Finding of No Significant Impact

Final Environmental Assessment

Nampa and Meridian Irrigation District (NMID)

Ridenbaugh Canal Headworks Modernization Project

Ada County, Idaho

U.S. Department of the Interior
Bureau of Reclamation
Columbia-Pacific Northwest Region
Snake River Area Office

CPN-EA 2025-05

Introduction

The Bureau of Reclamation (Reclamation) has prepared this Finding of No Significant Impact (FONSI) to comply with the Council of Environmental Quality (CEQ) regulations for implementing procedural provisions of the National Environmental Policy Act (NEPA). This document briefly describes the proposed action, other alternatives considered, the scoping process, Reclamation's consultation and coordination activities, and Reclamation's finding. The Final Environmental Assessment (EA) fully documents the analyses of the potential environmental effects of implementing the proposed action.

Location and Background

The Project area for the proposed Ridenbaugh Canal headworks improvements comprises 33.2 acres and is located in southeastern Boise, Ada County, Idaho along the Boise River immediately upstream of Eckert Road Bridge. The 33.2-acre Project area contains two separate areas: a 23.6 acre parcel that encompasses the Ridenbaugh Canal headworks and adjoining access/staging areas; and a second 9.6 acre parcel that would be used for construction staging.

The canal headworks includes a diversion structure that spans the entire Boise River and connects into elevated/stabilized abutment structures on both the west side (left bank looking downstream) and east side (right bank looking downstream). It also includes a sediment wall and headgate at the canal intake. The Ridenbaugh Canal and the headworks were constructed in the 1870s with additions to the headworks occurring through the 1930s.

The existing headworks facility infrastructure is nearing the end of its intended useful life and its ongoing age-based deterioration presents increased maintenance needs and operational safety hazards. An evaluation of the existing headworks facility based on common engineering practice identified the following issues requiring correction:

- Concrete, metal, and wooden components of the diversion structure, sediment wall, and intake gate structure are displaying the effects of freeze/thaw cycles and general deterioration from over 90 years of operation.
- Seepage is occurring under the intake gates wing walls structure which places the integrity of the walls in question.
- Scour is occurring at the downstream edge of the diversion structure and around the right abutment which places the reliability of the diversion structure in question.
- The deteriorating condition of the headworks facility is necessitating continually increasing maintenance efforts and creates more dangerous working conditions for NMID staff.
- Manual installation and removal of the wooden stop logs is slow, imprecise, and dangerous.

The Nampa and Meridian Irrigation District (NMID) has been selected by the Bureau of Reclamation (Reclamation) for a Water Sustain and Manage America's Resources for Tomorrow (WaterSMART) grant to modernize their headworks facility in the Boise River for the Ridenbaugh Canal.

Purpose and Need

Reclamation needs to finalize a decision on providing WaterSMART grant funding to the NMID for the proposed modernization of the Ridenbaugh Canal headworks facility. NMID's purpose for this headworks modernization project is to extend the life of the Ridenbaugh Canal Project, allowing the NMID to reliably continue the diversion of 550 cfs of water for irrigation use from the Boise River into the Ridenbaugh Canal. The headworks modernization is needed to remedy the existing operational safety hazards and address the worsening structural deficiencies noted above.

Alternatives Considered and Recommended Action

The range of alternatives developed for this proposed action is based on the purpose and need for the project. The alternatives analyzed include a no-action alternative and the recommended action.

The following is the Recommended Action:

Reclamation would provide WaterSMART grant funding to the NMID to modernize their headworks facility in the Boise River for the Ridenbaugh Canal. The Proposed Action would not modify the NMID existing surface water diversion rights, water surface elevations in the Boise River at this location, or intended use of irrigation water delivery into the Ridenbaugh Canal maintaining compliance with Section 8 of the Reclamation Act 43 U.S.C. §§ 372 & 383. The modernization of the project would consist of the following permanent and temporary construction actions at the headworks facility that would accommodate reliable and continued diversion of water to the

Ridenbaugh Canal, minimize safety risks to the NMID staff and the general public, and provide improved O&M access. Construction would be expected to begin in 2025 and be completed in 2028 with work activities below the Boise River ordinary high water mark (hereinafter referred to as "in-water work") taking place during low-water periods (generally October through April), avoiding interruptions to irrigation water delivery.

Construction would involve the following components:

- Remove the existing diversion structure piers and maintenance walkway flush to the top of the concrete sill. The concrete sill on the bottom of the river would remain in place to decrease disturbance to the riverbed and provide grade control to reduce the risk of impacts from scour immediately downstream from the new diversion structure. Rock and concrete debris at the existing diversion structure and along the west bank of the Boise River would be removed.
- Remove the sediment wall maintenance walkway and a portion of the sediment wall extending from the diversion structure upstream approximately 220 feet. The rest of the sediment wall would remain in place.
- Remove the wing walls rock exterior of the original headgates/radial gates and remove the trashrack.
- Clear vegetation along the main river channel banks as needed to install the new headworks facility features.
- Install a new concrete diversion structure upstream of the existing diversion structure perpendicular to the channel flow. The new diversion would be located approximately 70 feet upstream of the east side of the old diversion and 185 feet upstream of the west side of the old diversion. The new diversion would be equipped with automated overpour gates on the west half and a fixed crest concrete weir on the east half. The diversion would be armored upstream and downstream to stabilize the riverbed. Armoring would consist of a 4-foot thick layer of angular riprap (12-inch diameter) covered by an 8-inch thick layer of river cobble (3-inch diameter).
- Install a concrete intake channel structure upstream from the entrance to the Ridenbaugh Canal. The structure would be equipped with stop log guides at the entrance followed by a sediment basin. A sediment bypass gate would be installed downstream of the sediment basin to discharge the natural sediment load that enters the intake back into the Boise River.
- Install a gravel access ramp on the west side of the Boise River to provide O&M equipment access into the sediment basin.
- Install an automated self-cleaning trash rack between the sediment basin and the entrance to the canal (to be installed by 2028). The trash rack would have at least 2-inch by 2-inch spacing which would prevent fish greater than 2 inches in width from entering the Ridenbaugh Canal. An interim trash rack would be installed with a spacing of 2 feet until the permanent trash rack is installed.

- Construct a headworks facility control building in the upland on the west side of the Boise River adjoining the intake channel. The control building would also be equipped with a supervisory control and data acquisition (SCADA) control system.
- Reroute the existing access route on the east side of the Boise River to the new diversion. This access route would be established in coordination with the proposed City of Boise Alta Harris Park and conservation easement holders. The existing access route would be abandoned in place.
- Plant native trees, shrubs, and herbaceous species along the Boise River in the temporarily disturbed areas, and stabilize the disturbed areas post-construction utilizing Best Management Practices (BMPs).
- Remove a portion of the east side (right bank) abutment and other infrastructure.
- Temporary dewatering activities would also be required to facilitate construction actions. To perform work on the west side of the Boise River, a cofferdam would be installed to dewater the west side of the river and flows would be diverted to the east side of the Boise River. Similarly, for work on the east side of the river a cofferdam would be installed to dewater and divert the Boise River flows to the west side.
- Use of staging areas identified in the EA document to facilitate construction.

The no-action alternative does not meet the defined purpose and need for action, but was evaluated because it provides an appropriate basis to which the recommended action is compared.

Summary of Environmental Effects

The following discussion summarizes the effects the proposed action (Alternative B) would have on each resource category analyzed in the Final EA. For a full analysis and explanation of how each resource was evaluated, readers may reference *Chapter 3 – Affected Environment and Environmental Consequences* in the Final EA.

Hydrology and Geomorphology

Anticipated effects include short-term restrictions of flow through a 300 linear-foot reach of the Boise River for in-water work, to occur outside the irrigation season (November through March) in two water years. Short-term effects to water conveyance would be negligible, and there would be no measurable long-term change in conveyance of flow volumes past the new diversion. No effects to flow in the Side Channel or changes to Federal Emergency Management Agency (FEMA) Special Flood Hazard Area (SFHA) designations are anticipated. There would be no change to water surface elevations.

Water Quality

Anticipated effects include short-term adverse effects to water quality in the Boise River at and immediately downstream from the site during construction activities in and adjacent to the Boise River and Side Channel. Short-term turbidity increases, particularly during cofferdam installation/channel dewatering and cofferdam removal/channel rewatering, and short-term increases in sediment load in surface water in the event of precipitation, are expected to last one day or less before dissipating. No long-term adverse effects are anticipated, due to the inclusion of a sediment basin and automated sediment bypass gate in the structure design for sediment management, consistent with existing conditions.

Waters of the United States and Wetlands

Anticipated effects include permanent modification to a total of 0.547 acres of the Boise River and 0.05 square feet of wetlands. Temporary modifications to 1.11 acres of the Boise River and 0.03 acres of wetlands are anticipated to facilitate the removal of the existing headworks facility, placement of temporary cofferdams, and construction of the new headworks facility. Temporarily modified areas would be restored and continue to provide their similar preconstruction functions after completion. These effects are considered to be minor based on the minimal losses and anticipated restoration measures that would be undertaken at the conclusion of construction.

Biological Resources – Vegetation, Wildlife, and Fisheries

Anticipated effects include short- and long-term adverse effects to vegetation from ground disturbance that would permanently remove 0.18 acres and temporarily disturb 0.16 acres of tree and shrub riparian vegetation; these would be reseeded and/or receive cottonwood and willow plantings at the conclusion of the project. The short-term effects would be negligible based on the limited area of disturbance, and no measurable long-term effects to vegetation communities along the Boise River riparian corridor are expected. Fish are not expected to experience any measurable short- or long-term impacts during construction, as salvage and release would be conducted in dewatered areas in coordination with the Idaho Department of Fish and Game. Seasonal restrictions to upstream fish passage would remain similar to those in existing conditions. The new structure would be equipped with a trash rack with smaller spacing which would exclude adult age-class sportfish from entrainment into the Ridenbaugh Canal, an improvement over existing conditions where no such mechanical exclusion exists. This would provide a moderate long-term benefit to fish, particularly adult age-class sportfish populations. Wildlife would experience short-term adverse effects from construction noise and disturbance; this temporary displacement is considered minor due to the spatial and temporal limitation of the effect in relation to surrounding available riparian corridor habitat.

Invasive Species Management

Ground disturbance activities would create risk for introductions or further spread of invasive vegetation species; this would be mitigated to a negligible level through the implementation of Best

Management Practices (BMPs) (e.g., equipment cleaning, immediate eradication of establishments of non-desirable species). Post-construction stabilization and vegetation restoration measures would preclude any long-term effects to invasive species management.

Threatened and Endangered Species

A preliminary report generated through the U.S. Fish and Wildlife Service's (USFWS) Information and Planning and Consultation (IPaC) site indicated that that five species listed under the Endangered Species Act (ESA) have the potential to occur in the affected area: the North American wolverine (*Gulo gulo luscus*), designated as threatened; the yellow-billed cuckoo (*Coccyzus americanus*), designated as threatened; slickspot peppergrass (*Lepidium papilliferum*), designated as threatened; the monarch butterfly (*Danaus plexippus*), currently proposed for listing as threatened, and Suckley's cuckoo bumblebee (*Bombus suckleyi*), currently proposed for listing as endangered. Analysis discussed in the Final EA concluded that the proposed would not be likely to result in measurable effects to these species, due to the absence or infrequency of species' occurrence in the area, the marginal suitability of existing habitat, and the seasonal absence of migratory species during times when construction would be occurring. The environmental commitments referenced in the EA, particularly those related to revegetation and replanting, would preclude any long-term measurable effects to habitat that could be sporadically utilized by ESA-listed species.

Recreation

Public access to the project area would be temporarily limited during construction. This short-term effect would be mitigated by the installation of fencing and signage to indicate a temporary portage path for floating recreationists. In the long-term, there would be no overall change to existing recreation conditions or the availability of access.

Transportation and Traffic Management

Construction activities would increase traffic along both Eckert Road and E Boise Avenue by an estimated 0.4% change in daily traffic. This is considered negligible and is not anticipated to have a noticeable influence on general traffic flow through the area. Temporary traffic closures may be required for equipment entering and exiting onto Eckert Road and E Boise Avenue and to connect the proposed new access road to Eckert Road. In these instances, flaggers would be utilized to control traffic and closures or disruptions to traffic flow, including the temporary use of single-directional flagger-controlled traffic patterns, would occur for up to five days. These disruptions would be negligible as traffic patterns would remain largely unimpeded.

Noise and Light

Short-term adverse effects of increased noise during construction (e.g., from construction activities, diesel engines, generators, back-up alarms, and increased traffic) are expected for nearby occupants of residences. Based on adherence to noise regulations and noise dampening measures, short-term noise effects would be minor to moderate, depending on the specific construction equipment and

activities. The potential operation of a backup generator could result in a long-term sporadic increase in noise; however this would be anticipated to be experienced very rarely. Short-term effects from light would be negligible since construction activities would be performed primarily during the daylight hours and when lights are utilized they would be directed toward the active construction site only. Any long-term effects of the lighting to be installed at the new facility are expected to be negligible based on the abundance of existing surrounding urban light sources and the planned lighting configuration.

Visual Resources

Short-term effects are anticipated that would adversely affect visual quality of the Boise River and riparian corridor in the Project area, due to disturbed lands and construction equipment parked or operating on those lands. No measurable visual effects are anticipated for the areas outside of the riparian corridor because these areas lack visual quality. The look of the diversion would be different than the existing structure, but it would not block the views of the riparian corridor from Eckert Bridge or from fishers/floaters/hikers in the river. Adverse effects to visual quality are anticipated due to the taller/larger diversion being a more notable feature on the landscape. These effects are expected to be minor over the long term because the riparian view would not be blocked, the new diversion structure would be situated near the existing structure's location, and the existing diversion structure would no longer be visible above the water surface.

Public Health and Safety

During construction the site would be closed to the public to avoid public exposure to safety hazards related to active construction, therefore no short-term effects to public safety are expected. Public exclusion measures such as fencing, gates, signage, and locked buildings are expected to reduce adverse effects to public safety in the long term. Danger signage to be posted upstream notifying boaters/waders/swimmers to keep out of the water around the diversion and informing recreationists of upcoming portage requirements is expected to provide a moderate benefit of improved safety for the public and for the NMID staff over the long term.

Cultural Resources

Reclamation determined that there would be an Adverse Effect to the Ridenbaugh Diversion Headworks (Site 10AA2146) from modifications at the headworks facility that remove features and characteristics which define the historic integrity of the structure. Reclamation submitted the effect determination to the Idaho State Historic Preservation Office (SHPO) to comply with Section 106 of the National Historic Preservation Act, and a Memorandum of Agreement to mitigate the adverse effect was developed and signed between Reclamation, Idaho SHPO, and the NMID.

Tribal Interests: Indian Trust Assets and Treaty Rights

There would be no known beneficial or adverse effects to Indian Trust Assets, as none were identified in the proposed action area or staging areas during the scoping and research process. There would also be no known beneficial or adverse effects to treaty rights. No responses were received to Reclamation's requests for information that were made to Tribes who traditionally and currently use the area for hunting, fishing, and gathering of plants. With no specific response, Reclamation assumes that there would be no adverse effects to reserved Treaty Rights, such as access or impacts to areas for hunting, fishing, or gathering, or for livestock grazing.

Air Quality

Construction activities would temporarily emit several air pollutants, including fugitive dust, diesel engine emissions and emissions associated with the dust created from demolition, land clearing, ground excavation, cut-and-fill operations, and road construction. The Project is small in scale and localized with minimal upland earthwork (<2.5 acres), therefore the emissions from the minor amount of equipment and vehicles used during construction would not have a measurable effect on Ada County's air quality, given the size of other inputs in the broader urban area. Emissions produced for NMID O&M activities are anticipated to be reduced as compared to the No Action Alternative as a result of fewer vehicle trips to the headworks facility being necessary, resulting in a beneficial effect to air quality over the long term.

Land Use

Amendments to existing conservation easements would result in the minor permanent change to land use of relocation of the existing access route on the east side of the Boise River. Otherwise, no change to public access or use within the City of Boise Parks and Recreation Department lands are expected.

Consultation, Coordination, and Public Involvement

Reclamation mailed (September 27, 2024), emailed (October 1, 2024), and posted to the Reclamation website (October 2, 2024) a scoping information package, including a project information letter and three maps, to interested parties including Federal, State, and local agencies, members of Congress, Indian Tribes, non-governmental organizations, and private individuals soliciting their help in identifying any issues and concerns related to the Proposed Action. During the scoping comment period KTVB, a Boise television station, also ran a brief news story about the project highlighting the opportunity and avenues for public input. Reclamation received a total of 29 comments in response. Main topics of concern that were brought to Reclamation's attention by commenters included a desire for instream recreator passage and requests for the incorporation of recreational wave feature(s), effects to spawning fish vis-à-vis timing of construction activities, effects to fish passage and screening, effects to instream aquatic habitat including from sediment mobilization and changes to riparian vegetation, minimization of noise and light pollution, effects to recreator access and opportunities for improvement, the need for coordination regarding existing

conservation easements, water quality protection measures, invasive weed control measures, and concerns about use and maintenance of staging areas.

Comments received from the scoping solicitation were discussed and/or relevant analysis was incorporated into the Final EA.

Reclamation consulted with the Idaho SHPO, ACHP, and tribes on the Proposed Action and determination of effects to comply with Section 106 of the NHPA. Reclamation submitted an adverse effect determination to SHPO on October 7, 2024 and SHPO concurred with the determination in a letter dated November 13, 2024. Reclamation notified the ACHP of the adverse effects and SHPO concurrence for the Project, and invited the ACHP to participate in the Project on November 21, 2024. The ACHP declined to participate in the Project in a letter dated December 5, 2024. Tribes were consulted as described in Chapter 4.3. To mitigate the adverse effects, a Memorandum of Agreement (MOA) has been developed between Reclamation, Idaho SHPO, and the NMID.

Pursuant to Reclamation's determination that the Proposed Action would not be likely to adversely affect any ESA-listed species, no formal ESA Section 7 consultation was undertaken for this project.

The Confederated Tribes of Warm Springs Reservation, Shoshone-Bannock, Burns Paiute, and Fort McDermitt Paiute Shoshone Tribes were consulted to comply with Executive Order 13007, 13175, the American Indian Religious Freedom Act, and the NHPA. Reclamation sent scoping letters via FedEx containing preliminary project information to the tribes listed below on September 26, 2024. Tribes were also provided information on the Proposed Action and determination of effects to historic properties on September 27, 2024. No responses or concerns from the tribes were received by Reclamation.

Finding

Based on the analysis of the environmental effects presented in the Final EA and consultation with potentially affected agencies, Tribes, organizations, and the general public, Reclamation concludes that implementation of the proposed action will not have a significant impact on the quality of the human environment or natural and cultural resources. The effects of the proposed action will be minor, temporary, and localized. Therefore, preparation of an Environmental Impact Statement (EIS) is not required.

Decision

Based on the analysis in the Final EA, it is my decision to select for implementation the proposed action (Alternative B). The proposed action will best meet the purpose and need identified in the Final EA.

Recommended:

AMY GOODRICH

Digitally signed by AMY GOODRICH
Date: 2025.06.25 16:28:09 -06'00'

Amy Goodrich
Natural Resource Specialist
Snake River Area Office, Boise, Idaho

Date

Approved:

RYAN ALCORN

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Date: 2025.06.25 16:32:01 -06'00'

Ryan Alcorn
Snake River Area Manager (Acting)
Columbia-Pacific Northwest Region, Boise, Idaho

Date

BUREAU OF RECLAMATION

Final Environmental Assessment

Nampa and Meridian Irrigation District (NMID) Ridenbaugh Canal Headworks Modernization Project

Ada County, Idaho
Columbia-Pacific Northwest Region

CPN-EA-2025-05

U.S. Department of the Interior **November 2025**

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; 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.

Cover Image – Ridenbaugh Canal headworks facility in the Boise River, Ada County, Idaho (Nampa and Meridian Irrigation District photo).

Final Environmental Assessment

Nampa and Meridian Irrigation District (NMID) Ridenbaugh Canal Headworks Modernization Project

Ada County, Idaho
Columbia-Pacific Northwest Region

CPN-EA-2025-05

Prepared by:

Bureau of Reclamation
Technical Service Center
Denver, Colorado

U.S. Department of the Interior **November 2025**

Acronyms and Abbreviations

Acronym or Abbreviation	Definition
ACHD	Ada County Highway District
ACHP	Advisory Council on Historic Preservation
AIRFA	American Indian Religious Freedom Act
APE	Area of Potential Effect
BMP	Best Management Practices
CAA	Clean Air Act
ft^3/s	Cubic feet per second
CH_4	Methane
CO	Carbon Monoxide
CWA	Clean Water Act
DOI	Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
GIS	Geographical Information System
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IPaC	Information for Planning and Conservation
ITA	Indian Trust Assets
ITD	Idaho Department of Transportation
MBCC	Migratory Bird of Conservation Concern

Acronym or Abbreviation	Definition
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Agreement
MSAT	mobile source air toxics
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NMID	Nampa and Meridian Irrigation District
N_2O	Nitrous Oxide
NO_2	Nitrogen Dioxide
NRHP	National Register of Historic Places
O_3	Ozone
O&M	Operations and maintenance
Pb	Lead
PM	Particulate Matter
Reclamation	Bureau of Reclamation
SCADA	Supervisory Control And Data Acquisition
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office
SO_2	Sulfur Dioxide
SWPPP	Stormwater Pollution Prevention Plan
TU	Trout Unlimited
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WaterSMART	Water Sustain and Manage America's Resources for Tomorrow
WOTUS	Waters of the United States

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1.0 Purpose and Need

1.1 Introduction

The Nampa and Meridian Irrigation District (NMID) has been selected by the Bureau of Reclamation (Reclamation) for a Water Sustain and Manage America's Resources for Tomorrow (WaterSMART) grant to modernize their headworks facility in the Boise River for the Ridenbaugh Canal. This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA)[1] to analyze the reasonably foreseeable environmental effects that could result from the implementation of the NMID's proposed Ridenbaugh Canal Headworks Modernization Project (Project).

This EA serves as a tool to aid the responsible official in making an informed decision that is in conformance with applicable federal laws and regulations. The Proposed Action and additional alternatives are described in section 2.0 of this document. The environmental effects of each alternative (including adverse and beneficial, public health and safety, and those that would violate federal, state, tribal, or local laws protecting the environment), are evaluated for each of the affected resource areas in section 3.0 of this document.

The NEPA process requires analysis of any discretionary federal action that may have an impact on the human environment. This EA is being prepared to assist Reclamation in finalizing a decision on the proposed action, and to determine whether a Finding of No Significant Impact (FONSI) is appropriate or, if significant environmental impacts are found, whether the proposed project should be further analyzed through the development of an Environmental Impact Statement (EIS).

1.2 Project Location and Background

The Project area for the proposed Ridenbaugh Canal headworks improvements comprises 33.2 acres and is located in southeastern Boise, Ada County, Idaho along the Boise River immediately upstream of Eckert Road Bridge (figure 1). The 33.2-acre Project area contains two separate areas: Area 1 includes 23.6 acres that encompasses the Ridenbaugh Canal headworks and adjoining access/staging areas; and Area 2 includes 9.6 acres that would be used for

[1] Executive Order 14154, *Unleashing American Energy* (Jan. 20, 2025), and a Presidential Memorandum, *Ending Illegal Discrimination and Restoring Merit-Based Opportunity* (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. Reclamation verifies that it has complied with the requirements of NEPA, including the Department's regulations and procedures implementing NEPA at 43 C.F.R. Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum. Reclamation has also voluntarily considered the Council on Environmental Quality's rescinded regulations implementing NEPA, previously found at 40 C.F.R. Parts 1500–1508, as guidance to the extent appropriate and consistent with the requirements of NEPA and Executive Order 14154.

construction staging (figure 2). The Project disturbance footprint, including proposed access, egress/ingress, construction staging, demolition, easements, and installed features are included within the Project area extents.

The canal headworks includes a diversion structure that spans the entire Boise River and connects into elevated/stabilized abutment structures on both the west side (left bank looking downstream) and east side (right bank looking downstream). It also includes a sediment wall and headgate at the canal intake. The Ridenbaugh Canal and the headworks were constructed in the 1870s with additions to the headworks occurring through the 1930s. The headworks components are shown in figure 2.

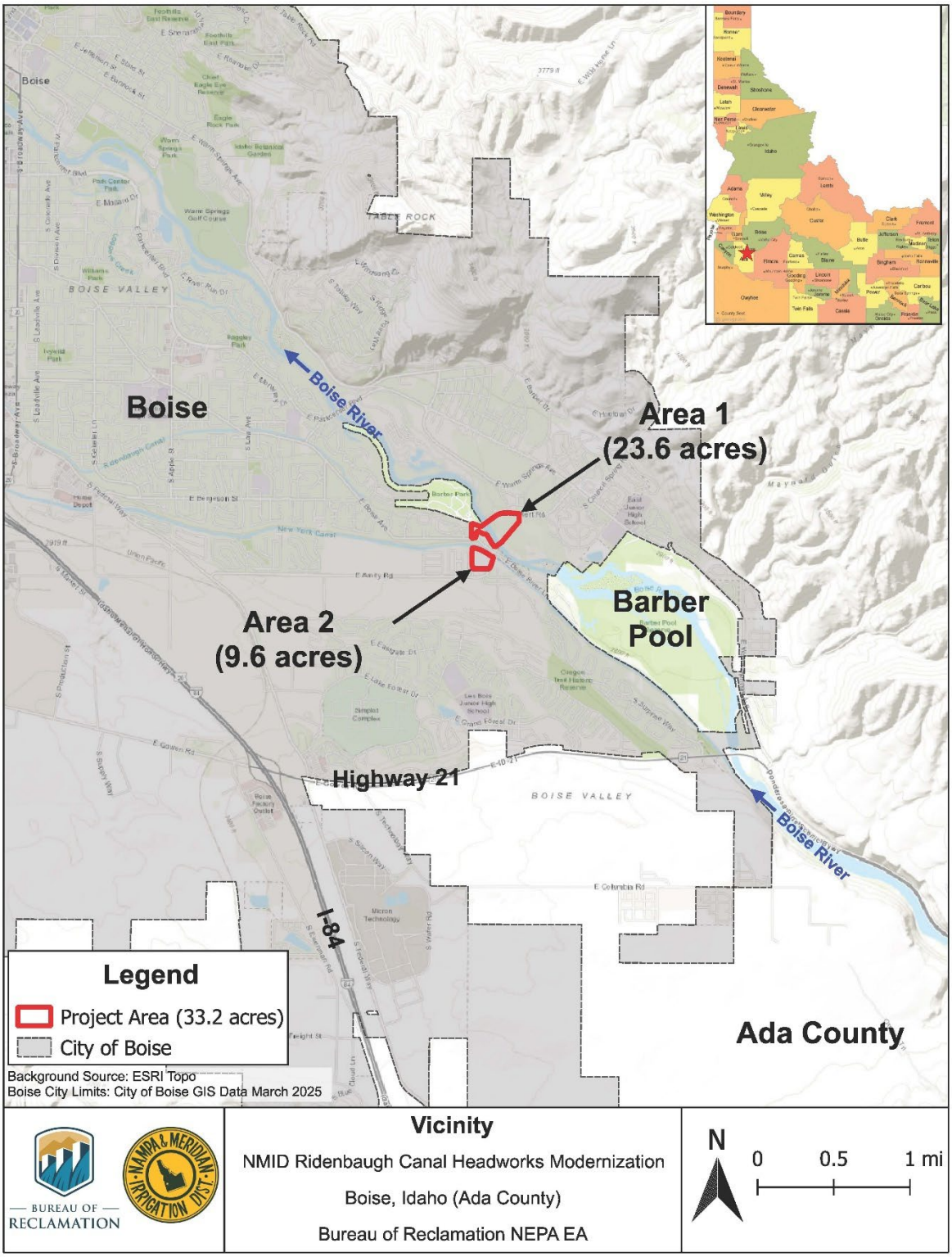

Figure 1.—Map showing the proposed project area in relation to the city of Boise and the broader area.

Figure 2.—Map showing the existing conditions of the Ridenbaugh Canal Headworks Facility and parcel ownership.

The portion of Area 1 on the west side of the Boise River is NMID-owned property and contains the intake to the Ridenbaugh Canal consisting of a sediment wall, wing wall, trash rack, and intake gates. The portion of Area 1 east of the Boise River is located on City of Boise property managed by Boise Parks and Recreation and consists of open land with a small stream/wetland complex running parallel to the Boise River and entering the river downstream of the headworks facility. Two separate conservation easements held by Trout Unlimited/Land Trust of the Treasure Valley and Idaho Foundation for Parks and Lands exist for the stream/wetland complex which includes a swath of land from the stream to the right bank of the Boise River (see section 3.16 for a detailed description of these conservation easements). The open land in Area 1 east of the conservation easement is proposed for the future City of Boise Alta Harris Park. Area 1 within the Boise River contains the Ridenbaugh diversion which allows up to 550 cubic feet per second (ft^3/s) of water to be conveyed from the Boise River into the Ridenbaugh Canal. During the irrigation season (April 1–October 31), the water surface elevation in the Boise River is raised to divert water into the Ridenbaugh Canal. This is currently accomplished by the NMID staff manually installing stop logs into piers on the diversion from a wooden walkway that is depicted in figures 3 and 4. Figure 3 shows the diversion without the stop logs in place, and figure 4 shows the diversion with the stop logs in place (raising the Boise River water surface elevation).

Figure 3.—Ridenbaugh Diversion without stop logs Installed (looking upstream).

Figure 4.—Ridenbaugh Diversion with stop logs Installed (looking upstream).

Area 2 adjoins the New York Canal to the south and is located on disturbed land owned by the NMID. It currently operates as a sediment/rock stockpile yard for operation and maintenance (O&M) activities conducted on the Ridenbaugh Canal and headworks facility.

1.2.1 Canal Headworks Facility Issues

The existing headworks facility infrastructure is nearing the end of its intended useful life and its ongoing age-based deterioration presents increased maintenance needs and operational safety hazards. An evaluation of the existing headworks facility based on common engineering practice (HDR 2024) identified the following issues requiring correction:

- Concrete, metal, and wooden components of the diversion structure, sediment wall, and intake gate structure are displaying the effects of freeze/thaw cycles and general deterioration from over 90 years of operation.

