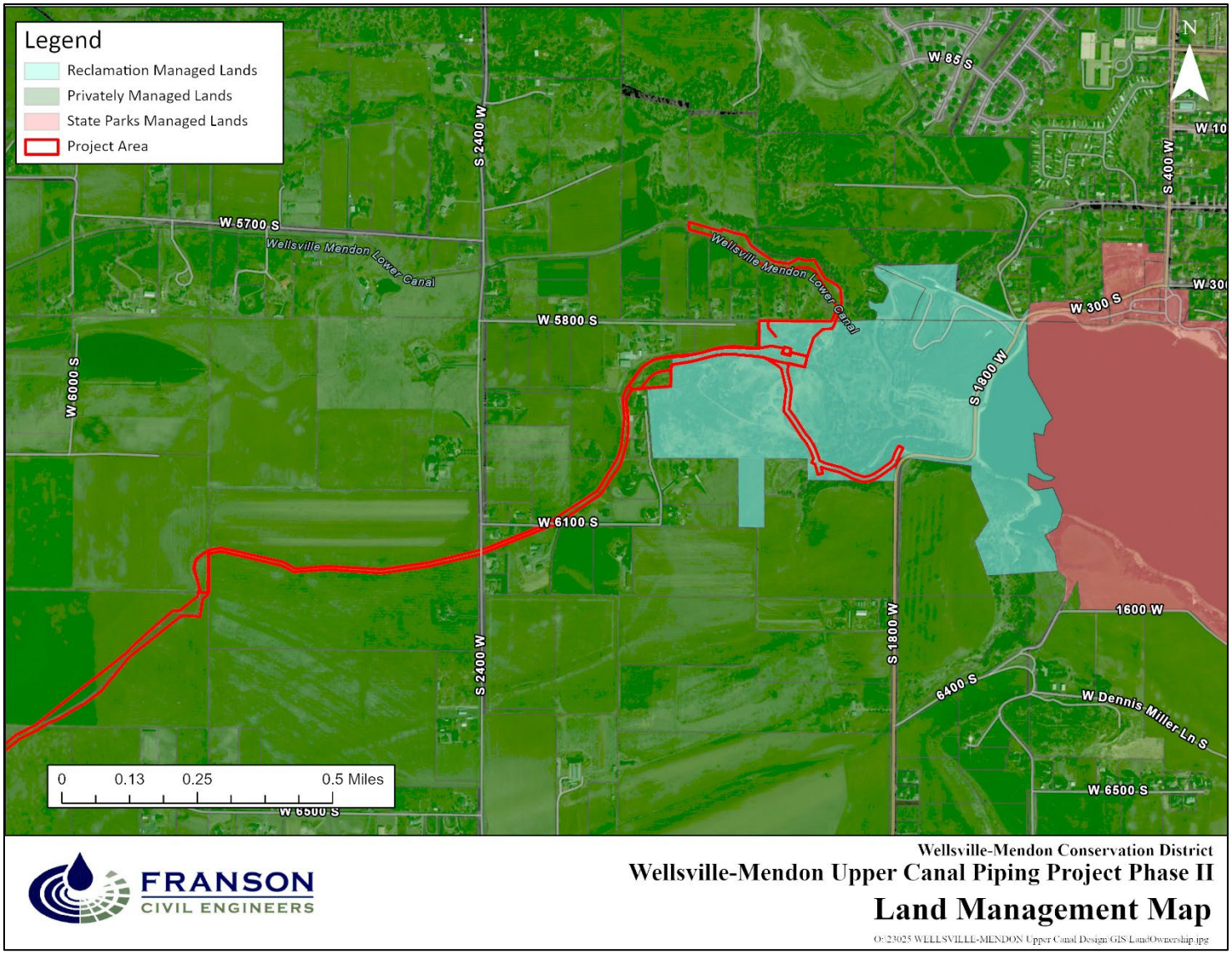

FIGURE 4: LAND MANAGEMENT MAP

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 3.1, below. 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 disposition of 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

Table 3.1 Elements/Resources of the Human Environment

Determination	Element/Resource	Rationale
NI	Air Quality & GHG	The Proposed Action Alternative would not result in substantial increases in greenhouse gas (GHG) emissions. The Environmental Protection Agency (EPA) GHG permitting programs only apply to major stationary sources emitting over 100,000 tons carbon dioxide equivalent (CO2e) per year (e.g., power plant, landfill, etc.) or modifications of major sources with emission increases greater than 75,000 tons CO2e per year. Additionally, the EPA requires annual reporting for facilities with stationary sources that emit 25,000 metric tons CO2e per year to provide a basis for future policy decisions and regulatory initiatives regarding GHG's. None of the circumstances listed above are considered within the scope of the Proposed Action, therefore, this resource is not considered for further analysis in the EA.
PI	Cultural/ Archaeological Resources	The WMCD Upper Canal, a historic feature, would be affected by the Proposed Action, therefore this resource is carried forward for further analysis.

Determination	Element/Resource	Rationale
NP	Designated Areas: Wild & Scenic Rivers, other Wilderness Designations	Based on a review of available geographic information systems (GIS) data, the project area does not involve any Wild and Scenic Rivers or Wilderness Areas.
NI	Farmlands (Prime/Unique)	Impacts to Farmlands are not expected as the project would continue to support irrigation efforts, albeit in a more efficient way. Therefore, no appreciable impact would be realized, and no further analysis is required.
NP	Indian Trust Assets (ITAs) or Tribal Religious Concerns	There are no ITAs or Tribal religious concerns based on a review of the American Indian/Alaska Native/Native Hawaiian National Shapefile Data and professional knowledge of the project area. In addition, no responses were received form Tribal consultation request letters. Therefore, potential impacts to ITAs or related concerns are not known to exist.
NI	Paleontology	Based on consultation with Utah Geologic Survey, the Proposed Action would not likely affect paleontological resources based on the nature of the action and low probability for fossil localities. Therefore, this resource is not carried forward for analysis.
PI	Plants, Soils, Invasive and Noxious Weeds	The Proposed Action would affect plants, soils, and potential to spread invasive/noxious plants into the area; therefore these elements are carried forward for further analysis.
NP	Recreation	Based on the location of the Proposed Action, recreational resources at nearby Hyrum Reservoir would not be impacted by the project, resulting in no further need for analysis.
NI	Socioeconomics	Impacts to Socioeconomic conditions may occur through the implementation of this project, however, not to a degree that would require detailed analysis. This determination is based on the localization and scale of the project.
NI	Threatened, Endangered, Proposed, or Candidate Species	A field survey for the Ute ladies' tresses (ULT) following U.S. Fish and Wildlife Service (USFWS) protocol was conducted by Cirrus Ecological Solutions during the 2025 blooming period and is referenced in Appendix A. During the survey no ULT individuals were identified in the project footprint and no areas of suitable ULT habitat were identified in the project area, leading to a "no effect" determination by Reclamation. Consequently, no further analysis is needed.

Determination	Element/Resource	Rationale
PI	Wastes (hazardous/solid)	The Proposed Action would have the potential to introduce or produce solid or hazardous wastes. Therefore, this element is brought forward for analysis.
NI	Water: Hydrology	This resource will not be brought forward for analysis as hydrologic conditions in the project area are not expected to change, due to the nature of the Proposed Action.
NI	Water: Water Quality	Based on review of the project area, surface and groundwater resources are present where project water has been delivered historically and would continue to be delivered under the Proposed Action. No changes to the source of the project water or the area where project water would be delivered would be realized. Therefore, it is not anticipated that ground or surface water quality would be affected to a degree that requires further analysis.
NI	Water: Water Rights	Construction of the Proposed Action Alternative would not change the water used in the Upper Canal. The deliveries would continue to go to the same WMCD shareholders for the same purpose. No change applications would be necessary to implement the Proposed Action (i.e., point of diversion, point of return, place of use, nature of use/timing). Therefore, this resource will not be carried forward for analysis in this EA.
PI	Water: Floodplains, Riparian Areas, Streams/Rivers, Wetlands	Some impacts to the listed water related areas may occur under the Proposed Action, and therefore this group of resources are brought forward for analysis.
NP	Water: Waters of the United States	An aquatic resources delineation was performed by Cirrus Ecological Solutions, which concluded that no Waters of the United States would be impacted by the project as no tailwater currently discharges to the Lower Canal.
NI/PI	Wildlife: Fish & Migratory Birds	Fish-NI The Proposed Action area does not include or involve fish or fish habitat due to the nature of the action and where it is located. While excess water may drain into fish or fish habitat, there would be no change to the existing downstream habitat. Birds-PI There is the potential for bald eagles to be present in the project area, therefore, this resource will be brought forward for further analysis

3.1 ARCHAEOLOGICAL RESOURCES

In compliance with the regulations specified in Section 106 of the National Historic Preservation Act (NHPA) (36 CFR 800.16), the affected environment for cultural resources is identified as the area of potential effects (APE). The APE is defined as the geographic area within which federal actions may directly or indirectly cause alterations in the character or use of historic properties. The APE for this proposed action includes the area that could be physically affected by any of the proposed project alternatives (the maximum limit of disturbance) as described in the Proposed Action Alternative.

3.1.1 AFFECTED ENVIRONMENT

Cultural resources are defined as physical or other expressions of human activity or occupation that are over 50 years of age. Such resources include culturally significant landscapes, prehistoric and historic archaeological sites as well as isolated artifacts or features, traditional cultural properties, Native American and other sacred places, and artifacts and documents of cultural and historic significance. Section 106 of the NHPA of 1966, as amended, mandates that Reclamation takes into account the potential effects of a proposed Federal undertaking on historic properties. Historic properties are defined as any prehistoric or historic district, site, building, structure, or object included in, or eligible for, inclusion in the National Register of Historic Places. Potential effects of the described alternatives on historic properties are the primary focus of this analysis.

Previous cultural resources inventories were conducted as parts of other projects, namely Reclamation's Hyrum Spillway project, the Natural Resources Conservation Service (NRCS) Wellsville Canyon Watershed Plan-Environmental Impact Statement project, and the Utah Department of Agriculture and Food (UDAF) Phase I of Wellsville-Mendon Upper Canal Piping Project all of which overlap the APE for the Proposed Action. Because of this, it was determined that the previous project's methodology and determinations of effects provided sufficient and adequate coverage for the Proposed Action. Two small staging areas were added to the APE and survey was completed under project number U25BE0744. The previously completed surveys identified the Wellsville-Mendon Upper Canal as a recorded historic property, requiring impacts analysis for any Proposed Actions.

3.1.2 NO ACTION ALTERNATIVE ENVIRONMENTAL EFFECTS

Under the No Action Alternative, there would be no need for ground disturbance associated with construction activities and therefore, no impacts to archaeological resources in the project area would occur. Existing conditions would continue.

3.1.3 PROPOSED ACTION ALTERNATIVE ENVIRONMENTAL EFFECTS

Based on the Class I and III inventory data collected in the previous surveys and according to 36 CFR 800.4(d)(2), Reclamation determined that the Proposed Action would adversely affect

historic properties. The Utah State Historic Preservation Office (SHPO) was consulted on the determination of effects in a letter dated September 29, 2025. SHPO concurred with the determination on October 7, 2025.

3.1.3.1 MITIGATION MEASURES

Pursuant to 36 CFR 800.14(b)(1)(i) the "Programmatic Agreement Between the Bureau of Reclamation and the Utah State Historic Preservation Officer Regarding National Historic Preservation Act Mitigation for Adverse Effects to Irrigation Infrastructure" (PA) will be used to mitigate the adverse effects to the Wellsville-Mendon Upper Canal. Under the provisions of the PA, Reclamation will contribute 1 percent of the WaterSMART grant awarded, a $10,000 contribution, to Utah State University's Utah Historic Irrigation Project for additional investigation into historic irrigation systems. SHPO concurred with Reclamation's proposed mitigation on October 22, 2025.

The objective of the Utah Historic Irrigation Project is to mitigate the loss of historic properties associated with irrigation infrastructure by researching and documenting the history of water management and the use of irrigation, its infrastructure, and agricultural practices in Utah. It also aims to create widely available products to educate the public about this history.

3.2 PLANTS, SOILS, INVASIVE PLANTS AND NOXIOUS WEEDS

Invasive species are defined as non-native to the ecosystem and whose introduction or presence can cause economic and/or environmental harm. Invasive species compete directly with native species for moisture, sunlight, nutrients, and space.

3.2.1 AFFECTED ENVIRONMENT

The land surrounding the project area is primarily agricultural, with some invasive species/noxious weeds known to be present. Invasive species and noxious weeds have the potential to encroach upon native vegetation and deteriorate riparian and wetland habitat that may otherwise be suitable for native species. The table below shows a series of invasive plant species that may occur in Cache County. The information was derived from the Cache County Noxious Weed Supervisor's notice in the March 2024 issue of *Cache Conservation News*.

Utah classifies noxious weeds by how widespread and threatening they are. Class I (1A/1B) weeds are new or barely present and should be eradicated quickly. Class II weeds are established but still a priority for control. Class III weeds are widespread and should be contained. Class IV weeds are banned from sale or propagation.

Table 3-2: Noxious Weeds Likely to Occur in Cache County, Utah

Common Name	Taxonomy	Utah Status
Bermuda grass	*Cynodon dactylon*	Class III
Russian salt tree	*Caragana halodendron*	Class IB
Crack willow	*Salix fragilis*	Class IV
Canada thistle	*Cirsium arvense*	Class III
Cogongrass-japanese blood grass	*Imperata cylindrica*	Class IV
Dame's rocket	*Hesperis matronalis*	Class IV
Dyer's woad	*Isatis tinctoria*	Class II
Field bindweed	*Convolvulus arvensis*	Class III
Hoary cress	*Cardaria drabe*	Class III
Houndstongue	*Cynoglossum officinale*	Class III
Jointed goatgrass	*Aegilops cylindrica*	Class III
Musk thistle	*Carduus nutans*	Class III
Myrtle spurge	*Euphorbia myrsinites*	Class IV
Perennial pepperweed	*Lepidium latifolium*	Class III
Perennial sorghums	*Sorghum halepense*	Class III
Phragmites- common reed	*Phragmites australis ssp.*	Class III
Poison hemlock	*Conium maculatum*	Class III
Puncturevine (goathead)	*Tribulus terrestris*	Class III
Quackgrass	*Agropyron repens*	Class III
Russian knapweed	*Centaurea repens*	Class III
Russian olive	*Elaeagnus angustifolia*	Class IV
Scotch broom	*Cytisus scoparius*	Class IV
Scotch thistle	*Onopordium acanthium*	Class III
Tamarisk (salt cedar)	*Taramix ramosissima*	Class III

Source, General Notice to Control Noxious Weeds, Cache Conservation News, p. 3, dated March 2024.

3.2.2 NO ACTION ALTERNATIVE ENVIRONMENTAL EFFECTS

Under the No Action Alternative, there would be no construction activities and therefore, no impacts to invasive species in the study area. Existing conditions would continue.

3.2.3 PROPOSED ACTION ALTERNATIVE ENVIRONMENTAL EFFECTS

During construction, there would be the potential to introduce invasive species inadvertently. To prevent this negative impact, equipment inspections and cleaning would occur prior to delivery to the site. If vegetation removal is required, reseeding with a non-invasive seed mix would occur following construction. The Proposed Action would impact native plant communities in the area as well. However, native plant communities would generally benefit from invasive and noxious weed control measures.

3.2.3.1 MITIGATION MEASURES

Federal, State, and County standard weed control Best Management Practices would be implemented to mitigate and reduce negative impacts during and after construction, including the use of flagging construction limits, limiting ground disturbance to the extent practicable, and performing decontamination of equipment before and after construction. Specifically, the following mitigation measures would be implemented as recommended by the Cache County Vegetation Management Division:

1. Make sure all equipment and materials are clean from noxious weed seeds before entering the project site.
2. Don't haul any dirt or excess material away from construction site area.
3. Clean all equipment before exiting the construction site.
4. Choose a certified weed free seed mix. Check with the local NRCS office on recommended seed mix varieties for the project area.
5. Monitor construction site for five years after project is complete for any new noxious weed infestations.

3.3 HAZARDOUS AND SOLID WASTE

3.3.1 AFFECTED ENVIRONMENT

The Utah Department of Environmental Quality (DEQ) operates an environmental response and remediation interactive web map that includes the capability to search for hazardous/solid waste sites throughout the entire state of Utah. A review of this online tool was performed on April 22, 2025, and no hazardous waste/solid waste sites were identified in the project area.

3.3.2 NO ACTION ALTERNATIVE ENVIRONMENTAL EFFECTS

Under the No Action Alternative, no construction would occur, and no hazardous waste/solid waste would be generated or need to be disposed of. Existing conditions would continue.

3.3.3 PROPOSED ACTION ALTERNATIVE ENVIRONMENTAL EFFECTS

Installation of the Proposed Action would generate waste in the form of concrete used to construct the pump station. Additionally, construction equipment used to install the Proposed Action would require re-fueling during the period of construction. Furthermore, hazardous waste may be generated from pipe sections left over from cutting pipe to the necessary dimensions, from packing materials, and from rebar and other materials. A propane power generator would be used temporarily until the spillway project is complete and three-phase power line can be installed.

3.3.3.1 MITIGATION MEASURES

The following mitigation measures would be employed to ensure the proper management and disposal of waste generated by construction:

- Concrete used for the pump station would be hauled to an offsite location for disposal (i.e., a landfill)
- Refueling of equipment would occur onsite. However, there would be no on-site fuel storage.
- Other debris would be hauled to an offsite location for disposal.
- No additional mitigation measures for issues with the propane tank fueling the temporary generator would be required as any leak would turn to gas and dissipate into the air.

3.4 STREAMS, WETLANDS, RIPARIAN AREAS, AND FLOODPLAINS

A wetland is an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Floodplains are defined as normally dry areas that are occasionally inundated by high stream flows or high lake water. The project area was evaluated for the presence of these resources.

3.4.1 AFFECTED ENVIRONMENT

Cirrus Ecological Solutions performed a formal wetland delineation following U.S. Army Corps of Engineers guidelines in August 2025. The findings of the delineation are detailed in the Aquatic Resources Delineation Report, included in Appendix B. The survey was completed for the entire disturbance area, except for the area where the electrical conduit would be placed because it is located entirely on an existing roadway. Cirrus delineated ~0.132 acres of wetlands in the project area. A map of the delineated wetlands in the project area is located on page 21/50 of the Aquatic Resources Delineation Report located in Appendix B.

