Appendix E

Other Supporting Information

E.1 Intensity Threshold Table

This section presents the intensity threshold table used to quantify effects on resources of concern because of the proposed action.

Table E.1-1 Intensity Threshold Table.

Intensity Term	Definition
Beneficial	Changes in the resource or resource-related values are favorable or advantageous with respect to the resource. The effects on the resource or environment may range from slight to regional.
Negligible	Changes in the resource or resource-related values would be below or at the level of detection. If detected, the effects on the resource or environment would be considered slight with no perceptible impacts.
Minor	Changes in resource or resource-related values would be measurable but small. The effects on the resource or the environment would be localized.
Moderate	Changes in the resource or resource-related values would be measurable and apparent. The effects on the resource or the environment would be relatively local.
Major	Changes in resource or resource-related values would be measurable and substantial. The effects on the resource or the environment would be regional.
Impact Duration	**Definition**
Temporary	Transitory effects which only occur over a period of days or months.
Short-Term Effect	Resource or resource-related values recover in fewer than 5 years.
Long-Term Effect	Resource or resource-related values take more than 5 years to recover.

E.2 Supporting Information for Cultural Resources

Cultural Resources Assessment Report Excerpt

Cultural Resources Assessment for the Medford Irrigation District Infrastructure Modernization Project, Jackson County, Oregon

Prepared for

Farmers Conservation Alliance

Prepared by

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APPENDICES

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1. Introduction

The Medford Irrigation District (MID) is proposing an irrigation infrastructure modernization project (the Project) through the Natural Resources Conservation Service (NRCS) Watershed Protection and Flood Prevention Program, Public Law (PL) 83-566. NRCS is serving as the lead federal agency for the project under PL 83-566. As the lead federal agency, NRCS is responsible for compliance with the requirements of Section 106 of the National Historic Preservation Act (NHPA).

The Farmers Conservation Alliance retained Parametrix on behalf of the applicant to prepare a cultural resources assessment for the Project to satisfy the requirements of Section 106 of the NHPA. This assessment included the identification of archaeological and historic built environment resources potentially affected by the project, evaluation of these resources to determine their eligibility for listing in the National Register of Historic Places (NRHP), and an assessment of effects to any identified historic properties by the project.

Parametrix defined an Area of Potential Effects (APE) for the project and conducted archaeological and built environment surveys of the APE to identify and document cultural resources present within this area. The archaeological survey identified one precontact archaeological site that is potentially eligible and one historic-period archaeological isolate that is recommended not eligible.

The built environment survey identified one historic property in the APE. The MID Joint System Canal (also known as the MID Main Canal) is recommended eligible for listing in the NRHP as a contributor to the NRHP-eligible Rogue River Basin Project Linear District (see Sections 6.3 and 7.2).

Archaeological site MID-1 consists of a precontact lithic quarry with unknown subsurface extent. As such, Parametrix recommended the site as unevaluated pending additional investigations. The site occurs within the APE, but no project activities are mapped within the site boundary. Parametrix recommends that the site boundary be flagged and that all construction activities be limited to the north side of the Medford Canal during construction. Archaeological isolate ISO-01 is recommended not eligible. As such, the project will result in no effects to archaeological resources.

Project activities would affect the integrity of the MID Joint System Canal such that it can no longer convey its significance as a contributor to the Rogue River Basin Project Linear District.

Based on the information presented in this document, Parametrix recommends a finding of Adverse Effect to historic properties in the APE, specifically the MID Joint System Canal and the Rogue River Basin Project Linear District.

1.1 Project Description

The proposed project is Watershed Protection, an Authorized Purpose defined in Title 390 National Watershed Program Manual, Part 500, Subpart A, Section 3.B. Project activities would include the following:

- Pipe approximately 13.6 miles of the Joint System Canal from the junction of the North Fork Canal and the South Fork Canal to the bifurcation with the Rogue River Valley Irrigation District (RRVID) at the Hopkins Canal (referred to as the Bradshaw Drop). This activity would involve trenching the existing canal for subgrade preparation prior to pipe installation using excavators, with excavated material being side-cast adjacent to the canal. A geotextile liner would be installed in the trench, followed by pipe bedding and the pipe. The side-cast excavated material would then be returned to the trench as pipe cover. Excess material that cannot be reused as backfill following construction of the new pipeline alignments would be

disposed of in an approved upland location. The pipeline route may be adjusted based on the presence of rock outcroppings that are seen along the existing canal. Blasting, jackhammer, or other methods may be required to remove rock if the pipeline is unable to be relocated to an alternate route. Pipe installation would require staging and storage areas for pipes, other construction materials, and construction equipment. Source areas for borrow or fill material could also potentially be required. These areas have not yet been identified and would be determined prior to construction. Areas that have been previously disturbed and are accessible via existing access routes would be prioritized for use as staging, storage, and borrow/fill areas (as applicable). Pipe diameter and material type would be determined during final design.

- Replace three existing siphons, including Lake Creek Siphon (563 feet in length), Wyant Siphon (145 feet), and Osborne Siphon (1,094 feet). The siphons would be replaced following existing alignments or may be constructed on new alignments. Alignment options are evaluated in the Plan environmental impact statement (EIS). The Osborne Siphon would be replaced in its existing alignment. If siphon construction occurs during the in-water work window of the Rogue River and its tributaries, the cut and cover trench method would be used. If construction occurs outside of this window, the jack and bore method would be used. Siphon construction methods and means, siphon diameters, and material type would be determined during final design.
- The construction of three new siphons is evaluated in the Plan EIS: Grasshopper Siphon (438 feet), Owens Siphon (537 feet), Eagle Gulch Siphon (1,001 feet). The lowest point of all siphons that cross a stream or drainage feature is assumed to be 4 to 8 feet below the centerline ground surface. If siphon construction occurs during the in-water work window of the Rogue River and its tributaries, the cut and cover trench method would be used. If construction occurs outside of this window, the jack and bore method would be used. Siphon construction methods and means, siphon diameters, and material type would be determined during final design.
- Convert 24 gravity fed turnouts on the existing Joint System Canal to pressurized delivery systems. Each converted turnout would be 10 inches in diameter with a valve, locking valve box, flow meter, and pipe stub out. Currently, there are no flow meters on the existing turnouts.
- Areas that have been previously disturbed and are accessible via existing access routes would be prioritized for use as staging, storage, and borrow/fill areas. In some locations, specifically at new siphons, construction access would need to be created before delivering pipe or equipment into construction areas and could include vegetation removal within the construction area. Appropriately sized construction equipment would be used to minimize disturbance in the construction area. Staging areas have been identified at the following eleven locations:
    - → Three areas within Jackson County Tax Lot 362E5500, including adjacent to the Main Canal/Joint System Canal west of the junction of the North Fork Canal and the South Fork Canal (Bench flume 1 staging area), adjacent to S Fork Little Butte Creek Road west of an unnamed creek crossing this road south of the Main Canal/Joint System Canal (Diversion road staging area), and adjacent to the Main Canal/Joint System Canal east of the existing Lake Creek Siphon (Turnaround staging area).

- One area within Jackson County tax lot 362E7701, adjacent to the Main Canal/Joint System Canal at west end of the existing Lake Creek Siphon (Lake Creek Siphon staging area).
- One area within Jackson County tax lot 362E19100, adjacent to the Main Canal/Joint System Canal at south end of the proposed Grasshopper Siphon (Grasshopper Siphon staging area).
- One area overlapping Jackson County tax lots 361E10300 and 361E10302, adjacent to the Main Canal/Joint System Canal, south of the northward turn of Little Butte Creek south of Lake Creek Loop Road (Bench flume 2 staging area).
- Two areas wholly within Jackson County tax lot 361E10302, including adjacent to the Main Canal/Joint System Canal at the south end of the Osborne Siphon (Osborne staging area 1) and adjacent to the Main Canal/Joint System Canal at the north end of the Osborne Siphon (Osborne staging area 2).
- One area within Jackson County tax lot 361E14100, north of the Main Canal/Joint System Canal between two unnamed creek drainages south of Little Butte Creek (Panther Crushing staging area).
- One area within Jackson County tax lot 361E08700 west of the Bradshaw Drop and north of the Hopkins Canal.