- Seepage is occurring under the intake gates wing walls structure which places the integrity of the walls in question.
- Scour is occurring at the downstream edge of the diversion structure and around the right abutment which places the reliability of the diversion structure in question.
- The deteriorating condition of the headworks facility is necessitating continually increasing maintenance efforts and creates more dangerous working conditions for NMID staff.
- Manual installation and removal of the wooden stop logs is slow, imprecise, and dangerous.

1.3 Purpose and Need

Reclamation needs to finalize a decision on providing WaterSMART grant funding to the NMID for the proposed modernization of the Ridenbaugh Canal headworks facility. NMID's purpose for this headworks modernization project is to extend the life of the Ridenbaugh Canal Project, allowing the NMID to reliably continue the diversion of 550 ft^3/s of water for irrigation use from the Boise River into the Ridenbaugh Canal. The headworks modernization is needed to remedy the existing operational safety hazards and address the worsening structural deficiencies noted above.

1.4 Regulatory Compliance

The following major laws, executive orders, and secretarial orders also apply to the proposed project, and compliance with their requirements is documented in this EA:

- NEPA
- Endangered Species Act (ESA)
- National Historic Preservation Act (NHPA)
- Clean Water Act (CWA)
- Clean Air Act (CAA)
- Migratory Bird Treaty Act (MBTA)
- Eagle Protection Act
- American Indian Religious Freedom Act (AIRFA)
- Noise Control Act
- Executive Order (EO) 11988 Floodplain Management
- EO 11990 Protection of Wetlands

- EO 13007 Indian Sacred Sites
- EO 13112 Invasive Species
- EO 13175 Consultation and Coordination with Tribal Governments
- EO 14154 Unleashing American Energy
- Secretarial Order 3175 Department Responsibilities for Indian Trust Assets (ITAs)
- Section 8 of the Reclamation Act 43 U.S.C. §§ 372 & 383

1.5 Scoping Summary

The scoping process provides an opportunity for the public, governmental agencies, and tribes to identify their concerns or other issues and aid in developing a full range of potential alternatives that address meeting the project's purpose and need as stated in this document. To accomplish this, Reclamation provided information to the public by mailing a scoping information package with a letter soliciting comments from the public, governmental agencies, and potentially affected tribes. Reclamation's public affairs office also separately issued a press release regarding solicitation of comments on the proposed project during the public scoping period. During the scoping comment period, KTVB, a Boise television station, also ran a brief news story about the project highlighting the opportunity and avenues for public input. Details regarding the public, governmental agencies, and potentially affected tribes scoping are presented in section 4.0.

Table 1 summarizes alternative improvement suggestions, categorized by theme, that were received during the scoping process and details the reason(s) they were eliminated from further study in this EA.

Table 1.—Scoping comments and responses by theme

Scoping Topic/Theme	Reclamation Response
Fish Screen to Exclude Juvenile Fish from Ridenbaugh Canal Intake	A trash rack with grid spacing of 2 by 2 inches, installed at the entrance to the canal, would prevent fish greater than 2 inches in width from entering the Ridenbaugh Canal. The prevention of adult fish entering the Ridenbaugh Canal complies with Idaho Code 36-906. A fish screen preventing all life stages of fish from entering the Ridenbaugh Canal is technically prohibitive at this site and is outside the scope of this project.
Separate Fish Passage Feature	The new diversion overpour gates would be operated in the down position, allowing upstream and downstream fish passage, generally from November 1–March 31 (5 months). This operation of the headworks facility complies with Idaho Code 36-906 and no separate fish passage feature is required.
Recreational Wave Feature	The addition of a recreational wave feature does not meet the purpose and need for the project, and is outside the scope of the WaterSMART grant program's objectives.
Recreational User Downstream Passage (in-River)	The addition of a recreational downstream passage feature does not meet the purpose and need for the project, and is outside the scope of the WaterSMART grant program's objectives. However, portage would remain as described in the next comment response below.
Recreational User Downstream Passage (portage)	There is currently an unimproved downstream portage around the headworks facility on the right bank. This unimproved portage would remain in place once the Proposed Action is constructed.
Other Alternatives than a Low-Head Dam	There are no other alternatives that meet the purpose and need for the project.
Placement of Spawning Gravels in Boise River	An 8-inch thick layer of cobbles (3-inch diameter) would be installed on top of riprap placed in the Boise River.

2.0 Description of Alternatives

2.1 Introduction

This section describes the two alternatives analyzed in this EA which include Alternative A (No Action alternative) and Alternative B (Proposed Action alternative).

2.2 Alternative Development

The Proposed Action described in this document was developed as the result of a preliminary feasibility study that was undertaken from 2023 to 2024 (HDR 2024) which examined numerous potential actions to address the deficient conditions of the headworks facility noted in section 1.2.1. This alternatives analysis considered seven different headworks facility configurations. The conclusion of the alternative analysis resulted in the selection of the Proposed Action detailed as Alternative B in this EA. The Proposed Action was selected based on meeting the following criteria.

- Reduces safety hazards for the NMID staff operating the headworks facility.
- Reduces safety hazards to the public recreating in the vicinity of the headworks facility.
- Improves response time and debris management during flood flow releases and other upstream flow changes in the Boise River.
- Reduces O&M efforts and fuel consumption resulting from NMID staff traveling to manually adjust the diversion structure as water levels in the Boise River fluctuate.
- Improves management of the diversion structure pool to reduce operational water loss and improve functionality of water diversion into the Ridenbaugh Canal.

The alternatives presented in this section were developed based on the purpose and need for the project, as described in section 1.3, and the issues raised during internal, external, and tribal scoping processes. The alternatives analyzed in this document include a No Action alternative and the Proposed Action alternative to modernize the NMID Ridenbaugh Canal headworks facility. A No Action alternative is evaluated because it provides an appropriate baseline to which the Proposed Action alternative is compared. Several optional configurations to the Proposed Action alternative were considered during the planning process and are discussed in 2.5. Alternative improvement suggestions received during the scoping process were also considered during the planning process (see section 1.5)

2.3 Alternative A – No Action

Under the No Action alternative, Reclamation would not fund the NMID's grant proposal to modernize the NMID Ridenbaugh Canal headworks facility. The NMID would seek other funding sources to meet the purpose and need of the Project; however, there is no guarantee that funding from other sources would be available. Therefore, there is no reasonably foreseeable option to fund modifications for the Ridenbaugh Canal headworks facility and it is assumed the facility would continue to operate as it does currently for the foreseeable future.

The existing headworks facility would be left in and adjacent to the Boise River and the NMID would not implement any improvements. Operations of the existing headworks facility would continue to occur as they previously have. This includes manual installation and removal of stop logs into piers from the wooden walkway, with the inherent safety hazard for the NMID staff unaddressed. The efficiency and durability of the headworks facility would continue to deteriorate over time and improvements in water distribution and usage would not be achieved.

2.4 Alternative B – Ridenbaugh Canal Headworks Facility Modernization (Proposed Action)

Reclamation would provide WaterSMART grant funding to the NMID to modernize their headworks facility in the Boise River for the Ridenbaugh Canal. The Proposed Action would not modify the NMID existing surface water diversion rights, water surface elevations in the Boise River at this location, or intended use of irrigation water delivery into the Ridenbaugh Canal maintaining compliance with Section 8 of the Reclamation Act 43 U.S.C. §§ 372 & 383. The modernization of the project would consist of the following permanent and temporary construction actions at the headworks facility that would accommodate reliable and continued diversion of water to the Ridenbaugh Canal, minimize safety risks to the NMID staff and the general public, and provide improved O&M access (HDR 2025a). Construction would be expected to begin in 2025 and be completed in 2028 with work activities below the Boise River ordinary high water mark (hereinafter referred to as "in-water work") taking place during low-water periods (generally October through April), avoiding interruptions to irrigation water delivery.

2.4.1 Permanent Actions

Portions of the exiting Ridenbaugh Canal headworks would be demolished as described below and depicted in figure 5.

- Remove the existing diversion structure piers and maintenance walkway flush to the top of the concrete sill. The concrete sill on the bottom of the river would remain in place to decrease disturbance to the riverbed and provide grade control to reduce the risk of impacts from scour immediately downstream from the new diversion structure. Rock and

concrete debris at the existing diversion structure and along the west bank of the Boise River would be removed.

- Remove the sediment wall maintenance walkway and a portion of the sediment wall extending from the diversion structure upstream approximately 220 feet. The rest of the sediment wall would remain in place.
- Remove the wing walls rock exterior of the original headgates/radial gates and remove the trashrack.
- Remove a portion of the east side (right bank) abutment and other infrastructure.

Figure 5.—Permanent action (demolition).

New headworks facility features would be installed as described below and depicted in figure 6.

- Clear vegetation along the main river channel banks as needed to install the new headworks facility features.
- Install a new concrete diversion structure upstream of the existing diversion structure perpendicular to the channel flow. The new diversion would be located approximately 70 feet upstream of the east side of the old diversion and 185 feet upstream of the west side of the old diversion. The new diversion would be equipped with automated overpour gates on the west half and a fixed crest concrete weir on the east half. The diversion would be armored upstream and downstream to stabilize the riverbed. Armoring would consist of a 4-foot thick layer of angular riprap (12-inch diameter) covered by an 8-inch thick layer of river cobble (3-inch diameter).
- Install a concrete intake channel structure upstream from the entrance to the Ridenbaugh Canal. The structure would be equipped with stop log guides at the entrance followed by a sediment basin. A sediment bypass gate would be installed downstream of the sediment basin to discharge the natural sediment load that enters the intake back into the Boise River.
- Install a gravel access ramp on the west side of the Boise River to provide O&M equipment access into the sediment basin.
- Install an automated self-cleaning trash rack between the sediment basin and the entrance to the canal (to be installed by 2028). The trash rack would have at least 2-inch by 2-inch spacing which would prevent fish greater than 2 inches in width from entering the Ridenbaugh Canal. An interim trash rack would be installed with a spacing of 2 feet until the permanent trash rack is installed.
- Construct a headworks facility control building in the upland on the west side of the Boise River adjoining the intake channel. The control building would also be equipped with a supervisory control and data acquisition (SCADA) control system.
- Reroute the existing access route on the east side of the Boise River to the new diversion. This access route would be established in coordination with the proposed City of Boise Alta Harris Park and conservation easement holders. The existing access route would be abandoned in place.
- Plant native trees, shrubs, and herbaceous species along the Boise River in the temporarily disturbed areas, and stabilize the disturbed areas post-construction utilizing Best Management Practices (BMPs).

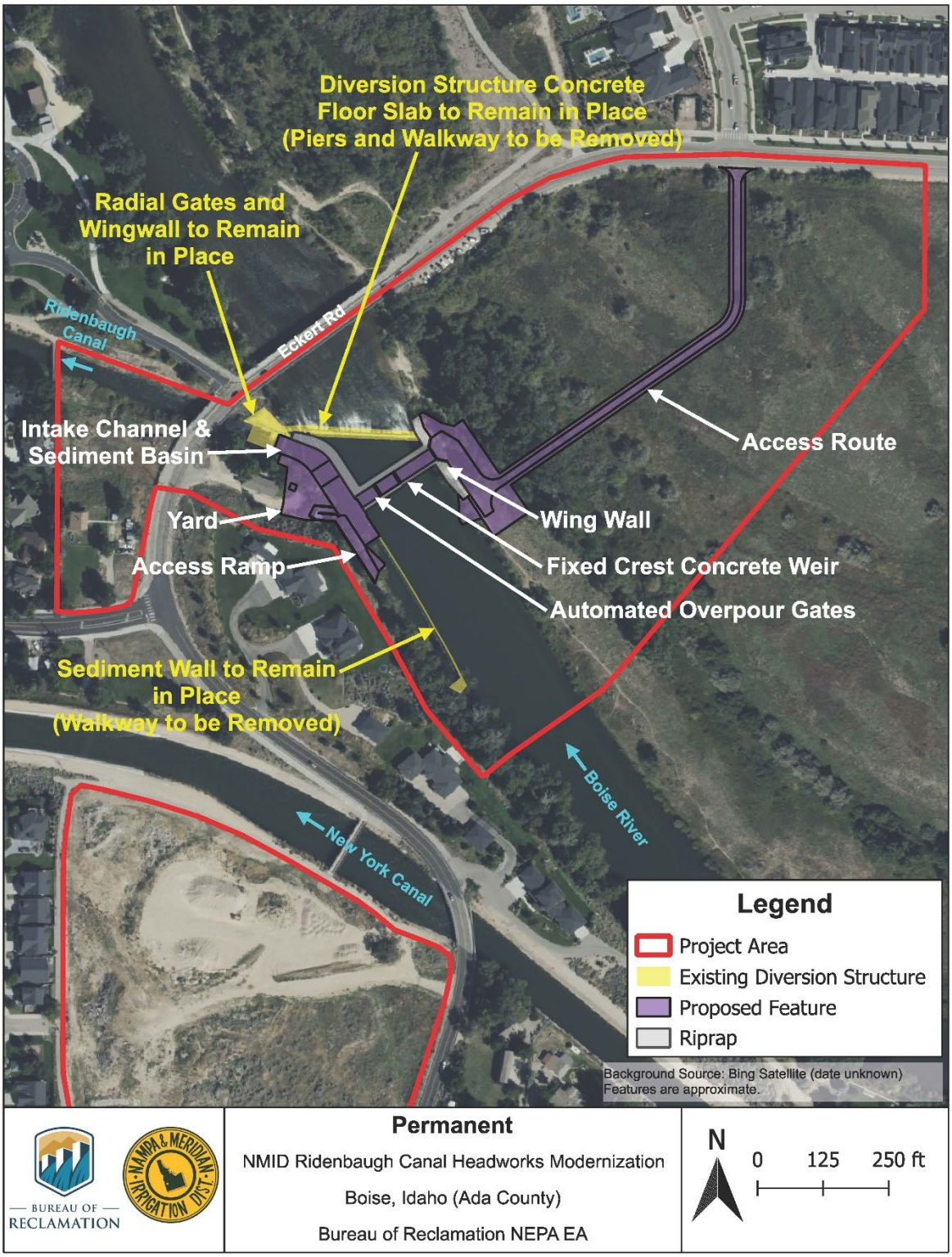

Figure 6.—Permanent action (installed features).

2.4.2 Temporary Actions

The permanent access route described in section 2.4.1 would also be used for temporary construction access. No other construction access routes would be installed, because access is already provided to the other areas. Three staging areas are proposed to facilitate construction. Information on the staging areas is provided below and locations are depicted in figure 7 and Figure 8.

- Staging Area 1 comprises 1.4 acres of open land located in the upland on the east side of the Boise River within City of Boise Parks and Recreation property. This area would be restored upon construction completion in coordination with the proposed City of Boise Alta Harris Park.
- Staging Area 2 comprises 0.5 acres of previously disturbed open land in the upland on NMID property. It is located on the west side of the Boise River, adjoining Eckert Road to the west and the Ridenbaugh Canal to the south. This area would be returned to conditions suitable for the NMID O&M activities for Ridenbaugh Canal upon construction completion.
- Staging Area 3 comprises 5.1 acres of previously disturbed open land in the upland on NMID property. It is located on the west side of the Boise River, adjoining E. Boise Avenue to the west and the New York Canal to the south. This area would be returned to conditions suitable for the NMID O&M activities for Ridenbaugh Canal upon construction completion.

Temporary dewatering activities would also be required to facilitate construction actions. To perform work on the west side of the Boise River, a cofferdam would be installed to dewater the west side of the river and flows would be diverted to the east side of the Boise River (shown in figure 7). Similarly, for work on the east side of the river a cofferdam would be installed to dewater and divert the Boise River flows to the west side (shown in figure 8).

The NMID had minor Geotechnical investigation (borings) performed in February 2025 to explore subsurface conditions in support of foundation design for the proposed headworks facility. NEPA compliance for these activities was covered by a Categorical Exclusion that was completed by Reclamation. These geotechnical activities did not result in environmental impacts and are considered separate from the Proposed Action analyzed herein.

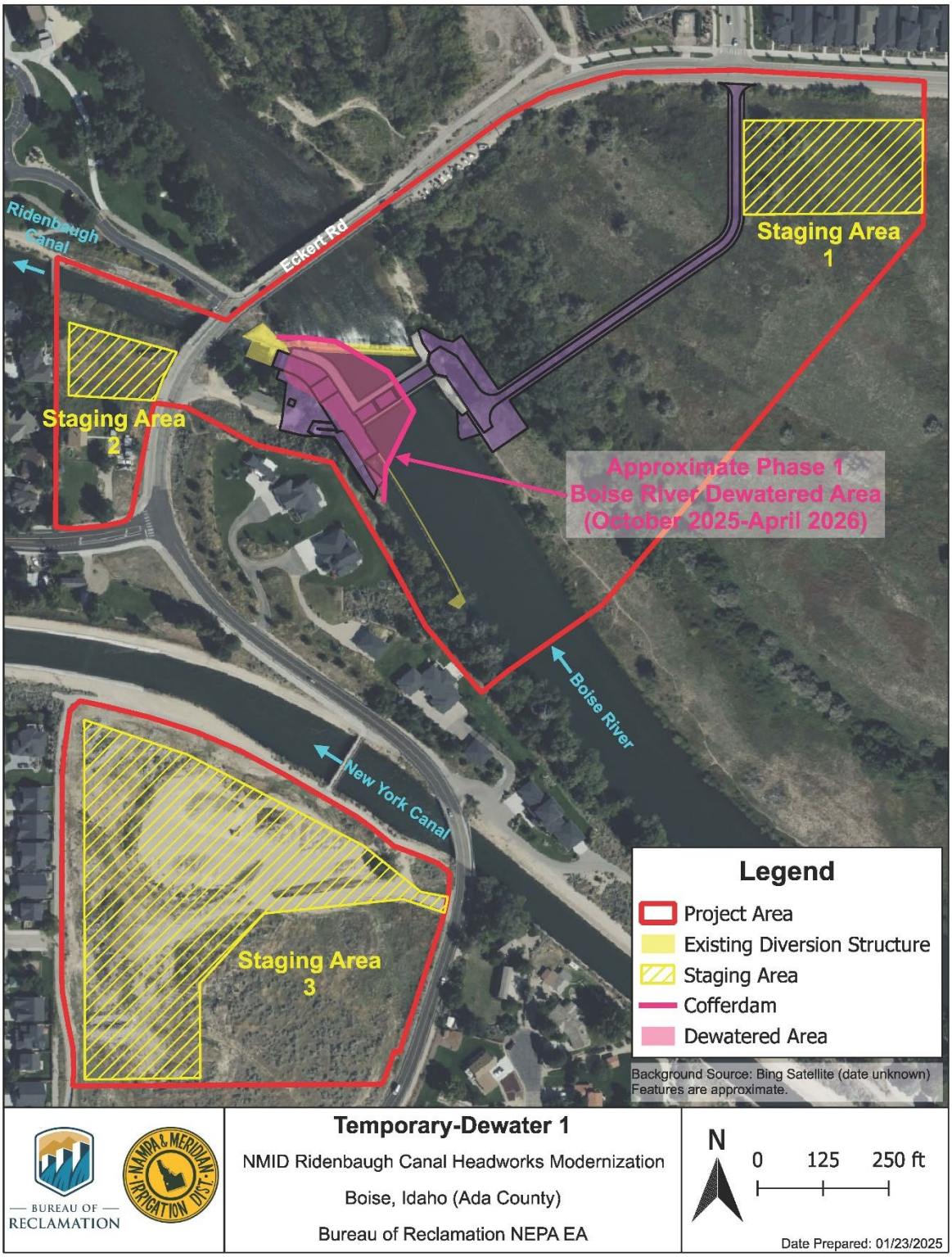

Figure 7.—Temporary dewatering plan Phase 1 (west side of river).

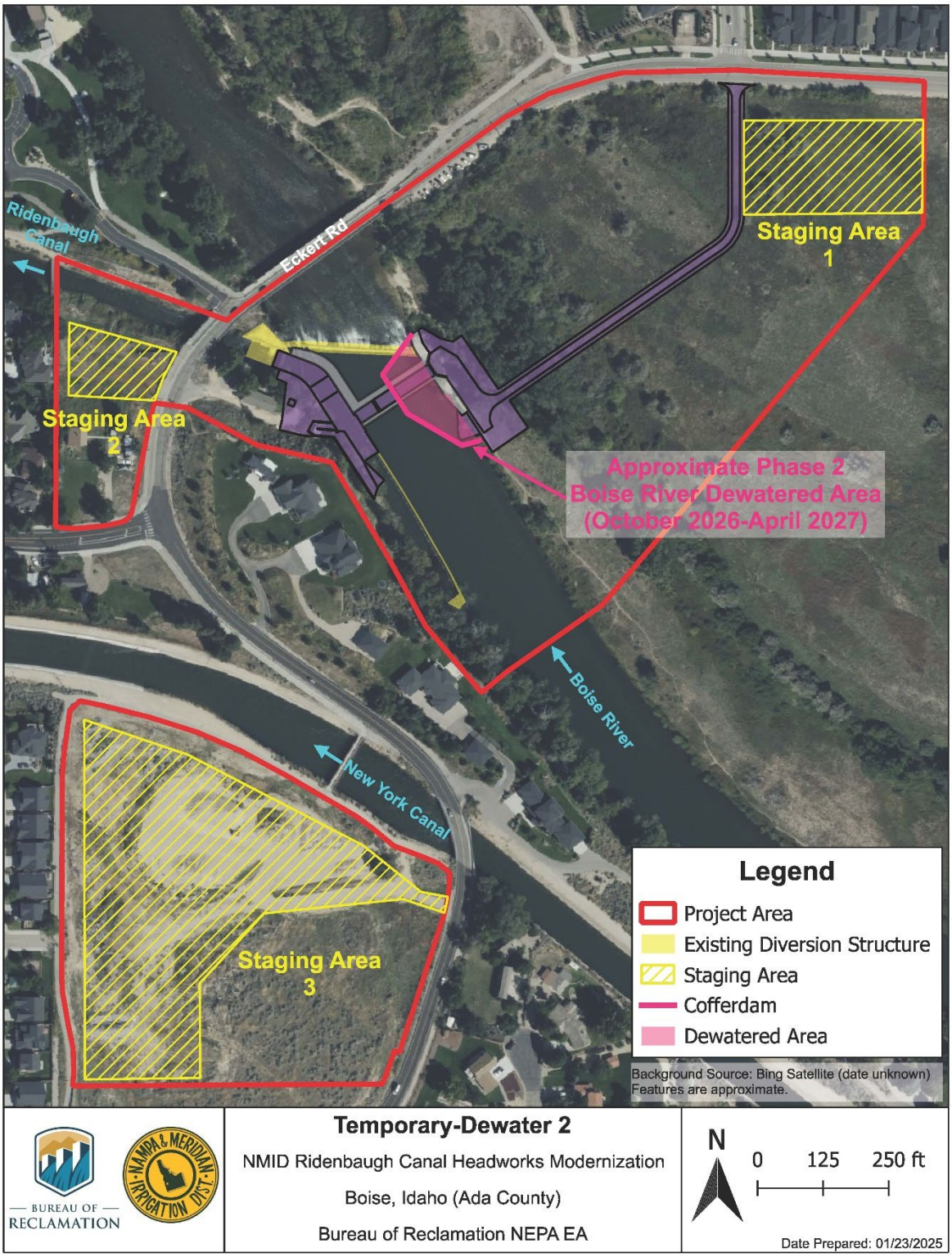

Figure 8.—Temporary dewatering plan Phase 2 (east side of river).

2.4.3 Construction Sequence and Schedule

The project would be installed over a 2-year period with in-water work taking place seasonally in two separate phases during low-water periods (generally October through April). The exact timing of in-water work would be dependent on water flows in the Boise River during the 2025–2026 and 2026–2027 seasonal work windows. Construction and staging in the upland areas would occur year-round.

The proposed construction sequence and schedule accounts for maintaining the NMID's ability to use their existing facilities to divert water into the Ridenbaugh Canal until construction completion. This avoids interruption of the NMID's irrigation water diversion. The sequence and schedule expected for the completion of the Proposed Action would occur in two phases as outlined below.

Phase 1

- September 2025: Clear vegetation as needed in the upland for the new access route from Eckert Road to the conservation easement. Mobilize and begin to construct temporary staging areas and access routes.
- October and November 2025: Clear vegetation as needed to install alternative measures. Close Ridenbaugh Canal intake gates and remove the existing diversion stop logs in the Boise River in October. When river flow drops below 1,500 ft^3/s, install the temporary cofferdam to dewater the west side of the river and divert water to the east side of the river (refer to figure 7). Turbid water would be discharged directly into the Ridenbaugh Canal and sediment would settle prior to being discharged back into the Boise River approximately 1.25 miles downstream in the canal through a side channel spillway. Clean water complying with water quality standards for the Boise River would be allowed to be discharged back into the Boise River either at the construction site or from the Ridenbaugh Canal.
- October 2025–March 2026: Construct the diversion structure center pier and install the diversion automated crest structure/gates. Install the O&M access catwalks for the new diversion. Construct the intake channel structure and control building. Install the interim trash rack.
- March/April 2026: Remove temporary cofferdam.

Phase 2

- October 2026: Clear vegetation as needed. When river flow drops below 1,500 ft^3/s, install the temporary cofferdam to dewater east side of the river and divert water to the west side of the river through the automated overpour gates openings when they are lowered (refer to figure 8).
- October 2026–March 2027: Construct the diversion structure fixed crest concrete weir and east bank abutment.
- April 2027: Complete all remaining work in the Boise River and remove cofferdam.

- March–May 2027: Restore vegetation as appropriate and applicable, stabilize site, and demobilize.
- May–January 2028: Restore temporary access areas on the City of Boise Parks and Recreation land.
- November 2027 - January 2028: Demolish the existing diversion structure piers. The new headworks will be installed and operational for one irrigation season prior to demolishing the existing diversion structure piers. Demolition is anticipated to take 1–2 months to complete within the work period pending flows in the Boise River.

If work in the river can be completed during the July through October timeframe without interruption of the NMID's diversion operations, Phase 2 construction could start in July allowing for earlier completion.

2.4.4 Long-Term Operations and Maintenance

A long-term O&M plan and standard operating procedures would be developed and finalized prior to the 2028 irrigation season for operation of the new headworks facility. It would specifically describe how the new headworks facility would be operated and maintained by the NMID. Due to the implementation of automated equipment no longer requiring hand installation/removal of stop logs, typical O&M efforts for the life of the headworks facility are expected to be equal to or less than the efforts needed for the existing facility.

The O&M activities of alternatives are analyzed in this EA. Typical O&M activities for the Proposed Action would occur on an as-needed basis to ensure proper functioning of the headworks facility. These O&M activities include, but are not limited to, the following items.

- Automated overpour gates in the up position to divert water into the Ridenbaugh Canal from April 1–October 31.
- Automated overpour gates in the down position lying flat on the riverbed to allow unobstructed downstream flow in the Boise River from November 1–March 31. The gates in the down position would allow unimpeded fish passage past the structure for 5 months of the year.
- Automated operation of the new overpour gates to lower the water surface elevations and direct flows to the left side of the river.
- Removal of sediment/gravels and debris affecting operation of the headworks facility.
- Access route maintenance and repair.
- Vegetation maintenance and/or planting (including invasive species removal).

2.4.5 Construction Material Sourcing

Construction materials would be procured from a permitted offsite facility or distributor and/or existing materials in the Project area would be used. There are no new borrow sources or rock quarries for material sourcing proposed as part of the Proposed Action alternative.

2.5 Alternatives Considered but Eliminated from Further Study

NEPA encourages the consideration of alternatives developed through the public, governmental agencies, and potentially affected tribes scoping process. However, only those alternatives that are reasonable and meet the purpose and need of the Proposed Action must be analyzed.

An analysis was completed on seven alternatives to modernize the headworks facility (HDR 2024) as presented in appendix A. Six of these alternatives were eliminated from detailed study based on the criteria illustrated in figure 9. Note, the cost of the project was not considered; only non-economic criteria were used for the analysis.

No.	Evaluation Criteria	Definition / Characteristics	Weighting
1	O&M Functionality and Effectiveness	Operations and maintenance requirements (time, cost) and overall effectiveness of the project (e.g., reduced/easier O&M, redundancy, reliability, adjustability, ability to conserve water, improved energy efficiency, ease of future repairs). Ability to operate the structure and equipment components during unforeseen events.	44%
2	Safety and Security	Level of safety for NMID operators, workers, and the general public around structure. Security of the structure itself and for workers during operations. Ability to lower river during flood events to reduce or prevent flooding of surrounding areas.	27%
3	Ability to accommodate future improvements	Design allows for future improvements to be incorporated relatively easily (e.g., flexibility/modularity of design).	12%
4	Constructability	Design can be constructed in a way that reduces risk to scope, schedule and budget. Ability to maintain operation of diversion during construction and handle unforeseen events.	9%
5	Stakeholder Support	Anticipated level of support and positive relationships with the general public, neighbors and project partnerships. Support of water users in NMID.	4%
6	Ease of Permitting Compliance	Level of permitting required (effort, time, cost) to acquire permits for the project (e.g., simplified project resulting in reduced permit requirements).	3%

Figure 9.—Alternatives criteria, definitions, and weighting (source: HDR 2024).

Figure 10 identifies the results of the analysis for the seven alternatives. The alternative with the highest score "Crest Gates and Ogee Weir with Curved Intake" was selected as the NMID preferred alternative and is Alternative B –Ridenbaugh Canal Headworks Facility Modernization (Proposed Action) analyzed in this EA.

Alternative No.	Description	Score
4B	Crest Gates and Ogee Weir with Curved Intake	62
3B	Crest Gates and Ogee Weir	60
4A	Crest Gates, Center Pier, Catwalk with Curved Intake	51
2	Three Crest Gates and Three Stop Log Bays, with Curved Intake	43
1A	Crest Gates across River w/out Piers, Slotted Intake Wall	35
1B	Crest Gates across River w/out Piers, Slotted Intake Wall and Catwalk	27
3A	Crest Gates and Ogee Weir - Headgates Downstream	18

Figure 10.—Summary of ranked alternatives (source: HDR 2024).