3.4.2 NO ACTION ALTERNATIVE ENVIRONMENTAL EFFECTS

Under the No Action Alternative, no construction would occur. No wetlands/riparian areas or floodplain conditions would be impacted. Without the Proposed Action, it can be reasonably predicted that the WMCD would continue to experience seepage losses, and that water availability for shareholders of the WMCD would continue to be insufficient as a result. The seepage currently facilitates the existence of the 0.132 acres of fringe wetlands along the canal, which otherwise exists in an upland area. The lack of pressure to operate sprinklers would continue the inefficient application of water on crops. Additionally, long-term climate trends forecast increased drought frequency in the western United States, which could also be reasonably predicted to impact the availability of secondary water. Existing conditions would continue.

3.4.3 PROPOSED ACTION ALTERNATIVE ENVIRONMENTAL EFFECTS

Under the Proposed Action Alternative, there would be disturbance to approximately 0.132 acres of wetlands in the project area. There would be no change in floodplain functionality. An Aquatic Resource Delineation Report (ARDR) was completed for the Upper Canal project area, which identified the Wellsville–Mendon Upper Canal as a man-made irrigation conveyance and approximately 0.132 acres of narrow wetland fringes along its banks. These wetlands would dry up as a result of the piping of the canal, which would eliminate the current hydrologic conditions which allow these fringe areas to survive. A Nationwide Permit (NWP) with the U.S. Army Corps of Engineers would be obtained prior to the project, which would include requirements on any compensatory mitigation that may be required for the disturbed wetland areas.

3.4.3.1 MITIGATION MEASURES

Prior to construction, the project proponent will obtain all necessary federal, state, and local authorizations. This includes securing any Clean Water Act Section 404 documentation deemed to be required including obtaining a Nationwide Permit. Construction will not commence until the appropriate authorization has been issued.

Through this process, the project ensures compliance with Section 404 of the Clean Water Act, while demonstrating avoidance and minimization of aquatic resource impacts.

3.5 WIDLIFE: FISH & MIGRATORY BIRDS

The protection of migratory birds and eagles is regulated by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in the taking of migratory birds, including eagles, is prohibited unless otherwise permitted by the USFWS. The BGEPA provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under specified conditions, the taking, possession, and commerce of such birds.

3.5.1 AFFECTED ENVIRONMENT

As identified in Chapter 1 of this EA, no effects would occur to any fish or migratory birds and so, no additional evaluation is necessary for them in this section. However, there is potential for Bald Eagles to occur in the project area. The Bald Eagle typically nests in tall trees near water bodies where prey is readily available and breeds between December 1 and August 31 (USFWS, 2025). Sightings have been documented near Hyrum Reservoir and along the Little Bear River during certain periods of the year. These areas offer the nearest suitable habitat for nesting and roosting.

3.5.2 NO ACTION ALTERNATIVE ENVIRONMENTAL EFFECTS

Under the No Action Alternative, no construction would occur. No Bald Eagles would be impacted. Existing conditions would continue.

3.5.3 PROPOSED ACTION ALTERNATIVE ENVIRONMENTAL EFFECTS

A desktop review of publicly available wildlife occurrence data was completed to assess the potential presence of Bald Eagles within and near the project area. A review of iNaturalist records (accessed November 5, 2025) found no observations of Bald Eagles within the project area or immediately adjacent lands. This finding was further confirmed through a review of the Utah Natural Heritage Database, which did not list the Bald Eagle as a species potentially occurring within ½ mile of the project footprint. Although Bald Eagles have been documented by Reclamation within approximately 2 miles of the project area, the potential effects associated with project activities would not extend beyond the ½-mile buffer used for the analysis. Therefore, it is not anticipated that the implementation of the Proposed Action would have direct impacts to individuals or nest locations. However, given the migratory nature of Bald Eagles there is the possibility for new nest construction and localized movements that may be impacted by construction activities of the Proposed Action

3.5.3.1 MITIGATION MEASURES

The following mitigation measures would be employed to mitigate possible impacts to Bald Eagles during the construction of the Proposed Action.

The project proponent will implement standard guidelines to mitigate impacts to Bald Eagles and other migratory birds that may be present in the project area. These include the following:

- Maintain recommended spatial buffers for construction activity near active nest sites.
- Noise suppression devices such as mufflers will be maintained on all equipment.
- Prior to any woody vegetation removal, a nest clearance survey will be conducted by a qualified biologist. If nests are located, the proponent will notify Reclamation and halt any removal of vegetation.
- Removal or alteration of Bald Eagle nests is prohibited.

4.0 CONSULTATION AND COORDINATION

4.1 PERSONS, GROUPS, AND AGENCIES CONSULTED

Table 4-1 lists the persons, groups, and agencies that were coordinated with or consulted during the preparation of this environmental assessment. The table also summarizes the conclusions of those processes.

Table 4.1 Consultations

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Utah State Historic Preservation Office	National Historic Preservation Act Section 106	Reclamation determined the finding of Historic Properties Adversely Effected and submitted a letter of findings to the Utah SHPO on September 29, 2025. The Utah SHPO concurred with the finding of Adverse Effect on October 7, 2025, and concurred with Reclamation's proposal to mitigate these adverse effects through the Mitigation PA on October 22, 2025 (See Appendix C).
Tribal Historic Preservation Office	National Historic Preservation Act Section 106	Reclamation initiated consultation on October 6, 2025, through letters of findings sent to the THPOs of the Northwestern Band of Shoshone Nation, Shoshone-Bannock Tribe, and Eastern Shoshone Tribe of the Wind River Reservation. No responses were received.
U.S. Fish and Wildlife Service	Endangered Species Act Section 7	A USFWS Information for Planning and Consultation (IPaC) Report was generated on April 22, 2025. The IPaC results showed the potential for several species to occur. Reclamation biologists required surveys to identify suitable habitat for the ULT. No suitable ULT habitat or ULT individuals were found in the project footprint.

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Native American Nations and Tribal Organizations	Executive Order 13175, Executive Order 13007	On October 6, 2025, consultation was initiated by Reclamation through letters sent to the Northwestern Band of Shoshone Nation, Shoshone-Bannock Tribe, and Eastern Shoshone Tribe of the Wind River Reservation. No responses were received.
Utah State Geological Survey (UGS)	Paleontological Resources Preservation Act (See Appendix B)	On November 21, 2025, Reclamation requested a paleontological file search to determine the nature and extent of paleontological resources within the APE. On December 7, 2025, the assistant to the State Paleontologist reviewed the project area and determined that there are no paleontological localities recorded, and it would have a low probability of being a paleontological sensitive area.

4.2 LIST OF PREPARERS

The specialists listed in the following table(s) assisted in the preparation of this EA.

Table 4.2 Reclamation Preparers and Reviewers

Name	Title	Section Assignment
Bridget Navarro	Civil Engineer – Water Rights	Water Resources
Chris Thompson	Realty Specialist	Lands Access, ROWs and Reclamation Structures
Nicole Dangerfield	Archaeologist	Archaeology, Cultural and Indian Trust Assets, Quality Assurance
Wyatt Carter	Biologist	Biological and Ecological Resources and Public Health and Safety, Wetland Resources
Dustin Woodbury	Civil Engineer – Water Rights Lead	Water Resources
Mark Wimmer	Division Manager	NEPA Oversight and Project Coordination

Table 4-3. Other Preparers

Name	Title	Role
Chad Brown P.E.	Principal	Project Lead
Layne Jensen P.E.	Principal	Environmental Lead
Ben Sandberg P.E.	Staff Engineer	Civil Engineer, Design
Landon Richins	Environmental Specialist	NEPA Author, Environmental

5.0 REFERENCES, GLOSSARY AND ACRONYMS

5.1 REFERENCES CITED

Code of Federal Regulations (CFR). 2020. *Part 1501 – NEPA and Agency Planning.*

Department of the Interior. 1995. *Departmental Manual Part 512 American Indian and Alaska Native Programs.*

Federal Emergency Management Agency. 2025. *National Flood Hazard Layer*.

iNaturalist. (2025). *iNaturalist research-grade observations* [Data set]. California Academy of Sciences & National Geographic Society. https://www.inaturalist.org

Natural Resources Conservation Service. 2025. *Web Soil Survey*. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U.S. Army Corps of Engineers. 1987. *Wetland Delineation Manual.*

U.S. Fish and Wildlife Service. 2025. *WMCD Upper Canal Phase II Piping Project* (2025-0086329).

Utah Department of Environmental Quality (Utah DEQ). 2025. *Environmental Interactive Map. Utah DEQ Environmental Interactive Map*

Utah Division of Wildlife Resources. (2025). *Utah Natural Heritage Program: Species occurrence database* [Data set]. Utah Department of Natural Resources. https://wildlife.utah.gov/heritage

Utah SHPO-USBR PA2020 Programmatic Agreement between the Bureau of Reclamation and the Utah State Historic Preservation Office Regarding National Historic Preservation Act Mitigation for Adverse Effects to Irrigation Infrastructure.

5.2 LIST OF ACRONYMS

- APE – Area of Potential Effects
- BGEPA – Bald and Golden Eagle Protection Act of 1940
- CFR – Code of Federal Regulations
- DEQ – Department of Environmental Quality
- EA – Environmental Assessment
- EIS – Environmental Impact Statement
- FONSI – Finding of No Significant Impact
- GHG – Greenhouse Gases
- IPaC – Information for Planning and Consultation
- ITA – Indian Trust Assets
- MBTA – Migratory Bird Treaty Act of 1918
- NEPA – National Environmental Policy Act of 1969
- NHPA – National Historic Preservation Act of 1966
- NRCS – Natural Resources Conservation Service
- PA – Programmatic Agreement
- Reclamation – U.S. Bureau of Reclamation
- SHPO – State Historic Preservation Office
- ULT – Ute Ladies'-tresses
- USFWS – U.S. Fish and Wildlife Service
- WEEG – Water and Energy Efficiency WaterSMART Grant
- WMCD – Wellsville-Mendon Conservation District

APPENDICES

APPENDIX A: ULT MEMO

APPENDIX B: AQUATIC RESOURCES DELINIATION REPORT

APPENDIX C: SHPO CONCURRENCE/CONCURRENCE LETTER

APPENDIX A: ULT MEMO

Cirrus Ecological Solutions, LC
965 South 100 West, Suite 200
Logan, UT 84321(435) 787-1490
Fax (435) 787-1495

MEMO

DATE: September 22, 2025

TO: Landon Richins, Environmental Specialist, Franson Civil Engineers

CC: Scott Evans, Owner, Cirrus Ecological Solutions; Layne Jensen, Professional Engineer, Franson Civil Engineers

FROM: John Stewart, Botanist, Cirrus Ecological Solutions

RE: Ute ladies'-tresses survey for the Wellsville-Mendon Conservation District Upper Canal Phase 2 project

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The Wellsville-Mendon Conservation District Upper Canal Phase 2 improvement project is located in Cache Valley, Utah, west of the City of Hyrum and Hyrum Reservoir. Franson Civil Engineers retained Cirrus Ecological Solutions, LC to complete a survey to determine if suitable habitat for Ute ladies'-tresses (*Spiranthes diluvialis*) occurs in the project area, and if suitable habitat for Ute ladies'-tresses occurs in the project area, to complete surveys for Ute ladies'-tresses following the U.S. Fish and Wildlife Service (USFWS) survey protocol requirements.

The project area is shown in Figures 1, 2a, and 2b. The total acreage of the project area is approximately 62 acres, representing a variable-width corridor along the length of the canal in the project area, including several work areas on the east end of the project and 11 proposed irrigation turnouts west of the main project area.

A pedestrian survey was completed of the entire project area on July 25-26, 2025, to search for potentially suitable habitat for Ute ladies'-tresses. This period corresponded to the timeframe when a known population of Ute Ladies'-tress in the Mendon area was confirmed to be in flower. Any potential habitat occurring in the project area would be surveyed following the survey protocol established by the USFWS, as outlined below. No suitable habitat for or occurrences of Ute ladies'-tresses were identified in the review area.

Background

Ute ladies'-tresses was federally listed as threatened on January 17, 1992 (57 FR 2048). Critical habitat has not been designated for this species.

Ute ladies'-tresses is a perennial orchid with stems that arise from thickened roots. The bloom consists of 3 to 15 small white- or ivory-colored flowers clustered into a spike arrangement at the top of the stem.

Depending on location, the species may flower as early as early July or as late as early October. Mature plants may remain dormant for one or more growing seasons without producing aboveground shoots or may exhibit vegetative shoots only. Bumblebees are one of the main pollinators for Ute ladies'-tresses and population numbers can affect how many and when flowering occurs.

Habitat Characteristics

Ute ladies'-tresses may be found in moist to wet soils in mesic or wetland habitat associated with springs, lakes, and perennial streams. The elevation range of occupied habitat is 700 to 7,000 feet throughout the species range. Most occurrences are along riparian edges, gravel bars, old oxbows, and moist to wet meadows. Some localities are near freshwater lakes and springs/groundwater discharge zones. Ute ladies'-tresses is adapted to disturbances caused by water movement through flood plains over time. The species occurs primarily in areas where the vegetation is relatively open and not very dense. It often grows on point bars and other recently created riparian habitat. The orchid appears to require permanent subirrigation, with the water table holding steady throughout the growing season and into late summer and early autumn.

Populations appear to fluctuate dramatically from year to year, making it difficult to assess population status and distribution. The genus *Spiranthes* may also undergo a dormant period that may last 7 to 10 years, with no evidence of above-ground plant structures. Nothing is known about the dormancy-triggering mechanisms. In order to locate this species, potential habitat should be surveyed multiple years due to potential dormancy.

Ute Ladies'-tresses Orchid Survey/Habitat Assessment

The survey for Ute ladies'-tresses orchid was completed following the protocol developed by the USFWS (1992). Note that this protocol requires 3 years of surveys if suitable habitat is identified because the species may not flower every year. Important elements of the survey protocol included the following:

- Evaluation of the study area to determine where potentially suitable habitat exists using a combination of aerial imagery, existing information, and field reconnaissance.
- Scheduling field surveys corresponding to flowering in other known populations, typically beginning in the later part of July and extending into mid-to-late August, depending on conditions.
- Completing pedestrian surveys providing 100 percent coverage in suitable habitat using closely-spaced transects.
- Recording population information if any occurrences of Ute ladies'-tresses orchid are located.

Survey Results

Suitable habitat for Ute ladies'-tresses was not found in the project area. The project area was found to be comprised of dry upland sites, with the exception of the irrigation canal. The canal is U-shaped in profile with limited wetland fringe vegetation occurring as narrow, intermittent patches. Reed canary grass was the most common community type in the wetland fringes, presenting as tall, dense stand of grass. Several stands of *Salix exigua* occur in similar settings. These communities represent poor quality habitat for Ute ladies'-tresses.

References

U.S. Fish and Wildlife Service (USFWS). 1992. Interim Survey Requirements for Ute Ladies'-tresses Orchid (*Spiranthes diluvialis*). Revised 2017.

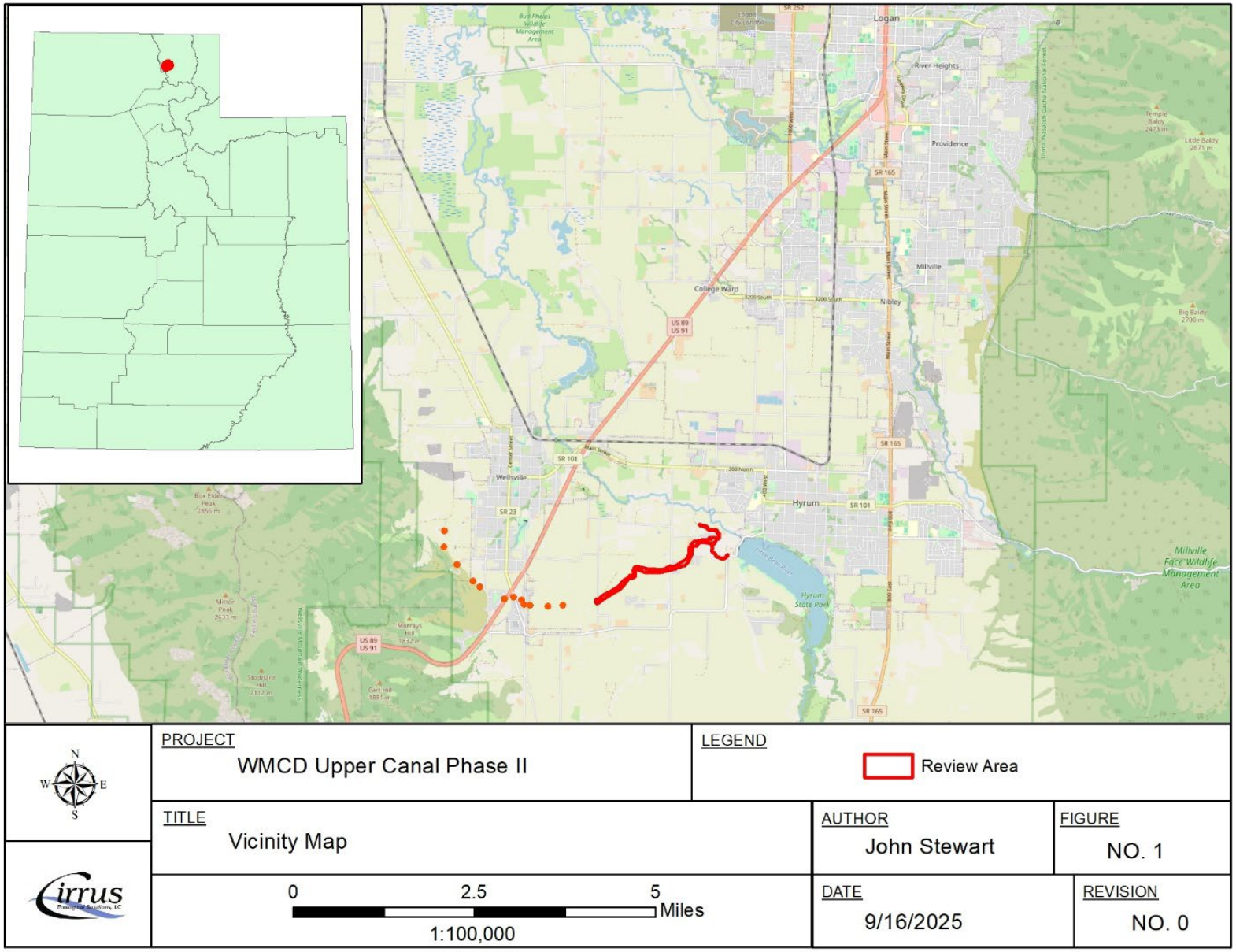


Figure 1. Vicinity Map.