1.2 Project Location

The project is located along the alignment of the MID Joint System Canal irrigation infrastructure serving both MID and RRVID. The Joint System Canal is located approximately 7.5 miles northeast of Medford, Jackson County, Oregon, as indicated in Figure 1-1.

1.2.1 Area of Potential Effects

A project's APE is defined in Section 106 of the NHPA as the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties" (36 Code of Federal Regulations [CFR] 800.16.c). Effects may be direct or indirect, with the former including any type of effect (e.g., physical, visual, auditory) resulting from an "undertaking at the same time and place with no intervening cause," and the latter including any type of effect "caused by the undertaking that is later in time or farther in distance but are still reasonably foreseeable" (ACHP 2019).

For direct effects, the Project's APE was delineated primarily to account for physical and visual effects. Direct effects from construction, such as vibration, noise, and fugitive dust, are expected but are anticipated to be minor and temporary. As such, the APE was defined to include the vertical and horizontal footprint of the areas and/or structures where proposed project activities would occur. This would include activities at, within, and/or adjacent to the MID Joint System Canal junction of the North Fork Canal, South Fork Canal, and Bradshaw Drop, as well as adjacent staging and lay down areas. The APE also includes a 100-foot radial buffer around the project's horizontal footprint to account for effects on the viewsheds of historic properties resulting from alterations to the MID Joint System Canal. For indirect effects, any reasonably foreseeable activities are not anticipated to occur outside of this same area. The Project APE is shown in Figure 1-2a through 1-2c.

1.3 Personnel

This report was prepared by Corey Lentz, MHP, a Secretary of Interior (SOI)-qualified Architectural Historian; Stephanie O'Brien, RPA; Tait Elder, RPA, an SOI-Qualified Archaeologist and the Project's Principal Investigator; and Christopher Hetzel, an SOI-qualified Historian and Architectural Historian. Corey Lentz conducted the built environment field survey. The archaeological field survey was conducted by Kainoa Little, MA, RPA and John Patterson, BS. Mathew Sisneros, BS, prepared figures for the report.

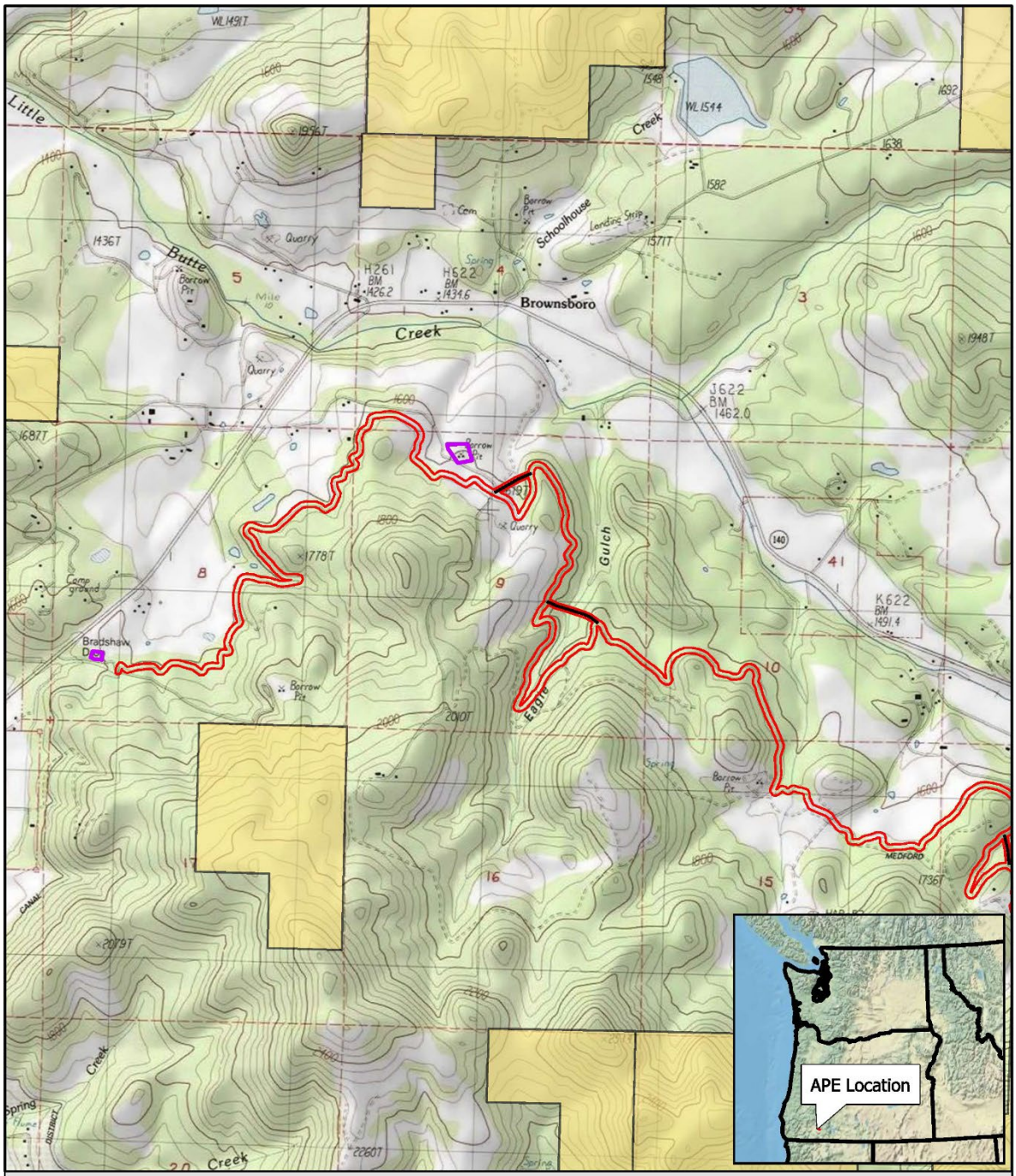
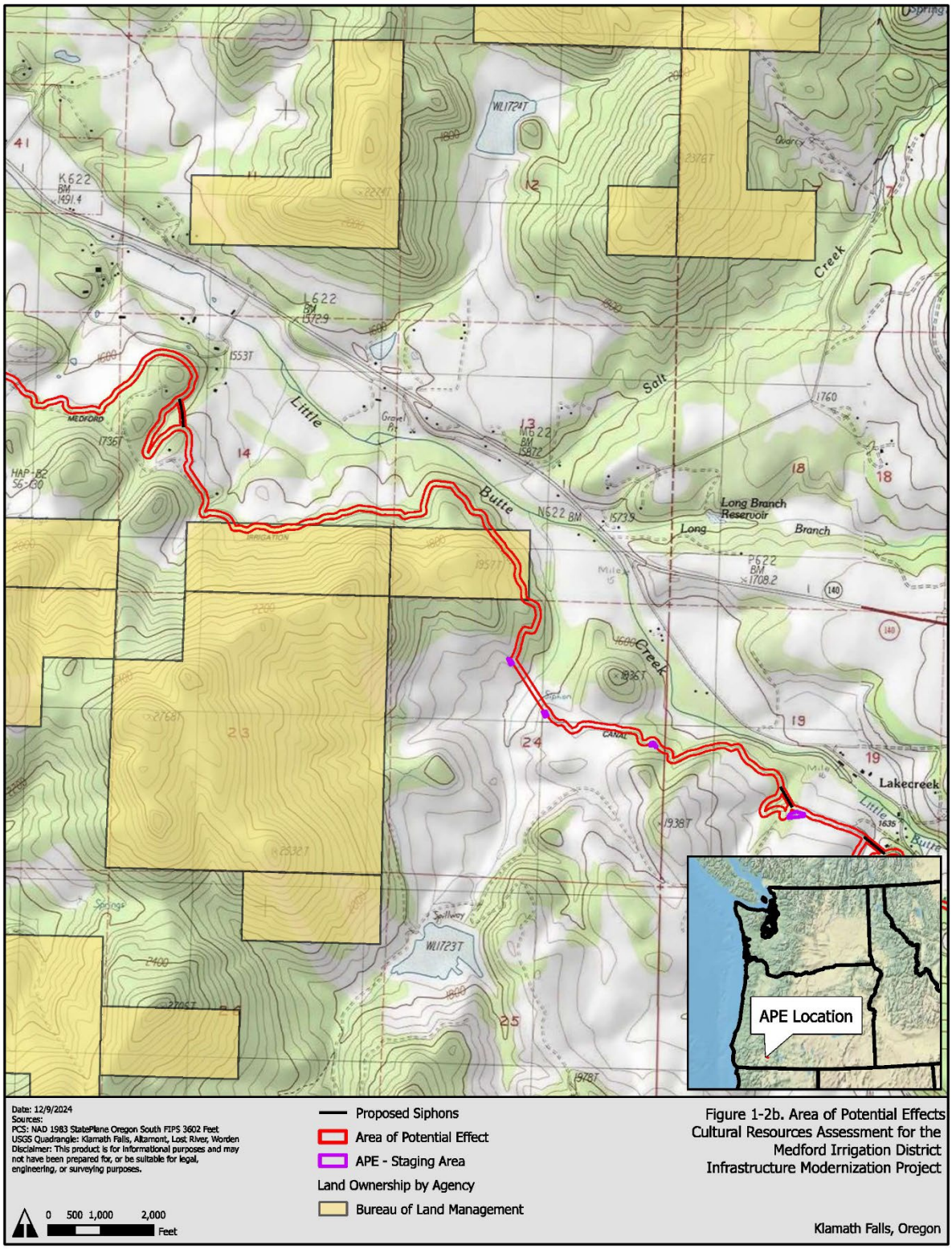
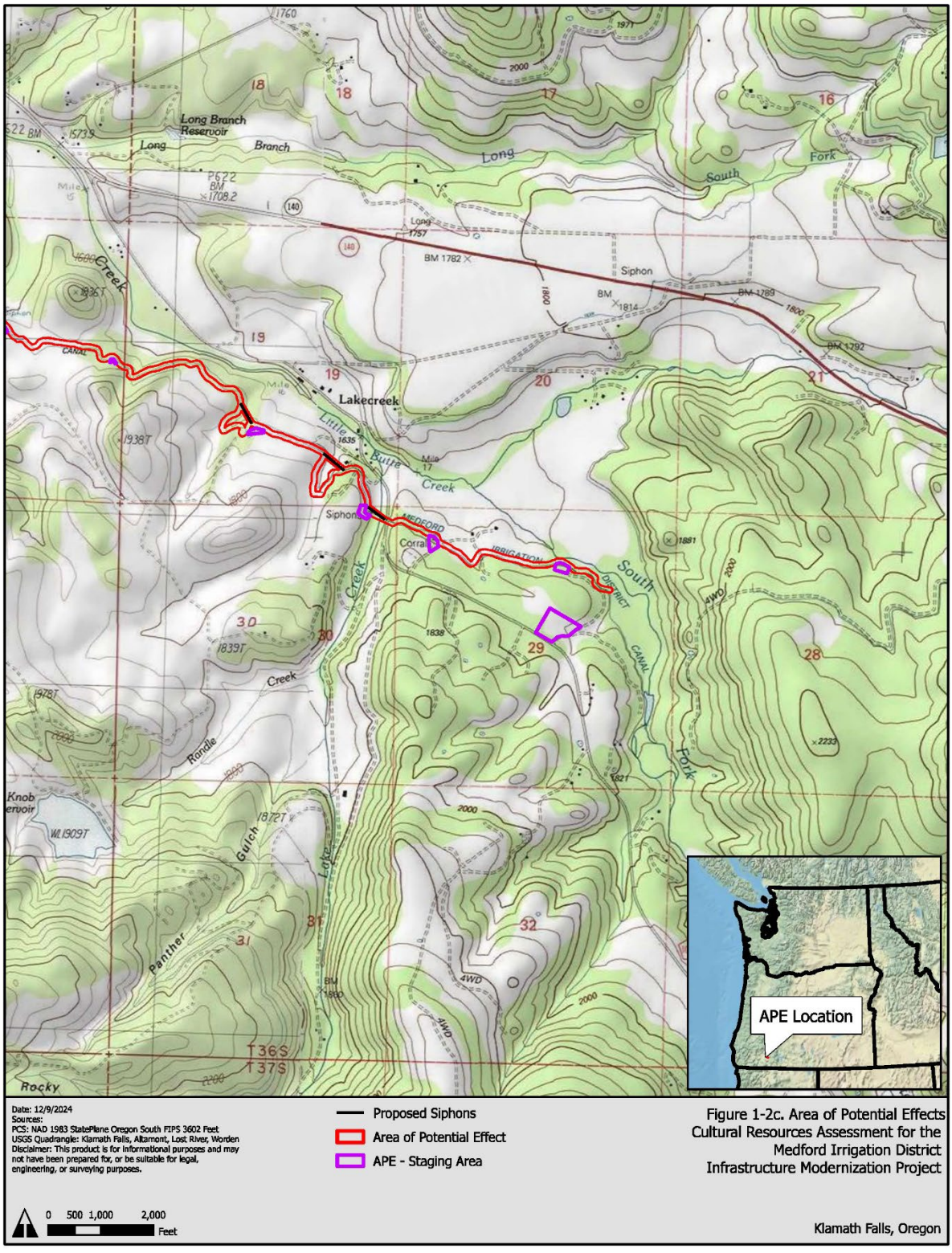