2.6 Past, Present, and Reasonably Foreseeable Future Actions

Past, present, and reasonably foreseeable actions identified in the area (public or private) that could adversely affect the same resource areas evaluated in this EA would be additive effects to the Proposed Action. The following past, present, and reasonably foreseeable future actions within the project vicinity were identified and included in the Combined Effects analysis in section 3.0 for each environmental component (resource) applicable to the Proposed Action.

2.6.1 Alta Harris Park

The City of Boise Parks and Recreation Department owns the property on the east side of the Boise River adjacent to the proposed project and is currently in the planning phase for the future Alta Harris Park. Construction is estimated to occur 2025 through 2026 and the conceptual design of Alta Harris Park is available online at: https://www.cityofboise.org/departments/parks-and-recreation/park-sites/southeast-boise/alta-harris-park-site/.

2.6.2 Trout Unlimited/Land Trust of the Treasure Valley Boise River Side Channel

Trout Unlimited/Land Trust of the Treasure Valley and the City of Boise, Idaho, are working to improve aquatic habitat for salmonid fishes in the Boise River by providing fish passage connecting the lower Boise River to the Barber Pool and restoring spawning and rearing habitat, lost for over 100 years. The Project plan includes constructing 1,600 feet of side channel and culvert connecting to the existing Alta Harris Creek side channel, creating year-round side channel habitat that provides fish passage for salmonids using water sourced from the Barber Pool. The fishway design accommodates fluctuating river flow and water surface elevation of Barber Pool. Areas of the nature-like channel would be planted with appropriate riparian vegetation. Completion of this project will reconnect 2.5 miles of Boise River habitat for aquatic species, construct more than one mile of side channel habitat for fish spawning and rearing of young, and enhance the associated riparian area over approximately five acres. A pre-design memorandum of the project prepared by the Bureau of Reclamation Columbia-Pacific Northwest Region in 2008 is the basis for the project development. Non-Federal funding has been acquired from the Ted Trueblood Chapter of Trout Unlimited, Bonneville Environmental Foundation, and the City of Boise. The project is in planning and will likely be constructed sometime after the Ridenbaugh headworks Project has been completed. More information on the side channel is available online at: https://idfishnhunt.com/harsproj.htm and at https://tedtruebloodtu.org/wp-content/uploads/2023/03/Alta-Cr-BARBER-DAM-03082023-WaterSMART.pdf.

2.6.3 Eckert Road Bridge

Ada County Highway District (ACHD) completed emergency repairs to fix deteriorated pilings on Eckert Road Bridge over the Boise River located 200 feet downstream of the Ridenbaugh Canal headworks facility in February/March 2025. These emergency repairs were completed to stabilize the bridge until it can be completely reconstructed. Final design is currently underway, and construction is estimated to begin in fall 2026.

2.6.4 Barber Park

Barber Park is located 0.2 miles downstream of the headworks facility and is operated by Ada County Parks & Waterways Department. This park is used by recreational users during the summer months and provides one of the most heavily used points of access to the Boise River for downstream floating and vehicle parking within the city. There are no known future modifications planned for Barber Park.

2.6.5 New York Canal Lining Project

The Boise Project Board of Control is lining a 6-mile section of the federally owned New York Canal. Construction is estimated to occur between 2024 and 2032 and more information on this project is available online at: https://www.usbr.gov/pn/programs/ea/idaho/newyorkcanal/index.html.

Community Development

The City of Boise's Community Development Tracker tool was used to account for developments occurring within 0.5 miles of the Project area. The tool is available online at: https://www.cityofboise.org/departments/planning-and-development-services/planning/zoning/maps/development-tracker.

- SE5 Condo Project – Future development of six condominium buildings on Hopes Well Way in the Barber Valley neighborhood.
- 18-Unit Townhome Development - Future development of 18 townhome buildings on Haystack Street in the Barber Valley neighborhood.
- 30-Unit Condo Development - Future development of one condominium building with 30 units on Haystack Street in the Barber Valley neighborhood.
- Harris Ranch SP01 Amendment 7.1 - Modify certain block prototypes and street sections associated with town center blocks in the central areas of Harris Ranch.

3.0 Affected Environment and Environmental Consequences

3.1 Introduction

This section evaluates the environmental consequences of implementing each of the alternatives described in section 2.0. The level and depth of the environmental analysis corresponds to the potentially affected environment and the degree of the effects of the action anticipated for each environmental component (resource). The affected environment addressed in this EA is defined in varying contexts, depending on the affected resource being analyzed.

Resources evaluated in this document and analyzed in this section were selected based on Reclamation requirements; compliance with laws, statutes, and executive orders; public and internal scoping; and the potential for resources to be affected by the Proposed Action.
The following lists the specific terminology used to describe effects to resources associated with alternative measures:

Type

Reasonably Foreseeable Adverse or Beneficial Effects: Direct impact caused by a proposed action and occurring at the same time and place; or indirect impact caused by actions that are later in time or farther removed in distance but are still reasonably foreseeable.

Combined Effect: The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or entity is undertaking such other action.

Duration

- Short-Term Impacts: Impacts are those that last during the duration of construction and shortly after (duration of impact up to approximately 2 years).
- Long-Term Impacts: Impacts are those that last for an extended duration of time. For this EA, long-term impacts extend beyond year 2 up to the design life of the project (50 years).

Intensity

- No Impact: Resource conditions would not change.
- Negligible: Resource condition changes would be so slight there would be no measurable or perceptible consequence to the resource.
- Minor: A small measurable effect to the resource, but localized, small, and of little consequence to the resource. Mitigation measures, if needed to offset adverse effects, would be easily implemented and successful based on knowledge and experience.

- Moderate: A measurable effect to the resource from alternative actions. Mitigation measures would likely be needed to offset adverse effects and could be extensive, moderately complicated to implement, and probably successful based on knowledge and experience.
- Significant: A large, measurable effect to the resource from the alternative actions. Mitigation measures would be needed to offset adverse effects and could be extensive and complicated to implement.

Through this EA process, Reclamation will determine whether a FONSI is appropriate or, if significant environmental impacts are found, whether the proposed project should be further analyzed through the development of an EIS.

3.2 Hydrology

3.2.1 Affected Environment

The Project area contains three surface water features consisting of the Boise River, the Ridenbaugh Canal, and a side channel. It is also located within Federal Emergency Management Agency (FEMA) Special Flood Hazard Areas (SFHA) consisting primarily of Zone AE within the regulatory floodway. The regulatory floodway is the channel of the river and adjoining land areas that must be reserved to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Communities must regulate development in these floodways to ensure that there are no increases in flood elevations.

The Boise River watershed's precipitation is snow-dominated, meaning that it receives most of its water from snow with peak flows that coincide with snowmelt occurring in spring. The watershed is controlled by three upstream dams: Anderson Ranch Dam, Arrowrock Dam, and Lucky Peak Dam (in successive order upstream to downstream). The dams store water to provide recreation, flood prevention, power generation, and irrigation water supply and the primary purpose of these dams is water storage for irrigation which is released during the summer months to irrigate crops and support agriculture in the Treasure Valley. These three dams are operated jointly by Reclamation and the U.S. Army Corps of Engineers (USACE) as a system.

Lucky Peak dam releases water into the Boise River and flows are primarily dictated by irrigation demands, flood control needs, and power generation requirements. The lowest flow releases occur from mid-October to January with averages between approximately 240 and 420 ft^3/s (Reclamation 2025). Flows typically begin increasing in January and peak during snowmelt runoff in May with average releases at the start of February of approximately 625 ft^3/s and peaking in May at 5,775 ft^3/s, though in some years the peaks occur in April (Reclamation 2025). Average releases progressively decrease from the peak in May down to approximately 2,200 ft^3/s at the start of October, then drop down to 240 ft^3/s by the end of October (Reclamation 2025).

The Ridenbaugh headworks diverts up to 550 ft^3/s of water from the Boise River into the Ridenbaugh Canal during the irrigation season (April 1–October 31). To accomplish this, the NMID staff manually install stop logs in piers on the Ridenbaugh diversion structure to raise the surface water elevation of the Boise River at the headworks facility. The stoplogs are removed from the diversion seasonally around October 31 and reinstalled on April 1.

A small side channel runs parallel to the Boise River through the Project area and connects to the Boise River downstream of the existing Ridenbaugh diversion structure. The channel does not have an upstream connection to the river and as such, consists of mostly ponded water introduced from shallow groundwater and backwater from the Boise River.

3.2.2 Environmental Consequences

3.2.2.1 Alternative A – No Action

Under the No Action alternative, there would be no effects to hydrology over the short or long term because no modifications are proposed to the Boise River, side channel, or Ridenbaugh Canal. The headworks would continue to divert water from the Boise River into the Ridenbaugh Canal within the historic range of operations.

3.2.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

There would be no impacts to water diversion into the Ridenbaugh Canal during construction or after construction and no interruption to irrigation water delivery would occur during construction of the Proposed Action.

Short-term adverse effects to water conveyance of the Boise River through in-water work areas would occur to install the Proposed Action. This consists of restricting flow to one side of the river by placement of a cofferdam while work is performed on the other side. This would occur seasonally during construction in two separate phases when river flows are low (generally October through April). Cofferdams would be installed after river flow drops below 1,500 ft^3/s and a contingency plan would be in place if flows raise above 1,500 ft^3/s while the cofferdams are in place. The restriction of flow would occur along 300 linear feet or less of the Boise River. Short-term adverse effects to water conveyance would be negligible based on the minimal length for flow restrictions, short duration of in-water work activities, work being performed during low flows, maintaining the natural downstream flow within the existing banks of the Boise River, and implementation of a contingency plan.

Long-term effects to water conveyance through the new headworks facility would occur. The new diversion structure would continue to raise the water surface elevation of the Boise River to divert 550 ft^3/s of flow into the Ridenbaugh Canal over the long term, as in the No Action diversion structure operations. However, flow conveyance outside of the irrigation season (November 1–March 31) for flows under approximately 500 ft^3/s would pass through the west half of the diversion where the gates would be lowered to be flush with the streambed. Flows over approximately 500 ft^3/s would overtop the fixed crest weir resulting in water flowing over

the entire width of the diversion structure. There would be no measurable change in conveyance of flow volumes past the new diversion. Therefore, long-term effects on Boise River flows would be negligible.

There would be no effect to flow in the side channel. The channel outlet is connected to the Boise River downstream of the existing diversion and the Proposed Action would not change hydrology conditions in any part of the channel.

No changes to FEMA SFHAs are expected. The Project is in compliance with EO 11988 and modeling performed by the engineering consulting firm HDR, Inc. concluded that no net rise in water surface elevations of the Boise River would occur during flood events after installation of Proposed Action (HDR 2025b).

No change to hydrology would occur within Area 2 or within the staging areas of Area 1 due to lack of surface water.

Combined Effects: If other projects that modify surface flow in the Boise River occur at the same time, they could combine to increase the adverse effects to surface flow in the river. The Eckert Road Bridge replacement may occur during the same time as this Project which would likely include temporary modification of Boise River surface flow downstream of the Proposed Action. If surface flow modifications occur during the same period, a minor combined adverse effect to flow conveyance in the Boise River could be expected over the short term during construction.

3.3 Water Quality

3.3.1 Affected Environment

There are three surface waters within the Project area consisting of the Boise River, Ridenbaugh Canal, and the Side Channel. Water quality information from the Idaho Department of Environmental Quality (IDEQ) is only available for the Boise River and the reach of the Boise River overlapping the Project area (Boise River from the Diversion Dam to Veterans Memorial Parkway) has been identified as 303(d) impaired water for Categories 4C and 5 (IDEQ 2022). Category 4C is an impairment for physical substrate habitat alterations and flow regime modifications impacting uses for salmonid spawning and cold-water aquatic life. Category 5 is an impairment for temperature impacting uses for salmonid spawning. This reach is meeting primary contact recreation and domestic water supply beneficial uses. Other designated beneficial uses on this reach of the Boise River not previously mentioned include aesthetics, agricultural and industrial water supply, and wildlife habitat.

Sediment can also impact water quality. The existing headworks facility is equipped with a sediment wall to reduce the amount of river sediment that enters the Ridenbaugh Canal and improve irrigation water quality. O&M activities are performed to capture and manage sediment

at the intake. Sediment captured at the intake is released back into the Boise River to maintain natural river sediment transport but requires labor intensive hand removal and installation of wooden stop logs to facilitate.

3.3.2 Environmental Consequences

3.3.2.1 Alternative A – No Action

Under the No Action alternative, effects to water quality over the short or long term would continue with minimal change, as no modifications are proposed in or near surface waters. Boise River water quality would continue to slowly change due to ongoing anthropogenic inputs as identified in the affected environment section. Best management practices employed by IDEQ for non-point source pollution would eventually improve water quality towards meeting the designated beneficial uses. However, due to the river channelization and controlled river flows, physical substrate habitat alterations and flow regime modifications are unlikely to improve. Sediment management at the intake would continue as in the historic range of operations for the existing structure, improving turbidity and sedimentation.

3.3.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

Construction activities in and adjoining the Boise River and Side Channel within Area 1 could adversely affect water quality over the short term. Project design elements, including required BMPs, would be implemented to reduce the quantity of sediment (1) entering drainages, and (2) flowing downstream with the potential to violate any federal or state water quality rules and regulations (see subsection 3.17 Environmental Commitments for BMPs).

To facilitate construction of the modernized headworks facility in the Boise River, cofferdams would be installed upstream and downstream of the structure and water diverted around the in-water work area on the opposite side of the channel. Short-term increases in turbidity may occur upon cofferdam setup and initial removal of cofferdams and rewatering of the entire Boise River channel after construction. However, turbidity is anticipated to clear to natural conditions within 1 day. Dewatering activities would occur on an as-needed basis and turbid water would be diverted and/or pumped into the Ridenbaugh Canal. Clean water inside the cofferdam would be pumped directly back into the Boise River. In-water work would be performed during installation and removal of cofferdams and BMPs would be instituted throughout the project site to limit the amount of turbid water generated from construction activities, and the release of said water. Based on adherence to state and federal requirements, development and adherence to a Stormwater Pollution Prevention Plan (SWPPP), and implementation of BMPs, the short-term adverse effects to water quality in the Boise River would be minor. These include short-term increases in sediment load in surface water that may occur from precipitation events, dewatering activities, initial rewatering of the Boise River channel, and cofferdam setup and removal.

Long-term adverse effects to water quality are not expected because the modified areas would be stabilized post construction. The new headworks facility would be equipped with a sediment basin and automated sediment bypass gate, which would reduce the level of effort required for

O&M related to sediment management. Sediment sluicing from the sediment basin would be consistent with existing conditions; therefore, there would be no effect to water quality from implementation of the Proposed Action.

No change to water quality would occur for construction activities within Area 2 or within the staging areas of Area 1, due to lack of connection to surface water as well as implementation of BMPs such as periodic watering of staging areas to prevent fugitive dust.

Combined Effects: If other projects occur in the Boise River at the same time, they could combine to increase the adverse effects to water quality in the river. The Eckert Road bridge replacement may occur during the same time as this Project which would likely include temporary modifications in the Boise River to facilitate construction. If the modifications occur during the same period, a combined adverse effect to water quality in the Boise River could be expected. However, the Eckert Road Bridge replacement would be required to adhere to state and federal water quality regulations and the combined impact is expected to be minor.

3.4 Waters of the United States and Wetlands

Waters of the United States (WOTUS) are defined as all waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide and includes all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce (40 CFR 230.3(s)).

3.4.1 Affected Environment

A WOTUS and Wetlands Delineation Report was prepared for the Project area (Adaptive Environmental Planning, LLC 2025). The delineated features are listed in table 2 and can be seen in figure 11 of section 3.5.1. All features are assumed to be jurisdictional for this EA analysis and permitting assumptions, however, it is the responsibility of the USACE to provide the official jurisdictional determination for these features. No aquatic features are present in Area 2, or in staging areas 1 or 2.

Table 2.—Delineated water and wetland features in the project area

Feature	Amount in Project Area (acres)
Wetland	
Scrub-shrub wetland	0.77
Emergent wetland	1.01
Forested wetland	0.27
Total	**2.05**
Water	
Boise River	4.33
Total	**4.33**

3.4.2 Environmental Consequences

3.4.2.1 Alternative A – No Action

Under the No Action alternative, there would be no change to WOTUS or wetlands over the short or long term because no modifications are proposed.

3.4.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

A total of 0.547 acres of the Boise River and 0.05 square feet of wetlands would be permanently modified from the Proposed Action. Temporary modifications to 1.11 acres of the Boise River and 0.03 acres of wetlands are anticipated to facilitate the removal of the existing headworks facility, placement of temporary cofferdams, and construction of the new headworks facility. Areas modified from alternative measures are listed in table 3 and depicted in figure 12. Temporarily modified areas would be restored and continue to provide their similar preconstruction functions after completion.

Table 3.—Water and wetland feature modified areas

Feature	Amount Impacted (acres)
Wetland	
Scrub-shrub wetland	0.04
Forested wetland	0.01
Total	**0.05**
Water	
Boise River	0.55
Total	**0.55**

Short-term effects to WOTUS and wetlands would be minor based on the minimal areas disturbed, approximately half of the disturbance occurring within previously disturbed areas of the Boise River, short duration of construction, and restoration after construction. Long-term effects to WOTUS and wetlands would be minor based on minimal loss of wetland (0.05 acres), minimal loss to WOTUS (0.55 acres), and restoration measures.

The USACE requires Section 404 permitting for work within WOTUS and wetlands. The Proposed Action is presumed to be exempt from Section 404 permitting requirements per 33 CFR 323.4 and 40 CFR 232.3 which states that any discharge of dredged or fill material is not prohibited by or otherwise subject to regulation under Section 404, if resulting from:

> *(a)(3) Construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance (but not construction) of drainage ditches. Discharges associated with siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are included in this exemption.*

If the actions in Alternative B are determined to not be exempt during the permitting process, Section 404 permitting would be completed to comply with Section 404 of the CWA before construction occurs. The alternative would also comply with EO 11990 Protection of Wetlands.

Combined Effects: If other projects occur in WOTUS and wetlands at the same time or in the future, they could combine to increase the adverse effects by reducing the amount of overall WOTUS and wetlands in the area. The Eckert Road bridge replacement may impact the Boise River and the side channel improvements may modify wetlands. Any modifications for other projects would require Section 404 permitting with the USACE. Combined effects are expected to be minor from Eckert Road bridge replacement and potentially beneficial pending the design of the side channel improvements.

3.5 Biota

3.5.1 Affected Environment

3.5.1.1 Vegetation

The Project area consists of approximately 10.8 acres (33 percent) of developed or disturbed land, 4.8 acres (14 percent) water, and 17.6 acres (53 percent) vegetated land. The types of vegetation cover consist of grass/herbaceous, shrub, and tree cover. Wetland, riparian, and upland plant community types exist within the vegetation cover. An acreage summary of vegetation cover and community types within the Project area is provided in table 4 and the areas are depicted in figure 11. A description of each community type is provided below the figure.

Table 4.—Vegetation cover and community types

Vegetation Cover	Wetland Acres	Riparian Acres	Upland Acres	Total (Acres)
Grass/herbaceous	0.79	0	12.11	12.9
Shrub	0.77	0	2.03	2.8
Tree	0.49	1.41	0	1.9
Total	**2.05**	**1.41**	**14.14**	**17.6**

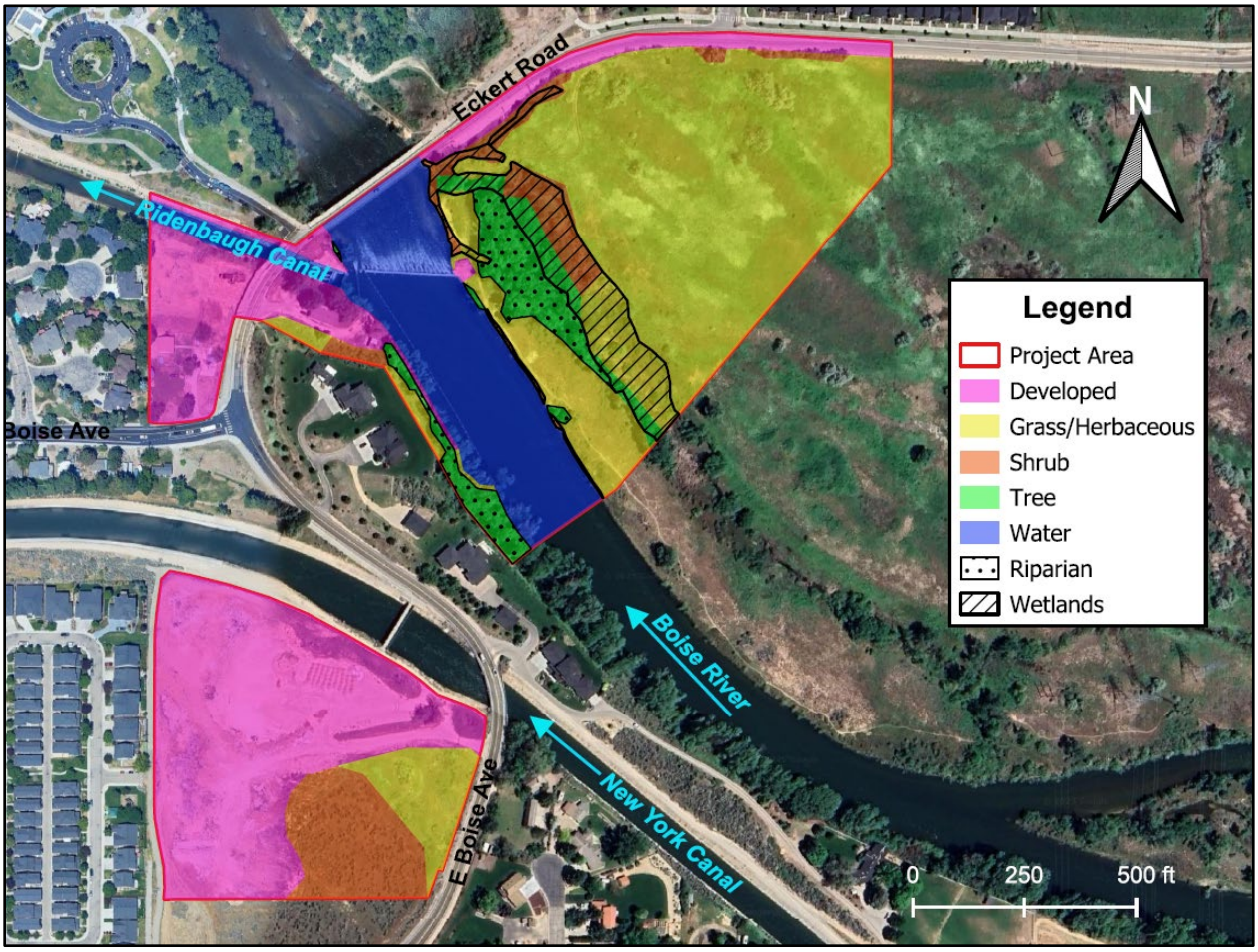

Figure 11.—Vegetation types and communities within the project area.

Grass/Herbaceous Cover:

- Wetland grass/herbaceous species were dominated by cattail (*Typha latifolia*) and reed canary grass (*Phalaris arundinacea*).
- Upland grass/herbaceous species were dominated by cheatgrass (*Bromus tectorum*), poison hemlock (*Conium maculatum*), and whitetop (*Lepidium draba*).

Shrub Cover

- Wetland shrub areas were dominated by narrowleaf willow (*Salix exigua*), cottonwood saplings (*Populus trichocarpa*), and other mixed willow species (*Salix sp.*).
- Upland shrub cover was dominated by big sagebrush (*Artemisia tridentata*) and rabbitbrush (*Ericameria nauseosa*).

Tree Cover:

- Wetland tree cover was dominated by cottonwoods.
- Riparian tree cover was dominated by cottonwoods.

3.5.1.2 Fish

The Project area contains 4.8 acres of water that provides habitat for fish. The Boise River flows through the Project area and contains several fish species. Based on a study conducted by the U.S. Geological Survey (USGS) the following fish species were found along this stretch of the Boise River (USGS 2006): 3 salmonid species (brown trout, mountain whitefish and rainbow trout), 2 sculpin species (mottled sculpin and shorthead sculpin); 2 sucker species (bridgelip sucker and largescale sucker); 3 minnow species (Umatilla dace, northern pikeminnow , and redside shiner); and one carp species (chiselmouth). All fish species are native except for the introduced brown trout. Sampling results show that mountain whitefish and shorthead sculpin were the most abundant fish species in the sampling stretch. All the fish are cold or cool water species. Based on coordination with Idaho Department of Fish and Game (IDFG), there are no documented fish spawning areas in the project area (appendix F).

The Ridenbaugh Canal does not contain a fish screening device and the existing trashrack spacing at at the diversion intake is 1 to 2 feet, which allows all fish to pass. Therefore, it is possible that any of the fish species present in the Boise River could also be entrained into/present in the canal. The NMID opens spillways from the canal back to the Boise River, particularly at the conclusion of irrigation season, to encourage entrained fish to pass out of the irrigation infrastructure system and back into the Boise River. The NMID also engages in some degree of coordination with IDFG annually to monitor and/or enable efforts to salvage fish entrained into the Ridenbaugh Canal at the conclusion of irrigation seasons.

There are several barriers to fish passage upstream and downstream of the Ridenbaugh diversion along the Boise River. Approximately 0.6 miles upstream of the diversion is Barber Dam, followed by Diversion Dam (3.0 miles upstream), followed by Lucky peak dam (5.3 miles upstream). These three dams have no fish passage and each completely block upstream passage of fish. There are at least 26 water diversion structures downstream of the Ridenbaugh diversion on the Boise River path to the Snake River that block or impede fish passage. Ridenbaugh canal blocks fish passage along the Boise River seasonally during the irrigation season (April 1–October 31) when the stop logs are installed to divert water into the canal.

3.5.1.3 Wildlife

No sensitive wildlife habitat (wilderness areas, wildlife refuges, protected natural areas, ESA designated critical habitat, or ecologically critical areas) are located in the Project area. The existing Project area consists of approximately 10.8 acres of developed or disturbed land and 17.6 acres of vegetated land. Developed or disturbed areas do not offer sufficient habitat to support wildlife species. Habitat within the Project area consists of upland, riparian, and wetland vegetated areas that support a range of wildlife species. Cover for wildlife species can be found along the riparian corridor which provides habitat and transit routes for wildlife and birds. Most of the resident wildlife consists of small mammals, birds, amphibians, and reptiles. The most common small mammals found along this section of the river corridor include raccoons, foxes, beavers, squirrels, and other small rodents. The most common large mammal found here are deer but other species including moose, elk, cougars, bears, and coyotes may also pass through this corridor. Native and non-native songbirds, wading birds, birds of prey, and waterfowl are abundant in the area and include year-round resident and migrating species that breed and/or forage in habitat along the river corridor. Common amphibians and reptiles that can be found in the area consist of frogs, toads, salamanders, snakes, turtles, and lizards.

Migratory birds are afforded protection under authority of the Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703-712). Under the MBTA, it is unlawful to take, kill, or possess migratory birds, their parts, nests, or eggs. “Take” is defined as any attempt or success at pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting. Migratory Bird Permits must be obtained through the U.S. Fish and Wildlife Service (USFWS) Migratory Bird Permit Office for any requested waiver or exception to the MBTA. The USFWS also maintains a list of Migratory Birds of Conservation Concern (MBCC), which are migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. MBCCs and other migratory birds have the potential to occur within the Project area.

3.5.2 Environmental Consequences

3.5.2.1 Alternative A – No Action

Under the No Action alternative, there would be no change to vegetation and wildlife species over the short or long term. The adverse effect to fish from seasonal blockage of fish passage during the irrigation season (April 1–October 31) and entrainment in the canal would continue over the long term. NMID would continue to open spillways from the canal back to the Boise River to reduce entrainment of adult fish.

3.5.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

Vegetation

Short-term and long-term adverse effects to vegetation would occur. Ground-disturbance from construction activities that would permanently remove 0.18 acres and temporarily disturb 0.16 acres of tree and shrub riparian vegetation. All temporarily disturbed areas that do not contain permanent project features would be restored by seeding with a Reclamation-approved

seed mix to match the existing surrounding plant communities. The seed mix for restoration would be selected in consideration of soil, hydrology, and climate conditions. Sporadic cottonwood and willow plantings would occur in approximately 0.5 acres of the riparian area on the east side of the Boise River to meet the requirements set by the City of Boise in their Boise River System Permit. Short-term effects would be negligible to minor based on the small area of disturbance, short duration of construction, and restoration after construction. No measurable long-term effects on vegetation communities along the Boise River riparian corridor are expected based on the minimal amount of permanent removal of tree and shrub vegetation (0.18 acres) and restoration measures.

Combined Effects: The Eckert Road Bridge replacement and Alta Harris Park adjoining the Project area would include temporary and/or permanent modifications to vegetation. The extent of modifications of the other activities is not yet known but the combined activities are expected to have a combined minor adverse effect on existing vegetation communities.

Fish

No measurable short-term impacts to fish are expected during constructions. Fish salvage would be conducted and coordinated with IDFG during dewatering of work areas via cofferdam. Fish would be collected, counted, and released back into the Boise River.

Seasonal fish passage during the non-irrigation season would be maintained at the new diversion with the overpour gates flush with the stream bed and no measurable change in fish passage conditions are expected. The NMID would raise the overpour gates during the irrigation season (April 1–October 31) to divert water into the canal. The fixed crest weir and overpour gates would prevent upstream fish passage the same as the No Action Alternative with no change to upstream fish passage conditions; no adverse effects to fish passage are expected compared to existing conditions. Based on coordination with IDFG the new structure would comply with Idaho Statute Title 36-906 for protection of fish. Documentation of coordination with IDFG on this subject is included in the meeting minutes (dated December 10, 2024) attached in appendix F.

The Ridenbaugh Canal intake would be equipped with a trash rack (2-inch by 2-inch spacing) which would prevent fish greater than 2 inches in width from entering the canal. An interim trash rack with similar spacing to what is in place currently (1 to 2 feet spacing) would be installed during construction and then replaced with the permanent trash rack in 2028. The permanent trash rack would provide a moderate benefit to fish over the long term, in particular adult age-class sportfish such as brown and rainbow trout, from the reduced entrainment of larger fish in the canal.

Combined Effects: The Eckert Road bridge replacement adjoining the Project area would include temporary and/or permanent modifications to the Boise River. The extent of modifications of the other activities is not yet known but the combined activities are expected to have a combined minor adverse effect on fish and their habitat.