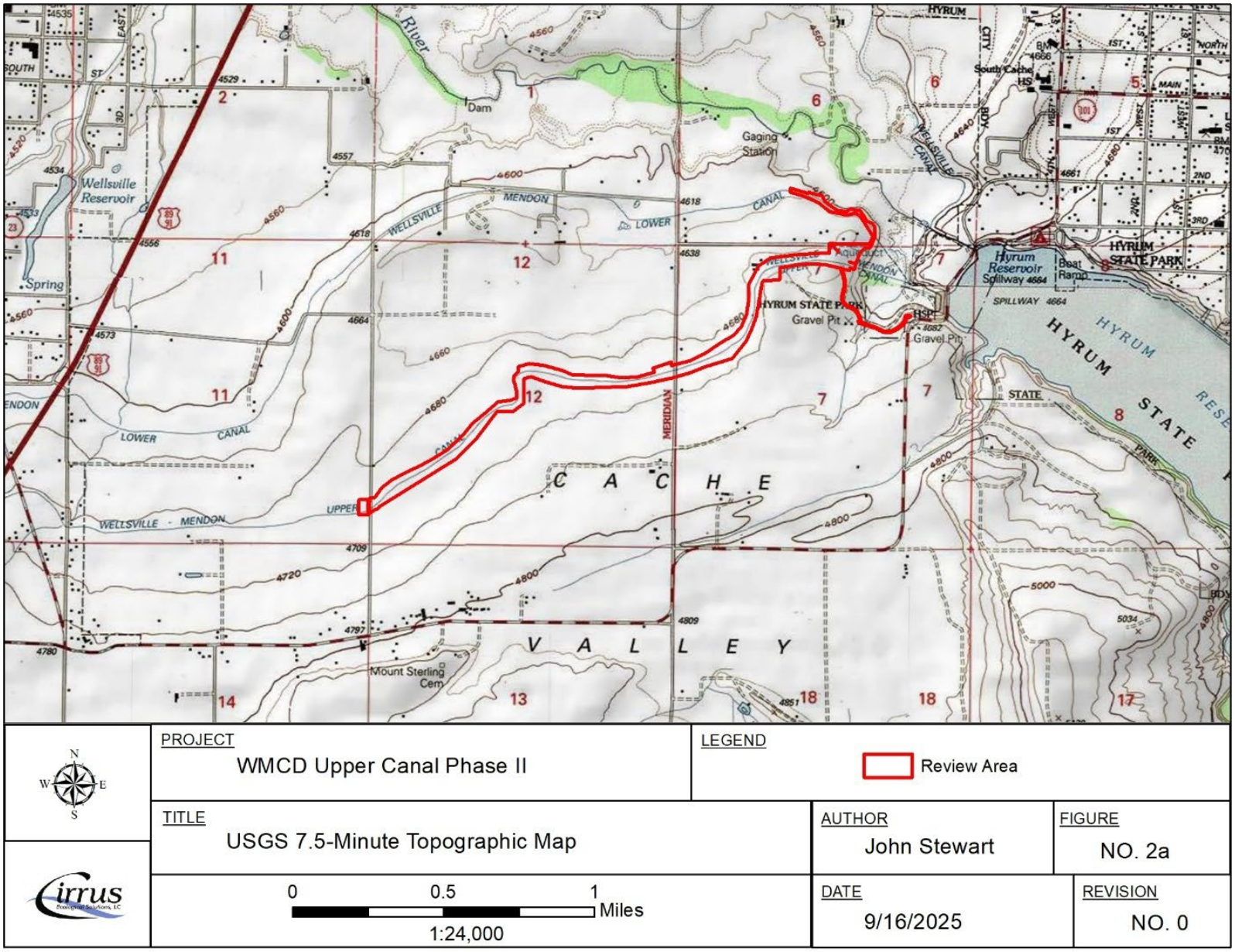


Figure 2a. Survey area for Ute ladies tresses shown on a topographic map.

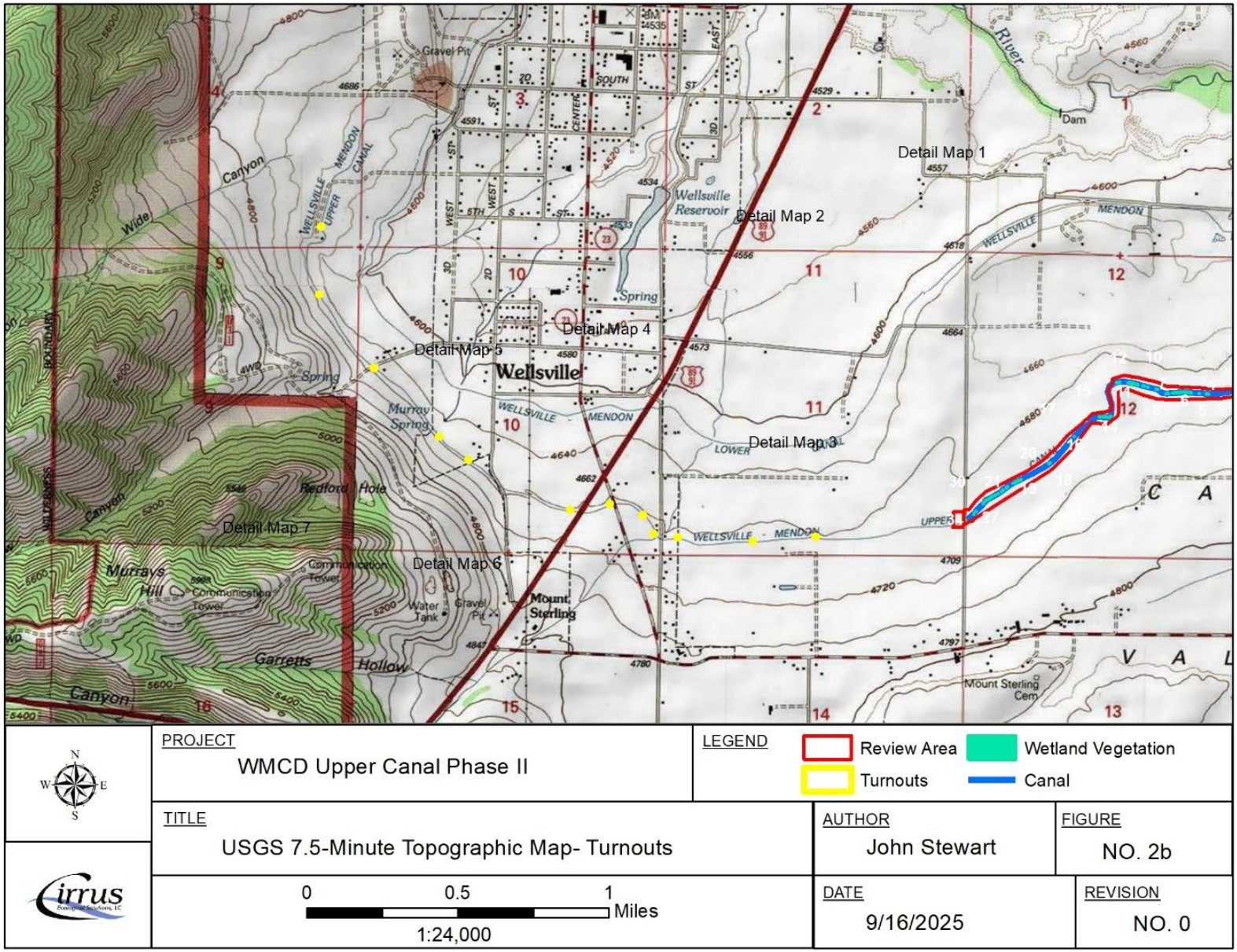


Figure 2b. Survey area turnouts- shown on a topographic map.

APPENDIX B: AQUATIC RESOURCE DELINEATION REPORT

AQUATIC RESOURCE DELINEATION REPORT

for the

Wellsville-Mendon Conservation District's Upper Canal Improvement Project, Phase II

Project Name: Wellsville-Mendon Conservation District (WMCD) Upper Canal Improvement Project, Phase II

Date: September 22, 2025

Purpose for Delineation: Assess the WMCD Upper Canal Phase II project review area and designated irrigation turnout sites for aquatic resources.

Project Summary: The Phase II of the WMCD Upper Canal improvement project would convert approximately 2 miles of open canal to buried pipeline, beginning at the discharge from Hyrum Reservoir, downstream to the point where the canal crosses 3200 West Road. Phase I of the WM Canal improvement project converted the reach of the canal west of 3200 West Road to buried pipeline.

Prepared by:

Applicant's Name: Quinn Murray, President, Wellsville-Mendon Conservation District
Address: PO Box 70, Wellsville, UT 84339
Phone Number: 435-232-8207

Consulting Company: Cirrus Ecological Solutions, LC
Address: 775 South Main, Suite A, Logan, UT 84321
Phone Number: 435-787-1490
Email: jstewart@cirruses.com

Prepared for:

Name: Landon Richins
Company: Franson Civil Engineers
Address: 1276 S. 820 E., Suite 100 American Fork, Ut 84003
Phone Number: 435.754.7661
Email: lrichins@fransoncivil.com

Table of Contents

1. General Background and Site Information

The Wellsville-Mendon Conservation District (WMCD) Upper Canal Phase II improvement project is located in Cache Valley, Utah, west of the City of Hyrum and Hyrum Reservoir. The project area may be accessed from 5800 South, Meridian Road, and 3200 West roads, which intersect the canal right-of-way. The project review area consists of a polygon that encompasses the Wellsville-Mendon (W-M) Canal Right-of-Way (ROW) and turnout areas, as shown in Figures 1, 2a, and 2b, (Appendix B). Access to the project area can be arranged through the canal company (Quinn Murray, President, Wellsville-Mendon Conservation District, PO Box 70, Wellsville, UT 84339, 435-232-8207).

The aquatic resources survey/delineation was completed by John Stewart, Cirrus Ecological Solutions, LC. This Aquatic Resources Delineation Report was also prepared by John Stewart. Professional aquatic resource delineation qualification includes 35 years as a wetland specialist performing aquatic resource delineations and related work.

The project review area for this aquatic resource survey is shown in Figures 1, 2a, 2b, 3a,3b, and 3c (Appendix B). The center of the project area is 41.620804 N -111.900551 W. The total acreage of the project area is approximately 62 acres, representing a variable-width corridor along the length of the canal in the project area and including several work areas on the east end of the project and 11 proposed irrigation turnouts west of the main project area.

The WMCD upper canal is located in the south part of Cache Valley west of Hyrum Reservoir (Figure 1, Appendix B). The canal provides irrigation water from Hyrum Reservoir to water users in the Mt. Sterling-Wellsville areas. The canal was constructed in the 1930's as an open canal approximately 4.5 miles in length as a man-made irrigation conveyance. The canal traverses upland fields. The canal has been maintained as needed to preserve canal function, including removing sediment and excess vegetation.

The WMCD completed Phase I of the Upper Wellsville-Mendon Canal Improvement project in 2025. Phase I constructed an 18-inch pipeline from about 3200 West to the north side of US Highway 89/91, where it was connected to an existing 24-inch pipeline to 200 West. The 24-inch pipeline was connected to the existing 15-inch pipeline, which ended at about 600 South. The project piped the remainder of the canal with a 12-inch pipe, from about 600 South to 530 South. The Phase I project was funded by a Utah Department of Agriculture Food Agricultural Water Optimization Grant and a Utah Board of Water Resources loan.

Phase II of the project will convert the remaining approximately 2 miles of the canal to buried pipeline and install water turnouts. Phase II of the project is predominantly surrounded by agricultural land uses, including hay and grain. Rural residential uses occur along the east end of the canal just outside of the project area.

The canal company holds a right-of-way for the canal. Access to the project area is through the right-of-way, which crosses public access roads at 5800 South, Meridian Road, and 3200 West.

Contact information for the property owner and agent/contractor, including name, physical address, phone number, and email are included in Appendix A along with Right of Entry Documentation.

2. Field Data Collection Methodology

The field work for the project was conducted on July 25 and 26, 2025. The fieldwork consisted of a pedestrian survey of the entire review area corridor. The project review area was walked to assess the presence of potential aquatic resources. Where potential aquatic resources were found, aquatic

resources parameters were evaluated to determine the presences of hydrophytic vegetation, hydric soils, and wetland hydrology. Wetland datasheets were completed for representative sample points to document the results of the investigation.

The aquatic resources delineation was conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratories 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE 2010). The Army Corps of Engineers has authority to determine the jurisdictional status of aquatic resources under Section 404 of the Clean Water Act.

The Routine Delineation Method, Level 2 (Onsite Inspection Necessary), was used to delineate aquatic resources in the project area because there was insufficient information already available to characterize the vegetation, soils, and hydrology of the project area. Sample points were placed in representative areas, with paired upland sample points. Normal circumstances were determined to be present in the project area. Atypical or difficult wetland situations were not encountered.

In the review area, the canal traverses dry upland fields. The only surface water present in the project area was the water carried by the canal. The canal has steep banks and the water level in the canal appeared to be relatively stable during the portion of the year that the canal carried water. Thus, potential aquatic resources were limited to the canal and intermittent fringes of hydrophytic vegetation within the canal near the surface water level. Representative sample points were placed in this narrow fringe, with corresponding upland sample points. The location of the sample points is shown on Figures 5a and 5b (Appendix C). Information on the plant community, soils and hydrology was recorded using the Western Mountains, Valleys, and Coastal Region Automatic Forms. The dataforms are included in Appendix E.

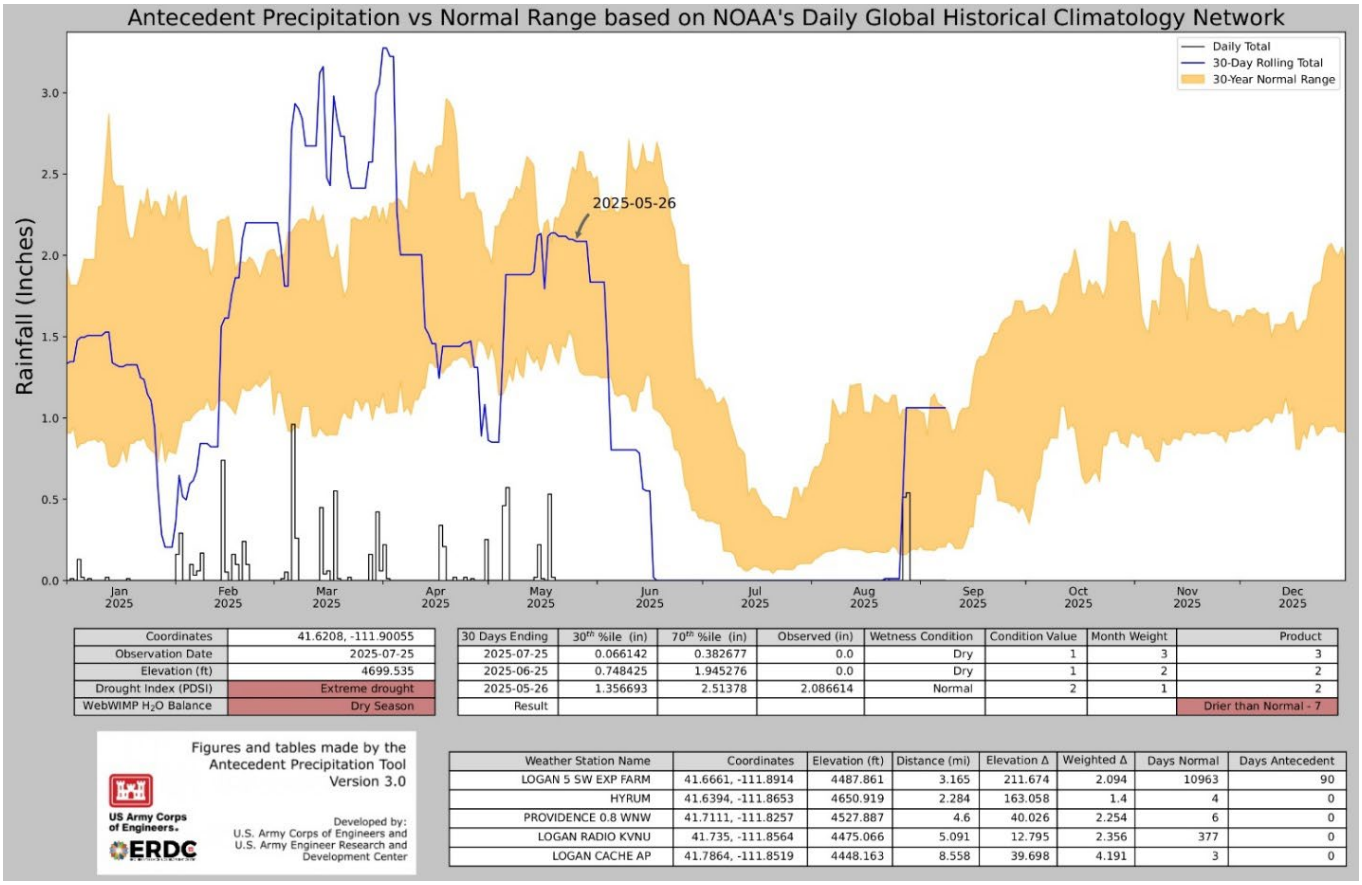
The boundary of the aquatic resources was mapped using an Emlid Reach 2 GPS receiver capable of submeter accuracy and high-resolution aerial imagery. The aquatic resources are shown on maps included in Appendix C. Areas containing wetland vegetation were identified and numbered. Representative photographs of the aquatic resources in the project area are included in Appendix F. The caption for each photo provides a brief description of the photo, including the direction of the photo is viewing. The location of each photograph is shown on Figure 6 (Appendix C).