Figure 1-2a. Area of Potential Effects Cultural Resources Assessment for the Medford Irrigation District Infrastructure Modernization Project

Klamath Falls, Oregon


Little Butte Creek
Salt Creek
Long Branch Reservoir
Long Branch
Lakecreek
MEDFORD
CANAL
APE Location
Date: 12/9/2024
Sources:
PCS: NAD 1983 StatePlane Oregon South FIPS 3602 Feet
USGS Quadrangle: Klamath Falls, Altamont, Lost River, Worden
Disclaimer: This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes.
0 500 1,000 2,000
Feet
Proposed Siphons
Area of Potential Effect
APE - Staging Area
Land Ownership by Agency
Bureau of Land Management
Figure 1-2b. Area of Potential Effects
Cultural Resources Assessment for the
Medford Irrigation District
Infrastructure Modernization Project
Klamath Falls, Oregon


Long Branch Reservoir
Long Branch
Long
South Fork
Siphon
Lakecreek
Little Butte Creek
MEDFORD IRRIGATION DISTRICT CANAL
South Fork
Rocky
T36S
T37S
APE Location
Date: 12/9/2024
Sources:
PCS: NAD 1983 StatePlane Oregon South FIPS 3602 Feet
USGS Quadrangle: Klamath Falls, Altamont, Lost River, Worden
Disclaimer: This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes.
Proposed Siphons
Area of Potential Effect
APE - Staging Area
0 500 1,000 2,000
Feet
Figure 1-2c. Area of Potential Effects Cultural Resources Assessment for the Medford Irrigation District Infrastructure Modernization Project
Klamath Falls, Oregon

3. Research and Survey Methodology

This chapter outlines background research sources and the methodology of the archaeological and historic built environment resource surveys conducted as part of this report.

3.1 Background Research

Parametrix personnel conducted background research through review of online resources and Oregon Heritage (Oregon State Historic Preservation Office [SHPO]) and NPS cultural resource databases. The following databases and online archival collections were reviewed:

- Oregon Archaeological Records Remote Access (OARRA) – OARRA is a geographical information system database of previously recorded archaeological resources and archaeological survey reports.
- Oregon Historic Sites Database (OHSD) – OHSD contains the Oregon Statewide Inventory, the public database of previously recorded built environment properties for which Oregon SHPO has collected physical and/or historical information.
- NPS National Register Database – The National Register Database contains digital records for historic properties listed in the NRHP, held on file by the National Archives and Records Administration.
- Nationwide Environmental Title Research Historic Aerials – A digital mapping tool for historic aerial photographs.[1]
- United States Geological Survey (USGS) Topographic Map Database – A digital collection of USGS topographic maps.[2]

3.2 Survey and Evaluation Methodology

3.2.1 Archaeological Survey

The purpose of archaeological field investigations for this project was to identify and delineate known and as-yet undocumented archaeological resources in the APE. Parametrix proposed to field document and photograph any artifacts identified during the survey and then return or rebury artifacts to their original location once field documentation was completed.