The Trout Unlimited/Land Trust of the Treasure Valley Boise River Side Channel project would connect the Boise River upstream and downstream of both the Ridenbaugh Canal Headworks Facility and Barber Dam and allow upstream fish passage. The timing is not yet known but the combined activities are expected to have a moderate beneficial effect over the long term to year-round upstream fish passage on the Boise River.

Wildlife

Short-term adverse effects to wildlife would occur during construction from construction noise and disturbance to 8.29 acres of terrestrial vegetated habitat (wetland, riparian, and upland). Wildlife species, if present, would be temporarily disturbed and displaced to adjacent habitats during construction. However, there is sufficient adjacent habitat to support this dispersal of wildlife species, and no ESA-listed or state sensitive species are expected to be present during the winter construction months. Temporarily disturbed areas would be restored to preconstruction conditions. Short-term effects would be negligible to minor based on lack of sensitive habitat/species, short duration of construction, minimal area disturbed, implementation of migratory bird/bald eagle conservation commitments to comply with the MBTA (refer to 3.17), and restoration after construction.

The permanent removal of 0.18 acres of tree and shrub riparian vegetation would occur. This is not anticipated to have a measurable effect on habitat availability for wildlife species (including migratory birds and bald eagles) based on the negligible amount of loss, and no long-term effects on wildlife are expected.

Combined Effects: No combined long-term effects on wildlife are expected because the modernization of the Ridenbaugh Canal headworks is not anticipated to result in long-term effects to wildlife. Construction for the Eckert Road bridge replacement and Alta Harris Park adjoining the Project area may occur at the same time and the construction disturbance and noise would have combined adverse effects to wildlife over the short term. These adverse effects are expected to be minor based on the disturbance being spatially limited to a short segment along the Boise River and the availability of existing aquatic and riparian habitat immediately up- and downstream of these activities.

3.6 Invasive Species Management

3.6.1 Affected Environment

Executive Order 13122 states that “a federal agency shall not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction and spread of invasive species in the United States or elsewhere.” In Idaho, an introduced species is designated as an invasive species when it is considered capable of propagation, spreading widely in the state, and causing economic or environmental harm (Idaho Statutes 22-1904). Invasive species generally lack natural competitors, making them highly competitive, persistent, and difficult to control. Invasive species can include plant and animal species (including insects) and can occur in terrestrial or aquatic environments.

Idaho has 74 weed species (57 terrestrial and 17 aquatic) and 4 plant genera designated noxious by state law (Idaho Department of Agriculture 2025). Five species have been observed during site visits which are listed as a statewide contaminant on the state noxious weed list. These include Canada thistle (*Cirsium arvense*), scotch thistle (*Onopordum acanthium*), whitetop (*Cardaria draba*), poison hemlock (*Conium maculatum*), and rush skeleton weed (*Chondrilla juncea*). Whitetop and poison hemlock were observed to be dominant species on the east side of the Boise River in Area 1.

3.6.2 Environmental Consequences

3.6.2.1 Alternative A – No Action

Under the No Action Alternative, there would be no construction activities that would spread or introduce new invasive species over the short or long term. Current invasive species control measures would continue to be performed by the NMID to prevent the spread of the species as needed on property owned by NMID. The City of Boise would continue to perform invasive species control on their property according to their existing property management plan.

3.6.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

This alternative includes ground-disturbance from construction activities that would remove existing vegetation and put the Project area at risk for introduction of further spread of invasive species. BMPs (see 3.17) would be implemented during construction to prevent the spread of invasive species and to comply with EO 13112. During construction and until restoration areas are fully established, they would be maintained on a regular basis to prevent the establishment of invasive species. Non-desirable plant species would be controlled by cleaning equipment prior to delivery to the project site and eradicating these species as discovered before the start and during construction. Adverse effects of increased risk for establishment of noxious weeds would be minor over the short-term with implementation of BMPs. After construction, all disturbed areas would be stabilized through permanent features or vegetation restoration, decreasing available grounds for weeds to become established. Long-term adverse effects are expected to be negligible with implementation of stabilization measures and an invasive species management plan prepared by NMID, conservation easements holders, and the City of Boise Parks and Recreation Department.

Combined Effects: No combined long-term effects are expected because the Ridenbaugh headworks improvements do not have measurable long-term effects. Construction for the Eckert Road bridge replacement and Alta Harris Park adjoining the Project area may occur at the same time as construction for the Ridenbaugh headworks. The construction disturbance would have combined adverse effects increasing risk for spread of invasive plant species over the short term. However, through the implementation of BMPs, these adverse effects are expected to be negligible based on the disturbance being limited to a short segment along the Boise River.

The Trout Unlimited/Land Trust of the Treasure Valley Boise River Side Channel project would disturb the area adjacent to the headworks facility. The timing is not yet known but it is expected that this project would occur later in time. It is assumed that the project would implement measures to limit the spread and introduction of invasive species in the project area resulting in negligible adverse impacts.

3.7 Threatened and Endangered Species

3.7.1 Introduction and Analysis Area

This section discusses the potential occurrence of and impact to species that have been federally designated (e.g., threatened, endangered) under the ESA, and their associated critical habitats. Section 7 of the ESA requires that Federal agencies ensure that federal actions do not jeopardize the existence of any listed species. The interagency conferencing and consultation process under Section 7 of the ESA is overseen by the USFWS, or the National Marine Fisheries Service (NMFS) in the case of marine or anadromous species. There are no marine or anadromous species present in the project area.

3.7.2 Affected Environment

Information regarding species protected under the ESA that have the potential to occur in the project area and vicinity was obtained through the USFWS Information for Planning and Conservation (IPaC) online database application (May 2025). The IPaC Resource List generated for this project indicates that five species have the potential to occur in the affected area: the North American wolverine (*Gulo gulo luscus*), designated as threatened; the yellow-billed cuckoo (*Coccyzus americanus*), designated as threatened; slickspot peppergrass (*Lepidium papilliferum*), designated as threatened; the monarch butterfly (*Danaus plexippus*), currently proposed for listing as threatened, and Suckley's cuckoo bumblebee (*Bombus suckleyi*), currently proposed for listing as endangered. The full IPaC report is included in appendix C. No designated critical habitats for any listed species intersect with the affected area. Each species is discussed separately below.

3.7.2.1 North American Wolverine

The North American wolverine (*Gulo gulo luscus*) is the largest member of the Mustelidae family. Wolverines occur in alpine, boreal, and arctic habitats including boreal forests, tundra, and western mountains. The wolverine has a relationship with persistent spring snow that is obligate at the den scale; that is, the wolverine requires deep (greater than 1.5 meters deep), stable, and persistent spring snow for successful denning and reproduction. Due to this habitat requirement for conditions cold enough to support persistent snow, the southern portion of their range (California, Colorado, Idaho, Montana, Washington, and Wyoming) is limited to high-elevation alpine habitats. In Idaho, natal den sites are known to occur only in locations above

2,500 meters (8,200 feet.). It is currently listed as Threatened (U.S. Fish and Wildlife Service Environmental Conservation Online System species profile, accessed April 2025 (https://ecos.fws.gov/ecp/species/5123).

Occurrence in the Affected Area

Boreal habitat suitable for denning and rearing is not present within the action area. Individual wolverines may rarely be present and/or move through the riparian corridor including habitat in and adjacent to the affected area. Given the relatively low elevation of the project area (approx. 835 meters/2,740 feet. above sea level) and consistent level of human presence/activity at this site, it is unlikely this species would regularly utilize any part of this action area. Any individuals transiting through this habitat already engage in avoidance behavior related to proximity to human activity, as humans are frequently present due to the year-round recreational pressure at this area, as well as the ongoing O&M of the diversion structure.

3.7.2.2 Yellow-Billed Cuckoo

The yellow-billed cuckoo (*Coccyzus americanus*) is a neo-tropical migrant bird that winters in South America and summers in North America, where breeding, nesting, and rearing occur from June through August. In the North American part of its range, the species is a riparian obligate, nesting exclusively in willow-cottonwood complexes greater than 50 acres (20 hectares) in extent that occur adjacent to water. While the yellow-billed cuckoo is common east of the Continental Divide, biologists estimate that more than 90 percent of the bird's riparian habitat in the West has been lost or degraded as a result of conversion to agriculture, dams and river flow management, bank protection, overgrazing, and competition from exotic plants such as tamarisk. It is currently listed as threatened (USFWS Environmental Conservation Online System species profile, accessed April 2025(http://ecos.fws.gov/ecp0/profile/speciesProfile?sId=3911).

Occurrence in the Affected Area

Suitably-sized patches of nesting habitat for this species do not occur within or in proximity to the area in question; however the affected area does include potential migratory stopover and foraging route for this species along the Boise River corridor. Observation data indicate the area has experienced sporadic presence of individuals moving along the river corridor during summer/fall migratory periods. The seasonal timing of construction activities would not coincide with the time of year this species would be expected to be active in or migrating through the area.

3.7.2.3 Slickspot Peppergrass

Slickspot peppergrass (*Lepidium papilliferum*) is a small, tap-rooted, flowering plant in the mustard (*Brassicaceae*) family that is endemic to the sagebrush steppe environment of southwestern Idaho. Slickspot peppergrass occurrence is restricted to microhabitats known as slickspots, which are small-scale sites of water accumulation in the gently undulating landscape of the sagebrush steppe vegetation of the Snake River Plains of southwestern Idaho. Slickspots are visually distinct, small-scale (mostly between 10 to 20 square feet) depressions in the soil that collect water. It is believed that slickspots take several thousand years to form; therefore, once degraded, they cannot be recreated. Due to the species' dependence upon these spatially

scattered microsites, individual populations of slickspot peppergrass tend to be spatially isolated. Slickspot peppergrass is adapted to an environment characterized by high year-to-year variability in precipitation, existing as a short-lived, ephemeral species with both annual and biennial, but not perennial, life-history strategies. As such, slickspot peppergrass is likely dependent on a long-lived dormant seed bank for population persistence (Brown and Venable 1986). Seed bank and germination studies of slickspot peppergrass have indicated rapidly declining rates of seed viability beyond 12 years (Meyer et al. 2006). It is currently listed as threatened.

Occurrence in the Affected Area

Because of the restriction of this species to the specific microhabitat conditions of slickspots, which do not form spontaneously and would not be present on developed or mechanically altered surfaces, the likelihood of this species currently occurring within the affected area is extremely low to none. Due to the known temporal limitation of this plant's capacity for seed dormancy, it is also highly unlikely that any viable seed bank might still exist from before the establishment of the infrastructure currently present in the affected area.

3.7.2.4 Monarch Butterfly

The monarch butterfly (*Danaus plexippus*) is a butterfly species that is globally distributed, with the North American populations being well-known for long-distance migration. They are obligate to their larval host plant, milkweed (primarily *Asclepias* spp., ten species of which occur in Idaho (USDA NRCS 2021), on which they lay eggs and larvae emerge in 2–5 days. Multiple generations of monarchs are produced in a breeding season; most individuals live approximately 2–5 weeks, but overwintering adults enter reproductive diapause (suspended reproduction) and may live 6–9 months. Migratory individuals in western North America generally fly shorter distances south and west to overwintering groves along the California coast into northern Baja California. In the spring in western North America, monarchs migrate north and east over multiple generations from coastal California toward the Rockies and to the Pacific Northwest. Adult monarch butterflies during breeding and migration require a diversity of blooming nectar resources, which they feed on throughout their migration routes and breeding grounds (spring through fall). Monarchs also need milkweed (for both oviposition and larval feeding) embedded within this diverse nectaring habitat. The correct phenology, or timing, of both monarchs and nectar plants and milkweed is important for monarch survival. In western North America, nectar and milkweed resources are often associated with riparian corridors, and milkweed may function as the principal nectar source for monarchs in more arid regions. It is currently a candidate for listing.

Occurrence in the Affected Area

Suitable breeding habitat (i.e., milkweed) or nectar resources (i.e., flowering plants) for this species may sporadically occur in the affected area. These resources are not likely to be present/available in the affected area during the seasonal time periods when construction in the riparian would occur. The majority of the proposed project area consists of disturbed and/or developed uplands; review of aerial imagery of these staging areas indicates vegetative

characteristics that are unlikely to include more than a trace amount of suitable habitat resources for the species, in the context of available habitat in the surrounding landscape. This species would not be present in the project area during periods of in-water construction.

3.7.2.5 Suckley's Cuckoo Bumblebee

Suckley's cuckoo bumblebees are a social parasite bumblebee species. Female cuckoo bumblebees fight or sneak into a colony of western bumblebees, then kill or subdue the host colony's queen. The cuckoo bee then lays her own eggs and gains control of the host colony's worker bees, who continue collecting pollen and nectar to feed the cuckoo bee's offspring. The species plays an important regulatory role in the health of bumblebee communities. Bumble bees require above and below-ground micro-sites for overwintering and nesting, such as logs, stumps, and unused or abandoned rodent and ground-nesting bird nests. Suckley's cuckoo bumblebees are generalist pollinators and feed on flowers in the aster family, as well as many other wildflower meadow species. They were once common in prairies, meadows and grasslands across the western United States but have now been lost across more than 50 percent of their historic range. Primary threats to the species are declines in their host species (once-common western bumblebees have themselves declined by 93 percent), as well as habitat degradation, overgrazing, pesticides, and climate change. This species is currently a Proposed for listing as Endangered (U.S. Fish and Wildlife Service Environmental Conservation Online System species profile, accessed November 2025 https://ecos.fws.gov/ecp/species/10885).

Occurrence in the Affected Area

Suitable nectar resources (i.e., flowering plants) for this species and their hosts may sporadically occur in the affected area. These resources are not likely to be present/available in the affected area during the seasonal time periods when construction in the riparian would occur. The majority of the proposed project area consists of disturbed and/or developed uplands; review of aerial imagery of these staging areas indicates vegetative characteristics that are unlikely to include more than a trace amount of suitable habitat resources for the species in the context of available habitat in the surrounding landscape.

3.7.3 Environmental Consequences

3.7.3.1 Alternative A – No Action

Under the No Action Alternative, there would be minor short-term and no long-term effects to ESA-listed species. Ongoing O&M activities associated with the Ridenbaugh Canal headworks structure would continue to occur, resulting in minor disturbance or temporary displacement of individuals as has happened throughout the history of the structure. O&M activities would continue to occur manually with NMID personnel and vehicles accessing the headworks structure via established routes.

3.7.3.2 Alternative B –Ridenbaugh Canal Headworks Modernization (Proposed Action)

North American Wolverine

The scope of increased human activity in the riparian corridor specific to Alternative B would be temporally limited to the two seasonal installation windows, resulting in short term minor increase in avoidance behavior by any individuals transiting along the river corridor during those times. In the long-term, automation of the diversion structure would result in a small permanent reduction in the frequency of NMID staff access to the structure. Due to the infrequency of this species' occurrence in the area and the limited seasonal timeframes of project construction, there would be no overall measurable effect to this species.

Yellow-Billed Cuckoo

Due to its migratory patterns, this species would not be present during periods of construction at the riparian part of the project area. In the short term, the limited removal of mature cottonwood trees at the site would cause birds migrating through the area to disperse to other remaining trees during foraging and stopover; this effect would dissipate in the long term due to cottonwood and willow replanting, which would occur at project conclusion according to requirements set by the City of Boise in their Boise River System Permit. Given the rarity of occurrence of this species in the project area, its absence from the area during the seasonal timeframes when construction would occur, and the miniscule temporary effect to habitat, there would be no overall measurable effect to this species.

Slickspot Peppergrass

Alternative B involves no new surface disturbance of previously-undisturbed upland areas. Upland disturbance would be confined to areas with an existing history of industrial and/or development use due to the existing canal, structures, staging areas, and access roads. Because of slickspot peppergrass's dependence on highly specialized undisturbed microbiomes, the existence of suitable habitat for this species in the affected area is precluded by the current levels of use/development and disturbance. There would therefore be no effect to this species.

Monarch Butterfly

During construction, trace amounts of existing milkweed breeding or nectaring habitat may be temporarily disturbed. Ground-disturbing activities occurring in the riparian area would be limited to the identified seasonal in-waterway construction windows for two years, during which time the species would not be expected to be present in the area. In the context of the broader landscape into which the species would be expected to disperse when seasonally present, this short-term disturbance would not have an appreciable effect. The project areas disturbed would be revegetated in the long term according to requirements set by the City of Boise in their Boise River System Permit. Alternative B would not result in a permanent substantive change from previous land use (facility maintenance access at riparian areas, O&M staging grounds in upland areas) and would not be expected to result in an appreciable long-term change in vegetation cover, including gain or loss of milkweed breeding or nectaring habitat that would be utilized by the species. There would therefore be no measurable effect to this species.

Suckley's Cuckoo Bumblebee

During construction, trace amounts of existing nectaring habitat may be temporarily disturbed. Ground-disturbing activities occurring in the riparian area would be limited to the identified seasonal in-waterway construction windows for two years. In the context of the broader landscape into which the species and its hosts would be expected to disperse when active, this short-term disturbance would not have an appreciable effect. The project areas disturbed would be revegetated in the long term according to requirements set by the City of Boise in their Boise River System Permit. Alternative B would not result in a permanent substantive change from previous land use (facility maintenance access at riparian areas, O&M staging grounds in upland areas) and would not be expected to result in an appreciable long-term change in vegetation cover, including gain or loss of nectaring or overwintering microsite habitat that would be utilized by the species. There would therefore be no measurable effect to this species.

Combined Effects: Ground-disturbing construction at adjacent sites could contribute to increased avoidance behavior by ESA-listed species in the short term while active construction is occurring. Overall combined effects to listed species or usable habitat would be minimal in the long-term.

3.8 Recreation

3.8.1 Affected Environment

Property owned by the NMID is not open to the public and there is no recreation allowed in Area 2 or in Area 1 on the west side of the river. The land on the east side of the river in Area 1 is owned by the City of Boise Parks and Recreation Department and is open for public use. There are easements held by the Idaho Department of Lands, Idaho Foundation for Parks and Lands, and Trout Unlimited/Land Trust of the Treasure Valley on the right side of the river that allow public access for recreation.

Floating recreation use (e.g., paddle boarding, rafting, kayaking, tubing) of the Boise River is high, particularly in the summer months when flows in the Boise River are steady. One of the most utilized floater put-ins is at Barber Park, immediately downstream from this reach of the Boise River. Riverbank access angling, wading, dog walking, and birding are also popular year-round recreation activities along the Boise River corridor through Boise.

3.8.2 Environmental Consequences

3.8.2.1 Alternative A – No Action

Under the No Action Alternative, recreator use would continue, with increased pressure tied to projected population increases in the Boise metropolitan area. Floating recreators who desire to put in above Barber Park would continue to need to portage around the existing diversion

structure. User access would not experience any short-term disruptions due to construction closures. Recreation use can be expected to rise commensurate with the ongoing population growth of the greater Boise metropolitan area.

3.8.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

For this alternative, the areas open for public recreation would remain open for public use. Small-scale, short-term restrictions of public recreation would occur during construction on the east side of the Boise River during the winter months. No disruption to users' travel and passage would be expected since a temporary portage path around the diversion structure would be made available for public use during construction, with signage and fencing directing recreationists around the active work area. After construction completion the unimproved portage path would remain in place and there would be no overall change to recreation conditions or availability. The Proposed Action complies with Idaho State Code 36-1601(c) as the purpose of the diversion structure is for irrigation and a portage path is provided around the diversion structure. Therefore, long-term effects to recreation are expected to be negligible.

Combined Effects: There may be additional temporary recreation closures on the east side of the Boise River associated with the construction of Eckert Road Bridge. Combined effects to recreation are expected to be minimal over the short term, with no combined long-term effects.

3.9 Transportation and Traffic Management

3.9.1 Affected Environment

Area 1 within the Project area is bisected by and accessed from Eckert Road and Area 2 is accessed from East Boise Avenue. Both roads consist of two lanes (one in each direction) are managed by the Ada County Highway District (ACHD). Eckert Road provides access across the Boise River over Eckert Road Bridge. The daily average annual traffic count over the bridge for 2024 was 6,762 vehicles (Idaho Transportation Department [ITD 2024]. Traffic counts along East Boise Avenue in the Project area were last measured on September 17, 2015. The total 24-hour traffic count was 6,875 vehicles (ACHD 2015).

3.9.2 Environmental Consequences

3.9.2.1 Alternative A – No Action

Under the No Action Alternative, there would be no short- or long-term change to transportation/ traffic management because no measures are proposed that would alter traffic patterns or usage. For ongoing O&M, NMID would continue to periodically access the headworks structure on both sides of the river from Eckert Road via established routes on either side of Eckert Bridge, which has no impact to traffic in the area.

3.9.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

Construction activities would increase traffic along both Eckert Road and E Boise Avenue. Assuming 30 construction vehicles a day may pass through these roads, this would only account for a 0.4 percent change in the daily traffic. This increase in traffic would be negligible and is not anticipated to have a noticeable influence on general traffic flow through the area. Large construction equipment and semi-truck trailers would be required to enter and exit the staging areas. Temporary traffic closures may be required for equipment entering and exiting onto Eckert Road and E Boise Avenue. In this case, flaggers would be utilized to control traffic and closures or disruptions to traffic flow would expected to last less than 5 minutes each occurrence.

A partial closure of Eckert Road may be required to connect the proposed new access road on the east side of the River to Eckert Road. If required, one lane would remain open with flaggers to allow single-directional traffic to pass and this could create minor traffic delays getting through the area during the partial closure. Any such partial closure is anticipated to last less than five days. The short-term adverse effects would be negligible considering traffic would still be allowed to pass through the area and the minor delays would only be present for less than 5 days.

Combined Effects: No combined long-term effects are expected because the Ridenbaugh headworks improvements do not have measurable long-term effects on traffic. Construction for the Eckert Road bridge replacement and Alta Harris Park adjoining the Project area may occur at the same time as construction for the Ridenbaugh headworks. The Eckert Road Bridge would be closed for replacement of the bridge which would change traffic patterns through the area. However, the partial road closure on Eckert Road for the Ridenbaugh headworks improvements would not add to the bridge replacement traffic impacts because Eckert Road would already be closed if the activities occur at the same time. Short-term effects from the closure of Eckert Road bridge would be solely dependent on timing of the bridge replacement project and the Ridenbaugh Canal headworks modernization project would not increase impacts.

3.10 Noise and Light

3.10.1 Affected Environment

The Project area is in an urban environment with moderate ambient noise levels. Ambient noise in the Project area has not been measured and there is no baseline available. The closest sensitive noise receptors are residential homes 100 feet to the southwest and west of the headworks facility and immediately adjacent to staging areas 2 and 3. The most prominent ambient noise comes from the operation of small and large motor vehicles on Eckert Road and East Boise Avenue.

There is no light generation from the current operation of the headworks facility or staging areas. However, the buildings in the Project area are equipped with porch lights and nighttime vehicle traffic with headlights pass through Eckert Road. Several light sources are present surrounding the Project area including streetlamps, lighted subdivision entrances, nighttime vehicle traffic headlights, and residential porch lights.

3.10.2 Environmental Consequences

3.10.2.1 Alternative A – No Action

Existing O&M at the headworks facility would continue to include the use of light-duty equipment. There would be no change in noise or light from the existing condition for this alternative. Therefore, no effects are expected.

3.10.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

Short-term adverse effects of increased noise during construction are expected for nearby occupants of residences. During construction, noise could be generated that would constitute a nuisance to nearby occupants of residential homes through construction activities, diesel engines, generators, back-up alarms, and increased traffic to the Project area. The Project area is in an urban setting and vehicle traffic noise is common, but heavy equipment noise is not common. Construction equipment would be outfitted with noise dampening measures. Applicable construction noise ordinances within the City of Boise would be adhered to during construction and the alternative would maintain compliance with the Noise Control Act. Based on adherence to noise regulations and noise dampening measures, short-term noise effects would be minor to moderate, depending on the specific construction equipment and activities.

A backup generator would be installed at the new control building that could result in increased noise during use over the long term. However, generator use would be rare, occurring only during power outages. No other increases in noise sources would occur after installation of the alternative. Based on the infrequent activation of the generator, long-term adverse effects to noise would be negligible.

Short-term effects from light would be negligible since construction activities would be performed primarily during the daylight hours and when lights are utilized they would be directed toward the active construction site only. The new control building would have motion sensor lights installed for nighttime O&M activities. The lights would be directed toward the ground, away from any residential homes, and be connected to a timer. Based on the abundance of existing surrounding urban light sources and the lighting configuration, the addition of the motion lights are anticipated to have a negligible long-term effect.

Combined Effects: No combined long-term effects are expected because the Ridenbaugh headworks improvements would not have measurable long-term noise or light effects. Construction for the Eckert Road bridge replacement and Alta Harris Park adjoining the Project

area may occur at the same time as construction for the Ridenbaugh headworks. The construction noise would have a combined moderate adverse effect of increased noise over the short term for occupants of residences surrounding the construction areas.

3.11 Visual Resources

3.11.1 Affected Environment

The visual landscape can be influenced by urban development, vegetation, hydraulic features, geologic conditions, topography, wildlife, and recreation. The Project area is located in an urban environment along the Boise River and provides a natural view of the river and the riparian corridor where wildlife can also be viewed. Recreationists frequently use and view the riparian corridor in the Project area while fishing, floating by non-motorized boat, or hiking. Eckert bridge provides a raised view of the riparian corridor to occupants of vehicles that cross it. Power and telecommunication lines intersect the view looking upstream from the headworks facility, decreasing the visual quality along with the developed irrigation structure in the river. The visual quality of the riparian corridor drastically decreases during the colder months when there is no foliage on vegetation (late fall to early spring). This is due to the loss of leaves on all tree/shrub vegetation and death of grass/herbaceous vegetation. Figure 12 and figure 13 below show the difference in the riparian corridor view in the cold months versus the warm months.

Figure 12.—Riparian corridor view looking upstream.

Figure 13.—Riparian corridor view looking downstream.

The Project area outside of the riparian corridor does not have unique or visually appealing characteristics due to the presence of disturbed/developed areas, roadway corridors, and invasive vegetation.

3.11.2 Environmental Consequences

3.11.2.1 Alternative A – No Action

The No Action Alternative would not change on the visual quality or character of the Project area from existing conditions. The visual landscape in the riparian corridor of the project area would continue to be negatively affected by the presence of the existing structures and powerlines, which would continue be particularly notable in the winter months when deciduous vegetation has senesced.

3.11.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

Short-term effects are anticipated that would adversely affect visual quality of the Boise River and riparian corridor in the Project area, due to disturbed lands and construction equipment parked or operating on those lands. No measurable visual effects are anticipated for the areas outside of the riparian corridor because these areas lack visual quality. There are many people that access and view this corridor including occupants of vehicles passing over Eckert Bridge (average daily estimate of 6,762 vehicles [ITD 2024]) as well as anglers on foot, non-motorized boaters/floaters, and hiking recreationists. Disturbance for in-water work would be limited to low flow periods that occur from late fall to early spring when the visual quality is already drastically decreased (refer to figure 12 and figure 13), but this is also the timeframe when floaters are not present, and fishing and hiking subside due to temperatures and flows. Based on the visual quality conditions during the proposed in-water work windows and decreased recreation use during that time, visual effects are expected to be minor over the short term.

The old diversion structure features would be removed from the Boise River down to the sill on the stream bed, so would no longer be a factor in visual quality. A new river spanning diversion structure would be constructed in the Boise River, just upstream of the current location of the existing diversion. The new diversion would be larger (approximately 9 feet taller) than the existing structure and consist of concrete and metal components. The look of the diversion would be different than the existing structure, but it would not block the views of the riparian corridor from Eckert Bridge or from fishers/floaters/hikers in the river. Adverse effects to visual quality are anticipated due to the taller/larger diversion being a more notable feature on the landscape. These effects are expected to be minor over the long term because the riparian view would not be blocked, the new diversion structure would be situated near the existing structure's location, and the existing diversion structure would no longer be visible above the water surface.

Combined Effects: Construction for the Eckert Road bridge replacement and Alta Harris Park adjoining the Project area may occur at the same time as construction for the Ridenbaugh headworks. Though the combined larger area of disturbance would decrease visual quality, the Eckert Road bridge closure would reduce the number of people capable of viewing the increased disturbance while construction is occurring by eliminating the average daily traffic flow of 6,762 vehicles over the short-term (estimating 6–9 months).

The new Eckert Road bridge is expected to provide similar visual quality conditions as the existing bridge. The visual quality at the Alta Harris Park site would improve due to the conversion of the invasive species-dominant cover into a more aesthetically pleasing urban park view. Therefore, no combined adverse effects on visual quality are expected over the long term.

3.12 Public Health and Safety

3.12.1 Affected Environment

Area 2 and property on the west side of the Boise River in Area 1 are owned by the NMID and not accessible to the public. Area 1 on the east side of the Boise River is located on City of Boise Parks and Recreation Department property and is easily accessible by the public. Recreationists use the Boise River in the project area primarily to wade fish and to float with non-motorized boats. Currently there is no signage noting the dangers present for recreationists from the presence of a low-head river-spanning structure, or upstream notification of approaching portage requirements for floaters. A moderate risk to public safety is present without danger signage notifying recreationists of the diversion hazards and directing them to take-out of the river upstream of the diversion.

There are numerous safety hazards at the existing headworks facility on NMID property including steep banks, walkways over water with minimal railings, and trip hazards. These conditions pose a moderate safety risk to NMID workers performing routine O&M activities, especially for flashboard installation and removal.

3.12.2 Environmental Consequences

3.12.2.1 Alternative A – No Action

The No Action Alternative would not change the existing headworks facility conditions. The existing safety hazards to the public and the NMID O&M staff would remain, resulting in a moderate safety risk over the short and long term.

3.12.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

The active construction site would be closed to the public to avoid public exposure to safety hazards related to active construction, therefore no short-term effects to public safety are expected. The headworks facility and components would be designed to current engineering standards with consideration for operational safety and would reduce the need for NMID staff to work in or above the Boise River. It would also incorporate public exclusion measures such as fencing, gates, signage, and locked buildings. Appropriate danger signage would be placed along the Boise River to warn the public of swimming/boating/wading dangers and recirculating currents in the vicinity of the diversion. There would also be danger signage posted upstream notifying boaters/waders/swimmers to keep out of the water around the diversion informing recreationists of upcoming portage requirements. The existing unimproved portage path around the structure would remain open over the short and long term. These new measures are expected to provide a moderate benefit of improved safety for the public and for the NMID staff over the long term.