The National Wetland Inventory mapping was downloaded from the NWI website (https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper). NWI mapping for the project area is shown in Figure 7 (Appendix 7). Within the review area, the only aquatic resource identified by the NWI mapping is the irrigation canal.

3. Site Conditions

The review area consists of a corridor along the canal (Figure 2a, Appendix B), and 11 isolated irrigation turnouts that are west of the main review area (Figure 2b, Appendix B). The land use in and adjacent to the review area and is primarily agricultural, including hay and annual grains. Rural residential development parcels overlap with the project area in a few locations. Agricultural uses have been in place for many years. Some fields are irrigated, while some are dryland cropped. It is assumed that the review area has been disturbed multiple times since settlement by a variety of activities, including farming practices and canal construction and maintenance.

The weather conditions in the 3 days prior to the field work were hot and dry. The Antecedent Precipitation Tool was run for the project area (Figure 1). The period preceding the field survey was drier than normal (7). The 30-day rolling precipitation total during the winter and early spring was general in the 30-year average range. However, no precipitation was reported beginning in early May through the period preceding the field survey, resulting in the drier than normal condition.



Coordinates	41.6208, -111.90055
Observation Date	2025-07-25
Elevation (ft)	4699.535
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-07-25	0.066142	0.382677	0.0	Dry	1	3	3
2025-06-25	0.748425	1.945276	0.0	Dry	1	2	2
2025-05-26	1.356693	2.51378	2.086614	Normal	2	1	2
Result							Drier than Normal - 7

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
LOGAN 5 SW EXP FARM	41.6661, -111.8914	4487.861	3.165	211.674	2.094	10963	90
HYRUM	41.6394, -111.8653	4650.919	2.284	163.058	1.4	4	0
PROVIDENCE 0.8 WNW	41.7111, -111.8257	4527.887	4.6	40.026	2.254	6	0
LOGAN RADIO KVNU	41.735, -111.8564	4475.066	5.091	12.795	2.356	377	0
LOGAN CACHE AP	41.7864, -111.8519	4448.163	8.558	39.698	4.191	3	0

Figure 1. Antecedent precipitation for the project review area prior to the field survey.

Given that hydrology in the review area is limited to water in the canal, the antecedent precipitation conditions were unlikely to affect the interpretation of the hydrology as it relates to the identification of aquatic resources in the review area.

4. Aquatic Resources Inventory

Aquatic resources in the review area consist of an irrigation canal and adjacent fringes of palustrine emergent and shrub-scrub communities. Aquatic resources are listed in Table 1 and shown in Figures 4 through 4g (Appendix C). Table 1 also includes the Cowardin classification, characteristic vegetation, acreage, and location (latitude and longitude) for each aquatic resource.

The irrigation canal is a man-made conveyance, excavated entirely in uplands, designed to transport irrigation water for agricultural uses. The canal originates from Hyrum Reservoir on the Little Bear River, via a pumping station that discharges water into the canal. The flow regime in the W-M Canal is typically from mid- to late-May to around the first of October. The water level in the canal is consistent during the irrigation season. The canal typically conveys flows around 7-8 cfs but can run as much as 15 cfs. There are no other sources of water to the canal within the review area. The terminal end of the canal is several miles north and west of the west end of the project area. The tailwater from the Upper Canal runs east in a ditch to the WMCD Lower Canal, which ultimately discharges tailwater into Cutler Reservoir on the Bear River, which flows into the Great Salt Lake. Thus, the canal may be judged to have a direct surface

connection to jurisdictional water. Flows within the canal are dependent on managed releases and likely represent a relatively permanent flow regime due to continuous seasonal flows.

The herbaceous hydrophytic fringe vegetation community is more common along the canal and occurs as intermittent patches. Reed canary grass or foxtail barley are characteristic of these fringes. The fringe community has a limited lateral extent due to the steep sides of the canal banks, limited to a narrow band centered on the surface water level of the canal and extending up to approximately 6-10 inches above the surface water elevation.

The willow-dominated scrub-shrub fringe community is more limited along the canal. Established willow patches occur on the canal banks but may extend upslope and away from the canal water into drier soil due to the deeper rooting characteristics of the willows.

The most recent versions of the aquatic resources bulk upload templates can be download from the RRS (https://rrs.usace.army.mil/rrs) or ORM (https://orm.ops.usace.army.mil) websites.

Table 1. Aquatic resources, size, and location in the project review area.

Map ID	Cowardin Classification	Characteristic Vegetation	Size (Acres or Linear Feet)	Latitude/ Longitude
W-M Canal	R4SBCx	Unvegetated	10,838	41.620804 N -111.900551 W
1	PSS1Er0	Coyote willow	0.035	41.6251 N -111.89 8874 W
2	PEM1Er0	Reed canary grass	0.004	41.6220 N -111.8927 W
3	PEM1Er0	Reed canary grass	0.001	41.6204 N -111.8948 W
4	PEM1Er0	Reed canary grass	0.003	41.6202 N -111.8854 W
5	PEM1Er0	Reed canary grass	0.0003	41.6202 N -111.8964 W
6	PEM1Er0	Reed canary grass	0.020	41.6203 N -111.88987 W
7	PEM1Er0	Reed canary grass	0.003	41.62602 N -111.8981 W
8	PEM1Er0	Reed canary grass	0.002	41.6204 N -111.8974 W
9	PEM1Er0	Reed canary grass	0.0005	41.6205 N -111.8989 W

Table 1. Aquatic resources, size, and location in the project review area.				
Map ID	**Cowardin Classification**	**Characteristic Vegetation**	**Size (Acres or Linear Feet)**	**Latitude/ Longitude**
10	PEM1Er0	Reed canary grass	0.002	41.6206 N -111.9006 W
11	PSS1Er0	Coyote willow	0.031	41.6221 N -111.9011 W
12	PEM1Er0	Reed canary grass	0.003	41.6221 N -111.9014 W
13	PEM1Er0	Reed canary grass	0.0006	41.6206 N -111.9017 W
14	PEM1Er0	Reed canary grass	0.002	41.6291 N -111.9033 W
15	PEM1Er0	Foxtail barley	0.001	41.6191 N -111.9068 W
16	PEM1Er0	Reed canary grass	0.001	41.6191 N -111.90.76 W
17	PEM1Er0	Reed canary grass	0.0002	41.6181 N -111.9079 W
18	PEM1Er0	Reed canary grass	0.001	41.6168 N -111.9079 W
19	PEM1Er0	Reed canary grass	0.005	41.6160 N -111.9082 W
20	PEM1Er0	Reed canary grass	0.001	41.6159 N -111.9084 W
21	PEM1Er0	Reed canary grass	0.004	41.6159 N -111.9086 W
22	PEM1Er0	Meadow foxtail	0.002	41.66156 N -111.9088 W
23	PEM1Er0	Reed canary grass	0.0001	41.6155 N -111.9089 W
24	PEM1Er0	Reed canary grass	0.0002	41.6154 N -111.9090 W
25	PEM1Er0	Reed canary grass	0.0001	41.6153 N -111.9091 W

Table 1. Aquatic resources, size, and location in the project review area.				
Map ID	**Cowardin Classification**	**Characteristic Vegetation**	**Size (Acres or Linear Feet)**	**Latitude/ Longitude**
26	PEM1Er0	Reed canary grass	0.001	41.66152 N -111.9096 W
27	PEM1Er0	Foxtail barley	0.004	41.6151 N -111.9097 W
28	PEM1Er0	Reed canary grass	0.0003	41.66151 N -111.9102 W
29	PEM1Er0	Reed canary grass	0.0001	41.6150 N -111.9009 W
30	PEM1Er0	Foxtail barley	0.0005	41.6149 N -111.9049 W
31	PEM1Er0	Reed canary grass	0.0001	41.6148 N -111.9071 W
32	PEM1Er0	Reed canary grass	0.00009	41.61145 N -111.9071 W
33	PEM1Er0	Reed canary grass	0.0002	41.6143 N -111.8857 W
34	PEM1Er0	Reed canary grass	0.001	41.6140 N -111.8996 W
		Total Acres	**0.132**	

Hydrology

The hydrology in the project area is limited to the water carried by the canal. The canal conveys water during the irrigation season, which extends from approximately May to October, depending on the year. The canal was excavated into the earth and has a “U” shaped profile. The extent of the hydrology is limited to the inundated lower section of the canal. Capillary lift extends areas of wet soil up about 6-10 inches above the water level in some reaches. More generally, the zone of wet soil follows the water surface. The hydrology at representative sample points in the wetland fringe communities is described on wetland datasheets 1 and 3 (Appendix E). The sample points were located slightly above the surface water level in the canal. Field indicators of wetland hydrology included saturated soil and a high water table.

The reach of the canal downstream of the review area is in a buried pipeline. The canal terminates in the fields north of Wellsville. Excess canal water is discharged to a ditch/channel that could convey flows downslope approximately 900 feet to the Lower Wellsville-Mendon Canal. The lower Wellsville-Mendon Canal conveys water approximately 10 additional miles to the north and east before discharging water to

Cutler Reservoir on the Bear River, which flows to the Great Salt Lake, which is a Traditional Navigable Water (TNW).

Soils

Soils data from the Web Soil Survey (https://websoilsurvey.nrcs.usda.gov/app/) was obtained for the project area (Figure 8, Appendix D). The primary soil map units in the review are Mendon Silt Loam, 0 to 3 Percent Slopes, Mendon Silt Loam, 3 to 6 Percent Slopes, Sterling Gravelly Loam, 6 to 10 Percent Slopes, Greenson Loam, 0 to 3 Percent Slopes, Gravel Pit, and Rough Broken. Only the Greenson Loam is listed as a hydric soil. Due to the absence of hydrology except within the lower canal profile, soils in the review area do not meet the definition of a hydric soil.

The soil profile description for the soils in the sample points SP1 and SP3 were 10YR 3/1 with no observed redox features, clay (Appendix E). Soils were saturated and thus met the criteria of a hydric soil (… a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part- Field Indicators of Hydric Soils in the United States A Guide for Identifying and Delineating Hydric Soils, Version 8.0, 2016.). However, hydric soil field indicators were not observed. Repeated excavation/maintenance could limit the potential development of hydric soil indicators.

Vegetation

The vegetation/plant communities in the project area include agricultural field with alfalfa/hay, annual grains, and weedy right-of-way communities. Within the ditch, there are upland communities with smooth brome and wheatgrass. Upland communities are most prominent. Reaches within the canal with wetland vegetation are primarily characterized by reed canary grass, with lesser occurrences of foxtail barley. There are also several reaches with willows. Near the east end of the review area there is a small area of narrow leaf cottonwoods on the south side of the canal. Dominant plant species observed in the review area are listed in Table 2. Species that occurred at the wetland sample points and the paired upland sample points are described on the wetland datasheets (Appendix E).

The IPaC website was consulted to identify federally-listed threatened or endangered plant species that should be considered for the review area. Based on this review, Ute ladies'-tresses orchid (*Spiranthes diluvialis*) was identified as potentially occurring in the project area. The entire review area was assessed for potential habitat for this species during the July 25-26 field work. This period corresponded to the timeframe when a known population of Ute Ladies'-tress in the Mendon area was confirmed to be in flower. No suitable habitat for or occurrences of Ute ladies'-tresses were identified in the review area.

Table 2. List of dominant plant species observed in the review area, with their wetland indicator status.

Scientific Name	Common Name	Wetland Indicator Status
Bassia scoparia	Kochia	FAC
Bromus inermis	Smooth brome	UPL
Conium maculatum	Poison hemlock	FAC
Convolvulus arvensis	Field bindweed	UPL
Dipsacus fullonum	Teasel	FAC
Elymus repens	Quack grass	FAC

Table 2. List of dominant plant species observed in the review area, with their wetland indicator status.

Scientific Name	Common Name	Wetland Indicator Status
Hordeum jubatum	Foxtail barley	FAC
Lactuca serriola	Prickly lettuce	FACU
Nepeta cataria	Cat mint	FACU
Onopordum acanthium	Scotch thistle	UPL
Phalaris arundinaceae	Read canary grass	FACW
Poa palustris	Fowl bluegrass	FAC
Populus angustifolia	Narrow-leaf cottonwood	FACW
Rumex crispus	Curly dock	FAC
Salix exigua	Coyote willow	FACW

5. Summary and Conclusion

An aquatic resource survey and delineation was completed in the project review area. Aquatic resources listed in Table I were identified. The ACOE has authority to determine the jurisdictional status of these resources under Section 404 of the Clean Water Act.

6. References

Citations for all references used (e.g., aerial photographs, local experts, maps, surveys, plant lists, previous site documents, scientific literature, local ordinances, etc.).

Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

U.S. Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Appendix A – Contact Information and Signed Right of Entry

Contact information for the applicant(s), property owner(s), and agent/contractor(s) including name, physical address(es), phone number(s), and email(s) for each alongside Right of Entry Documentation

Contact Information Example:

Property Owner: *(if there are multiple property owners, please attach additional pages)*

Name: _____ Company Name (*if applicable*): _____
Address: _____

Phone: _____ **Email:**

_____

Check one: ☐I currently own this property ☐I plan to purchase this property ☐Other: _____

Name: Quinn Murray, President

Company Name (*if applicable*): Wellsville Mendon Conservation District
Address: PO Box 70, Wellsville, UT 84339

Phone: 435-232-8207 Email: murrayquinn@aol.com
Check one: ☒ currently own this property ☐I plan to purchase this property Other: _____

Requestor of Jurisdictional Determination/Delineation *(if different than the property owner)*
Name: _____ Company Name (*if applicable*): _____
Address: _____
Phone: _____ Email: _____
Check one: ☐I currently own this property ☐I plan to purchase this property ☐Other: _____

Agent/Environmental Consultant Acting on Behalf of the Requestor *(if applicable)***:**
Consultant/Agent Name: John Stewart
Company Name: Cirrus Ecological Solutions, LC Address: 775 South Main, Suite A, Logan, UT 84321
Phone: 435-787-1490 Email: jstewart@cirruses.com

The official USACE right-of-entry form (ENG 6294) can be downloaded from the RRS website.

U.S. Army Corps of Engineers (USACE)

RIGHT OF ENTRY

For use of this form, see Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research, and Sanctuaries Act, the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003 Expires XX-XX-XXXX

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-003, is estimated to average 5 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Purpose: This form is used by members of the public to authorize the USACE to enter their property for site investigations relating to USACE project reviews. These reviews include onsite investigations needed to support application review, processing, and issuance of a Clean Water Act and/or Rivers and Rivers Act delineations, determinations, and/or permits.

This form is a component in the Corps Regulatory Request System (RRS), which is an online permitting application portal for the Regulatory Program.

ITEMS 1 THRU 3 - FOR USACE USE ONLY

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED

ITEMS 4 THRU 12 - COMPLETD BY THE PROPERTY OWNER

4. PROPERTY OWNER NAME (*first, middle, last*)	5. PROPERTY OWNER ADDRESS:	
Quinn Murray (President)	PO Box 70	
Company: Wellsville Mendon Conservation District	City: Wellsville	State: Utah
E-mail Address: wellsville.mendon.cd@gmail.com	Zip: 84339	Country: USA

6. PROPERTY OWNER PHONE NUMBERS. w/AREA CODE

a. Residence	b. Business	c. Fax
435-232-8207		

LOCATION AND LEGAL DESCRIPTION OF PROPERTY

7. PROJECT STREET ADDRESS (*if applicable*)

8. LOCATION OF PROPERTY (*in decimal degrees*)

Address	City:	State:	Zip:	Latitude: °N	Longitude: °W
	Mt Sterling	Utah	84339	41.620804	-111.900551

9. TAX PARCEL ID(s)

10. PROPERTY OWNER CERTIFICATION

By signing below, I authorize representatives of the USACE to enter upon the property described above for the purpose of conducting on-site investigations, if necessary, and issuing a jurisdictional determination pursuant to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. I, the undersigned, am a duly authorized owner of record of the property identified herein.

11. SIGNATURE OF PROPERTY OWNER	12. DATE

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Appendix B – Vicinity Maps

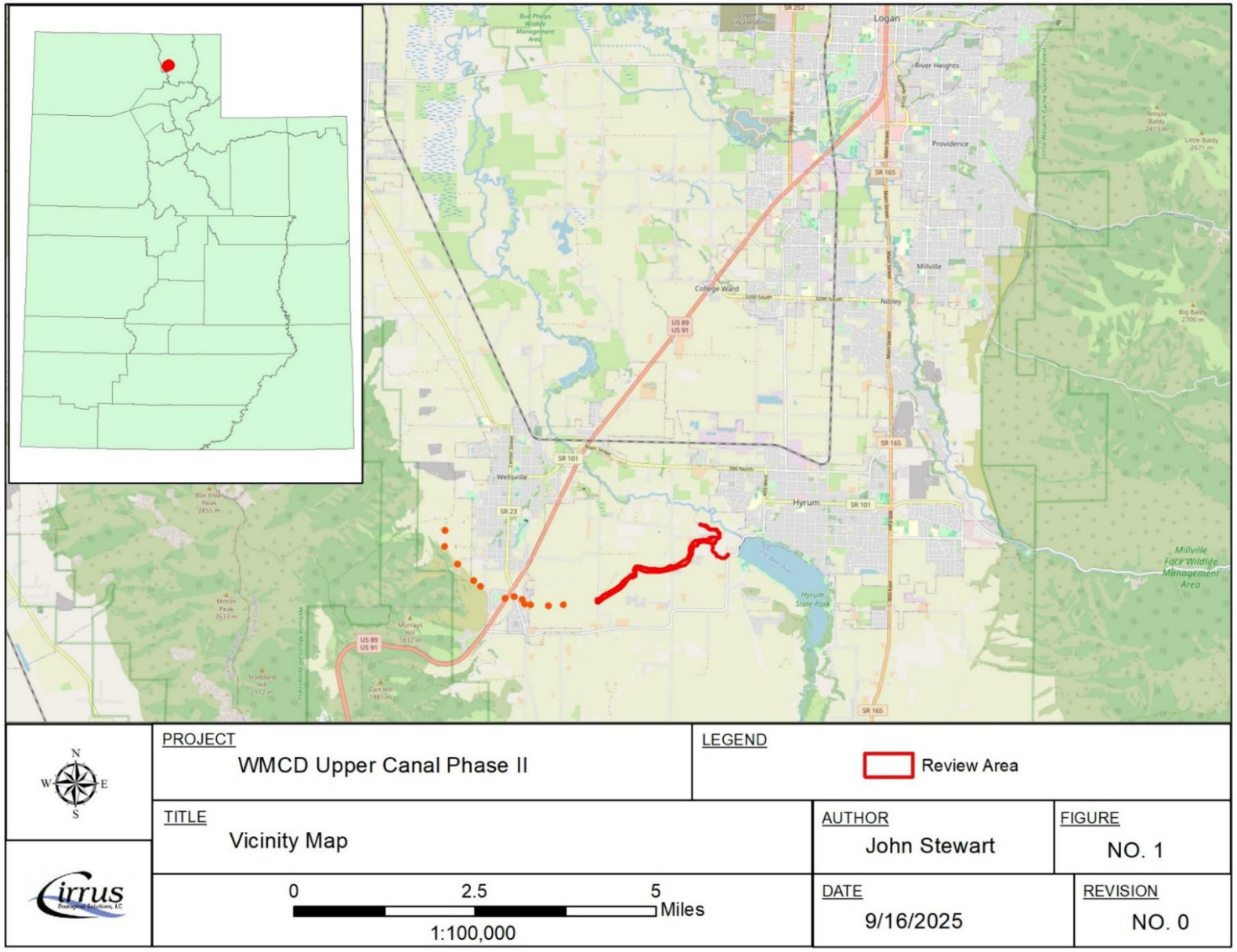


Figure 1. Vicinity map for the WMCD Upper Canal Phase II.