Based on the nature of the proposed project-related ground-disturbing activities, the sensitivity of the APE's sediments for buried archaeological resources, and the presence of precontact and historical archaeological resources outside of the APE but on landforms with comparable depositional context, Parametrix proposed using two archaeological field methods: pedestrian survey and shovel probes (SPs). Additional details about how these methods were implemented are provided below. All field investigations were performed in accordance with the United States Bureau of Reclamation (USBR), Mid-Pacific Region, General Scope of work for Cultural Resources Investigations in Oregon and the Guidelines for Conducting Field Archaeology in Oregon (USBR 2012; Oregon SHPO 2013a).

[1] https://www.historicaerials.com

[2] https://ngmdb.usgs.gov/topoview/viewer

3.2.1.1 Pedestrian Survey

Parametrix performed a pedestrian survey across the entirety of the APE. The pedestrian survey consisted of archaeologists walking side-by-side, approximately 15 meters apart, along each side of the existing ditch alignments or new siphon locations, or in transects oriented along cardinal direction in staging areas, in a systematic fashion while carefully inspecting the ground surface. The ground surface was inspected for indicators of human activity, such as midden soil, lithic artifacts, or concentrations of historic-era artifacts. Whenever possible, locations where the subsurface had been exposed by rodent burrows, road cuts, or vegetation disturbances were examined for artifacts or archaeological features.

Parametrix archaeologists documented field conditions, ground surface visibility, topography and visible geologic features, indicators of ground disturbance, and archaeological deposits in field notes and photographs, and mapped key landmarks and archaeological resources via GPS.

3.2.1.2 Shovel Probes

Parametrix archaeologists excavated SPs at locations where project-related ground disturbance is anticipated to result in subsurface ground disturbance greater than 10 centimeters in depth and were outside existing ditch alignments. SPs were excavated at intervals of 20 meters, either in a grid pattern or in linear transects, depending on the shape and extent of the proposed ground disturbance. SPs were approximately 45 centimeters in diameter and excavated to the maximum anticipated depth of ground disturbance until Pleistocene-aged or older deposits were encountered, or until impassible conditions were encountered.

All excavated sediments were screened through 0.25-inch mesh. If an artifact was encountered in an SP, all of the remaining sediment from the SP were screened through 0.125-inch mesh. Upon completion, information relating to each SP's sediments and stratigraphy, contents, and any other relevant observations were collected in field notes. Each SP was photographed and mapped using a GPS unit, and then the SP was backfilled with any recovered artifacts reburied. The specific depth of reburied artifacts was also recorded in field notes.

3.2.2 Built Environment Survey and Evaluation

The built environment survey was designed and conducted in accordance with two Oregon SHPO publications, Guidance for Historic Resource Surveys in Oregon and Guidance for Recording and Evaluating Linear Cultural Resources, including specific guidance for the documentation of irrigation systems (Oregon SHPO 2011, 2013b). A reconnaissance-level historic property survey, consisting of photography and the field notes, was conducted from April 22 to April 26, 2024, to identify and document historic built environment components of the MID Joint System Canal. Documented historic built environment components of the MID Joint System Canal are summarized in Section 7.2 Built Environment Survey.

This study relied on previous eligibility evaluations for the MID Joint System Canal, and no new evaluation was prepared. However, the guidance presented below was used to inform the prior evaluation of the resource's individual eligibility and its eligibility as a contributor to the Rogue River Basin Project Linear District. This included consideration of the lack of clear statements regarding the MID Joint System Canal's individual eligibility, the NRHP criteria for which the canal was previously recommended as a contributor to the historic district, and its period of significance. The results of this study were then used to inform the analysis of project effects to the resource (see Sections 7.2 and 8.2).

The Oregon SHPO Guidance for Recording and Evaluating Linear Cultural Resources identifies irrigation systems as a type of linear resource and lists their common components. The guidance recommends documentation of all present components, including water conveyance structures such as canals, laterals, sublaterals, ditches, siphons, flumes, dams, and diversions; flow control and measuring structures such as weirs, gates, and spillways; and associated transportation access features such as bridges, culverts, and maintenance roads (see Section 5.4 for additional details) (Oregon SHPO 2013b:14).

Oregon SHPO guidance also outlines specific thresholds of significance for each of the four NRHP criteria to consider when evaluating irrigation systems. These thresholds informed the evaluation of the MID Joint System Canal as eligible for listing in the NRHP. Irrigation systems may be considered significant under Criterion A if they demonstrate that agricultural land use in a discrete area was made possible by the development of the irrigation system or that the system's development improved agricultural land use to a degree that would not otherwise have occurred. Additionally, this increase in agricultural land use should be demonstrated to have influenced historic patterns of settlement, social organization, and/or the appearance of the landscape in the vicinity of the irrigation system.

Irrigation systems may be considered significant under Criterion B if their development substantially involved individuals significant for activities related to irrigation advocacy, land development, commercial irrigation development, or politics. However, the significance of this individual must be demonstrated to have had a direct association with the development of a particular irrigation system and should consider whether other properties may better demonstrate this association. Importantly, if an individual's significance was associated primarily with the design or construction of an irrigation system, this association should be evaluated under Criterion C.

Irrigation systems may be considered significant under Criterion C as an intact collection of engineered components constructed within a defined period that represent either a design approach to overcoming an extraordinary environmental challenge or that consist of unusual or innovative design elements or aesthetic features. Large-scale, federal projects may also be considered significant due to the sheer size of the project and the scale of mobilization required for its construction.

Irrigation systems may be considered significant under Criterion D in cases where the system itself "serves as its own primary source of information," is considered to be an "artifact of primary importance," and this information is not otherwise available from documentary sources. As such, the application of this criteria is uncommon and must substantially rely on the physical elements of the system and its integrity. (Oregon SHPO 2013b:9-10).

The registration requirements established for individual components of irrigation systems in the National Register of Historic Places Multiple Property Documentation Form for Carey and Reclamation Acts Irrigation Projects in Oregon, 1901-1978 (Hetzel 2016) informed the identification of MID Joint System Canal component types and assessment of the canal's individual eligibility. Individual components of irrigation systems, such as principal water conveyance structures, dams and diversion structures, or pumping plants, may also be considered individually eligible under Criterion A if they are significant in an area other than agriculture, or under Criterion C if they represent an innovative design and retain a high degree of integrity, represent a significant concentration of intact, consist of contributing elements that together reflect the conveyance's function, or are the last intact segments of a canal or significant lateral (Hetzel 2016:F-44, F-51). Available guidance does not specify additional thresholds that would qualify an individual component eligible for individual listing in the NRHP under Criteria B or D. Therefore, it is assumed that the same guidance for evaluating irrigation systems under these criteria would apply to individual components.

7. Survey Results

Between April 23 and April 26, 2024, Parametrix archaeologists Kainoa Little, MA, RPA, John Patterson, BS, and architectural historian Corey Lentz, MA, performed cultural resources surveys of the APE. Subsequently, between June 17 and 20, 2024, Parametrix archaeologist Kainoa Little conducted a pedestrian survey on Bureau of Land Management–owned land and facilities under Permit # OR-51125 (Appendix A).

The surveys identified one surface-exposed archaeological site (temporary designation MID-1) and one surface archaeological isolate (temporary designation ISO-01). These resources are depicted in Figure 7-1.

7.1 Archaeological Survey

7.1.1 Pedestrian Survey

Pedestrian survey was performed across the entire 319.63-acre APE. The pedestrian survey identified one previously undocumented archaeological site –Temporary Site #MID-1. This site is located on privately owned land and is described in detail in Section 7.1.3, Archaeological Sites and Isolates. Ground surface visibility across the entirety of the APE was highly variable but generally low due to grass cover with less than 10% visibility.