Combined Effects: No combined short-term effects to public safety are expected. The Eckert Road bridge replacement is proposed to ensure a safe and stable bridge for public traffic. The bridge replacement and Ridenbaugh headworks improvements would have a combined moderate benefit to public safety over the long term.

3.13 Cultural Resources

3.13.1 Affected Environment

A Cultural Resources Survey of the Area of Potential Affect (APE), also referred to as the Project area, was performed to determine the presence of historic properties and cultural resources (TAG 2024). The inventory identified three resources within the APE and two of the resources are eligible for listing on the National Register of Historic Places (NRHP). These include Site 10AA575 for the Ridenbaugh Canal and Site 10AA2146 for the Ridenbaugh Diversion Headworks. Archaeological resources were not discovered during the survey and are not expected within the APE due to 100-plus years of disturbance from the canal headworks construction and operation.

The Ridenbaugh Canal and the Headworks were constructed in the 1870s with additions to the headworks occurring through the 1930s. The canal is individually eligible for listing in the NRHP under Criterion A. The headworks is eligible for the NRHP under Criteria B, C, and D.

The NRHP status of eligibility for Criteria A through D for the identified sites are defined below (NRHP 2025).

- Criterion A – Associated with events that have made a significant contribution to the broad patterns of our history.
- Criterion B – Associated with the lives of significant persons in our past.
- Criterion C – Distinctive characteristics of a type, period, or methods of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D – Yielded or may be likely to yield information important in prehistory or history.

3.13.2 Environmental Consequences

Impacts from potential project activities to cultural resources were measured according to their potential to reduce or eliminate the property's historical significance. Identification and research of the cultural resources included identification of significance criteria. These criteria comprise the historical importance and integrity of the resources, and a reduction or loss of these criteria would be considered adverse to the cultural resource. For this analysis, the evaluation performed during the Section 106 process to identify adverse effects was used as an equivalent method for evaluating adverse impacts. These impacts are evaluated in terms of their context and the intensity of their effects to the cultural resource.

The following indicators, consistent with federal regulations for the protection of historic properties (36 CFR 800) and treatment of historic properties (36 CFR 68), were used to assess impacts to cultural resources for this analysis.

- Physical destruction of or damage to all or part of the resource
- Alteration of a resource, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary of the Interior's standards for the treatment of historic properties (36 CFR 68) and applicable guidelines
- Removal of the property from its historic location
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features

3.13.2.1 Alternative A – No Action

Under the no action alternative, the diversion structure would continue to experience ongoing age-based deterioration as under current conditions. If not addressed, this deterioration could eventually compromise the structural and/or functional integrity of the diversion facility. There would be no additional effects on historic properties or archaeological resources for this alternative because no ground-disturbing or structure-altering activities would occur in the Project area.

3.13.2.2 Alternative B – Ridenbaugh Canal Headworks Modernization (Proposed Action)

A No Adverse Effect determination was made for the Ridenbaugh Canal (Site 10AA575) because no measures are proposed in the canal that would alter it. Reclamation determined that there would be an Adverse Effect to the Ridenbaugh Diversion Headworks (Site 10AA2146) from modifications at the headworks facility that remove features and characteristics which define the historic integrity of the structure. Reclamation submitted the effect determination to the Idaho State Historic Preservation Office (SHPO) to comply with Section 106 of the NHPA in a letter dated October 7, 2024. SHPO concurred with the determination in a letter dated November 13, 2024. In accordance with 36 CFR 800.6(a)(1)(i), Reclamation notified the Advisory Council on Historic Preservation (ACHP) of the adverse effects and SHPO concurrence for the Project and invited the ACHP to participate in the Project on November 21, 2024. The ACHP declined to participate in the Project in a letter dated December 5, 2024. Refer to appendix D for documentation of SHPO and ACHP consultations.

To mitigate the adverse effects, a Memorandum of Agreement (MOA) has been developed between Reclamation, Idaho SHPO, and the NMID (appendix D). The adverse effects would be mitigated through funding (provided by NMID) to support survey and documentation efforts for historic resources within the East End District.

Combined Effects: The Eckert Road bridge was built in 1954 and is a historic structure. This structure was not evaluated for its eligibility for listing on the NRHP (TAG 2024). No other relevant historic structures are currently identified in the areas of influence of other reasonably foreseeable future actions considered for combined effects. Therefore, a combined effects analysis was not conducted.

3.14 Tribal Interests

3.14.1 Indian Trust Assets

Indian Trust Assets are legal interests in property held in trust by the United States for Indian Tribes or individual Indian trust landowners. ITAs include trust lands, natural resources, trust funds, or other assets held by the Federal government in trust. An Indian trust asset has three components: (1) the trustee, (2) the beneficiary, and (3)

A usufruct is the legal right to use and derive profit or benefit from property that belongs to another person.

the trust asset. Treaty-reserved rights, for instance, fishing, hunting, and gathering rights on and off reservation, are usufructuary rights that do not meet the Department of the Interior (DOI) definition of an ITA. The United States does not own or otherwise hold these resources in trust. ITAs do not normally include usufructuary rights alone (i.e., rights to access for hunting or fishing). Rather, they require first a possessory interest; that is, the asset must be held or owned by the Federal government as trustee.

The DOI requires that all impacts to trust assets, even those considered nonsignificant, must be discussed in a trust analysis in NEPA documents and appropriate compensation and/or mitigation implemented. Additionally, Reclamation's NEPA Handbook (Reclamation 2012) recommends a separate ITA section in all NEPA documents including a FONSI. These sections should be prepared in consultation with potentially affected tribal and other trust beneficiaries.

3.14.1.1 Affected Environment

No Indian trust land assets were identified in the proposed action area or staging areas during the scoping process, such as those held in trust by the Bureau of Indian Affairs for the benefit of Tribes or individual Indian trust landowners. As part of the scoping process, Reclamation researched Tessel, a Federal Geographic Information System (GIS) land database that includes Federal lands held in trust for Tribes and Individual Indian trust landowners (figure 14). This research indicated there are no Indian trust land assets in the proposed Action area or staging areas.

3.14.1.2 Environmental Consequences

Alternative A – No Action

Under the No Action alternative, Reclamation would not approve NMID's proposed Ridenbaugh Canal Headworks Modernization Project. Existing short-term or long-term effects, either beneficial or adverse, or effects on public health and safety in relationship to nearby ITAs would remain unchanged.

Alternative B – (Proposed Action)

Under Alternative B, the Proposed Action, Reclamation would proceed with NMID's request to NMID's proposed Ridenbaugh Canal Headworks Modernization Project. If the Proposed Action occurs, there are no known beneficial or adverse effects to ITAs.

Reclamation requested information from the Burns Paiute Tribe, Confederated Tribes of Warm Springs, Fort McDermitt Paiute and Shoshone Tribe, Shoshone-Bannock Tribes of the Fort Hall Reservation, and the Shoshone-Paiute Tribes of the Duck Valley Indian Reservation, who traditionally or currently use the area under their reserved treaty rights; however, no responses were received. The lack of specific information about the area is not indicative of a lack of importance to Tribes. With no specific responses, Reclamation assumes that there would be no adverse effects to Indian Trust Assets, such as adverse impacts to water, water rights, or land held in trust for the Tribes.

3.14.2 Treaty Rights

3.14.2.1 Affected Environment

The United States has a fiduciary responsibility to protect and maintain rights reserved by Indian Tribes or Indian individuals by treaties, statues, executive orders, and allotments. These rights are sometimes further interpreted through court decisions and regulations.

The proposed action area is surrounded by areas historically used by many Tribes. Treaty Rights at issue here are access and impacts to off-reservation hunting, fishing, gathering rights, livestock grazing rights, and cultural or ceremonial use rights. Although the proposed action area may have Federally-owned property, Courts have ruled that members of Federally-recognized Tribes with reserved Treaty Rights have the right to cross private or state lands in order to gain access to treaty areas (United States v. Winans 1905).

The Shoshone-Paiute Tribes of the Duck Valley Reservation are Federally-recognized Tribes in southern Idaho and northern Nevada, situated approximately 95 miles south of the proposed action area. The reservation was established by Executive Orders dated April 16, 1877; May 4, 1886; and July 1, 1910. The Shoshone-Paiute sometimes claim the interests of the Tribes that are reflected in the Bruneau, Boise, Fort Bridger, Box Elder, Ruby Valley, and other treaties and executive orders that the Tribes' ancestors agreed to with the United States. The Tribes continue to observe these treaties and executive orders in good faith; however, the Federal government did not ratify treaties that reserved off-reservation hunting and fishing rights. The Tribes assert they have aboriginal title and rights to those areas. All such treaties and executive orders recognize the need for the Tribes to continue to have access to off-reservation resources because most of the reservations established were and continue to be incapable of sustaining tribal populations. This need continues and has not diminished from the time of the first treaties and executive orders that established the Duck Valley Reservation (Cherokee Nation of Oklahoma and Shoshone-Paiute Tribes of the Duck Valley Reservation v. Leavitt 2005).

The Fort McDermitt Paiute and Shoshone Tribe are Federally-recognized Tribes in southern Oregon and northern Nevada, situated approximately 123 miles southwest of the proposed action area. The reservation was established in 1892 under the Homestead Act and the Indian Reorganization Act dated January 17, 1936 (Public, No. 419, 74th Congress.). The Tribes continue to observe this Act in good faith; however, the Federal government did not ratify treaties that reserved off-reservation hunting and fishing rights. The Tribes assert they have aboriginal title and rights to those areas. All such treaties and executive orders recognize the need for the Tribes to continue to have access to off-reservation resources because most of the reservations established were and continue to be incapable of sustaining tribal populations. This need continues and has not diminished from the time of the first treaties and executive orders that established the Fort McDermitt Indian Reservation.

The Burns Paiute Tribe is a federally-recognized Tribe in eastern Oregon, situated approximately 128 miles west of the proposed action area. A treaty was signed and not ratified so the reservation was established by Executive Order dated 1869, but was soon returned to public

domain. The Tribe has since purchased land and turned it into Federal trust status. The Tribes continue to observe this treaty and executive order in good faith; however, the Federal government did not ratify treaties that reserved off-reservation hunting and fishing rights. The Tribes assert they have aboriginal title and rights to those areas. All such treaties and executive orders recognize the need for the Tribes to continue to have access to off-reservation resources because most of the reservations established were and continue to be incapable of sustaining tribal populations. This need continues and has not diminished from the time of the first treaties and executive orders.

The Shoshone-Bannock Tribes of the Fort Hall Reservation are federally recognized Tribes in southeast Idaho, situated approximately 174 miles southeast of the proposed action area. On July 3, 1868, the Fort Bridger Treaty was signed and agreed to by the eastern and western bands of the Northern Shoshone and the Bannock (or Northern Paiute Bands). Article IV of the treaty states that members of the Shoshone-Bannock Tribes "…shall have the right to hunt on the unoccupied lands of the United States…" Courts interpreted this to mean "unoccupied Federal lands.

In the case of *State of Idaho v. Tinno*, an off-reservation fishing case in Idaho, the Idaho Supreme Court interpreted the Fort Bridger Treaty of the Shoshone-Bannock Tribes. The Court determined that the Shoshone word for 'hunt' also included to 'fish.' Under Tinno, the Court affirmed the Tribal Members' right to take fish off-reservation pursuant to the Fort Bridger Treaty. The Court also recognizes, "that treaty Indians have subsistence and cultural interests in hunting and fishing…" and "The Fort Bridger Treaty…contains a unified hunting and fishing right, which…is unequivocal." The treaty did not grant a hunting, fishing, or gathering right, it reserved a right the Shoshone-Bannock Tribes have always exercised.

The Confederated Tribes of Warm Springs are federally-recognized Tribes in northeast Oregon, situated approximately 265 miles west of the proposed action area. The Treaty of 1855 defined the area of the Reservation and affirmed Tribes rights to harvest fish, game, and other foods on accustomed lands outside the reservation boundaries. All such treaties and executive orders recognize the need for the Tribes to continue to have access to off-reservation resources because most of the reservations established were and continue to be incapable of sustaining tribal populations. This need continues and has not diminished from the time of the first treaties and executive orders.

3.14.2.2 Environmental Consequences

The United States Supreme Court has ruled that treaties with Indian Tribes are to be construed liberally in favor of Tribes, as the Tribes would have understood the language of the treaty at the time the treaty was signed. It is likely that the ratified or unratified treaties listed above include areas surrounding approximately 4.5 miles east from the town of Boise, ID, the proposed action area.

Alternative A – No Action

Under the No Action alternative, Reclamation would not approve NMID's proposed Ridenbaugh Canal Headworks Modernization Project. There would be no short-term or long-term effects, either beneficial or adverse to existing reserved Treaty Rights for tribal hunting, fishing, or gathering in traditional or customary places or for livestock grazing in the area.

Alternative B – (Proposed Action)

Under Alternative B, the Proposed Action, Reclamation would proceed with NMID's proposed Ridenbaugh Canal Headworks Modernization Project. If the Proposed Action occurs, there are no known beneficial or adverse effects to treaty rights. The proposed project construction ingress and egress routes may cause a temporary, short-term adverse effect on access to traditional or customary hunting, fishing, or gathering sites, or for livestock grazing areas during the construction periods.

Reclamation requested information from the Burns Paiute Tribe, Confederated Tribes of Warm Springs, Fort McDermitt Paiute and Shoshone Tribe, Shoshone-Bannock Tribes of the Fort Hall Reservation, and the Shoshone-Paiute Tribes of the Duck Valley Indian Reservation, who traditionally and currently use the area for hunting, fishing, and gathering of plants; however, no responses were received. The lack of specific information about the area is not indicative of a lack of importance to Tribes. With no specific response, Reclamation assumes that there would be no adverse effects to reserved Treaty Rights, such as access or impacts to areas for hunting, fishing, or gathering, or for livestock grazing.

3.14.3 Mitigation Summary

Mitigation efforts may be required to reduce the effects of construction ingress and egress on tribal access to hunting, fishing, or gathering should construction ingress and egress activity take place in the same location and at the same time of year as traditional or customary hunting, fishing, and gathering of plants, or for livestock grazing. If this were to occur, Reclamation would meet with Tribes to formulate an appropriate mitigation measure.

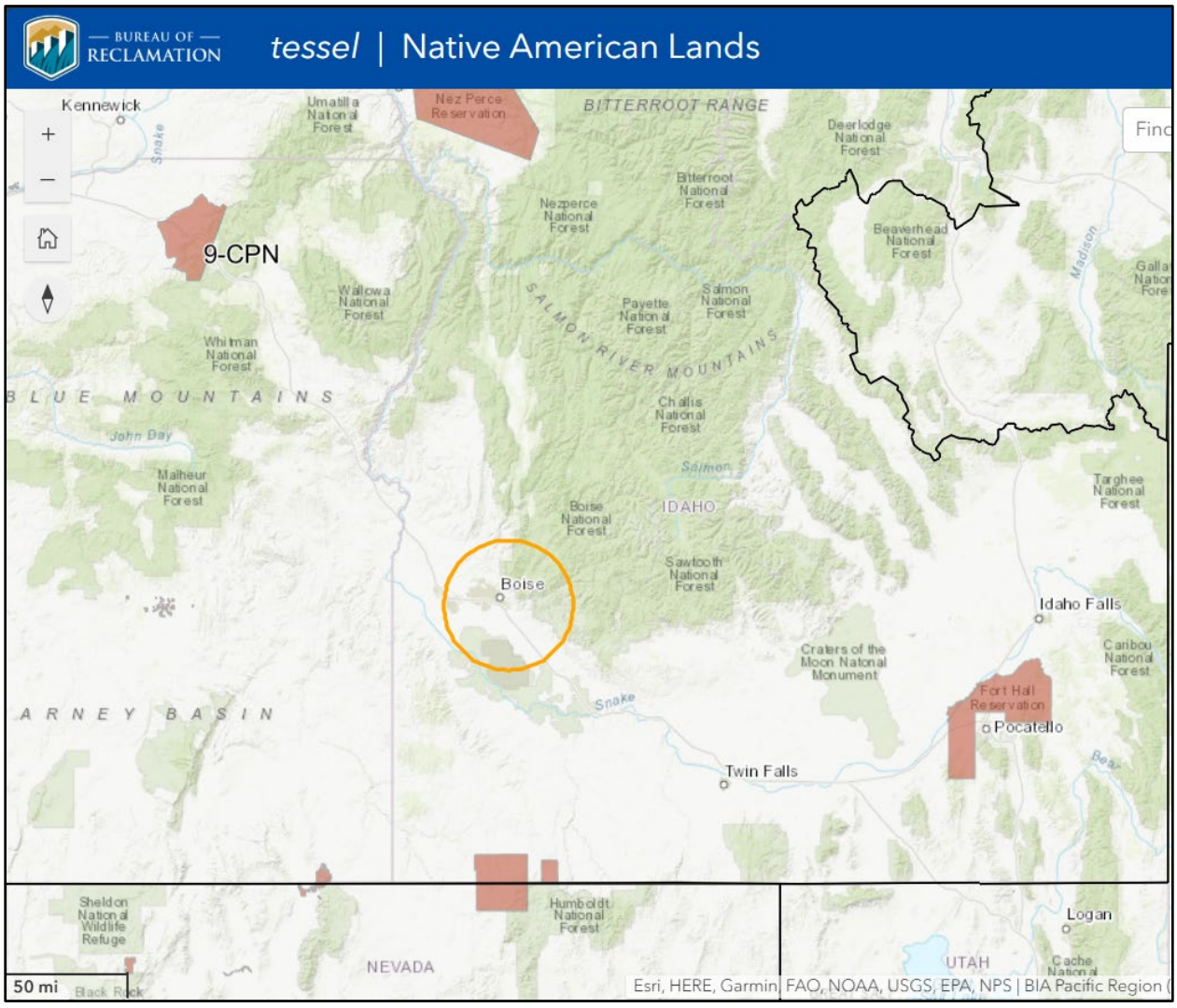

Figure 14.—Tribal Interests map generated using Tessel, a Federal Geographic Information System (GIS) land database that includes Federal lands held in trust for Tribes and Individual Indian trust landowners. The project area is circled in yellow; the nearest Native American Lands are indicated by the dark pink polygons.

3.15 Air Quality

The Clean Air Act (CAA) is the comprehensive Federal law that regulates air emissions from stationery and mobile sources (EPA 2024). The law authorizes The Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for protection of public health, public welfare, and regulate emissions of hazardous air pollutants.

3.15.1 Affected Environment

The EPA has established health-based NAAQS for six air quality constituents considered harmful to public health and the environment, known as criteria pollutants. NAAQS pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), sulfur dioxide (SO_2), and lead (Pb). Pollutant concentrations that exceed the NAAQS are considered unhealthy for some portion of the population. Monitoring of NAAQS pollutants in Idaho is delegated to the Idaho Department of Environmental Quality (IDEQ). Based on monitoring, IDEQ identifies geographic sites or regions (priority areas) where air quality is of particular concern. This consists of nonattainment areas, maintenance areas, PM advance areas, and areas of concern. Based on review of the IDEQ data, the Project area is located within two priority areas: Northern Ada County maintenance area for CO and PM_{10}: and Treasure Valley (Ada and Canyon Counties) area of concern for $PM2_{.5}$ and O_3 (IDEQ 2025). A description of these priority areas is provided below.

- CO and PM_{10} Maintenance Area (IDEQ 2025): Northern Ada County was designated nonattainment for CO and PM_{10} in 1990. The main emission sources for CO are vehicles and area sources, while the main sources for PM_{10} are fugitive road dust, agriculture, and residential wood heating. Since 1990, the county has made significant improvements and was redesignated to attainment with a maintenance plan for CO and PM_{10} in 2002 and 2003, respectively.
- $PM_{2.5}$ and O_3 (IDEQ 2025): Vehicles are one of the main sources of emissions in the valley that can increase both $PM_{2.5}$ and O_3. The Treasure Valley is subject to winter inversions that trap cold air and pollutants near the ground, resulting in poor surface air quality. During these events, air quality monitors in the valley have recorded levels above $PM_{2.5}$ NAAQS. In the summertime calm wind, high temperatures, and intense sunlight produce unhealthy accumulations of O_3 near the ground. Air quality monitoring has shown levels of O_3 during the past several summers at sometimes unhealthy air quality levels.

Additional air quality constituents tracked by the EPA include CO_2, methane (CH_4), nitrous oxide (N_2O), and fluorinated gases (hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride). These constituents are introduced into the atmosphere by a variety of sources including production of electricity, private and commercial transportation, industry practices, commercial and residential practices, agriculture, land use, and forestry. The largest source of these emissions from human activities in Idaho are from agriculture (41 percent), transportation (28.7 percent), and industry (10.6 percent) with residential, commercial, and electric power sharing the remaining 19.7 percent (Boise State University 2024).

3.15.2 Environmental Consequences

3.15.2.1 Alternative A – No Action

Emissions produced for O&M at the existing headworks facility would continue to include light-duty vehicle traffic commuting to and operating at the headworks facility about once a week. This minimal O&M activity would continue to have no measurable effect on air quality emissions over the long term.

3.15.2.2 Alternative B – NMID Ridenbaugh Canal Headworks Modernization Project (Proposed Action)

Construction activities would temporarily emit several air pollutants. PM_{10} emissions are associated with the dust created from demolition, land clearing, ground excavation, cut-and-fill operations, and road construction. All other pollutants ($PM_{2.5}$, CO, sulfur oxides [SOx], nitrous oxides [NOx], mobile source air toxics and [MSATs]) are generated from heavy-duty diesel engines used by the construction equipment. Construction emissions are greatest during the earthwork phases because of the dust associated with this activity. Fugitive dust can also be produced by winds blowing through the construction site and by trucks carrying uncovered loads. Additionally, mud tracked onto paved roads leading to and from the construction site creates a source of fugitive dust (i.e., road dust) after it dries.

Construction emissions must ensure compliance with the EPA General Conformity regulations. General conformity ensures that the action taken by federal agencies do not interfere with a state or tribe's ability to attain and maintain the NAAQS for air quality, as required by the Clean Air Act (EPA 2025). The General conformity regulations play an important role in helping to protect air quality with those areas that do not meet the NAAQS (nonattainment areas) and areas of vulnerable air quality (maintenance areas).

Construction equipment for alternative installation is anticipated to include backhoes, excavators, front loaders, bulldozers, skid steer loaders, dump trucks, crane, and several light-duty vehicles. Fugitive dust and MSAT emissions increases associated with construction would be minimized by implementing applicable BMPs (see 3.17). The Project is small in scale and localized with minimal upland earthwork (< 2.5 acres). The emissions from the minor amount of equipment and vehicles used during construction would not have a measurable effect on Ada County's air quality, given the size of other inputs in the broader urban area. Emissions are anticipated to be well below EPA General Conformity de minimis thresholds and other constituent thresholds for reporting. No permits are expected for the construction of alternative measures and construction activities would not violate any air quality standards. Therefore, short-term adverse effects to air quality during construction would be negligible.

Emissions produced for NMID O&M activities are anticipated to be reduced as compared to the No Action Alternative from fewer vehicle trips to the headworks facility resulting in a beneficial effect to air quality over the long term.

Combined Effects: No combined long-term effects are expected because the Ridenbaugh headworks improvements do not result in changes to emissions. Construction for the Eckert Road bridge replacement and Alta Harris Park adjoining the Project area may occur at the same time as construction for the Ridenbaugh headworks. The construction emissions would have a combined adverse effect of increased emissions concentrated around the construction area. However, these combined activities are not expected to have a measurable effect on the air quality of Ada County over the short or long term.

3.16 Land Use

Land within the Project area is owned by the NMID and City of Boise Parks and Recreation Department. Lands submerged below the ordinary high water mark of the Boise River are held in trust by the Idaho Department of Lands who manages these lands to provide for commercial, navigational, recreational, and other uses. Land owned by the NMID is located on the west side of the Bose River within the Project area and is used for control and management of irrigation water diversion for the Ridenbaugh Canal. Boise Parks and Recreation property on the east side of the Boise River in the Project area is currently undeveloped land open for public access. The NMID currently has a prescriptive easement for access to the diversion structure on the east side on the Boise River. Approximately 2.03-acres of a Trout Unlimited/Land Trust of the Treasure Valley and an approximately 3.25 acres of Idaho Foundation for Parks and Lands conservation easement exists within the Project area. The easements are for a stream/wetland complex which is planned to be restored for spawning, rearing, and over-wintering fish habitat, and for the conservation of areas of undeveloped access where the permanent development of roads or access for vehicle use is prohibited along the Boise River corridor, respectively. The Boise Parks and Recreation land outside of the conservation easements will be developed as a public park (Alta Harris Park) in 2025 and 2026. A map depicting landownership and easements is provided in figure 15.

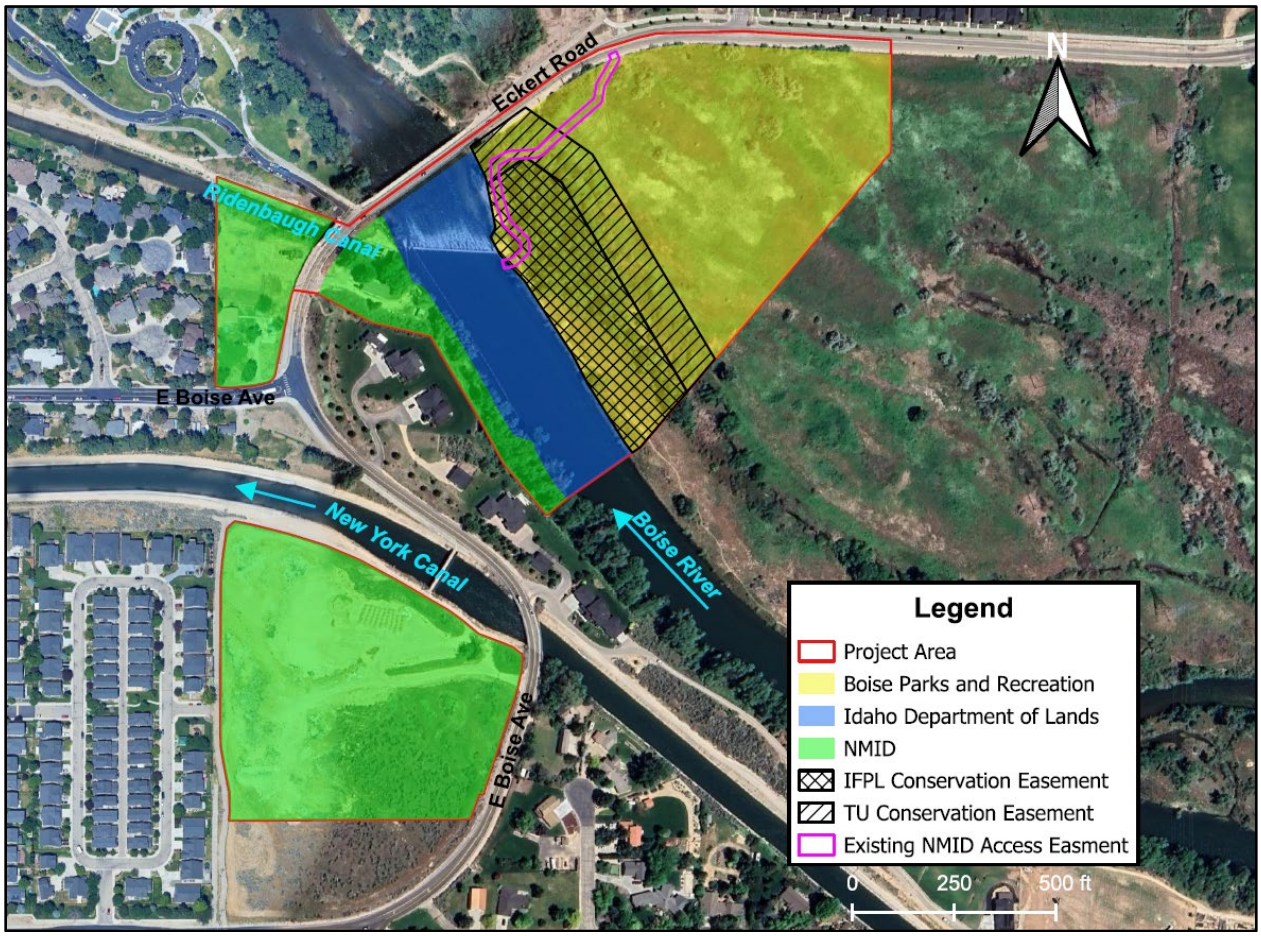

Figure 15.—Land ownership and conservation easements

3.16.1. Alternative A – No Action

The No Action Alternative would not change the existing land use. The NMID would continue to access the diversion structure as needed from NMID property on the west side of the Boise River, and via the access route that has been established in the prescriptive easement on the north side of the river. Acceptable uses within each easement would remain unchanged and there would be no short- or long-term effects to land use.

3.16.2 Alternative B – NMID Ridenbaugh Canal Headworks Modernization Project (Proposed Action)

The alternative proposes to maintain the same land use within NMID property on the west side of the Boise River in Area 1 and in Area 2. On the east side of the Boise River, the existing access route will be relocated southeast of its current location. The new access outside of the conservation easement within the proposed park would be part of the overall park with no anticipated change for public use. The new access route through the conservation easement to the river would be gated to prevent the entry of public vehicles to that segment of the access route. However, non-vehicular public access through the area would remain unchanged. NMID has

coordinated with Trout Unlimited/Land Trust of the Treasure Valley and Idaho Foundation for Parks and Lands to modify both conservation easements to reflect the new access route. Otherwise, no change to public access or use within the City of Boise Parks and Recreation Department lands are expected.

Combined Effects: No combined effects to land use are expected based on no changes to public access expected within the Boise Park and Recreation land.