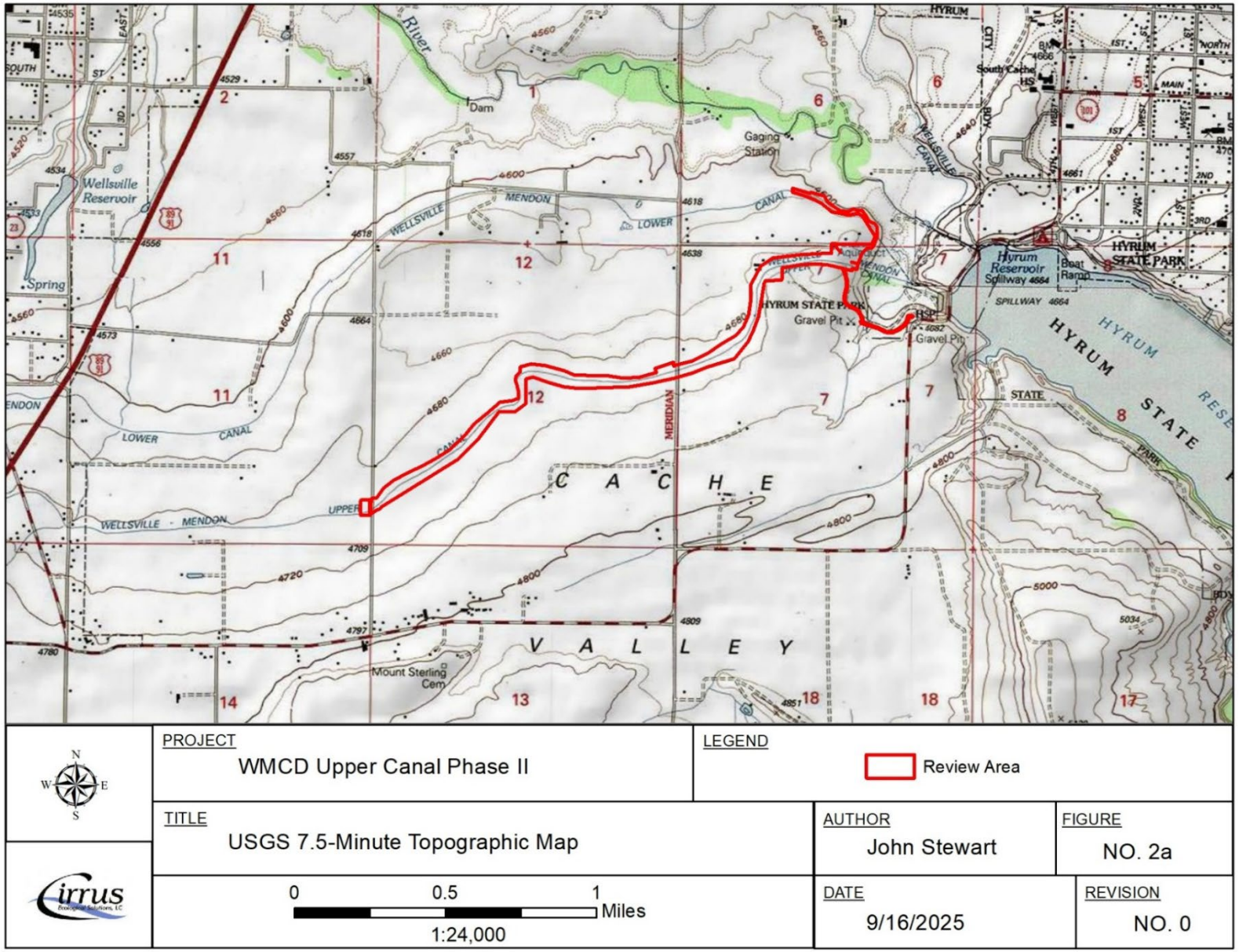


Figure 2a. Topographic map of the project review area.

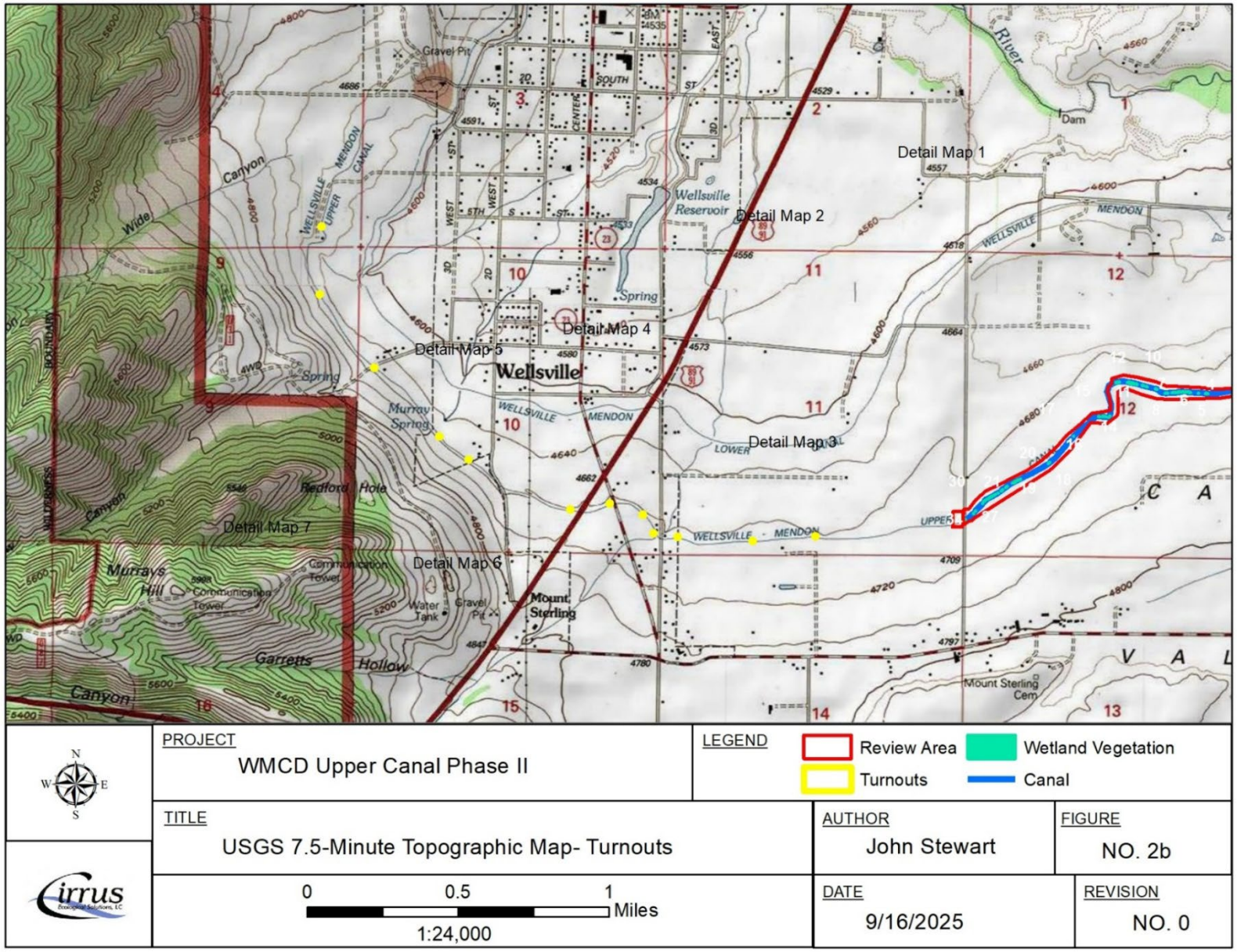


Figure 2b. Topographic map of turnouts for the project review area.

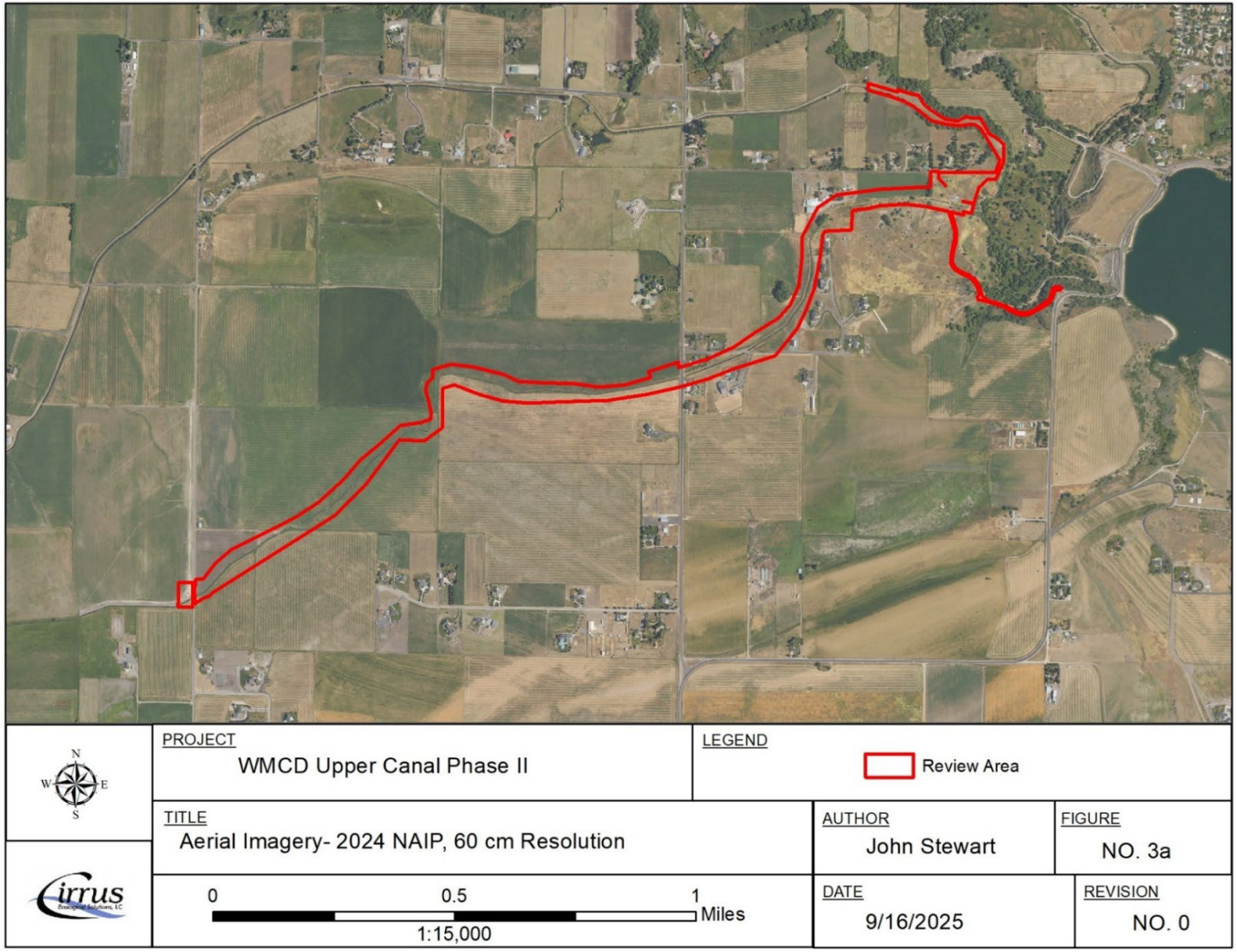


Figure 3a. Aerial imagery of the project review area in 2024.

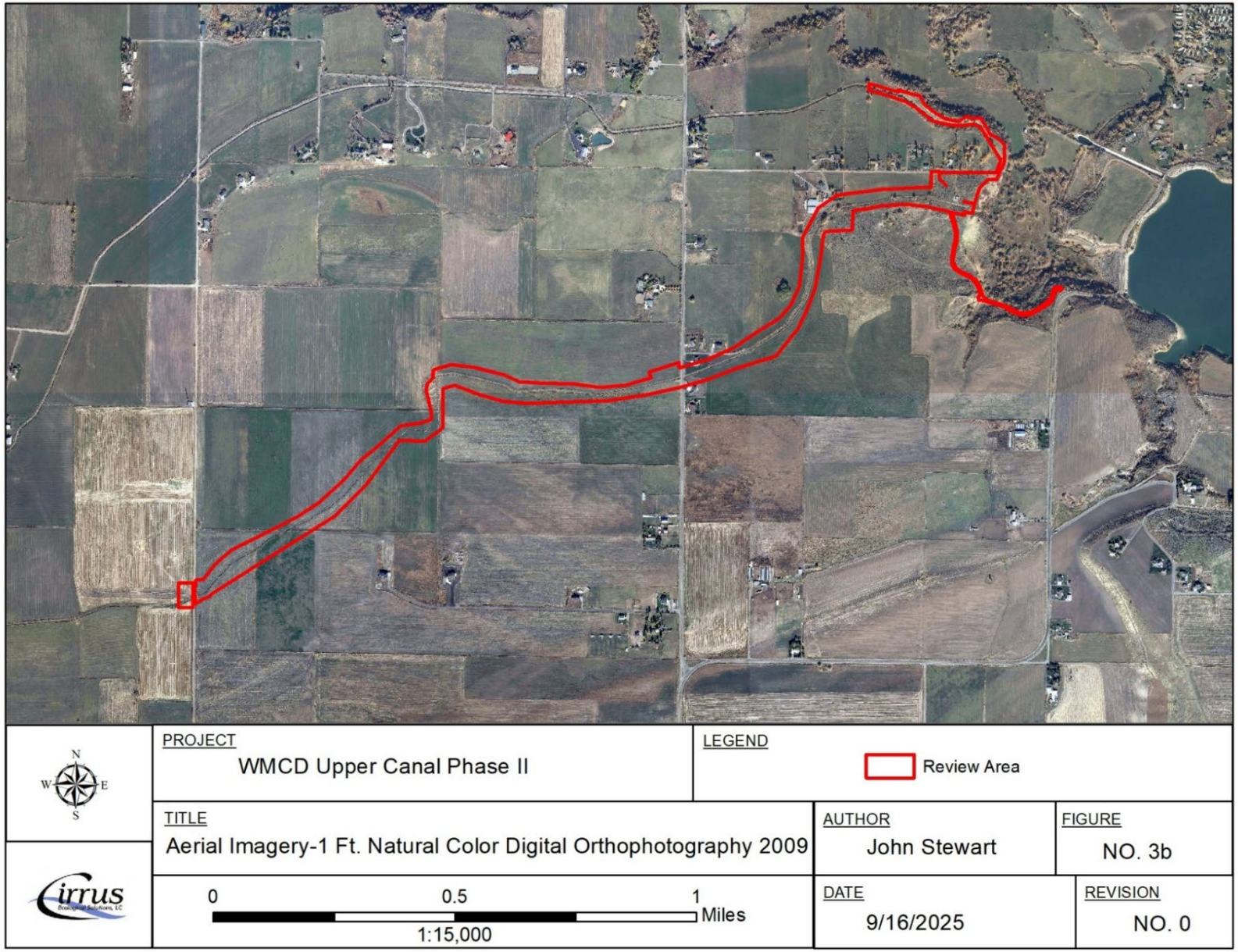


Figure 3b. Aerial imagery of the project review area in 2009.