7.1.2 Shovel Probe Survey

A total of 15 SPs were excavated on private land within the APE where subsurface ground disturbance outside of the existing irrigation canals and laterals is proposed, where the surface geology in these areas is comprised of Holocene deposits, and where sediments were deep enough to allow probing. These SPs are located in three areas: at the proposed Lake Creek siphon and at two areas at the eastern end of the APE along the existing canal where the pipeline will be lowered into and below the current level of the canal. SPs were placed in the latter two areas due to the proximity to an unnamed archaeological quarry site near Lakecreek as well as the presence of Holocene-era deposits in this part of the APE. The rest of the APE is located on Oligocene/Miocene-aged deposits and was not suitable for subsurface testing (see Geography and Geology section for further discussion). Observations during pedestrian survey confirmed the presence of these deposits.

Review of the sedimentary composition and stratigraphy from these SPs revealed one recognizably discrete and widespread strata, and a second strata appearing in two of the SPs. Table 7-1 summarizes the physical attributes and inferred depositional environment for each stratum. Descriptions of each SP are provided in Appendix B. Figures 7-2a through 7-2c depicts how SPs were distributed across private land within the APE.

Table 7-1. Observed Strata within the APE

Stratum Designation	Description	Inferred Depositional Context
I	Dry, moderately consolidated grayish brown silt, sometimes silty clay, with rounded to subangular gravels and cobbles.	Lacustrine

Stratum Designation	Description	Inferred Depositional Context
II	Moist to saturated loosely to moderately consolidated light grayish brown clay with subangular to subrounded gravels and cobbles.	Lacustrine

In general, Stratum I (lacustrine) was encountered at the ground surface and ranged from 29 to 100 centimeters thick. In all instances where Stratum II was encountered, its thickness was indeterminate because SPs ceased before the terminal depth of this stratum was encountered.

9. Conclusion and Recommendations

9.1 Conclusion

The archaeological survey identified one precontact archaeological site that is unevaluated and recommended for avoidance and one historic-period archaeological isolate that is recommended not eligible. The built environment survey identified one historic property in the APE, the MID Joint System Canal, which is a contributing resource in the NRHP-eligible Rogue River Basin Project Linear District.

9.2 Recommendations

Based on the information presented in this document, Parametrix recommends a finding of Adverse Effect to historic properties in the APE, specifically the MID Joint System Canal and the Rogue River Basin Project Linear District.

Archaeological site MID-1 consists of a precontact lithic quarry with unknown subsurface extent. As such, Parametrix recommended the site as unevaluated. The site occurs within the APE, but no project activities are mapped within the site boundary. Parametrix recommends that the site boundary be flagged and that all construction activities be limited to the north side of the Medford Canal during construction. Archaeological isolate ISO-01 is recommended not eligible. As such, the project will result in no effects to archaeological resources.

The MID Joint System Canal is recommended as a contributor to the NRHP-eligible Rogue River Basin Project Linear District. Project activities would affect the integrity of the MID Joint System Canal such that it can no longer convey its significance as a contributor to the historic property and will no longer be considered eligible for listing in the NRHP. As such, Parametrix recommends a finding of Adverse Effect to historic built environment resources in the APE.

Inadvertent Discovery Plan

Archaeological and Human Remains Inadvertent Discovery Plan (IDP)

MID Modernization Project

Jack Friend Medford Irrigation District, December 2025 SHPO Case #24-0805

This document outlines procedures and protocols to be followed if archaeological objects or features, or human remains are encountered in the course of work. These procedures are intended for circumstances where there is not an expectation or anticipation of encountering cultural resources or human remains. **This is not a replacement for due diligence, robust project design, and consultation with appropriate Native American Tribes**.[3] Prior to undertaking project work, an assessment of the likelihood for disturbance to cultural resources and tribal heritage should be completed. All personnel will be briefed on all procedures and reporting structures before the start of any work.

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A. Procedures for Inadvertent Discovery of Archaeological Features and Materials

*(DOES **NOT** INCLUDE HUMAN REMAINS, BURIALS, FUNERARY OBJECTS, OBJECTS OF CULTURAL PATRIMONY, OR SPIRITUAL OBJECTS)*

It is expected that ALL artifacts, features, structural elements, and other cultural items that are identified will be reported to required project, agency, and Tribal contacts, and accounted for as soon as possible. It is understood that there will be a single project point of contact to coordinate with the project archaeologist, SHPO, LCIS, and appropriate Native American Tribes.

Step 1. Stop work (immediately after discovery)

[3] Appropriate Native American Tribes will be identified by LCIS

If any person believes that they have located an archaeological object[4] or site[5], all work must stop immediately.

Discovery made in field _____(date/time)_____ (initials of discoverer)

Step 2. Secure and protect the area (within first hour after discovery)

Establish a **minimum** 30 meter/100-foot area of protection, or more as necessary, around the find(s). Exclude all vehicle traffic and non-essential foot traffic. Non-ground-disturbing work may continue outside of the area of protection with caution until the situation is assessed by a qualified archaeologist.[6]

Buffer established _____ (time) _____ (initials of person responsible)

Step 3. Notify (within first hour after discovery)

Notify the project manager, agency official (if applicable), and project archaeologist. If there is not an archaeologist on-site, or on retainer for the project, the project manager will contact an Oregon Qualified Archaeologist (which include agency and Tribal archaeologists) to assess the find.

Project Manager contacted _____ (time) _____ (initials of contactor)

Agency Official contacted _____ (time) _____ (initials of contactor)

Project Archaeologist contacted _____ (time) _____ (initials of contactor)

Step 4. Identify and Follow Guidance (timeline variable, as soon as possible)

If the archaeologist determines the find is an archaeological feature or object, or other cultural item or feature, OR if no qualified archaeologist can be contacted within the first hour of discovery, the **State Historic Preservation Office (SHPO) and appropriate Native American Tribes must be contacted,** and their guidance must be followed. SHPO, Native American Tribes, and project and

[4] "Archaeological object" means an object that is at least 75 years old (or 50 years if there is a federal nexus), is part of the physical record of an indigenous or other culture found in the state or waters of the state, and is material remains of past human life or activity that are of archaeological significance including, but not limited to, monuments, symbols, tools, facilities, technological by-products and dietary by-products (ORS 358.905).

[5] "Archaeological site" means a geographic locality in Oregon that contains archaeological objects and the contextual associations of the archaeological objects with each other or biotic or geological remains or deposits (ORS 358.905).

[6] Ground-disturbing work on different landforms distant from the find and outside of the buffer may continue.

agency personnel will determine in consultation how or if work may continue at the site. If the discovery is determined to *not* be archaeological or a cultural item, you may continue work. This determination should be confirmed in writing to the project manager and agency official.

SHPO contacted _____ (time) _____ (initials of contactor)

Appropriate Native American Tribes[7] _____ (time) _____ (initials of contactor)

B. *Procedures for Inadvertent Discovery of Human Remains*

(INCLUDES HUMAN REMAINS, BURIALS, FUNERARY OBJECTS, OBJECTS OF CULTURAL PATRIMONY, AND SPIRITUAL OBJECTS)

It is expected that ALL potential human remains, burials, funerary objects, or objects of cultural patrimony that are identified will be reported and accounted for within 3 hours of discovery.[8] It is understood that there will be a single project point of contact to coordinate with the project archaeologist, SHPO, LCIS, OSP and appropriate Native American Tribes.

Step 1: Stop work (immediately after discovery)

If any person believes that they have located human remains[9], ALL work will stop immediately. Any human remains, regardless of antiquity or ethnic origin, will always be treated with dignity and respect.

Step 2. Secure and protect the area (as soon as possible, within c. 10 min)

Secure and protect the area of inadvertent discovery with a **minimum** of 100 meter/300 foot buffer, or more as necessary. The location and other information about the find should be treated as confidential and shared on a **need to know basis only**. Prevent all vehicle traffic and unauthorized foot traffic from entry. Block remains from view and protect them from damage or exposure without touching or disturbing the remains, and leave them in place.

Do not take photographs unless approved by the appropriate Native American Tribes and Oregon Legislative Commission on Indian Services (LCIS), and only for the purpose of identification. **Do**

[7] ALL Tribes designated by LCIS must be notified. Contacting one or some of the Tribes does not fulfill the obligation to notify.

[8] Modifications to reporting timelines can be made in consultation with SHPO and Tribes.