3.17 Environmental Commitments (Best Management Practices)

The following summarizes the environmental commitments, also referred to as BMPs throughout this document, that would be adhered to for the Proposed Action:

Water Resources

- The construction contractor shall comply with all the conditions of permits issued for the project.
- The construction contractor shall prepare and implement a SWPPP. The contractor shall also prepare a Notice of Intent and a Notice of Termination meeting the terms and conditions of the Idaho Pollutant Discharge Elimination System permit since construction activities would disturb greater than one acre of land.
- The construction contractor shall implement erosion control measures and post-construction site stabilization in the construction area, as necessary. Measures for controlling sediment and erosion shall include placement of silt fences, straw dikes, and other structural controls, as appropriate.
- To ensure that accidental spills do not enter waters, a Spill Control Plan will be prepared and implemented by the construction contractor. The storage of petroleum-based fuels and the refueling of construction machinery would occur in approved designated staging/batch plant areas or in areas utilizing containment BMPs. Furthermore, the Project would comply with state and federal water quality standards and toxic effluent standards to minimize any potential adverse effects from discharges to WOTUS.
- No construction materials would be stockpiled or deposited in any water bodies.

Air Resources

- Spray the soil on-site with water to suppress dust.
- Wet materials hauled in trucks, providing adequate freeboard (space from the top of the material to the top of the truck), or covering loads to reduce emissions during material transportation/ handling.

- Provide a stabilized construction entrance (track-out pad) and/or other similar BMPs at construction site access areas to reduce track-out of site materials onto the adjacent roadway network.
- Remove tracked-out materials deposited onto adjacent roadways.
- Wet material stockpiles to prevent windblown emissions.
- Establish vegetative cover on bare ground as soon as possible after grading to reduce windblown dust.
- Require appropriate emission-control devices on all construction equipment.
- Use only properly operating, well-maintained construction equipment.

Migratory Birds and Bald/Golden Eagles

- If construction activities occur during migratory bird breeding/nesting periods (March through August), the Project area and immediate surrounding habitats would be surveyed by a qualified biologist for active nests no more than 5 days prior to the commencement of work. If active nests were found during surveys, appropriate spatial buffers would be established around active nests in coordination with USFWS and Reclamation. Construction activities within the buffer areas would be prohibited until a qualified biologist confirmed that all nests are no longer active.

Vegetation Communities and Noxious Weeds

- To prevent the introduction of invasive species seeds, the contractor shall inspect all earthmoving and hauling equipment at the equipment storage facility and the equipment shall be washed prior to entering the construction site.
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.
- All equipment used in the Boise River, including watercraft, barges, cranes, and related equipment, shall be inspected and decontaminated prior to and immediately after water-based activities.
- During construction and until restoration areas are fully established, noxious and invasive weeds would be actively managed on a regular basis to prevent the establishment of invasive species.
- Disturbed areas would be restored and stabilized after construction completion.
- Sporadic cottonwood and willow plantings would occur in approximately 0.5 acres of the riparian area on the east side of the Boise River to meet the requirements set by the City of Boise in their Boise River System Permit. The NMID's application is pending approval as of the date of this document; the finalized permit will be made available by City of Boise.

Cultural Resources

- The construction contractor will cease all construction disturbances of an area and notify Reclamation if any potential cultural resource sites are discovered.

Noise and Light

- Construction equipment will be outfitted with noise dampening measures.
- Construction lighting will be directed at the active construction site.
- Permanent buildings will have motion sensor lights installed for nighttime O&M activities which will be directed toward the ground and away from any residential homes.
- Applicable noise construction ordinances would be adhered to during construction.

Public Health and Safety

- The active construction site would be closed to the public to avoid public exposure to safety hazards.
- Warning signage will be placed along the Boise River as appropriate to warn the public of dangers associated with the diversion.

Recreation

- A temporary portage path around the diversion structure would be made available for public use during construction with signage and fencing directing recreationists around the active construction site.
- After construction completion the unimproved portage path would remain in place.

4.0 Consultation and Coordination

4.1 Scoping

Reclamation mailed (September 27, 2024), emailed (October 1, 2024), and posted to the Reclamation website (October 2, 2024) a scoping information package, including a project information letter and three maps, to interested parties listed below soliciting their help in identifying any issues and concerns related to the Proposed Action.

- Federal, State, and local agencies
- Members of Congress
- Indian Tribes
- Organizations
- Private Individuals

The scoping period was open for 30 days and ended on October 31, 2024. Reclamation received 28 comments during the scoping period and 1 comment after the scoping period ended. The scoping information package, scoping mailing list, scoping comments received, and Reclamation's responses to comments are presented in appendix B.

4.2 Agency Consultation and Coordination

4.2.1 Section 7 of the Endangered Species Act

Reclamation generated a preliminary endangered species report through the USFWS IPaC site (appendix C). The report indicated that five species have the potential to occur in the affected area: the North American wolvering (*Gulo gulo luscus*), designated as threatened; the yellow-billed cuckoo (*Coccyzus americanus*), designated as threatened; slickspot peppergrass (*Lepidium papilliferum*), designated as threatened; the monarch butterfly (*Danaus plexippus*), currently proposed for listing as threatened, and Suckley's cuckoo bumblebee (*Bombus suckleyi*), currently proposed for listing as endangered. No designated critical habitats for any listed species intersect with the affected area. Since analysis determined that the Proposed Action would not adversely affect any listed species, formal Section 7 consultation under the ESA was not required.

4.2.2 Section 106 of the National Historic Preservation Act

Per 36 CFR 800.3, 800.4, and 800.5, Reclamation consulted with the Idaho SHPO, ACHP, and tribes on the Proposed Action and determination of effects to comply with Section 106 of the NHPA. Reclamation submitted an adverse effect determination to SHPO on October 7, 2024 and

SHPO concurred with the determination in a letter dated November 13, 2024. Reclamation notified the ACHP of the adverse effects and SHPO concurrence for the Project and invited the ACHP to participate in the Project on November 21, 2024. The ACHP declined to participate in the Project in a letter dated December 5, 2024. Tribes were consulted as described in section 4.3. Refer to appendix D for documentation of consultations.

To mitigate the adverse effects, an MOA has been developed between Reclamation, Idaho SHPO, and the NMID. The adverse effects will be mitigated through funding (provided by NMID) to support survey and documentation efforts for historic resources within the East End District.

4.2.3 Clean Water Act (CWA)

The USACE has jurisdiction over work in WOTUS under Section 404 of the CWA which regulates the discharge of dredged or fill material into non-navigable WOTUS (including wetlands). Activities in WOTUS require a permit, unless the activities are exempt from Section 404 regulations which are outlined in 33 CFR 323.4 and 40 CFR 232.3. The NMID submitted a Section 404 Idaho Joint Application for Permits to the USACE on May 15, 2025 requesting the Proposed Action to be covered under the exemption definition for irrigation ditches. Concurrence with the exemption request and/or Section 404 permitting for the Proposed Action was received from the USACE on 17 June 2025. Documentation of exemption and CWA coordination is included in appendix E.

4.3 Tribal Consultation and Coordination

Tribes were consulted to comply with EO 13007, 13175, the AIRFA, and the NHPA. Reclamation sent scoping letters via FedEx containing preliminary project information to the tribes listed below on September 26, 2024. Tribes were also provided information on the Proposed Action and determination of effects to historic properties on September 27, 2024. No responses or concerns from the tribes were received by Reclamation.

- Shoshone-Bannock Tribe
- Burns Paiute Tribe
- Fort McDermitt Paiute Shoshone Tribe
- Confederated Tribes of Warm Springs Reservation

Documentation of Tribal coordination is included in appendix D.

5.0 References

Text Citation	Bibliographic Reference
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AEP 2025b	Adaptive Environmental Planning, LLC. 2025. NMID Ridenbaugh Headworks Modernization Project ESA Section 7 No Effect Letter. Adaptive Environmental Planning, LLC, Boise, ID.
Boise State University 2024	Boise State University College of Business and Economics. September 6, 2024. Greenhouse Gas Emissions in Idaho: A State Breakdown. Boise State University, Boise, Idaho. https://www.boisestate.edu/cobe/blog/2024/09/greenhouse-gas-emissions-in-idaho-a-state-breakdown/.
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HDR 2025b	HDR, Inc. 2025. FEMA Floodplain Analysis (No-Rise Analysis) for the Ridenbaugh Canal Headworks Modernization. Boise, ID.
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USGS 2006	U.S. Geological Survey. 2006. Fish Communities and Related Environmental Conditions of the Lower Boise River, Southwestern Idaho, 1974-2004. Scientific Investigations Report No. 2006-5111. U.S. Geographical Survey, Reston, Virginia. sir20065111.pdf

Appendices

Appendix A – Report: Ridenbaugh Headworks Modernization Project Multi-Criteria Decision Analysis (HDR)

Appendix B – Scoping: Information Package, Mailing List, Comments Received, and Summary Table

Appendix C – Endangered Species Act: IPaC Report

Appendix D – National Historic Preservation Act, Tribes, and Sacred Sites Consultation: State Historic Preservation Office, Tribes, and Memorandum of Agreement

Appendix E – Clean Water Act Coordination: U.S. Army Corps of Engineers Exemption Letter

Appendix F – Other Coordination

Appendix A

Report: Ridenbaugh Headworks Modernization Project Multi-Criteria Decision Analysis (HDR)

Multi-Criteria Decision Analysis Report

Ridenbaugh Headworks Modernization Project

HDR Project No. 10383385

June 25, 2024

Contents

Tables

Figures

Acronyms

cfs	cubic feet per second
MCDA	multi-criteria decision analysis
NMID	Nampa & Meridian Irrigation District
O&M	operation and maintenance
OPCC	Opinion of Probable Construction Cost

Executive Summary

The Nampa & Meridian Irrigation District (NMID) owns and operates the Ridenbaugh Canal and the Ridenbaugh Canal diversion which diverts Boise River water into the canal. NMID records indicate the original Ridenbaugh canal diversion was constructed in 1878. The canal diversion was updated in the 1930s to the current structure which is approaching 100 years old. The canal diversion is at the end of its functional lifespan and NMID has embarked on an important and complex project to modernize and automate the entire canal diversion structure which consists of multiple components, including the diversion dam in the river, sediment management wall, debris management trash rack, and canal headgates. The project is critical to providing a long-term reliable source of irrigation water from a facility with reduced operations and maintenance (O&M) requirements. It must be constructed during the non-irrigation season and when the river flow is lowest. The District covers approximately 69,000 acres.

After developing project criteria through workshops with the NMID staff and NMID Board of Directors (Board), various project alternatives were considered. Some alternatives were dismissed due to fatal flaws early in the process. Other alternatives appeared to meet the desired project criteria, and thus, were recommended for continued investigation. From the three alternatives recommended to progress from the Alternatives Formulation Report (HDR, March 2024), and through meetings and workshops with NMID staff, seven alternatives, all including construction of a new diversion dam upstream of the existing diversion dam, were progressed to 10% conceptual design. Class 4 Opinions of Probable Construction Cost (OPCC) were completed for each alternative. The seven alternatives were scored and ranked using non-economic criteria in the multi-criteria decision analysis (MCDA). The alternatives were also ranked qualitatively for anticipated Operations and Maintenance costs. The alternatives scores, OPCCs, and O&M qualitative ranking were graphed to provide a visual representation of the cost and value of each alternative. Through this process, the preferred alternative to carry forward into design and construction rose to the top. Ultimately, HDR and NMID staff recommend Alternative 4B: Crest Gates and Ogee Weir with Curved Intake be progressed in the design process for construction.

At the NMID Board meeting on June 4th, 2024 the Board voted to accept Alternative 4B: Crest Gates and Ogee Wier with Curved Intake as the preferred alternative to carry forward into the design phase of the Ridenbaugh Headworks Modernization Project.

1 Project Overview / Purpose

1.1 Project Overview

The Nampa & Meridian Irrigation District (NMID) has successfully won two grants based on a preliminary concept for the modernization of the canal diversion (also known as the Ridenbaugh Headworks Modernization project). A U.S. Bureau of Reclamation WaterSmart grant of $4,722,000 and a State of Idaho grant of $3,686,164 will help fund the modernization project.

The Ridenbaugh diversion dam extends approximately 220 feet across the Boise River and is used to raise the upstream water level sufficiently to allow the Ridenbaugh Canal to divert up to 550 cfs. The existing diversion dam structure consists of concrete piers that create 11 bays in which NMID operations and maintenance (O&M) staff install stop-logs via access from a wood walkway. An 80-foot-long, wide-bar trash rack in the canal inlet channel adjacent to the river is used to keep large debris from entering the canal and also collects some aquatic weeds that O&M staff manually remove via access from a walkway. An 18-inch tall and approximately 500-foot-long concrete wall was installed as a sediment and debris wall parallel to the river in 1936-1937 with the ability to create an opening in the wall at mid height to try and reduce the amount of debris and sediment diverted into the canal. The Ridenbaugh Canal headgate structure consists of three radial arm gates and the canal has a capacity of 550 cubic feet per second (cfs). Water is typically delivered to NMID water users from April 1 through the first or second week of October. The original canal headgate structure is not functional but remains in place. In fact, the original slide gates impede the flow of water between the river and the current, functional radial-arm headgates. Figure 1.1 is an overview map of the existing Ridenbaugh canal diversion structure.

For consistency, the terminology used throughout this report includes:

- Ridenbaugh canal diversion, Ridenbaugh canal diversion structure, Ridenbaugh canal headworks: includes all existing components associated with the diversion of water from the Boise River into the Ridenbaugh canal, including the diversion dam, sediment wall, trash rack, and canal headgates
- Diversion dam: the structure in the Boise River to dam water for the canal
- Intake facilities: components required to move water from the river into the canal, including sediment management facilities, debris removal equipment, concrete channels, and canal headgates
- Headgates: the headgates in the Ridenbaugh Canal, included in the "intake facilities"

NMID contracted HDR to assist in the design development and permitting of a new canal diversion structure. Previously completed work by HDR includes:

- Alternatives formulation identifying potential alternatives for replacement of the existing canal diversion structure (HDR, Alternatives Formulation Report, March 29, 2024),

- An equipment evaluation to determine the potential options for specific technical components that may be used in the overall project design as the process continues. (Appendix A of the HDR Alternatives Formulation Report, March 29, 2024)
- Recommendation of three alternatives to advance to conceptual design and associated high-level Opinion of Probable Construction Cost (OPCC).

Based on the recommended three alternatives to advance to conceptual design and OPCC development, and through additional workshops with the NMID staff and Board, a total of seven alternatives were ultimately considered viable solutions and progressed to the next step in the process.

The seven alternatives were developed to a 10% conceptual design level and an OPCC was developed for each. The alternatives were also ranked qualitatively for anticipated Operations and Maintenance costs. Then each alternative was scored using the MCDA approach to rank the alternatives and assist NMID in their discussion and selection of the preferred alternative to advance to design, permitting, and construction.

Source: (GoogleEarth Pro image)

Figure 1-1 - Overview Map of Ridenbaugh Canal Diversion Structure

1.2 Existing River Hydraulics/Hydrology

The Boise River experiences varied flows that must be addressed by the project design. The following are a list of discharges and corresponding return periods from the Boise River at Lucky Peak Dam, as defined by the Federal Emergency Management Agency (FEMA) flood insurance study[1]:

- 10-year: 7,200 cfs
- 50-year: 11,000 cfs
- 100-year: 16,600 cfs

According to NMID staff observations, flow overtops the existing diversion dam between approximately 6,000 cfs and 7,000 cfs. Low flow in the river of approximately 240 cfs generally occurs outside the irrigation season. The design and operational capacity of the canal is 550 cfs. NMID staff have stated that the current configuration of the diversion structure requires approximately 5-feet of water above the sill of the Ridenbaugh diversion dam to provide an adequate head at the canal headgates for NMID staff to operate the existing radial gates to reliably meet water user demands, diverting up to 550 cfs into the canal downstream of the radial gates. In order to meet the instream flow requirements and convey water for downstream surface water diversions, a flow at the dam of approximately 750 to 850 cfs is generally required when NMID is diverting their total water right of 550 cfs. Therefore, the depth of flow at the diversion is assumed to be 5 feet. The width of the river at the point of diversion is assumed to be 220 feet, based on rounded geographic information system (GIS) measurements. The width of the headgate structure was roughly measured in the field at 30 feet. HDR used this information and these assumptions to formulate initial alternatives and will rely on this information for the design work to follow. If new information is collected during the process (e.g., field survey information refining the sill elevation and normal high water elevations), the alternatives design will be modified accordingly.

2 Multi-Criteria Decision Analysis Methodology

HDR led an alternatives analysis to determine the preferred alternative for modernizing the Ridenbaugh canal diversion structure. Through a series of meetings and workshops, HDR and NMID staff methodically stepped through the Multi-criteria Decision Analysis (MCDA) process. Initial alternatives recommended in the Alternatives Formulation Report (HDR, March 2024) were advanced and modified to create seven alternatives that were advanced through the MCDA process. The final seven alternatives were evaluated using a MCDA tool called decisionSPACE™, a proprietary program developed by HDR to assist the team through the process.

[1] Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS), 2021

The evaluation consists of four steps:

- Development and defining of non-economic criteria.
- Weighting of the criteria using comparative ranking.
- Development of criteria-specific attributes for each alternative.
- Comparative ranking of each alternative's attributes for all criteria to generate an overall non-economic score for each alternative.

For each alternative, HDR also developed high-level construction cost estimates and were ranked qualitatively for anticipated Operations and Maintenance costs. The alternatives scores, OPCCs, and O&M qualitative ranking were graphed to provide a visual representation of the costs and benefits of each alternative. Through this process, the preferred alternative to carry forward into design and construction rose to the top.

The results of this process provided detailed assessment of each alternative to help facilitate discussions and ultimate selection of a preferred solution to modernizing the Ridenbaugh canal diversion structure.

2.1 Alternative Evaluation Criteria

HDR discussed project alternative criteria with NMID staff and Board members over several meetings and workshops with the initial results documented in the Alternatives Formulation Report (HDR, March 2024). These criteria represent the important aspects of the canal diversion modernization project based on input from the Board.

These criteria were weighted to align with the Board's objectives for the project. The criteria and their respective weighting helped determine the merits and detriments of each alternative objectively. Using information gathered from the NMID staff and Board on the relative priorities of the criteria, HDR entered the criteria into the decisionSPACE™ tool and evaluated each criterion against each other to determine which were more or less important and to develop a weighting of each criterion. Each criterion was evaluated with these comparison statements for the criteria weighting exercise:

- Is much more important than
- Is more important than
- Is as important as
- Is less important than
- Is much less important than

The original criteria and weighting exercise included cost as a criteria. However, it was determined that only non-economic criteria should be scored in the MCDA because a Class 4 OPCC was developed for each alternative. The OPCC was graphed against the non-economic criteria to factor cost into the evaluation.

Following removal of cost from the MCDA criteria list, the criteria weighting was adjusted and is presented in Table 2.1 which shows the alternatives criteria, definitions, and weighting results from decisionSPACE™. Table 2.2 shows the non-economic criteria decision matrix and the weighting results.

Table 2.1 - Final Alternatives Criteria, Definitions, and Weighting

No.	Evaluation Criteria	Definition / Characteristics	Weighting
1	O&M Functionality and Effectiveness	Operations and maintenance requirements (time, cost) and overall effectiveness of the project (e.g., reduced/easier O&M, redundancy, reliability, adjustability, ability to conserve water, improved energy efficiency, ease of future repairs). Ability to operate the structure and equipment components during unforeseen events.	44%
2	Safety and Security	Level of safety for NMID operators, workers, and the general public around structure. Security of the structure itself and for workers during operations. Ability to lower river during flood events to reduce or prevent flooding of surrounding areas.	27%
3	Ability to accommodate future improvements	Design allows for future improvements to be incorporated relatively easily (e.g., flexibility/modularity of design).	12%
4	Constructability	Design can be constructed in a way that reduces risk to scope, schedule and budget. Ability to maintain operation of diversion during construction and handle unforeseen events.	9%
5	Stakeholder Support	Anticipated level of support and positive relationships with the general public, neighbors and project partnerships. Support of water users in NMID.	4%
6	Ease of Permitting Compliance	Level of permitting required (effort, time, cost) to acquire permits for the project (e.g., simplified project resulting in reduced permit requirements).	3%

(Note, the total weighting shown here adds up to 99% due to rounding in the program.)

Table 2.2 - Non-Economic Criteria Decision Matrix and Weighting Results

Evaluation Criteria	1 O&M Functionality and Effectiveness	2 Safety and Security	3 Ability to accommodate future improvements	4 Constructability	5 Stakeholder Support	6 Ease of Permitting Compliance	Weighting
1 O&M Functionality and Effectiveness	Is As Important As	Is More Important Than					
2 Safety and Security	Is Less Important Than	Is As Important As		Is More Important Than		Is Much More Important Than	27%
3 Ability to accommodate future improvements		Is Much Less Important Than	Is As Important As	Is More Important	Is More Important	Is Much More Important Than	12%
4 Constructability		Is Less Important Than	Is Less Important Than	Is As Important As	Is More Important Than	Is Much More Important Than	9%
5 Stakeholder Support		Is Much Less Important Than	Is Less Important Than	Is Less Important Than	Is As Important As	Is As Important As	4%
6 Ease of Permitting Compliance		Is Much Less Important Than		Is Much Less Important Than	Is As Important As	Is As Important As	3%

2.2 Alternatives Conceptual Design

Based on the three recommended alternatives resulting from the Alternatives Formulation Report, and following additional meetings and a workshop with NMID staff, seven alternatives were ultimately progressed through conceptual design, OPCC development, qualitative O&M ranking, and MCDA scoring. A summary description of each alternative is presented in Table 2.3 below.

Table 2.3 - Alternatives Descriptions

Alternative No.	Description
1A	Crest Gates across River w/out Piers, Slotted Intake Wall
1B	Crest Gates across River w/out Piers, Slotted Intake Wall and Catwalk
2	Three Crest Gates and Three Stop Log Bays, with Curved Intake
3A	Crest Gates and Ogee Weir - Headgates Downstream
3B	Crest Gates and Ogee Weir
4A	Crest Gates, Center Pier, Catwalk with Curved Intake
4B	Crest Gates and Ogee Weir with Curved Intake

Appendix A contains drawings for the Alternatives Analysis and Conceptual Designs for each alternative. These drawings include narrative highlights of the alternative components, a 3D rendering, plan view, and selected sections and details to convey the concepts. Figure 2-1 is the first page of Appendix A which shows an overview of all the alternatives.

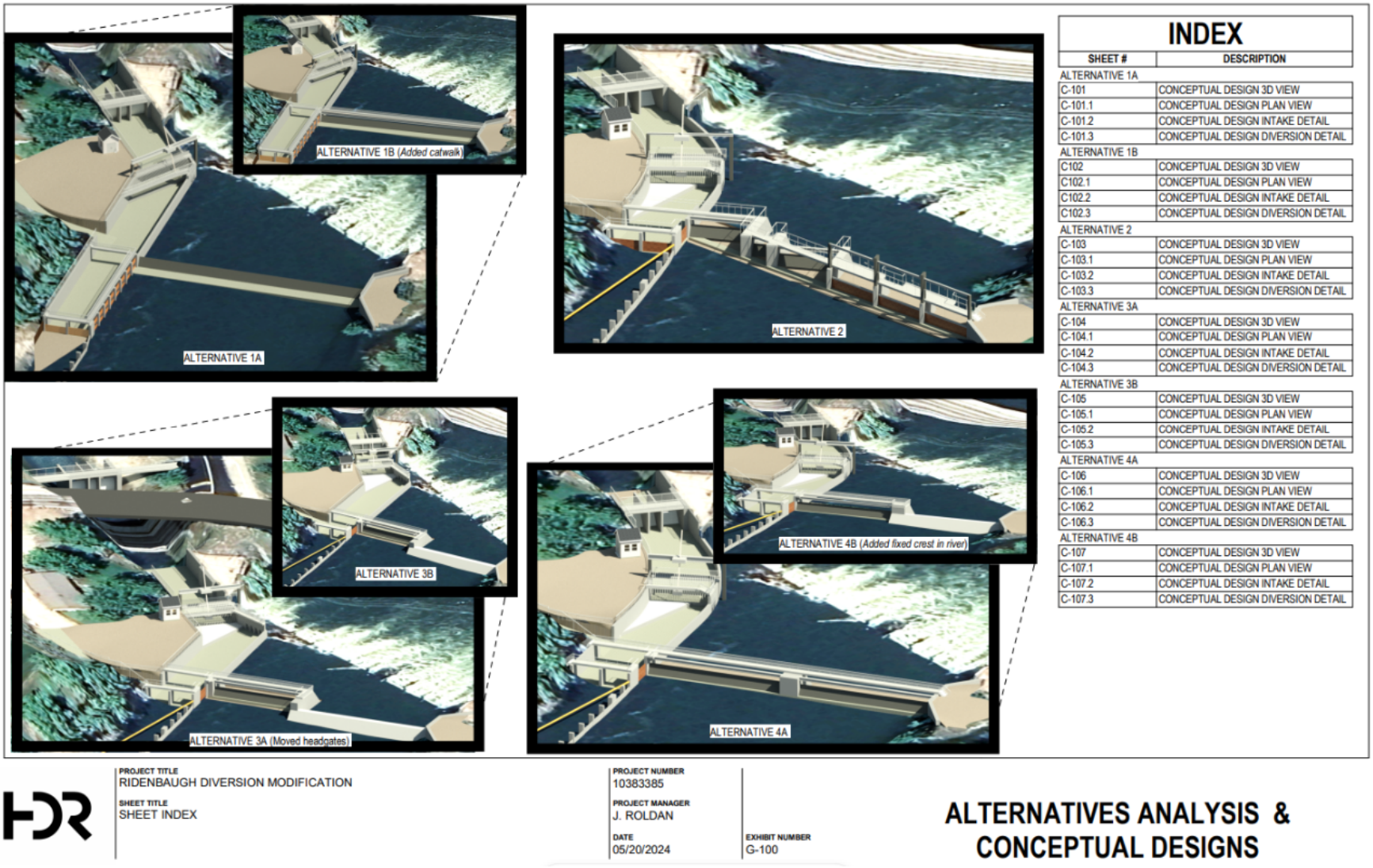


Figure 2-1 - Overview of Conceptual Design Alternatives for the Ridenbaugh Canal Diversion Structure

At the 10% Conceptual Design level, it is important to note that as preliminary and final design progress, the preferred alternative is likely to be refined to provide the best solution for NMID. For instance, where ‘crest gates’ are shown, final design may result in multiple gates to meet the needs of the project. Another example of refinement would be installation of a pier between crest gates if that is determined to be the best approach to facilitating installation and maintenance scenarios. The 10% Conceptual Designs serve as a basis for alternative selection and are anticipated to change as needed, without major departure from the concept shown.

2.3 Alternatives Scoring

HDR conducted a preliminary scoring exercise with internal staff prior to meeting with NMID staff for the scoring workshop. During the NMID staff workshop (May 23, 2024), HDR presented the preliminary scoring and facilitated the group scoring each alternative on the non-economic criteria as a team. A yardstick evaluation of the non-economic criteria was used to rank the alternatives on a scale of Very Low (Worst), Low, Moderate, Strong, and Very Strong (Best). Appendix B documents the combined notes from the HDR internal scoring process and the joint NMID staff and HDR staff workshop and lists the reasons for the scoring decisions.

Based on the criteria weighting and the scoring of each criterion for each alternative, the decisionSPACETM tool calculated a final score for all seven alternatives. The highest number represents the optimum solution if cost is not a consideration.

Table 2.4 shows detailed results of the alternative scoring process. Table 2.5 shows the summary of ranked alternatives.

Table 2.4 - Yardstick Alternative Criteria Ranking

Evaluation Criteria	1 O&M Functionality and Effectiveness	2 Safety and Security	3 Ability to Accommodate Future Improvements	4 Construct ability	5 Stakeholder Support	6 Ease of Permitting Compliance	Non Economic Score
Alternative 1A		Strong		Moderate		Strong	
Alternative 1B	Very Low	Moderate	Very Low	Low	Strong	Strong	27
Alternative 2	Moderate	Low	Strong	Very Low	Low	Moderate	43
Alternative 3A	Very Low	Very Low	Moderate	Low	Low	Low	18
Alternative 3B	Strong	Moderate	Moderate	Strong	Moderate	Low	60
Alternative 4A	Moderate	Moderate	Moderate	Moderate	Strong	Strong	51
Alternative 4B	Strong	Moderate	Moderate	Very Strong	Moderate	Low	62

Table 2.5 - Summary of Ranked Alternatives (non-economic score)

Alternative No.	Description	Score
4B		62
3B	Crest Gates and Ogee Weir	60
4A	Crest Gates, Center Pier, Catwalk with Curved Intake	51
2	Three Crest Gates and Three Stop Log Bays, with Curved Intake	43
1A	Crest Gates across River w/out Piers, Slotted Intake Wall	35
1B	Crest Gates across River w/out Piers, Slotted Intake Wall and Catwalk	27
3A	Crest Gates and Ogee Weir - Headgates Downstream	18

2.4 Opinion of Probable Construction Cost

HDR developed preliminary Class 4 Opinions of Probable Construction Costs for the capital construction cost of each of the alternatives. Unit costs were estimated and applied to all alternatives. The components and quantities of materials were estimated for the individual alternatives to determine the overall OPCC.

Appendix C contains the OPCC Memorandum describing and documenting the process and results of the OPCC work. Class 4 accuracy ranges are explained and provided to show the possible low and high estimates. Escalation and phasing were considered and applied. Taken from the OPCC Memorandum, Table 2.6 shows the OPCC for each Alternative with various accuracy ranges included.

Table 2.6 - Alternative Class 4 Opinions of Probable Construction Cost

Alt. No.	Description	Low: 30%	Estimate	High: +50%
1A	Crest Gates across River w/out Piers, Slotted Intake Wall	$ 14,040,300	**$ 20,057,500**	$ 30,086,300
1B	Crest Gates across River w/out Piers, Slotted Intake Wall, and Catwalk	$ 15,062,300	**$ 21,517,600**	$ 32,276,400
2	Three Crest Gates and Three Stop Log Bays, with Curved Intake	$ 13,996,600	**$ 19,995,100**	$ 29,992,600
3A	Crest Gates and Ogee Weir - Headgates Downstream	$ 14,677,100	**$ 20,967,300**	$ 31,451,000
3B	Crest Gates and Ogee Weir	$ 13,555,000	**$ 19,364,300**	$ 29,046,500
4A	Crest Gates, Center Pier, Catwalk with Curved Intake	$ 13,292,700	**$ 18,989,600**	$ 28,484,300
4B	Crest Gates and Ogee Weir with Curved Intake	$ 13,128,600	**$ 18,755,100**	$ 28,132,600

2.5 Operations and Maintenance Costs

In addition to capital costs, ongoing operations and maintenance (O&M) costs were considered as part of the alternative evaluation.