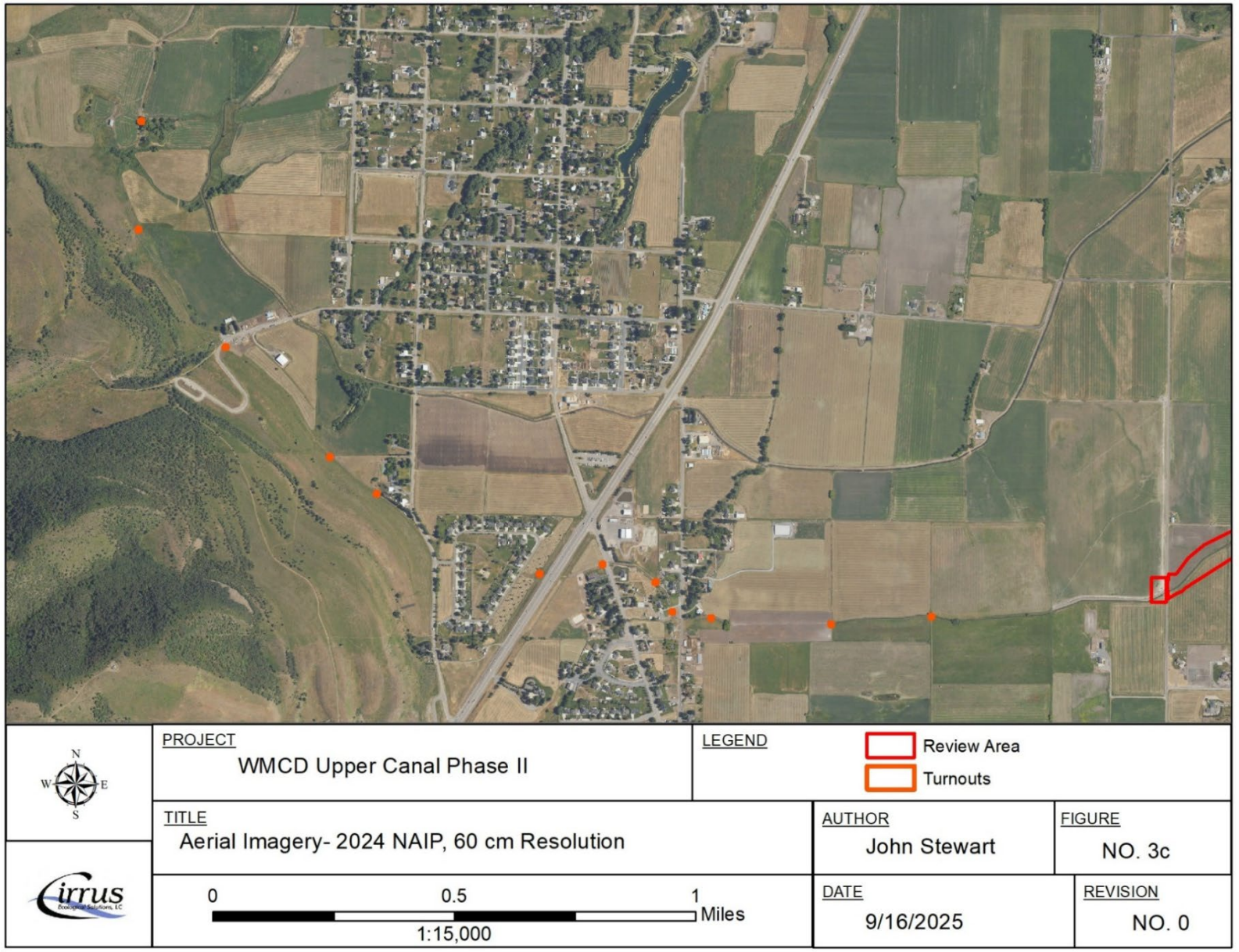


Figure 3c. Aerial imagery of project review area turnouts in 2024.

Appendix C – Aquatic Resources Delineation Maps

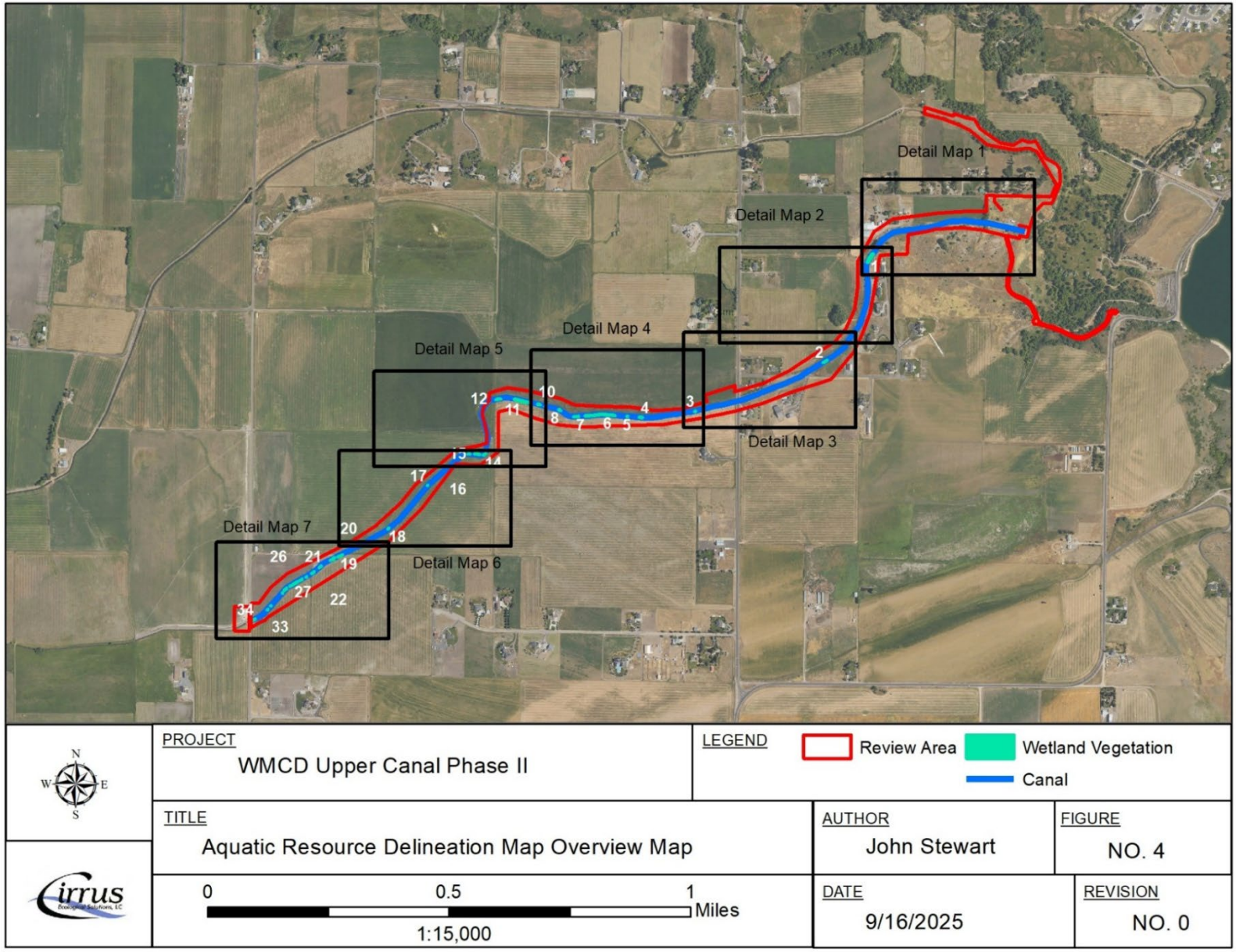


Figure 4. Aquatic resources delineation map of the project review area.

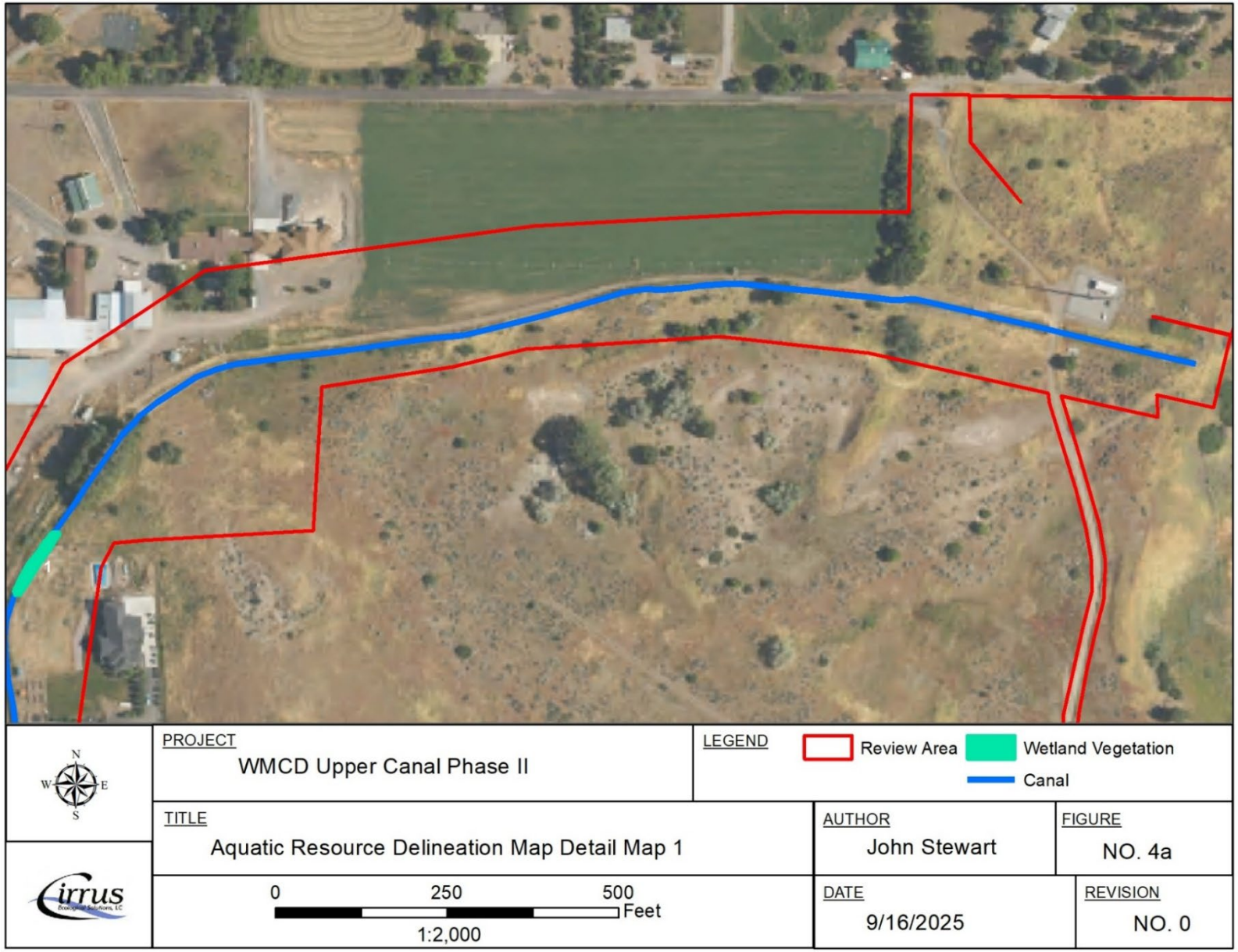


Figure 4a. Aquatic resources delineation map of the project review area, detail map 1.

Figure 4b. Aquatic resources delineation map of the project review area, detail map 2.

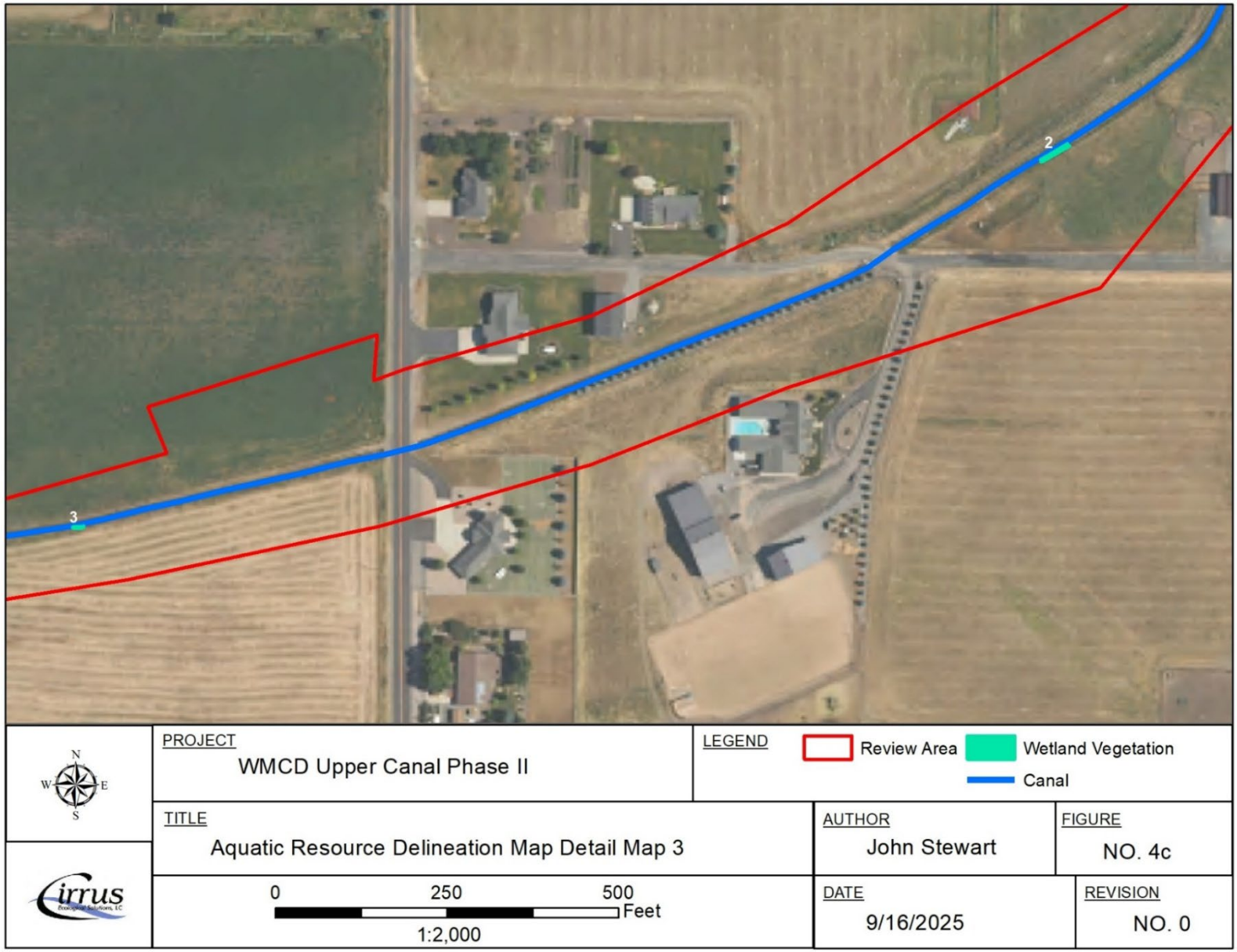


Figure 4c. Aquatic resources delineation map of the project review area, detail map 3.

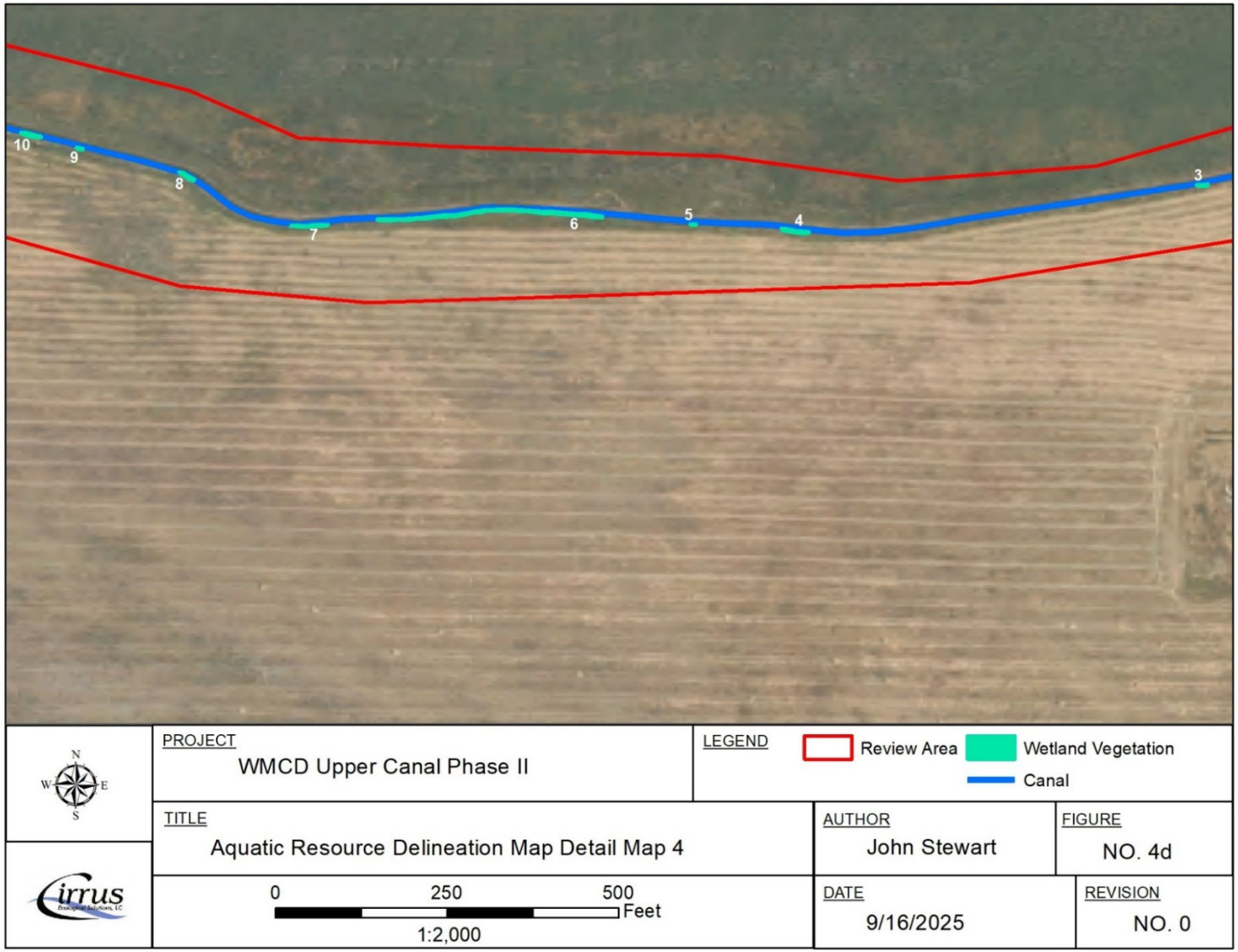


Figure 4d. Aquatic resources delineation map of the project review area, detail map 4.

Figure 4e. Aquatic resources delineation map of the project review area, detail map 5.