[9] Bone may be fragmented, weathered, or otherwise modified to make it difficult to identify, so when in doubt, stop work and call it in.

not speak to the media or public or post any information about the find on social media. Non-ground-disturbing work may continue outside of the buffer with caution.[10]

Buffer established _____ (time) _____ (initials of person responsible)

Step 3. Notify (within first hour after discovery) – see contact list below

1. Project Manager _____ (time) _____ (initials)
2. Agency Official _____ (time) _____ (initials)
3. Oregon State Police[11] **DO NOT CALL 911**[12] _____ (time) _____ (initials)
4. State Historic Preservation Office (SHPO) _____ (time) _____ (initials)
5. Commission on Indian Services (LCIS) _____ (time) _____ (initials)
6. Appropriate Native American Tribes[13] _____ (time) _____ (initials)

Name of Tribe(s) Contacted and Individual(s) contacted:

_____

_____

_____

_____

Step 4. Follow guidance (timeline variable, may be up to several days or more)

If the site is determined not to be a crime scene by the Oregon State Police, **do not move anything!** The remains will continue to be *secured in place* along with any associated funerary objects, and protected from weather, water runoff, and shielded from view. Follow all guidance provided by OSP, LCIS, SHPO, and appropriate Native American Tribes.

Continue to maintain the work stoppage within the buffer until a plan is developed and carried out between the Oregon State Police, SHPO, LCIS, and appropriate Native American Tribes and you are directed in writing by the project manager that work may proceed.

C. Roles and Responsibilities

[10] Ground-disturbing work on different landforms distant from the find and outside of the buffer may continue.

[11] OSP will be responsible for contacting the county or state medical examiner's office as appropriate.

[12] **Unless remains are clearly modern.**

[13] ALL Tribes designated by LCIS must be notified. Contacting one or some of the Tribes does not fulfill the obligation to notify.

Person Responsible	Responsibility
Person Responsible will…	Notify the Project Manager **Jack Friend: 541-899-9913**
Person Responsible will…	Notify the Agency Official **Greg Becker: 503-414-3201**
Person Responsible will…	Notify the Agency **Archaeologist Rachel Gebauer: 541-887-3511**
Person Responsible will…	Notify the State Agencies (OSP, LCIS, SHPO)
Person Responsible will…	Notify the Native American Tribes identified by LCIS
Person Responsible will…	Enforce the work stoppage and buffer

D. *Contact Information*[14]

Agency	Position/Contact	Contact Information
Project Manager	Jack Friend, Medford Irrigation District	541-899-9913
USDA-NRCS Official	Greg Becker, State Conservationist	503-414-3201
USDA-NRCS Archaeologist	Rachel Gebauer, NRCS State Archaeologist	541-887-3511
Legislative Commission on Indian Services (LCIS)	Primary Contact: Dr. Elissa Bullion, State Physical Anthropologist	971-707-1372
Legislative Commission on Indian Services (LCIS)	Secondary Contact: LCIS Office	503-986-1067
Oregon State Police (OSP)	Primary Contact: Sgt. Ryan Tague	541-576-4393
Oregon State Police (OSP)	Secondary Contact: Dispatch, northern command[15]	800-442-0776
Oregon State Police (OSP)	Secondary Contact: Dispatch, southern command[16]	800-442-2068
State Historic Preservation Office (SHPO)	Primary Contact: Aspen Kemmerlin	503-986-0690

[14] Contact information should be regularly updated for all individuals. Up to date contacts for LCIS, OSP, SHPO, and Native American Tribes can be found on the LCIS cultural resources page: Commission on Indian Services archaeology (oregonlegislature.gov)

[15] Northern command: Benton, Clackamas, Clatsop, Columbia, Crook, Deschutes, Gilliam, Hood River, Jefferson, Klamath, Lane, Lincoln, Linn, Marion, Multnomah, Polk, Sherman, Tillamook, Wasco, Washington, Wheeler, Yamhill

[16] Southern command: Baker, Coos, Curry, Douglas, Grant, Harney, Jackson, Josephine, parts of Klamath, Lake, Malheur, Morrow, Umatilla, Union, and Wallowa

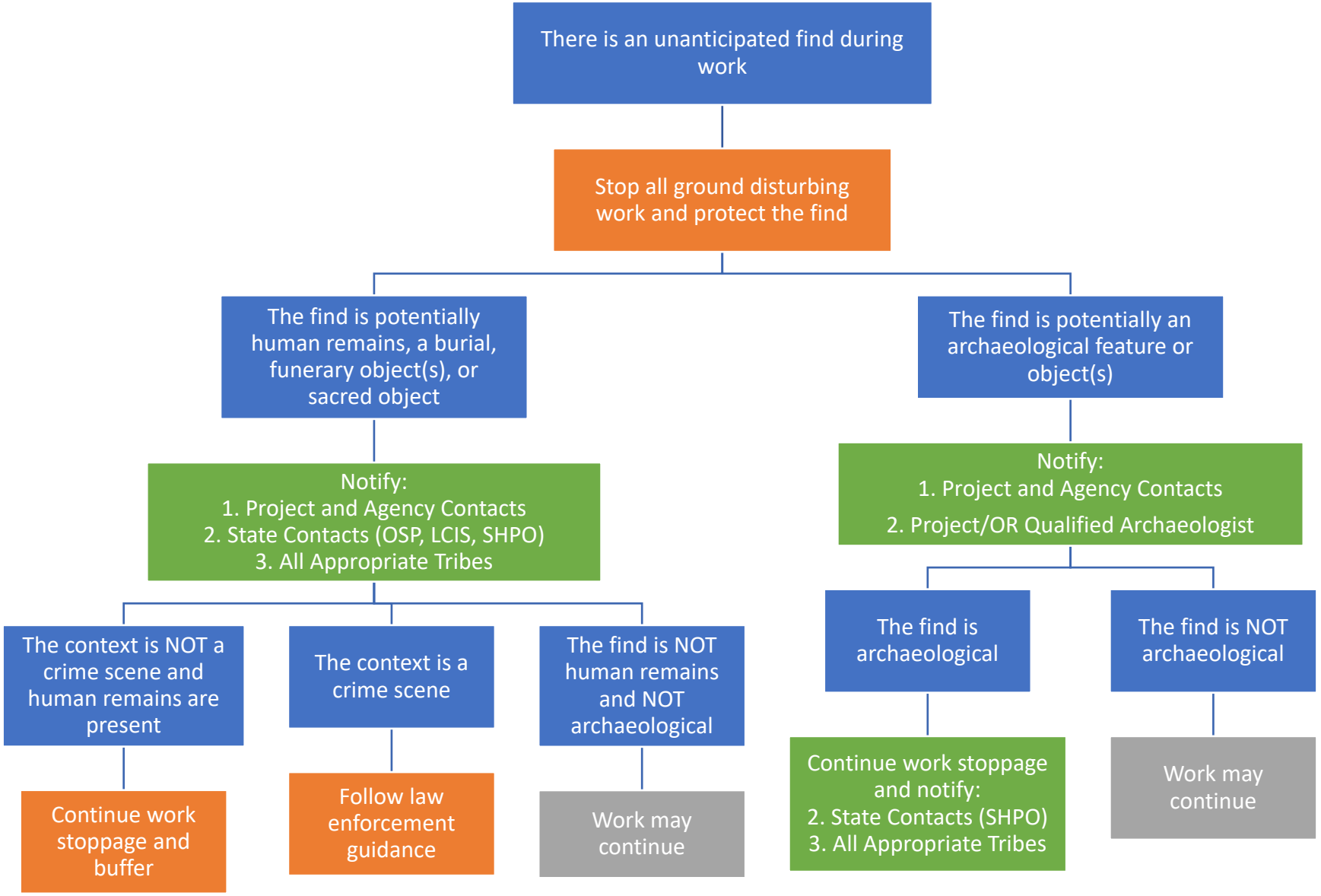
Agency	Position/Contact	Contact Information
State Historic Preservation Office (SHPO)	Primary Contact: John Pouley, State Archaeologist	503-480-9164
State Historic Preservation Office (SHPO)	Secondary Contact: Jamie French, Asst. State Archaeologist	503-979-7580
Native American Tribes	Confederated Tribes of the Grand Ronde	503-879-5211
Native American Tribes	Cow Creek Band of Umpqua Tribe of Indians	541-672-9405

E. *Confidentiality*

Medford Irrigation District and employees shall make their best efforts, in accordance with federal and state law, to ensure that its personnel and contractors keep the discovery confidential. The media, or any third-party member or members of the public are not to be contacted or have information regarding the discovery, and any public or media inquiry is to be reported to USDA-NRCS. Photos shall not be taken except for when authorized by LCIS, SHPO, and Native American Tribes for identification purposes, and no photos will be circulated publicly or on social media. Prior to any release, the responsible agencies and Tribes shall concur on the amount of information, if any, to be released to the public.