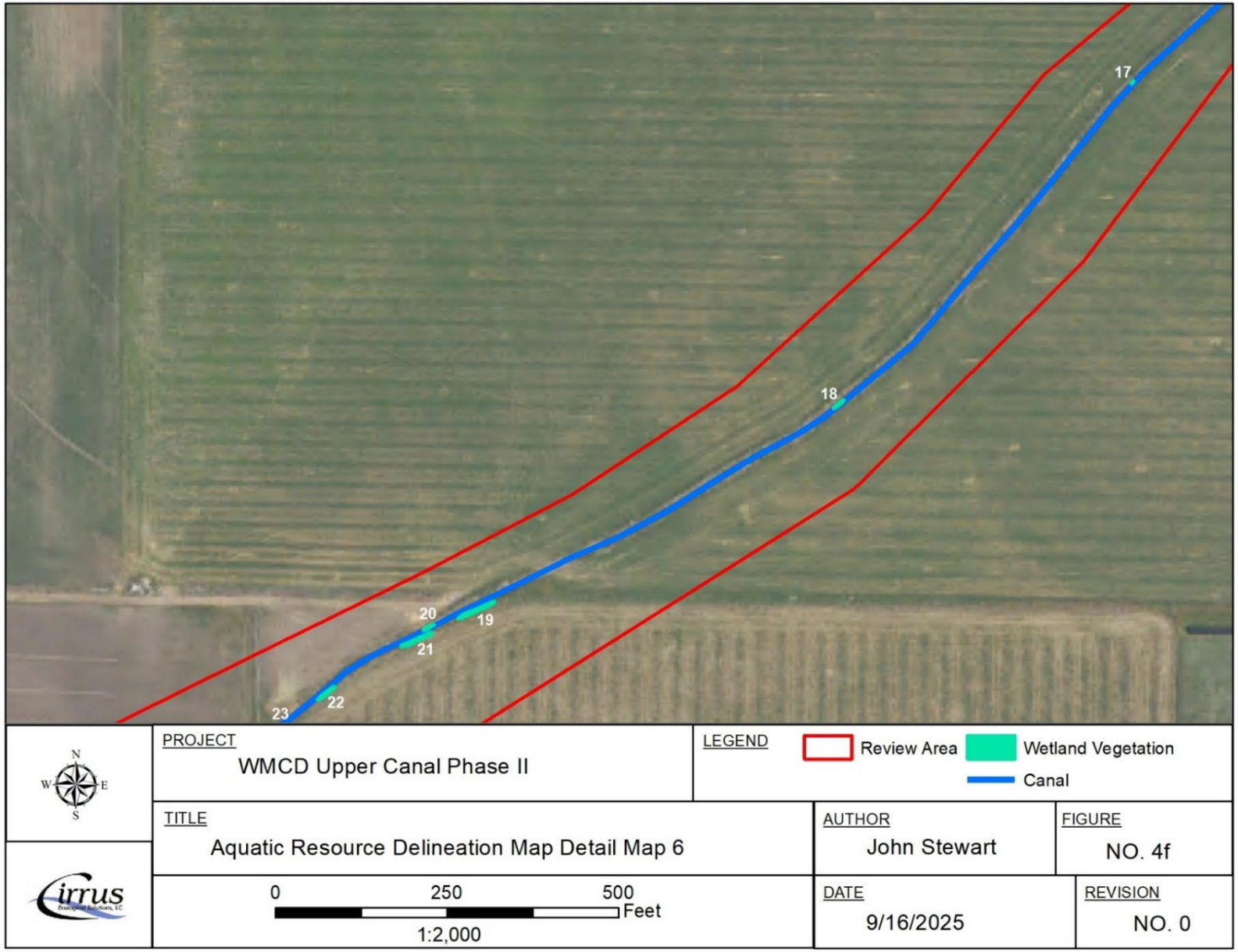


Figure 4f. Aquatic resources delineation map of the project review area, detail map 6.

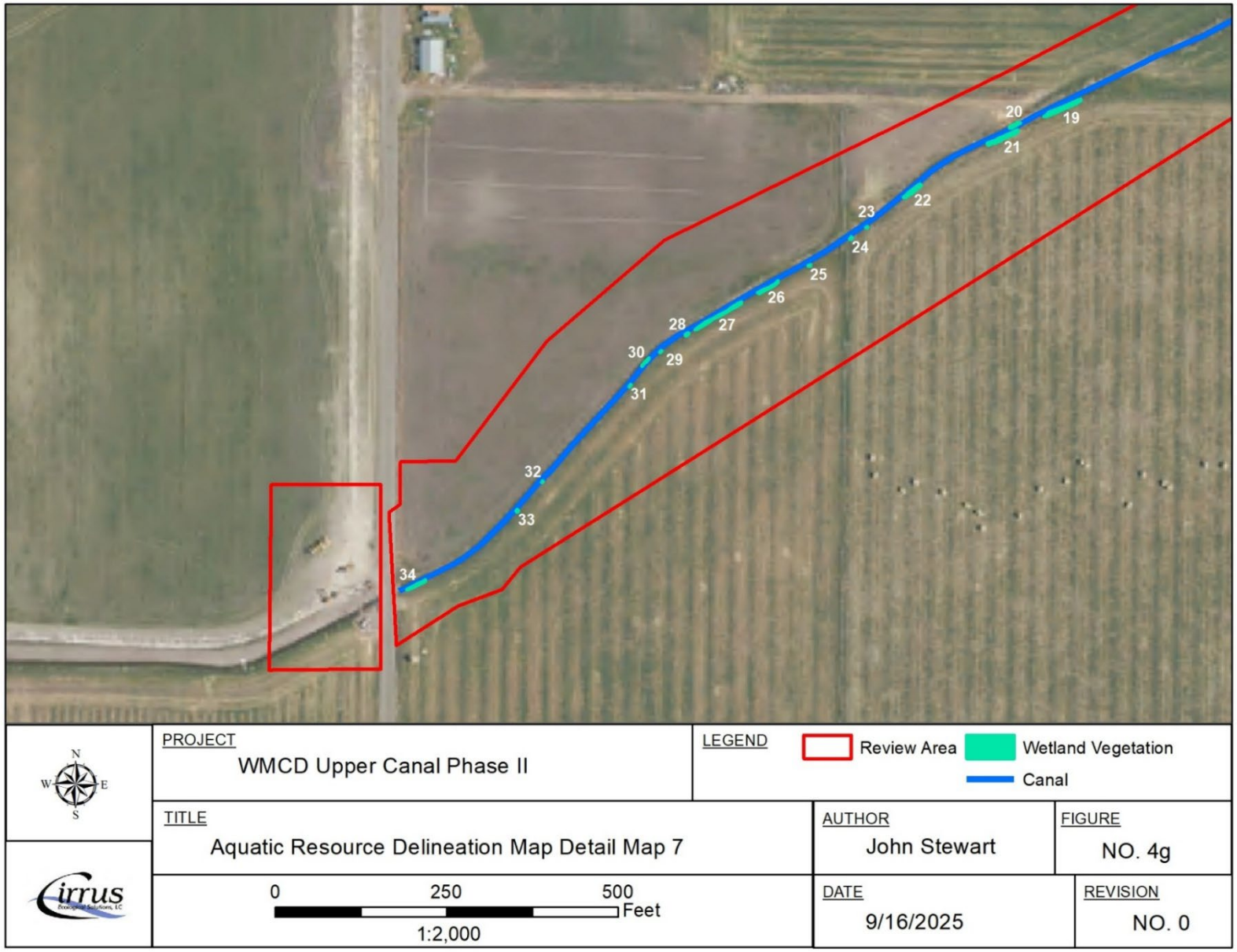


Figure 4g. Aquatic resources delineation map of the project review area, detail map 7.

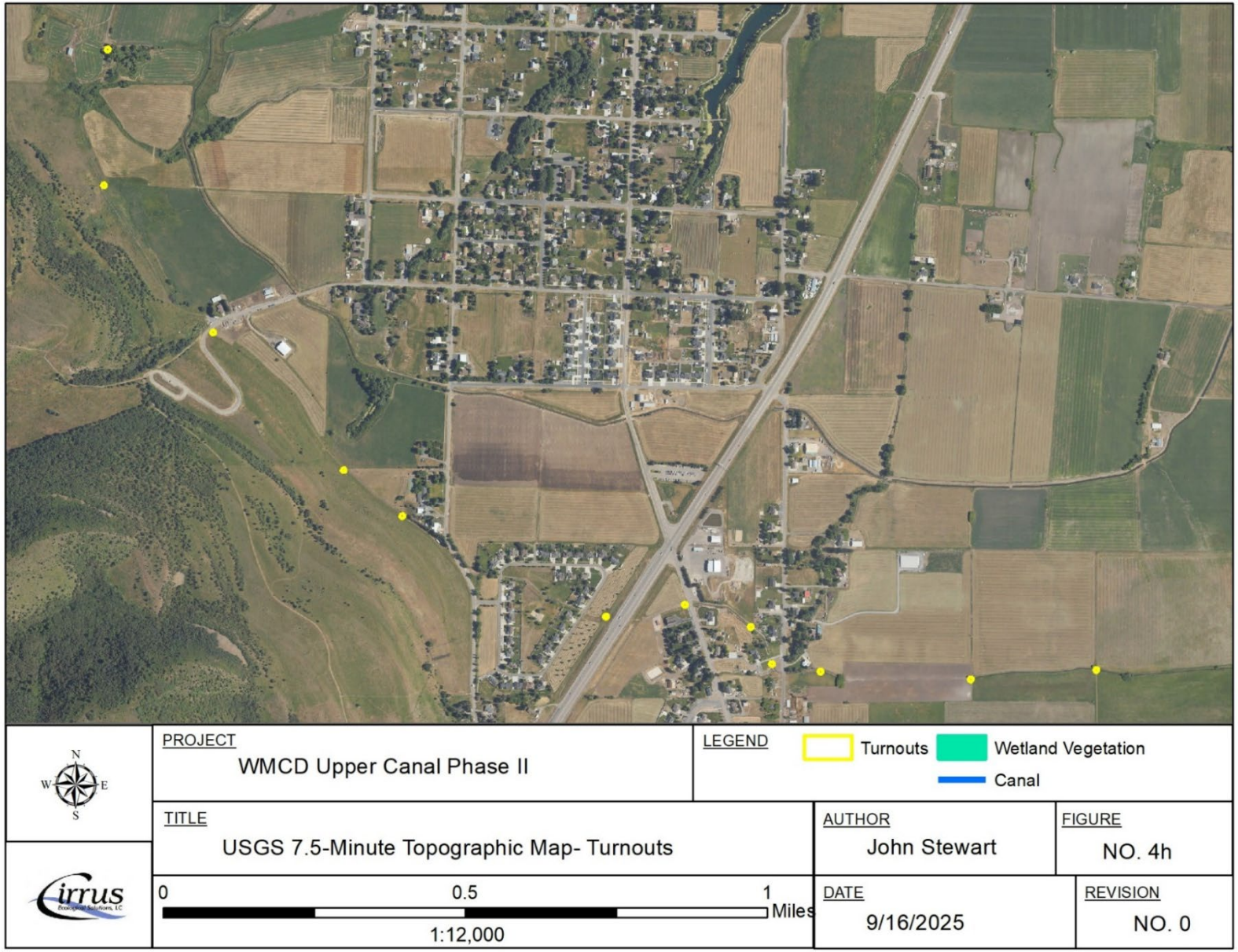


Figure 4h. Turnouts associated with the project review area.

Figure 5a. Aquatic resources delineation map of the project review area, sample points 1 and 2.

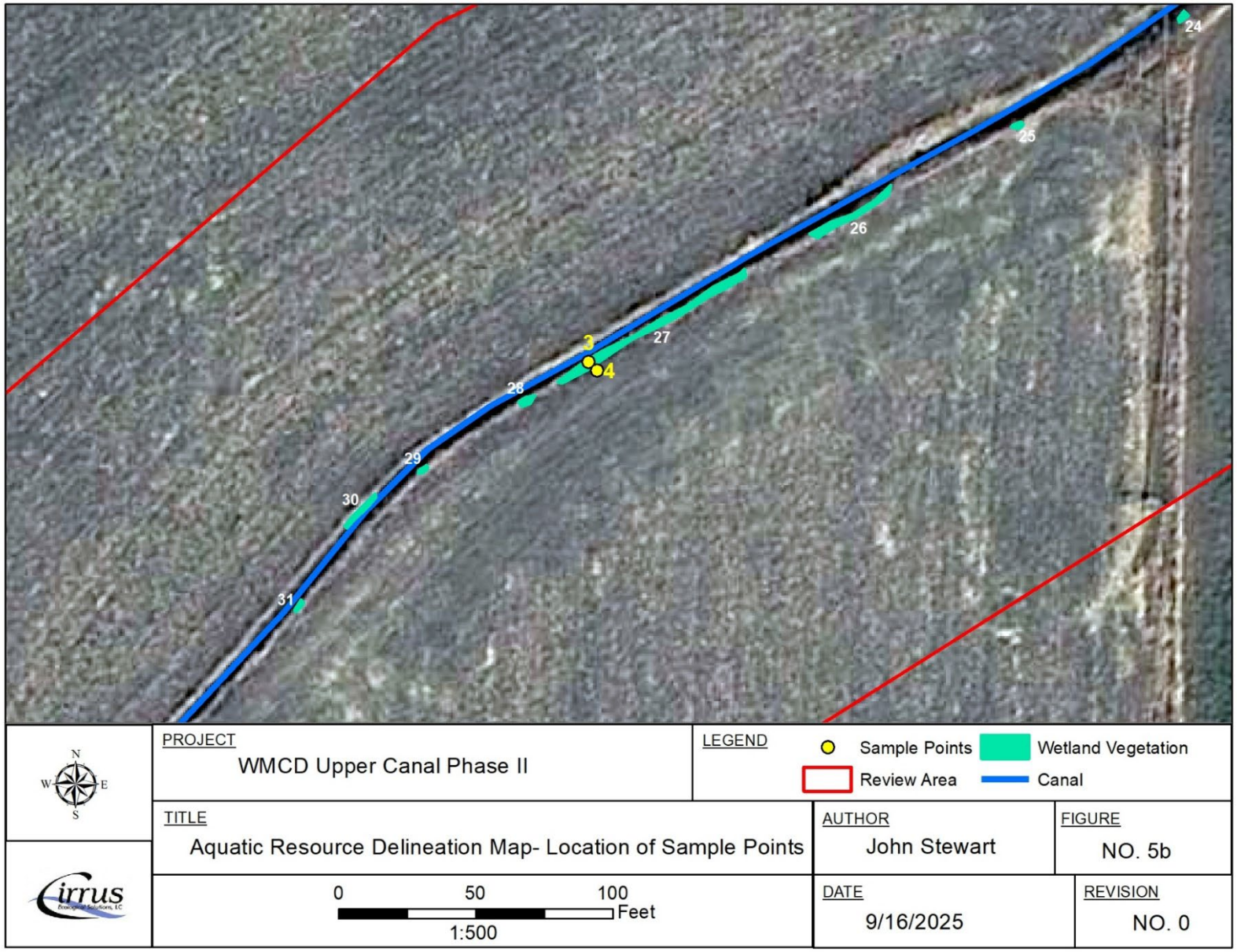


Figure 5b. Aquatic resources delineation map of the project review area, sample points 3 and 4.

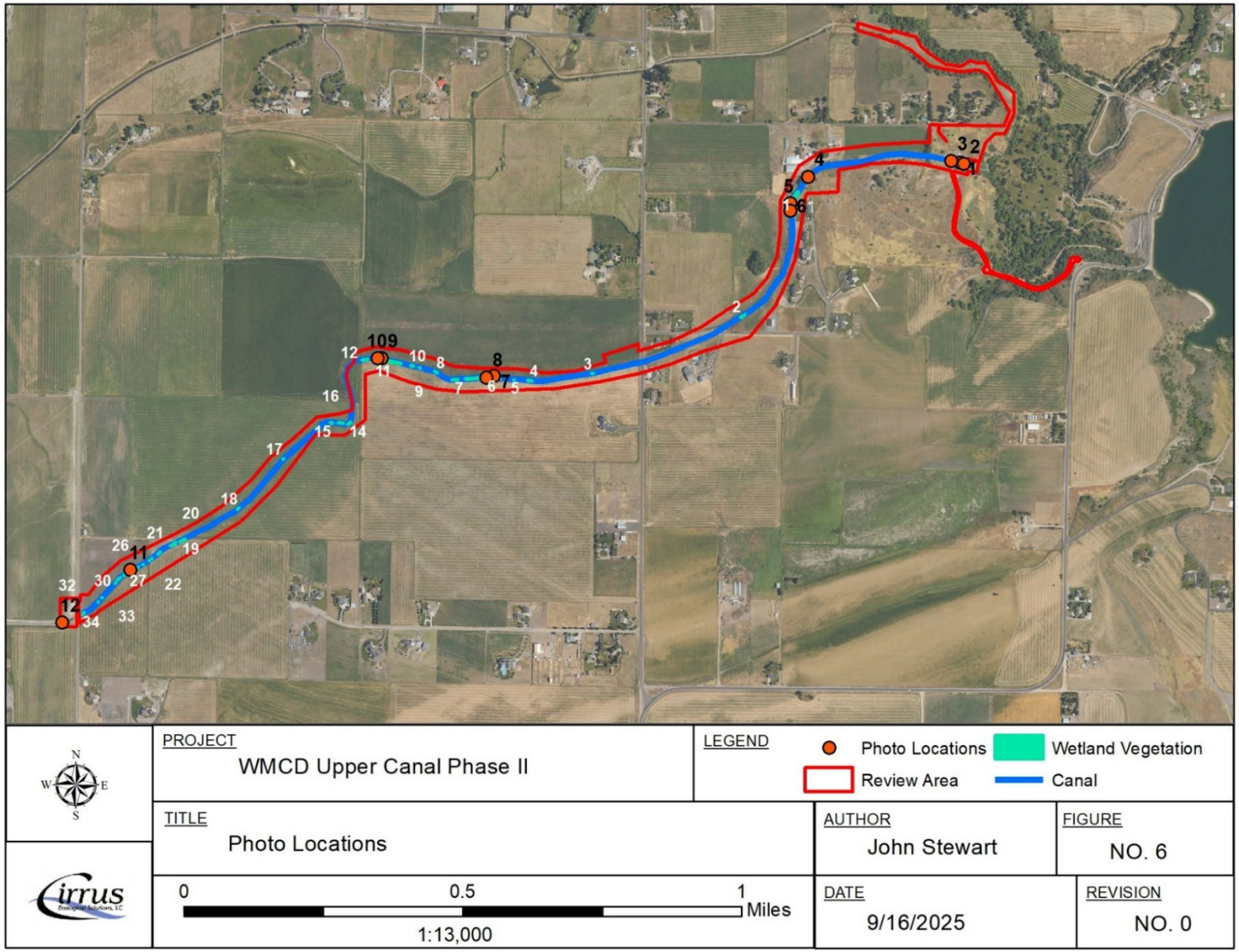


Figure 6. Photo locations taken in the project review area.