To protect fragile, vulnerable, or threatened sites, the National Historic Preservation Act, as amended (Section 304 [16 U.S.C. 470s-3]), and Oregon State law (ORS 192.345(11)) establishes that the location of archaeological sites, both on land and underwater, shall be confidential.

F. *Procedure Flow Chart*



G. Visual Reference Guide for Archaeology in Oregon

Lithics and stone tools



Figure 1. Stone flakes



Figure 2. Stone projectile points



Figure 3. Ground stone tools: (left) pestle, (right) net weights.

Basketry/Cordage



Figure 4. Open diagonal twine basket fragments from Fort Rock Cave (UOMNCH).



Figure 5. Three-strand braid, sagebrush bark from Paisley Caves (UOMNCH).

Shell Middens



Figure 6. Cross section of shell midden.

Beads



Figure 7. Dentalium shell beads (UOMNCH).

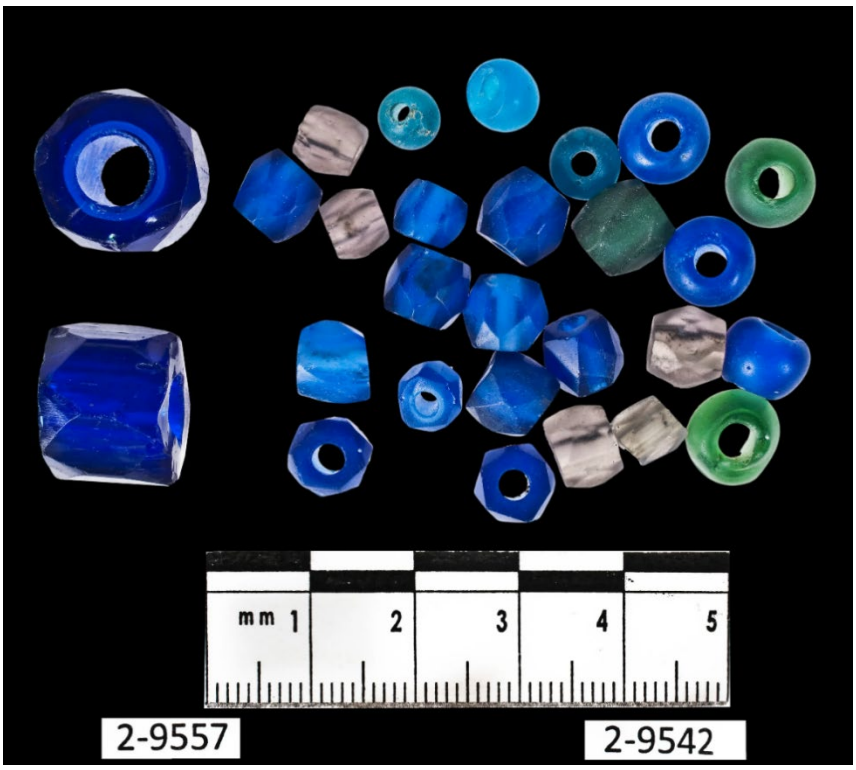


Figure 8. Glass trade beads, Upper Columbia River (UOMNCH).

Fish Weirs



Figure 9. Wooden fish weir



Figure 10. Fishing weir.



Figure 11. Close up of fishing weir.

Culturally Modified Trees



Figure 12. Example of peeled pine.



Figure 13. Arborglyph on aspen tree

Historic Artifacts



Figure 14. Historical glass



Figure 15. Historical metal artifacts

E.3 Avoidance, Minimization, and Compensatory Mitigation Measures for the Modernization Alternative

E.3.1 Temporary Access

Prior to construction, MID would contact adjacent landowners to discuss the Project. Landowners would be provided a construction schedule before construction begins. Where possible, work would be confined to existing and new easements. In addition, construction limits would be clearly flagged to preserve existing vegetation and prevent trespassing on private property. Access to residences and farms would be maintained during construction. Construction would occur during the daytime and primarily in the non-irrigation season to minimize disturbance to landowners or other individuals in the construction area vicinity. Following project completion in an area, temporary construction access routes would be decommissioned, restored to original contours, and reseeded.

E.3.2 Staging, Storage, and Stockpiling

Mechanized equipment and vehicles would be selected, operated, and maintained in a manner that minimizes adverse effects on the environment. Construction staging areas would be selected and used to minimize effects on vegetation and avoid tree removal. The use of construction vehicles and equipment within 150 feet of streams would be minimized to the greatest extent practicable. Fueling and maintenance operations would be performed on flat surfaces, away from moving equipment, and at least 150 feet away from any water source.

E.3.3 Noise and Vibration

Mitigation of potential construction noise impacts would incorporate low-cost, easy-to-implement measures into project plans and specifications (for example, requiring equipment mufflers and prohibiting the use of air brakes).

Construction time constraints would be determined at the time of project construction. No county-wide noise ordinance applies to unincorporated areas, so there are no specific "quiet hours" established at the county level.

Blasting must comply with all applicable federal, state, and local regulations and be supervised by a licensed blaster. Activities should only be conducted when deemed necessary and under the direction of qualified personnel designated by the project engineer.

It is recommended that the Project provide a separate blasting plan for each cut that requires blasting, prepared by a person qualified and experienced in blasting. Blasting in the mass of rock to be excavated shall be designed to control flyrock, minimize ground vibration and air blast, and result in loosened and fragmented in-place rock of a size that can be removed, transported, or crushed.

The blasting plan should include recommendations and methods to accomplish the following:

- Lay out production blast holes in a consistent pattern that does not affect the perimeter-control blast holes.
- Use techniques that effectively limit and control flyrock.
- Clear the site of all boulders or other material prior to beginning blasting.
- Cover all blast areas that are within 200 feet of residences, facilities, or aboveground utilities using appropriate blast containment mats.

- Notify all owners and occupants of buildings, structures, and utilities that are within 1,250 feet of the blasting areas.
- Provide notification, in writing, once, at least 48 hours before blasting begins and again on the day the blasting operations occur.

E.3.4 Right-of-Way, Displacements, and Relocations

For properties that would experience permanent impacts, such as the locations of new siphon alignments, compensation would mitigate the effects on affected property owners and tenants. Federal and state regulations require that property be purchased at fair market value.

Mitigation for temporary construction impacts may include BMPs to reduce noise and vibration, such as equipment mufflers and limiting construction times to certain hours. Affected portions of public and private properties would be returned to their original condition following construction. Additional mitigation for construction easements could include payment to property owners in exchange for use of their property during construction. Access to impacted properties would be maximized to the extent possible, and specific provisions, including signing indicating businesses are open, would be made available.

E.3.5 Roads and Traffic Control

Impacts to traffic due to construction cannot be avoided due to the nature of the Project. Measures would be taken to appropriately detour traffic and coordinate with other nearby projects. Maintenance of traffic plans would be developed as part of final design. This would include wayfinding signs for alternative vehicle and pedestrian routes around the construction zones. Additionally, nearby landowners and residents would be notified of planned construction activities affecting their access.

Standard construction safety procedures and traffic control measures would be employed to reduce the risk of collisions between construction vehicles and other vehicles while construction is ongoing. Lane closures on roadways would be avoided during peak travel periods to the greatest extent possible to reduce potential traffic delays from construction vehicles.