Appendix D – Other Helpful Figures and Images

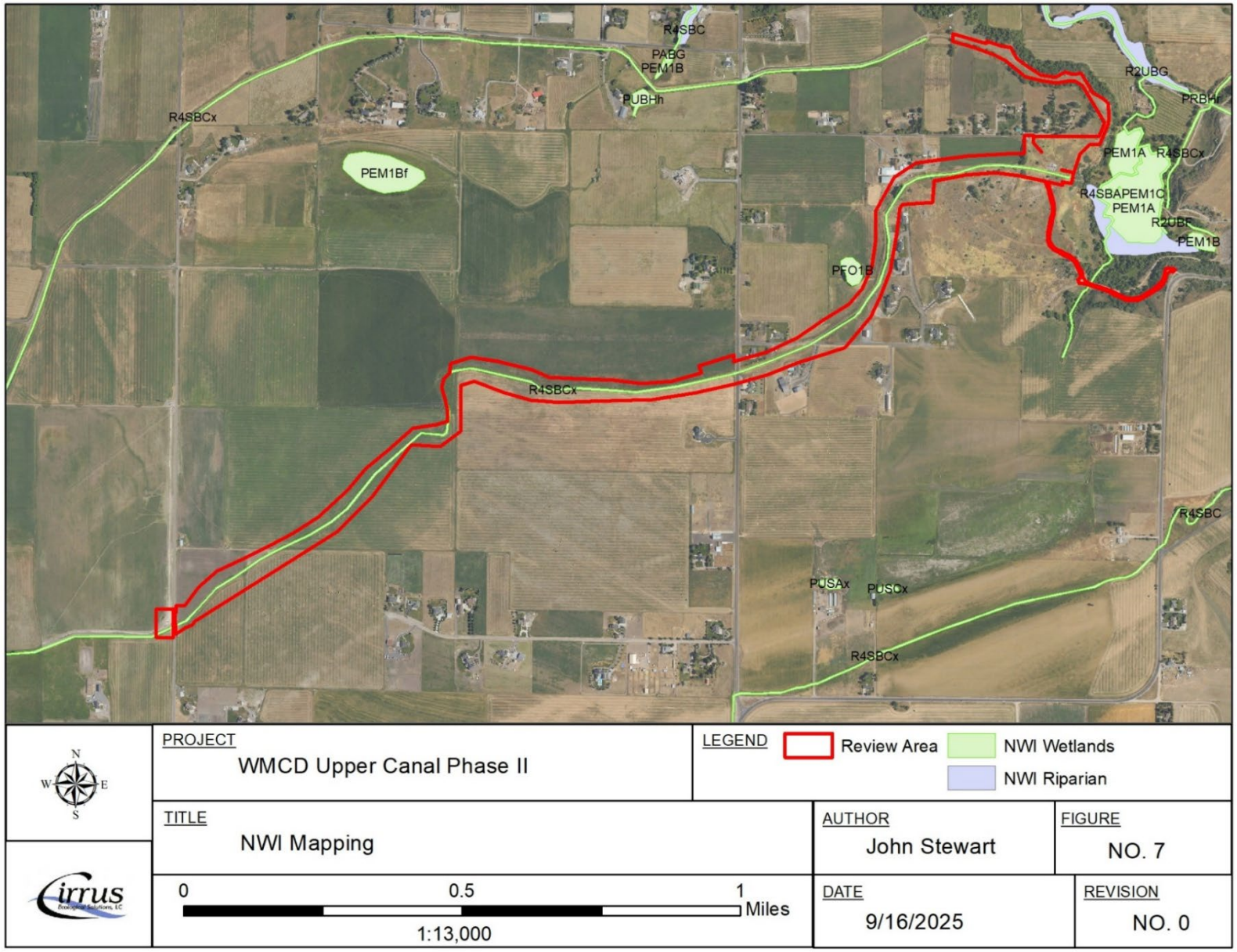


Figure 7. National Wetlands Inventory map for the project review area.

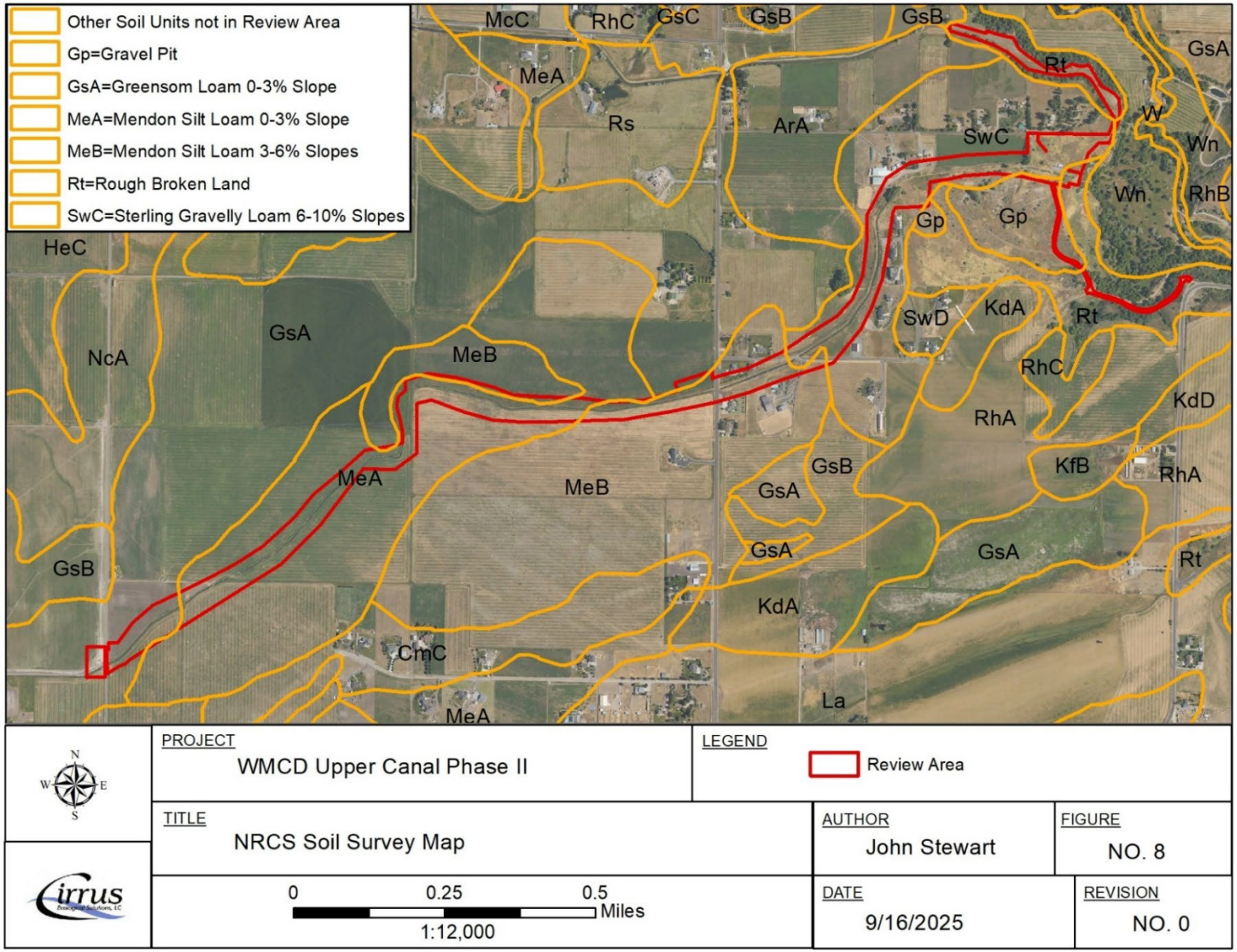


Figure 8. Natural Resources Conservation Services soil survey map of the project review area.

Appendix E – Wetland Determination Data Forms

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region
See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Wellsville-Mendon Lower Canal | City/County: Cache County | Sampling Date: 7/25/25
Applicant/Owner: Wellsville-Mendon Canal Company | State: UT | Sampling Point: SP 1
Investigator(s): John Stewart | Section, Township, Range: Sec 12, T10N, R1W
Landform (hillside, terrace, etc.): Valley Bottmom | Local relief (concave, convex, none): Concave ditch | Slope (%): 1
Subregion (LRR/MLRA): LRR E, MLRA 47 | Lat: 41.36'57.29" N | Long: -111.54'25.41" W | Datum: WGS 84
Soil Map Unit Name: Mendon Silt Loam, 0 - 3% slope | NWI classification: PEM1E
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This sample point is located is a representative of the reed canary grass fringe that occur intermittentently along the canal near the surface water level of the canal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 1 m)			
1. *Phalaris arundinacea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		
% Bare Ground in Herb Stratum ____			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1](Provide supporting data in Remarks or on a separate sheet)
____ 5 - Wetland Non-Vascular Plants[1]
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
This sample point is located in a patch of reed canary grassl that is growing within the ditch profillle. This community occurs intermittentily along the canal.

SOIL

Sampling Point: SP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	100					Loamy/Clayey	Soil is heavy clay

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Hydric soil field indicatorors were not observed in the soil profile. Howerver the canal carries water from about mid-may to October and the soil near the water level is saturated during tihat period. Soil is functioning as a hydric soil by definintion.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 1
Water Table Present?	Yes X	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Water is in the canal from approximately mid May to early October.

Remarks:

The hydrology for this sample point is the canal. Water in the canal saturates a band of soil extending upto about 4 - 6 inches above the water surface due to capillary action.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region
See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Wellsville-Mendon Lower Canal | City/County: Cache County | Sampling Date: 7/25/25
Applicant/Owner: Wellsville-Mendon Canal Company | State: UT | Sampling Point: SP 2
Investigator(s): John Stewart | Section, Township, Range: S12, T10N, R1W
Landform (hillside, terrace, etc.): Valley Bottmom | Local relief (concave, convex, none): None | Slope (%): 1
Subregion (LRR/MLRA): LRR E, MLRA 47 | Lat: 41.36'57.28" N | Long: -111.54'25.40" W | Datum: WGS 84
Soil Map Unit Name: Mendon Silt Loam, 0 - 3% slope | NWI classification: UPL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Paired upland sample point with SP 1.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 1 m)			
1. *Bassia scoparia*	10	No	FAC
2. *Dipsacus fullonum*	5	No	FAC
3. *Elymus repens*	25	Yes	FAC
4. *Bromus inermis*	35	Yes	UPL
5. *Onopordum acanthium*	5	No	UPL
6. *Conium maculatum*	10	No	FAC
7. *Nepeta cataria*	10	No	FACU
8.			
9.			
10.			
11.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	10	x 4 =	40
UPL species	40	x 5 =	200
Column Totals:	100 (A)		390 (B)

Prevalence Index = B/A = 3.90

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1](Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Sample point is a grass-weedy community on the edge of a field above the canal.

SOIL

Sampling Point: SP 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/1	100					Loamy/Clayey	Clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Uupand soil at the edge of a field above the canal. Soil has been excavated from the ditch.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Water is in the canal from approximately mid May to early October.

Remarks:

Sample point is located above the canal and above the zone of influence of the water in the canal.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region
See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Wellsville-Mendon Lower Canal | City/County: Cache County | Sampling Date: 7/25/25
Applicant/Owner: Wellsville-Mendon Canal Company | State: UT | Sampling Point: SP 3
Investigator(s): John Stewart | Section, Township, Range: S12, T10N, R1W
Landform (hillside, terrace, etc.): Valley Bottmom | Local relief (concave, convex, none): Concave ditch | Slope (%): 1
Subregion (LRR/MLRA): LRR E, MLRA 47 | Lat: 41.36'54.21" N | Long: -111.54'31.54" W | Datum: WGS 84
Soil Map Unit Name: Mendon Silt Loam, 0 - 3% slope | NWI classification: PEM1E
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Sample point is located in a representaive hydrophytic fringe community along the canal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 1 m)			
1. *Poa palustris*	40	Yes	FAC
2. *Hordeum jubatum*	30	Yes	FAC
3. *Rumex crispus*	20	Yes	FAC
4. *Phalaris arundinacea*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		290 (B)

Prevalence Index = B/A = 2.90

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1](Provide supporting data in Remarks or on a separate sheet)
____ 5 - Wetland Non-Vascular Plants[1]
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Wetland plants are growing in moist soil fringeextending upto 10 inches above the surface water level.

SOIL

Sampling Point: SP 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/1	100					Loamy/Clayey	Soil is heavy clay

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Hydric soil field indicatorors were not observed in the soil profile. Howerver the canal carries water from about mid-may to October and the soul near the water level is saturated during tihat period. Soil is functioning as a hydric soil by definintion.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water Table Present?	Yes X	No ___	Depth (inches): 10		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 4	**Wetland Hydrology Present?**	**Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Water is in the canal from approximately mid May to early October.

Remarks:

The hydrology for this sample point is the canal. Water in the canal saturates a band of soil extending upto about 6 - 10 inches above the water surface due to capillary action.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Western Mountains, Valleys, and Coast Region
See ERDC/EL TR-10-3; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Wellsville-Mendon Lower Canal | City/County: Cache County | Sampling Date: 7/25/25
Applicant/Owner: Wellsville-Mendon Canal Company | State: UT | Sampling Point: SP 4
Investigator(s): John Stewart | Section, Township, Range: S12, T10N, R1W
Landform (hillside, terrace, etc.): Valley Bottmom | Local relief (concave, convex, none): None | Slope (%): 1
Subregion (LRR/MLRA): LRR E, MLRA 47 | Lat: 41.36'54.21" N | Long: -111.54'31.54" W | Datum: WGS 84
Soil Map Unit Name: Mendon Silt Loam, 0 - 3% slope | NWI classification: UPL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
N

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 1 m)			
1. *Lactuca serriola*	70	Yes	FACU
2. *Convolvulus arvensis*	30	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		
% Bare Ground in Herb Stratum ____			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	30	x 5 =	150
Column Totals:	100 (A)		430 (B)

Prevalence Index = B/A = 4.30

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1](Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Weedy upland community growing at the edge of a field above the canal.

SOIL

Sampling Point: SP 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/2	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 1 cm Muck (A9) **(LRR D, G)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR A, E)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** Y **No** ____

Remarks:
Dry upland soil above the canal

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Water is in the canal from approximately mid May to early October.

Remarks:
Sample point is located above the canal water level.

Appendix F – Color Photographs

The location of each photo is shown on map Figure 6 in Appendix C.

Photo 1. East end of canal just below the discharge to the canal, looking west.

Photo 2. Looking southeast at the canal.

Photo 3. Looking east at typical canal vegetation fringe.

Photo 4. Looking west along the canal, showing cottonwood trees. Adjacent grass is smooth brome.

Photo 5. Looking east at a willow fringe.

Photo 6. Looking West, showing a section of the canal with a smooth brome dominated fringe.

Photo 7. Looking southwest at canal showing a reed canary grass fringe.

Photo 8. Looking south across canal at a reed canary grass fringe.

Photo 9. Looking west a willow fringe.

Photo 10. Looking southwest at reed canary grass fringe.

Photo 11. Looking south at a reed canary grass fringe.

Photo 12. Looking east at the west at the west end of the canal, showing the connection with the Phase I pipeline.

APPENDIX C: SHPO CONCURRENCE/CONCURRENCE LETTER

Spencer J. Cox
Governor

Deidre M. Henderson
Lieutenant Governor

Donna Law
Interim Executive Director

Christopher Merritt
State Historic Preservation Officer
Utah State Historic Preservation Office

October 7, 2025

Rick Baxter
Area Manager
BOR

RE: A Supplemental Cultural Resource Inventory for Phase II of the Wellsville-Mendon Upper Canal Piping Project, Cache County, Utah

For future correspondence, please reference Case No. 25-1994

Dear Rick Baxter,

The Utah State Historic Preservation Office received your submission and request for our comment on the above-referenced undertaking on September 30, 2025.

We concur with your determination of effect for this undertaking. We look forward to working on a Memorandum of Agreement for this project.

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 McGrath
Compliance Archaeologist

Spencer J. Cox
Governor

Deidre M. Henderson
Lieutenant Governor

Donna Law
Interim Executive Director

Christopher Merritt
State Historic Preservation Officer
Utah State Historic Preservation Office

October 22, 2025

Rick Baxter
Area Manager
Bureau of Reclamation

RE: A Supplemental Cultural Resource Inventory for Phase II of the Wellsville-Mendon Upper Canal Piping Project, Cache County, Utah

For future correspondence, please reference Case No. 25-2088

Dear Rick Baxter

The Utah State Historic Preservation Office received your submission and request for our comment on the above-referenced undertaking on October 15, 2025.

We agree with achieving mitigation through the 2020 Programmatic Agreement between Reclamation and the Utah State Historic Preservation Officer (PA).

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 McGrath
Compliance Archaeologist

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

December 5, 2025

Nicole Jacobson-Dangerfeld
U.S. Bureau of Reclamation Upper Colorado Basin
Provo Area Office
302 East Lakeview Parkway
Provo UT 84606

RE: Paleontological file search and recommendations for the Wellsville-Mendon Piping Project, Cache County, Utah.
U.C.A. 79-3-508 (Paleontological) Compliance; Request for Confirmation of Literature Search.

Dear Nicole:

I have conducted a paleontological file search for the Wellsville-Mendon Piping Project in response to your request of December 5, 2025.

There are no fossil localities recorded in our files in or near this project area. Quaternary and Recent alluvial and lacustrine deposits that are exposed along this project right-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