E.3.6 Erosion Control

Silt fencing, straw wattles, geotextile filters, straw bales, or other erosion control measures would be used to minimize soil erosion and prevent eroded soil from entering waterbodies during construction. Erosion control measures would be free of weeds and weed seeds. Drainage measures would be incorporated into the engineering design to minimize effects of piping ditches on local flooding. Construction would occur during the non-irrigation season so that there is no water within the canal. At the location of drainage and stream crossings, temporary water management, such as installation of cofferdams and gravity-fed bypass pipe, would be employed if water is present during construction to isolate the work area and prevent runoff into the adjoining waters.

E.3.7 Utilities

Construction-related impacts to existing utilities within the alignment of the Project may not be avoidable. The following measures to minimize impacts for electrical service interruptions would be taken:

- If the connection to the existing system involves temporary electrical shutoff, provide written notices to the residents affected by the shutoff a minimum of 72 hours before the shutoff.
- Planned electrical power outage notification would indicate the approximate duration of the power outage and what hours the power outage is anticipated to occur between.

E.3.8 Soils and Geology

The engineer of record should coordinate with the project geologist to plan a targeted geologic investigation of subsurface variability, depth to bedrock, trench stability, erosion, seepage, and groundwater risks to support design-phase planning.

E.3.9 Piping Resiliency

The pipe and associated trench would be designed to allow for long-term stability of the pipe and minimize potential loss of irrigation water to leakage. Mitigation measures include the following:

- Place geomembrane securely to minimize potential for shifting over time (a geotextile liner would be installed in the trench, followed by pipe bedding and the pipe).
- Compact fill material adequately to support the weight of planned vehicles.
- Provide additional reinforcement as recommended by project engineers.

E.3.10 Revegetation and Visual Restoration

During excavation, topsoil would be saved and replaced as the top layer after trenches are filled. Areas disturbed for access purposes or during construction would be regraded to their original contours. When necessary, compacted areas such as access roads, stream crossings, staging, and stockpile areas would be loosened to facilitate revegetation and improved infiltration. Disturbed areas would be planted with a native seed mix appropriate to the habitat. Revegetation practices would follow the NRCS *Oregon and Washington Guide for Conservation Seedings and Plantings* (NRCS 2000). Costs of revegetation are included in project installation cost estimates. Pruning and tree removal would occur entirely within the canal easement and would not exceed what is required for equipment clearance.

Mitigation for long-term visual and aesthetic impacts are not anticipated due to the remote location of the JSC and the very small number of potentially impacted viewsheds.

E.3.11 Hazardous Materials

A project-wide construction health and safety plan would minimize the potential for exposure of construction workers to hazardous materials and the risk to human health and the environment. Health and safety plans are required by federal Occupational Safety and Health Act regulations and state regulations.

A site-specific contaminated media management plan would ensure proper characterization, management, storage, disposal, and reporting of contaminated materials encountered during construction activities. The plan could outline the roles and responsibilities of personnel; health and safety requirements; methods and procedures for characterizing, managing, storing, and disposing of waste; and reporting requirements.

E.3.12 Spill Prevention, Control, and Countermeasures

Spill kits would be located at fuel storage areas, and construction crews would have adequate absorbent materials and containment booms on hand to enable rapid cleanup of spills. Immediately upon learning of any spills of fuel, oil, or hazardous material, or upon learning of conditions that could lead to an imminent spill, the person discovering the situation would initiate actions to contain the fluid or eliminate the source of the spill and notify the spill coordinator or crew foreman immediately. If it is determined that a spill is beyond the scope of on-site equipment and personnel, an environmental emergency response contractor would be contacted immediately to contain or clean up the spill. Any spill into a waterbody or along the adjacent streambed would be reported immediately to the Oregon Emergency Response Service at 1-800-452-0311 and the National Response Center at 1-800-424-8802. The spill coordinator would complete a spill report form for each release of a regulated substance, regardless of volume.

E.3.13 Invasive Species Control

The following measures would be taken to avoid the introduction of invasive plants and noxious weeds into project areas.

- Inspect gear and equipment to be used in or near water for aquatic invasive species.
- Limit ground disturbance to those areas necessary to safely implement the Preferred Alternative.
- Begin activities in areas not characterized by invasive plants or noxious weeds before operating in infested areas.
- Use areas that are free of invasive plants or noxious weeds for staging, parking, and cleaning equipment. Avoid or minimize all types of travel through infested areas and restrict travel to those periods when the spread of seed or plant reproductive parts is least likely.
- Schedule soil work in infested roadsides or ditches during periods when seeds or propagules are least likely to be viable and spread.
- Monitor disturbed areas for at least three growing seasons following completion of activities. Provide follow-up treatments based on inspection results.
- Inspect material sources at their site of origin to ensure that they are free of invasive plant material before transport and use to the extent practicable. If possible, treat contaminated material before any use.

E.3.14 Wildlife

Construction would occur outside of USFWS-approved buffer distances for migratory birds and bald and golden eagle nests. If construction within the recommended buffer distance is not possible, it would be scheduled to take place outside of the nesting season.

Construction is anticipated to take place during October through April, outside of the primary nesting period for migratory birds of concern (April 15 through July 31). For occasions where project construction overlaps with the primary nesting period for raptors and eagles (February 15 through July 31), surveys would be conducted out to a radius of at least 2 miles of the construction site, per USFWS eagle nest survey protocol. Should an active nest be found, construction would not proceed prior to consultation with a local USFWS biologist to determine the next steps.

Blasting activities would adhere to management prescriptions in the USFWS National Bald Eagle Management Guidelines (USFWS 2007). These would include but may not be limited to avoiding blasting within a minimum of 0.5 mile of active nests, as well as avoiding blasting within 0.5 mile (or 1 mile in open areas) of communal roosts when eagles are congregating, without prior coordination with USFWS and ODFW. See Section E.3.3 for additional discussion of BMPs and mitigation measures for blasting noise.

In appropriate cases and under consultation with ODFW, ramps would be placed in open pipeline trenches during construction to avoid the potential for wildlife to become trapped overnight.

E.3.15 Cultural Resources Mitigation

E.3.15.1 Inadvertent Discovery

A cultural resource survey was conducted by a qualified archaeologist in areas where ground disturbance would occur, consistent with the NRCS and BLM cultural resource management policies. This survey included the identification and evaluation of cultural resources present within those areas and provides measures to avoid, minimize, or mitigate impacts to those resources.

If archaeological resources are inadvertently discovered during construction, an Inadvertent Discovery Plan would be followed (see Section E.2). Construction would stop in the vicinity of the discovery, the area would be secured and protected, a professional archaeologist would assess the discovery, consultation with the Oregon SHPO and NRCS cultural resources staff would occur as appropriate, and the appropriate tribes would be notified. Construction would continue in accordance with applicable guidance and law.

E.3.15.2 Historic Resources

[To be added once mitigation actions are identified]

E.3.16 Water Resources Mitigation

Overall, the Project is expected to have beneficial long-term effects on water resources in the Little Butte Creek Watershed. As a result, no long-term mitigation measures are proposed. The Modernization Alternative would potentially result in a measurable but localized reduction in groundwater recharge from canal seepage. The amount would be small relative to the combined effects on groundwater levels from climate factors, groundwater pumping, and other irrigation modernization projects. Groundwater levels are expected to continue declining throughout the Upper Rogue Basin due to climate change. Therefore, it is difficult to predict the specific potential

impacts of the Modernization Alternative on local domestic and irrigation wells. No long-term mitigation measures are proposed as a result. Avoidance and minimization measures would be implemented during construction to ensure that adverse effects on surface water and groundwater are prevented to the greatest extent practicable. Post-construction mitigation and restoration actions would be implemented following construction to ensure that post-construction site conditions do not contribute to ongoing effects on water resources.

E.3.17 References

NRCS (Natural Resources Conservation Service). 2000. Oregon and Washington Guide for Conservation Seedings and Plantings. Accessed April 17, 2025. https://efotg.sc.egov.usda.gov/references/public/OR/OR_WA_seeding_guide.pdf

USFWS (U.S. Fish and Wildlife Service). 2007. National Bald Eagle Management Guidelines. Accessed April 17, 2025. https://www.fws.gov/media/national-bald-eagle-management-guidelines