The evaluation of the operations and maintenance costs considered the alternatives and their selected layout and possible equipment selections (to be accomplished during design). Each of the alternatives will have unique costs for operation and maintenance based, in part, on the equipment selected to be included in the design of the preferred alternative. The O&M cost for each alternative was considered using a qualitative assessment based on the relative replacement cost to operate each alternative when compared against each other. For the purpose of this evaluation, several factors were considered for all alternatives.

- Experience with the failure of mechanical systems in other similar projects
- Likely components given the particular configuration
- Probable level of maintenance effort required
- Requirements for being able to perform maintenance and/or operate equipment

Based on these factors each of the seven alternatives was compared by HDR staff. Initially, the evaluation focused on the probable cost of performing maintenance and/or operating the system in a quantitative focused analysis. Cost estimates were developed based on data from manufacturers and previous projects. This approach became unreasonably complex given the range of equipment types and sizes that could be used to achieve the desired function in each of the seven alternatives. Therefore, the evaluation was shifted to a qualitative analysis that would compare each of the alternatives to each of the other alternatives in a pairwise type comparison. The rationale for the qualitative analysis considers the conceptual nature of the alternatives and requires a judgement as to whether a specific alternative is likely to be better or worse than the other alternatives. The results of the quantitative analysis were used as a back check on the qualitative analysis and revealed a good correlation between the methods. Due to the complexity of the quantitative analysis of O&M for each alternative, HDR does not recommend displaying a specific cost analysis for each alternative. Quantitative cost estimates infer an unwarranted level of reliability and accuracy of the costs at this point in the project.

As the design advances following the selection of one alternative to pursue, HDR will carefully evaluate equipment for specific portions of the canal diversion structure. This approach will help minimize costs for NMID and provide a more operation-driven design focused on sustainable operation.

Appendix D includes a table describing the ranking and a brief description of the anticipated O&M key points for each alternative.

3 Alternative Selection and Recommendations

This report documents the MCDA process and results for seven alternatives for replacing the existing Ridenbaugh canal diversion structure. Non-economic criteria scoring results, Class 4 OPCCs, and O&M qualitative analysis provide the basis for selecting the preferred alternative to advance to preliminary and final design and construction. Figure 3-1 combines these three factors.

The summary graph was reviewed during the May 23rd workshop with NMID staff (prior to the O&M qualitative ranking) and assisted in the discussion and selection of the preferred alternative to present to the NMID Board on June 4, 2024.

Following the May 23rd workshop, the O&M costs were considered and the ranking added to the summary graph, displayed as the bubble size. The consideration of O&M costs does not alter the recommended alternative resulting from the May 23rd workshop with NMID staff.

HDR and NMID staff recommended Alternative 4B: Crest Gates and Ogee Weir with Curved Intake be progressed towards preliminary and final design for construction. As the design progresses, some changes and refinements are expected and the final design may vary from the conceptual design presented in this report when changes and refinements can be justified to the satisfaction of NMID.

At the NMID Board meeting on June 4th, the Board voted to accept Alternative 4B: Crest Gates and Ogee Wier with Curved Intake as the preferred alternative to carry forward into the design phase of the Ridenbaugh Headworks Modernization Project.

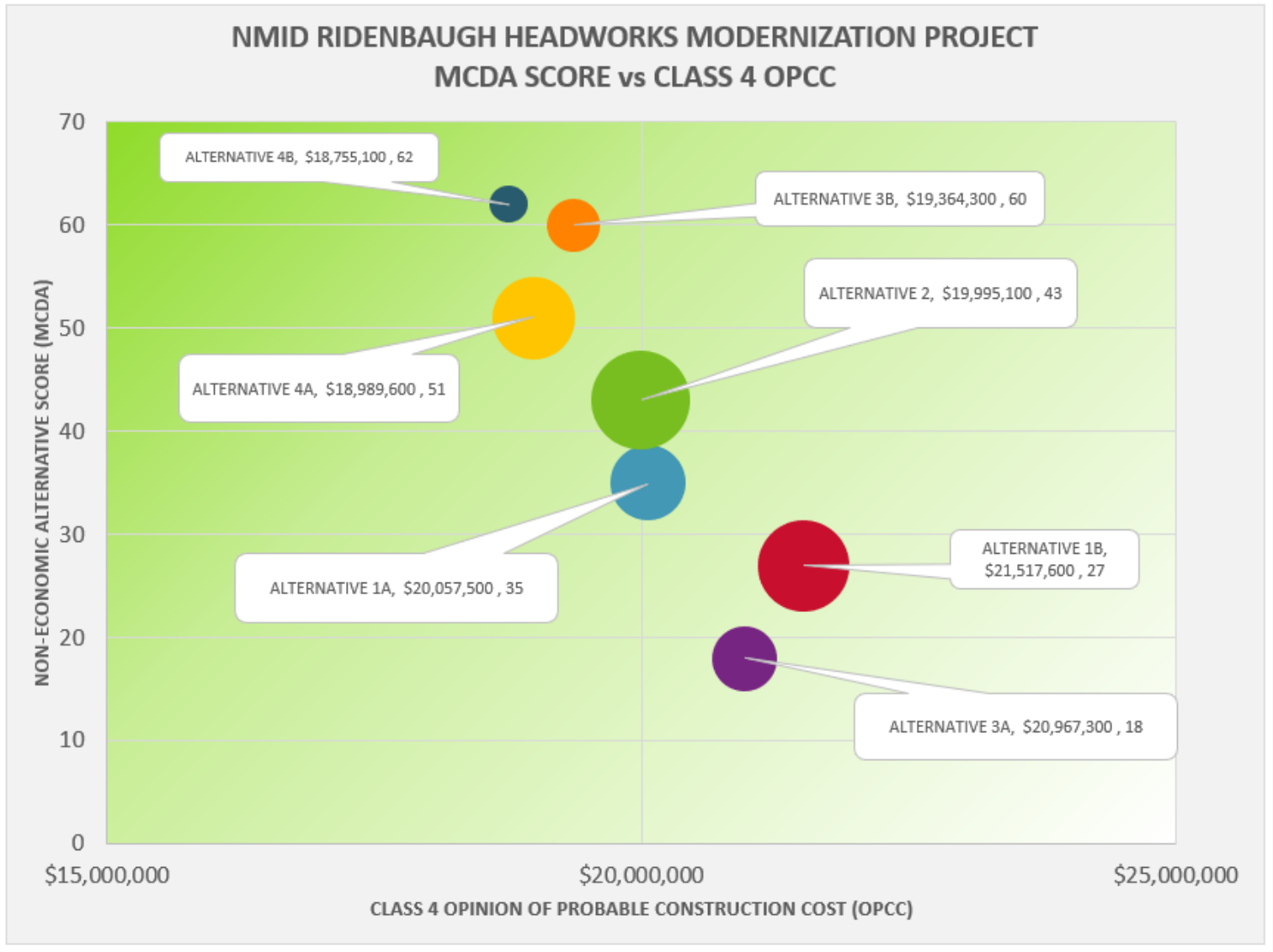
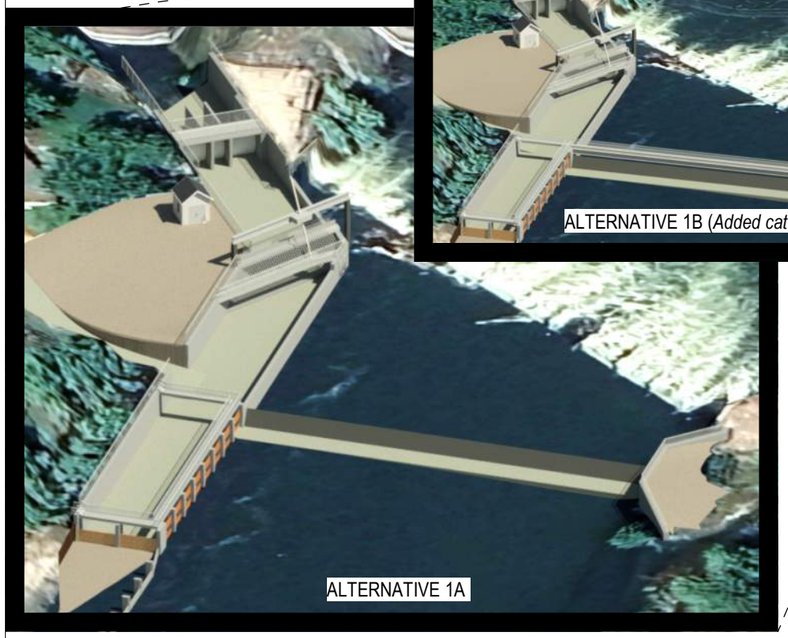
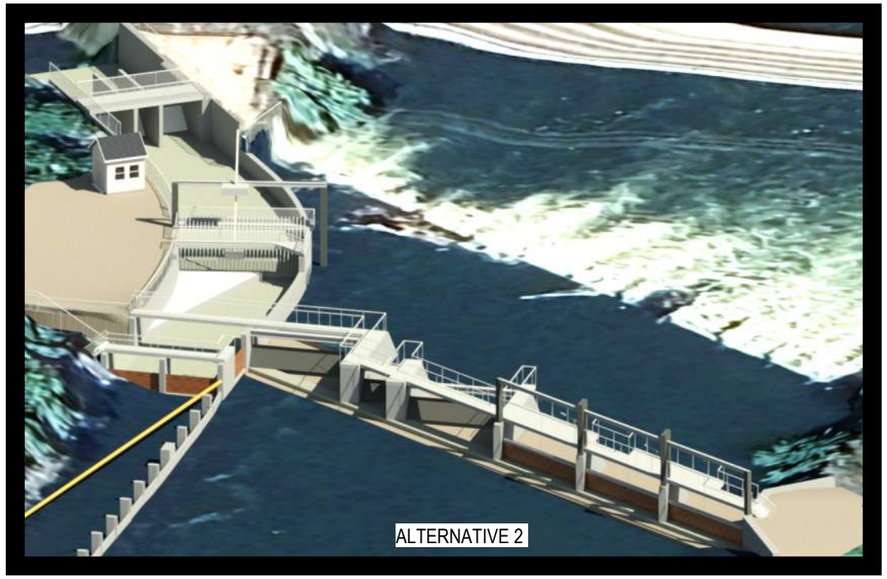


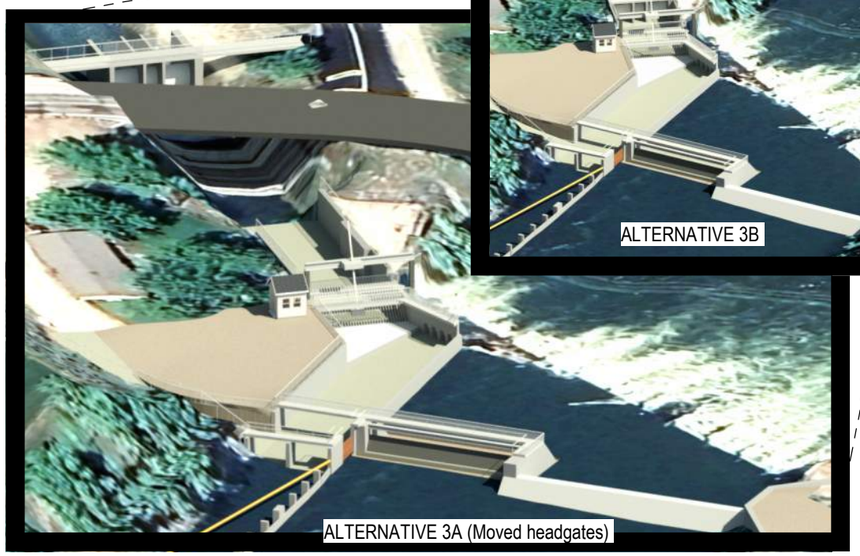
Figure 3-1 - Plot of OPCC versus Alternative Score Rankings with O&M Qualitative Bubble Size (larger bubble size equals higher anticipated O&M costs)

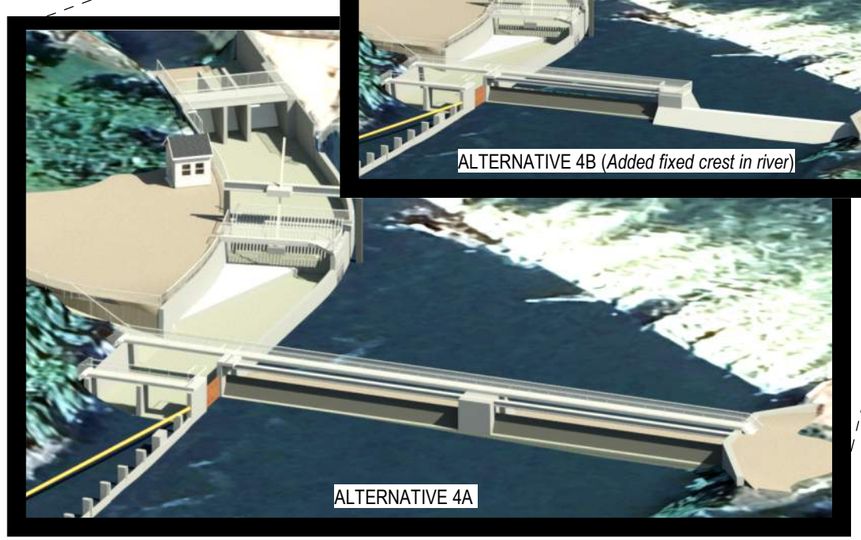
Appendix A

Alternatives Analysis and Conceptual Designs - Drawings









INDEX

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
SHEET INDEX

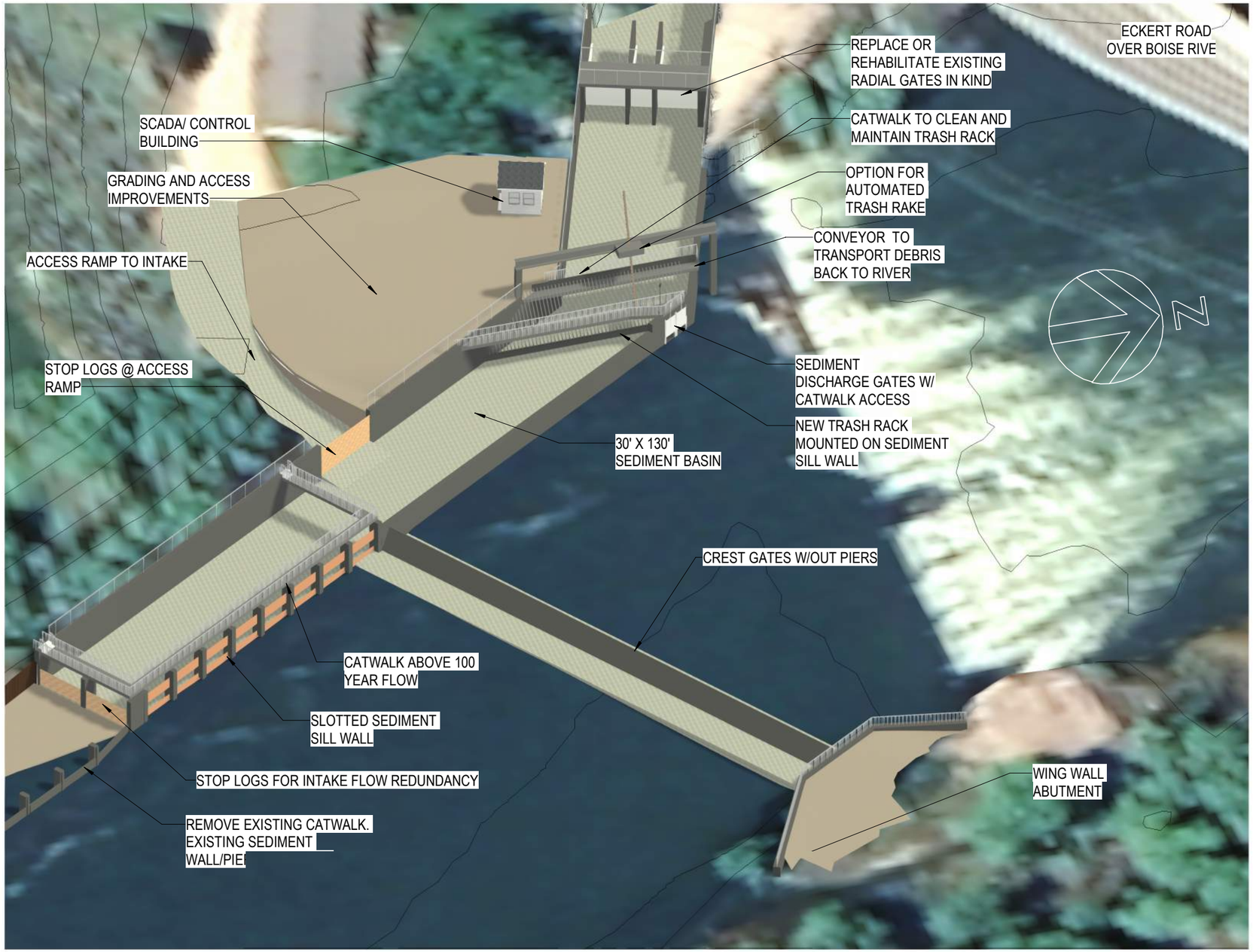
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
G-100

ALTERNATIVES ANALYSIS & CONCEPTUAL DESIGNS



ALT. 1A HIGHLIGHTS

DIVERSION DAM

- Constructing the diversion upstream of the existing diversion would allow for continued operation of the existing diversion dam during construction of the new structure.
- Orienting the dam perpendicular to flow to minimize overall length across the river would allow the right abutment to be located near the existing right dam abutment, requiring less earthwork.
- Installing crest gates spanning the entire width of the river would provide the ability to pass debris downstream from any location across the entire dam structure.
- Absence of piers prevents debris build-up and need for removal in the river

SEDIMENT MANAGEMENT

- Constructing a channel wall that can function as both sediment and debris control for water entering the headworks could have wide slots mid-wall to prevent sediment and debris from entering the channel. It may take several seasons to optimize the position of the mid wall slot for limiting passage of both sediment and floating debris into the diversion facilities intake channel. Once optimized, the wall slot position would likely not need to be adjusted regularly.
- Stop logs at the upstream point of the inlet channel would be in place for emergency use or to counteract debris plugging of the slot in the inlet channel wall.
- Sediment discharge gates would be installed within the sediment/inlet channel.

HEAD GATES

- The existing headworks radial gates would be replaced in-kind or rehabilitated to match longevity of headgates with that of the rest of the new facilities.

TRASH SCREEN

- Trash screen will be easily accessible by operators and allow for removal of material and maintenance activities.

ACCESS AND MAINTENANCE

- Current concept allows for direct access into the sediment/inlet channel for maintenance from the left bank.
- No catwalk across the river above the crest gates.

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN 3D VIEW

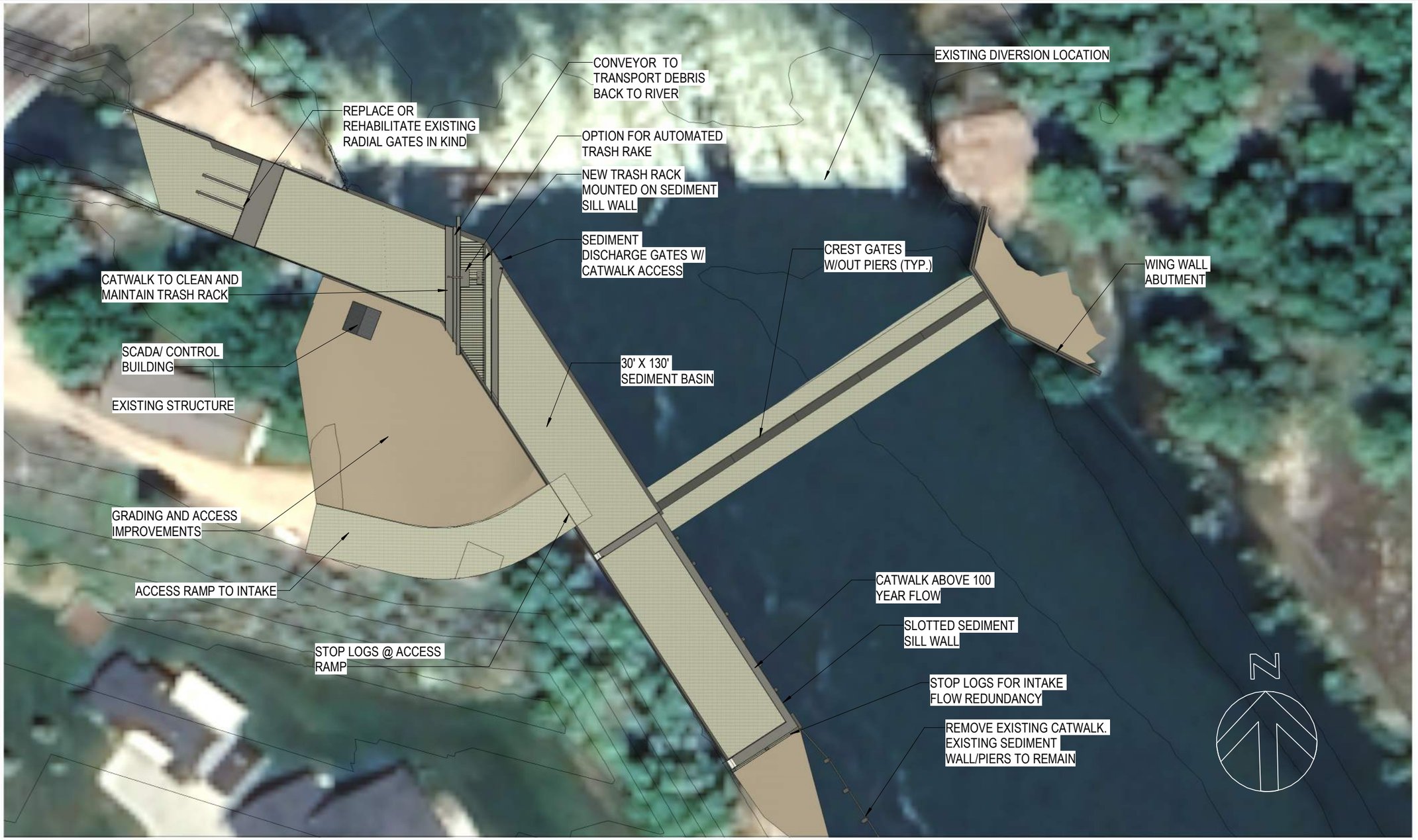
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-101

ALTERNATIVE 1A



1 ALTERNATIVE 1A PLAN VIEW
1" = 40' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN PLAN VIEW

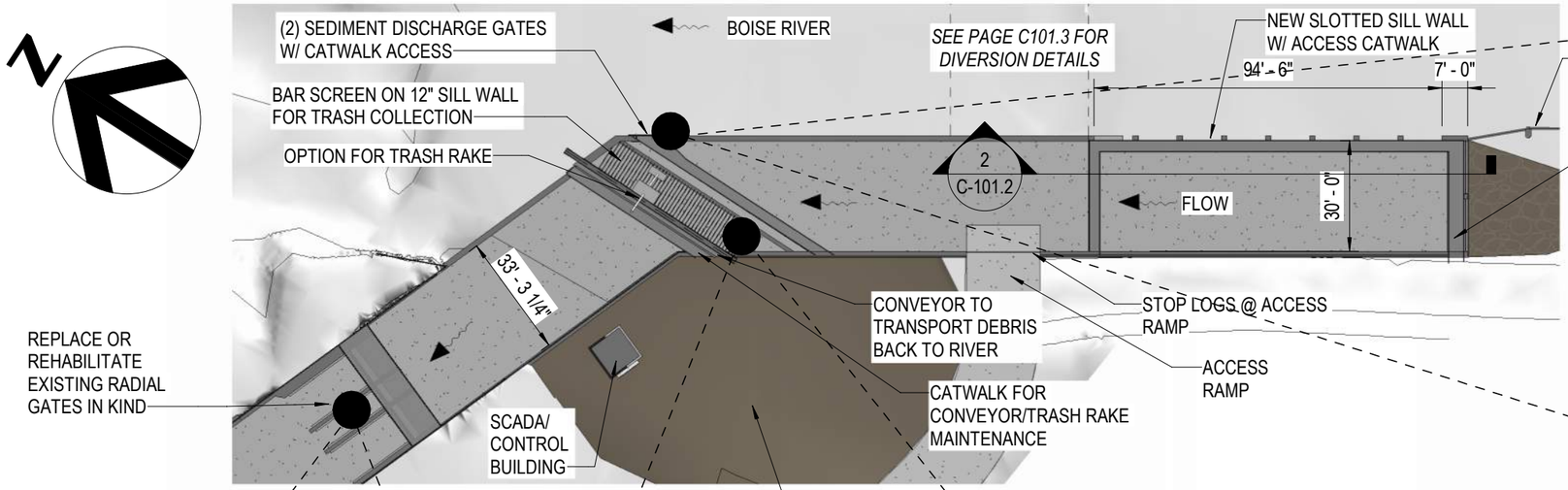
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-101.1

ALTERNATIVE 1A



PROPOSED SLUICE GATE EXAMPLE

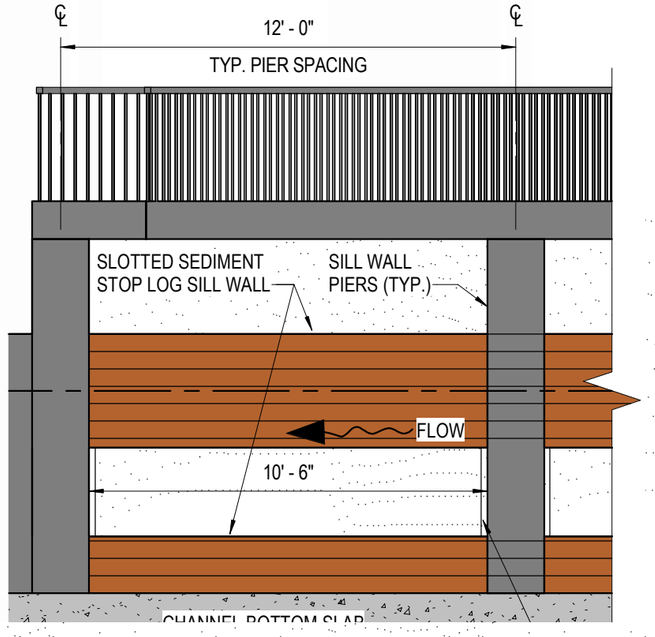
Rubicon Slip Gate

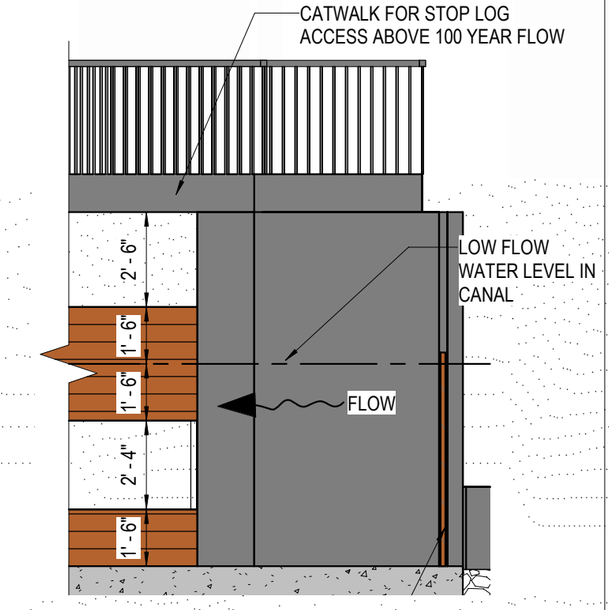
EXISTING RADIAL GATES

TRASH RACK EXAMPLE

Atlas SSI Gator Rake and Trash Rack

(courtesy of Atlas SSI website)





PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN INTAKE DETAIL

PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-101.2

ALTERNATIVE 1A

1 ALT. 1A DIVERSION PLAN
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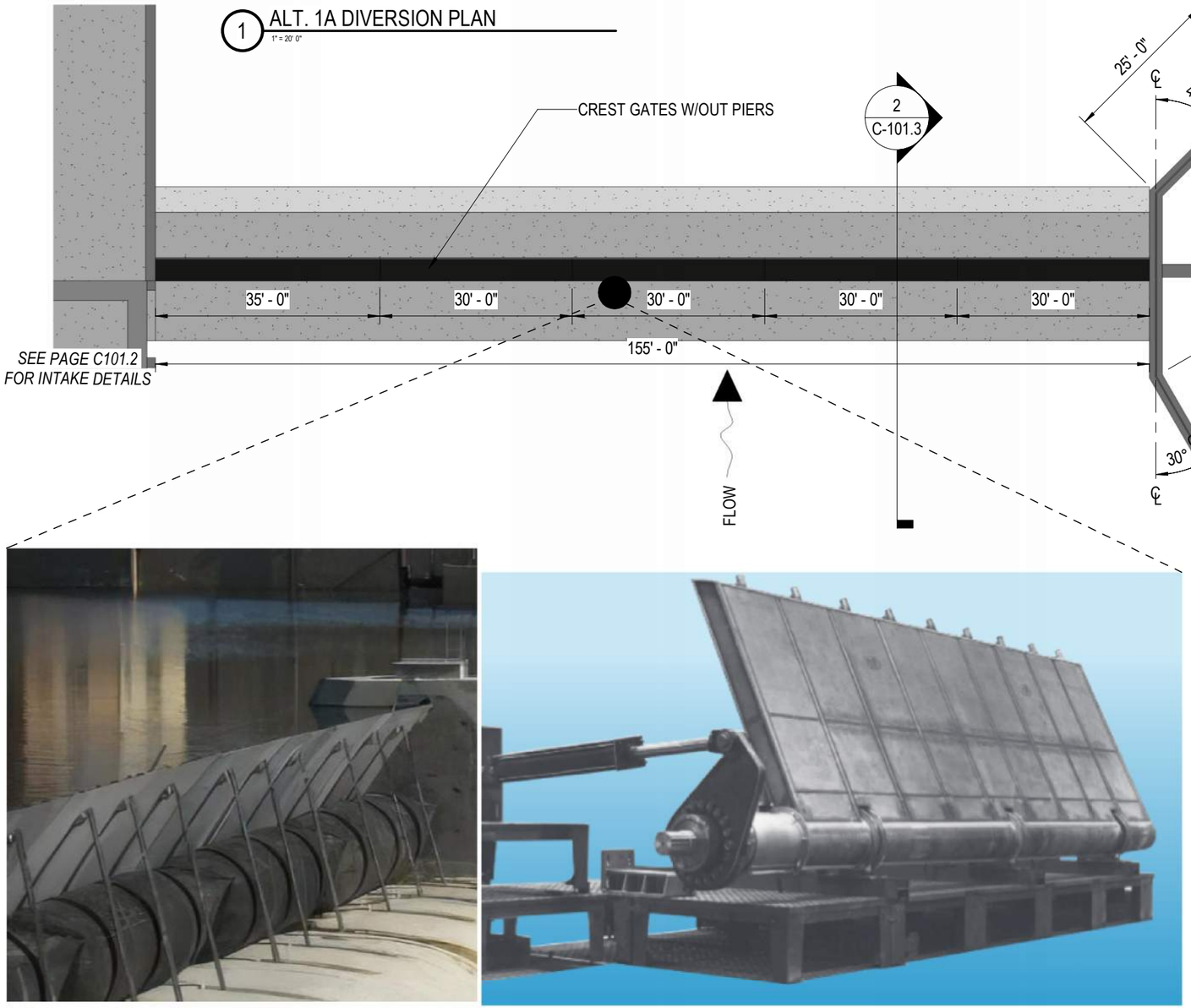
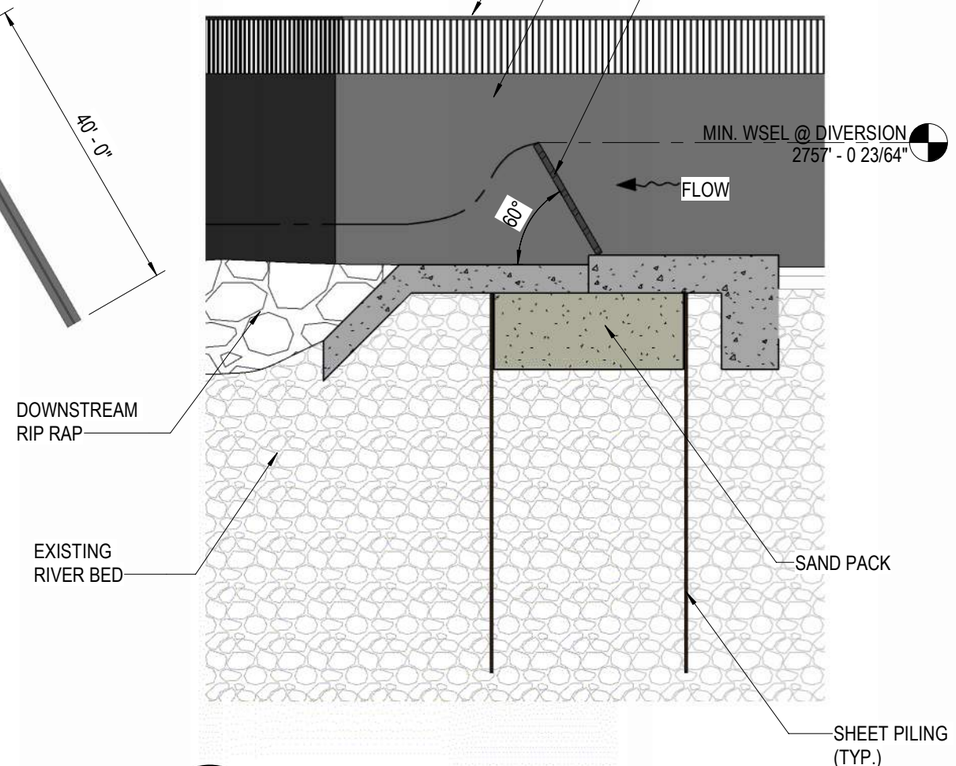


CREST GATE EXAMPLE
(courtesy of Obermeyer website)

CREST GATE EXAMPLE
(courtesy of Rodney Hunt website)



2 DIVERSION SECTION
1/8" = 1' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN DIVERSION DETAIL

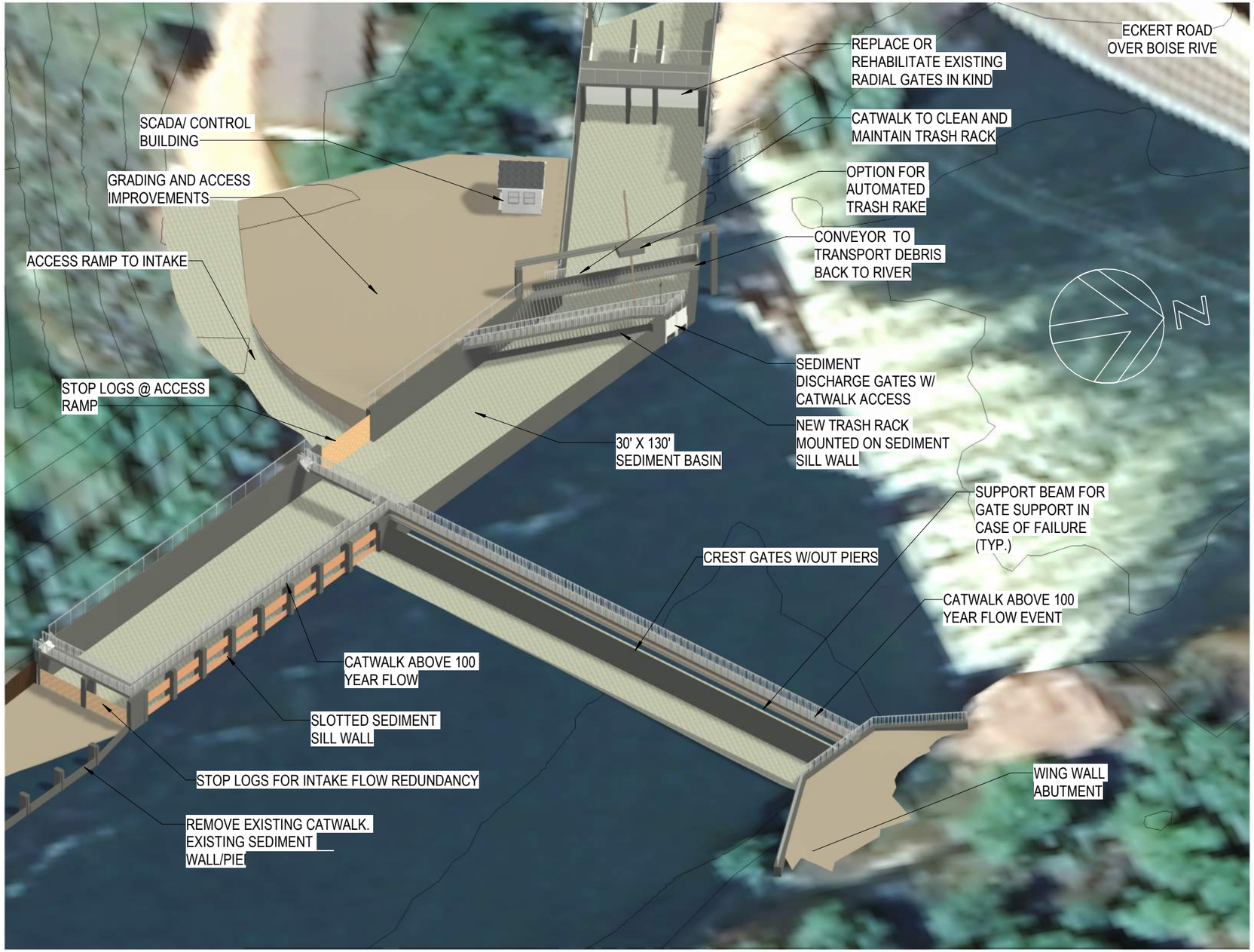
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-101.3

ALTERNATIVE 1A



ALT. 1B HIGHLIGHTS

DIVERSION DAM

- Constructing the diversion upstream of the existing diversion would allow for continued operation of the existing diversion dam during construction of the new structure.
- Orienting the dam perpendicular to flow to minimize overall length across the river would allow the right abutment to be located near the existing right dam abutment, requiring less earthwork.
- Installing crest gates spanning the entire width of the river would provide the ability to pass debris downstream from any location across the entire dam structure.
- Absence of piers prevents debris build-up and need for removal in the river

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- Constructing a channel wall that can function as both sediment and debris control for water entering the headworks could have wide slots mid-wall to prevent sediment and debris from entering the channel. It may take several seasons to optimize the position of the mid wall slot for limiting passage of both sediment and floating debris into the diversion facilities intake channel. Once optimized, the wall slot position would likely not need to be adjusted regularly.
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HEAD GATES

- The existing headworks radial gates would be replaced in-kind or rehabilitated to match longevity of headgates with that of the rest of the new facilities.

TRASH SCREEN

- Trash screen will be easily accessible by operators and allow for removal of material and maintenance activities.

ACCESS AND MAINTENANCE

- Current concept allows for direct access into the sediment/inlet channel for maintenance from the left bank.
- Catwalk across river provides access to crest gates for maintenance access.

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN 3D VIEW

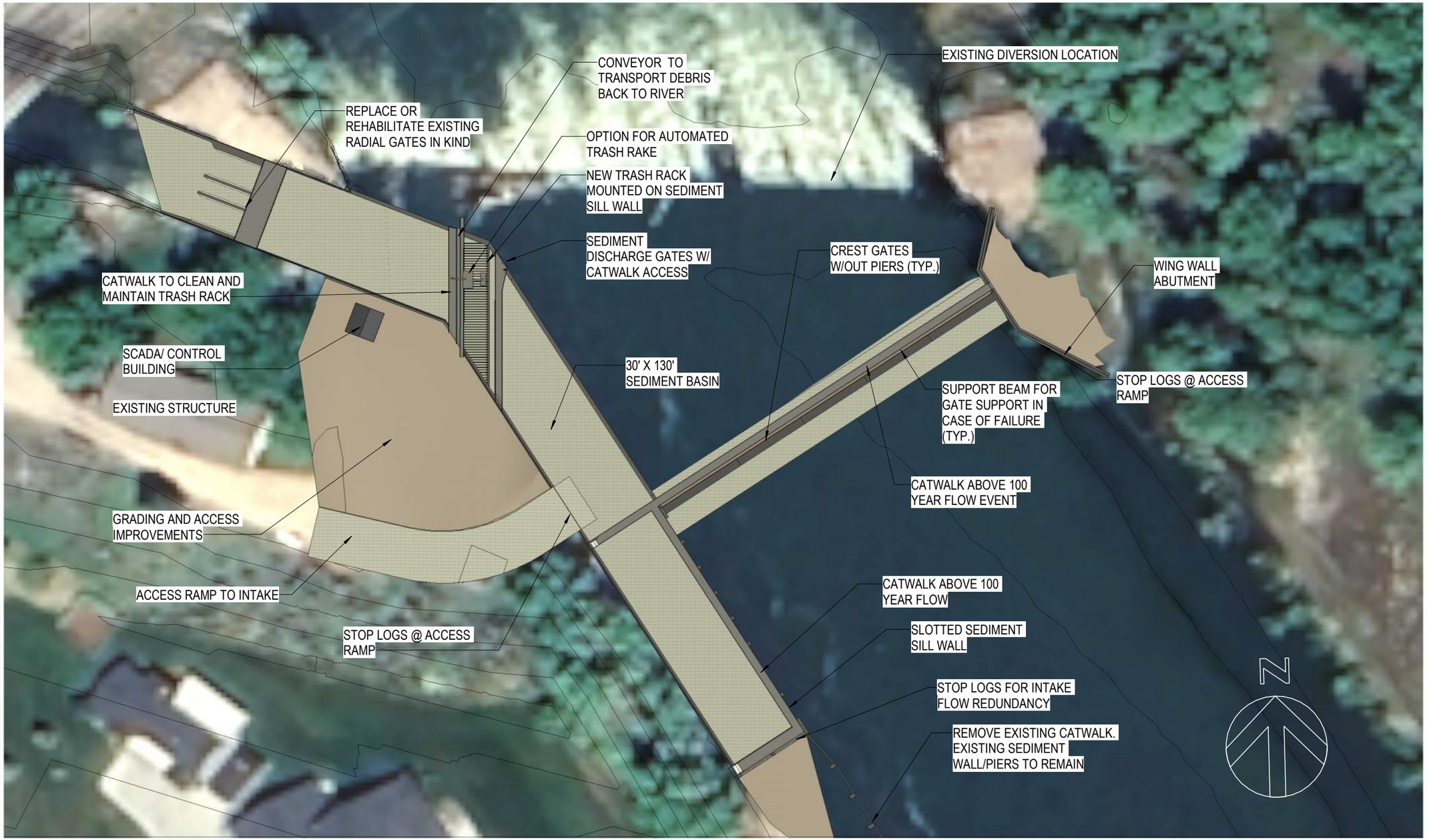
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-102

ALTERNATIVE 1B



1 ALTERNATIVE 1B PLAN VIEW
1" = 40' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN PLAN VIEW

PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

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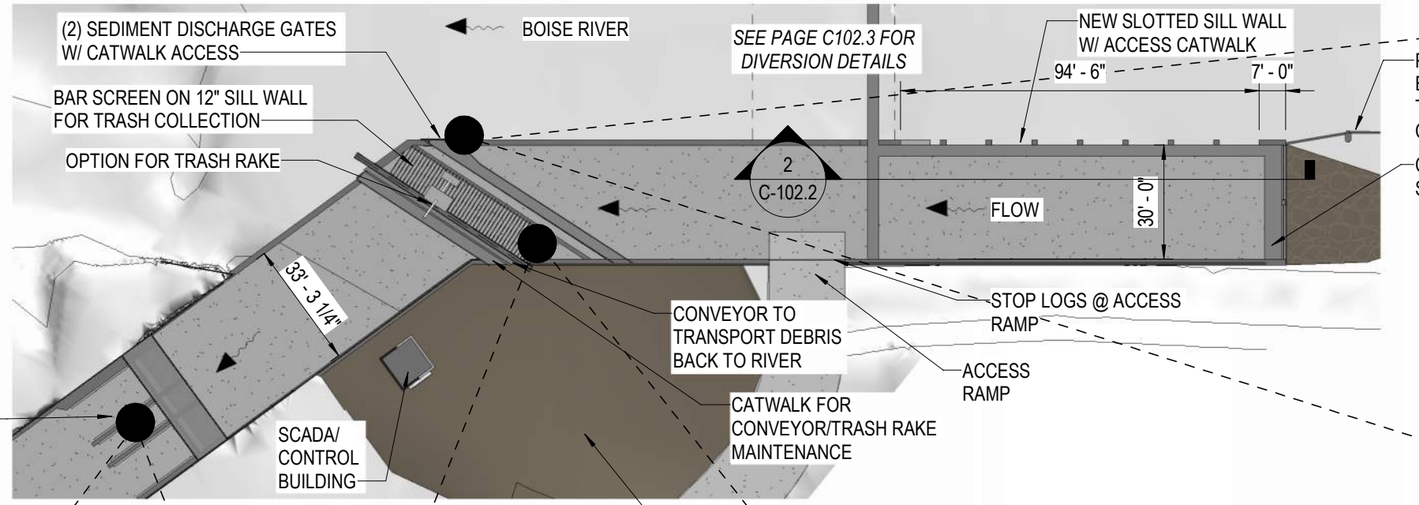


PROPOSED SLUICE GATE EXAMPLE

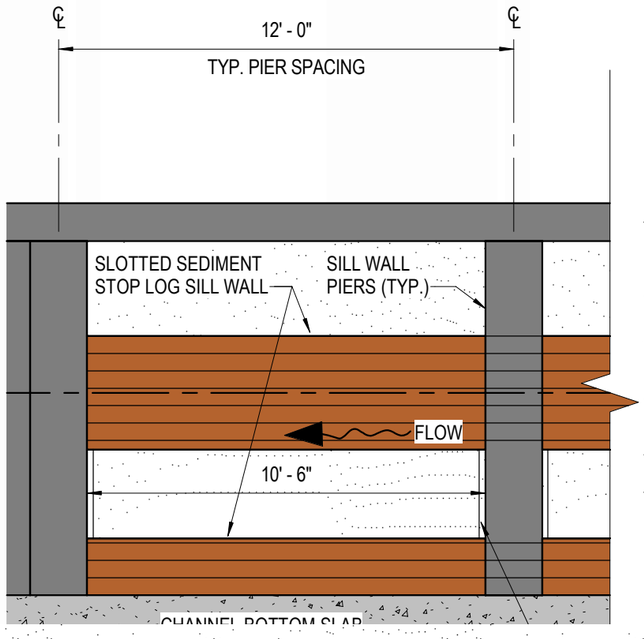
Rubicon Slip Gate

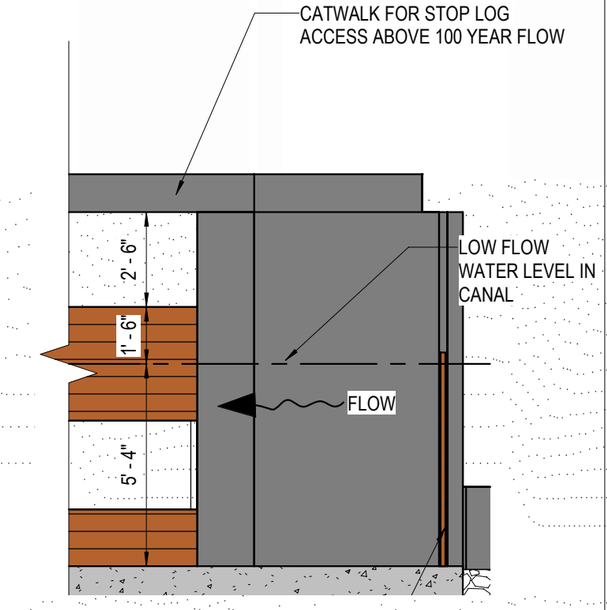
EXISTING RADIAL GATES

TRASH RACK EXAMPLE

Atlas SSI Gator Rake and Trash Rack

(courtesy of Atlas SSI website)

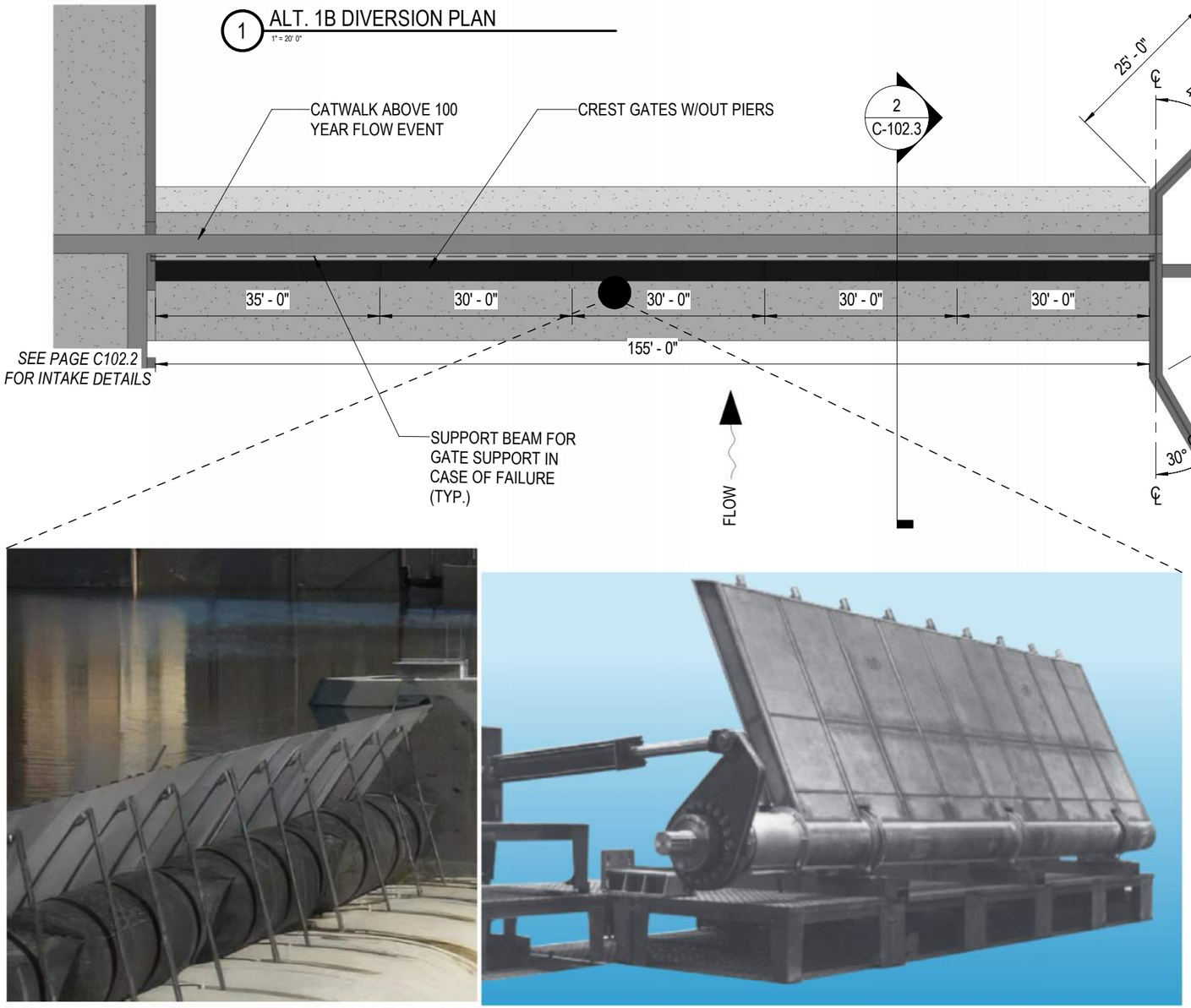




ALTERNATIVE 1B

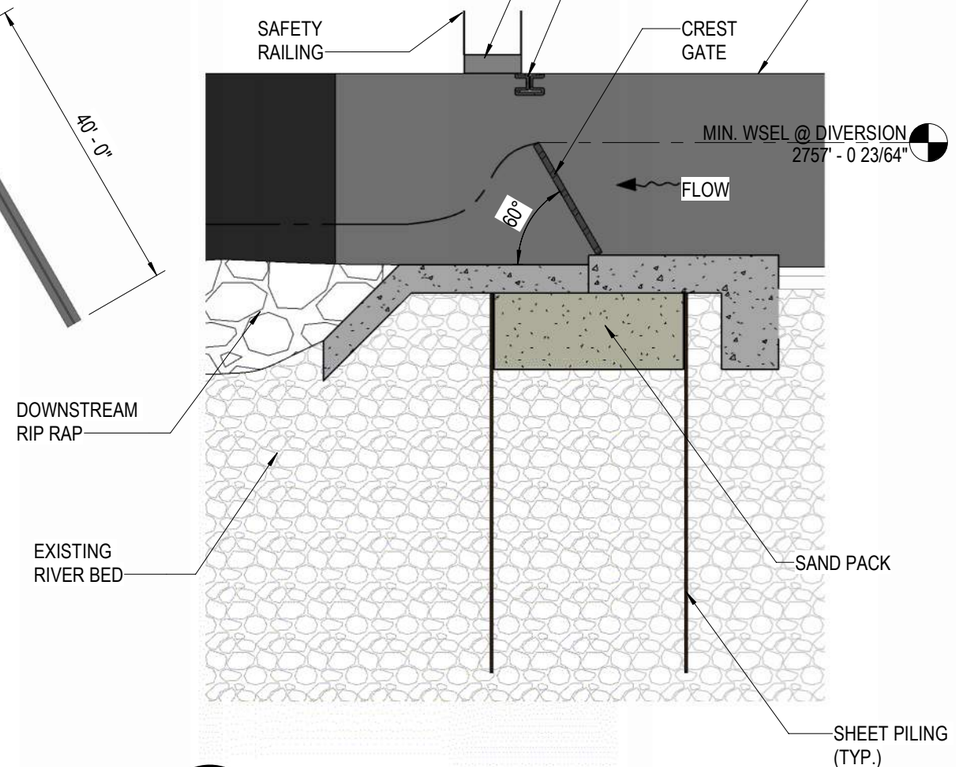
PROJECT TITLE RIDENBAUGH DIVERSION MODIFICATION		PROJECT NUMBER 10383385	
SHEET TITLE CONCEPTUAL DESIGN INTAKE DETAIL		PROJECT MANAGER J. ROLDAN	
		DATE 05/20/2024	EXHIBIT NUMBER C-102.2

1 ALT. 1B DIVERSION PLAN
1" = 20' 0"



CREST GATE EXAMPLE
(courtesy of Obermeyer website)

CREST GATE EXAMPLE
(courtesy of Rodney Hunt website)



2 DIVERSION SECTION
1/8" = 1' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN DIVERSION DETAIL

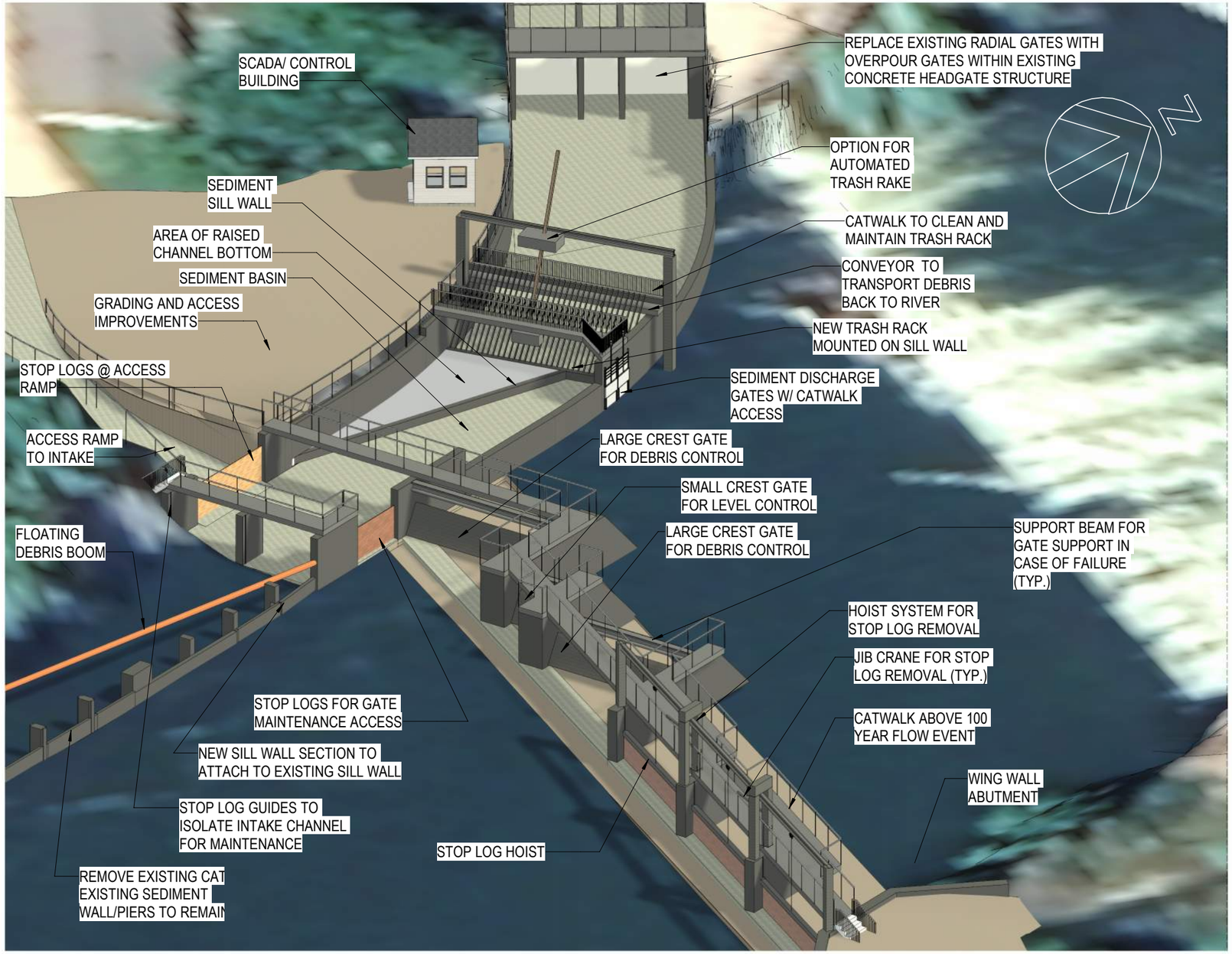
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-102.3

ALTERNATIVE 1B



ALT. 2 HIGHLIGHTS

DIVERSION DAM

- Constructing the diversion upstream of the existing diversion would allow for continued operation of the existing diversion dam during construction of the new structure.
- Orienting the dam to encourage debris flow to the left bank, which provides easier access for O&M staff to remove debris in the event that it cannot be passed through the diversion structure. In addition, moving debris to the left side of the river allows the use of a few crest gates near the left side of the structure in lieu of having to provide crest gates across the entire length of the dam for handling debris.
- Combination of wide and short crest gates and a fixed crest would be used.
- Fixed crest is intended to be left at a single position during typical operations. Piers and a catwalk would provide access for operators to maintain gates/stop logs and adjust, as necessary. Fixed crest gates/stoplogs will be removed/lowered/raised during flood events.
- Small crest gate in the middle of the river is intended to provide fine control of the water level in the inlet channel independent of the larger crest gate(s).
- Additional earthwork would be required for the abutment on the right river bank. This would likely include regrading the right river bank to control impacts of flood flows bypassing the new right abutment and manage erosion in the event of such a flood.

SEDIMENT MANAGEMENT

- Inlet channel footprint would be reduced compared to Diversion Structure Replacement Upstream of Existing Structure Alternatives 1 and 3.
- Replacing the existing sediment wall with a new sill wall to be submerged, extending 1 to 1.5 feet above the channel bottom, would prevent the heaviest of the sediment load in the river from entering the inlet channel. Partial raised floor upstream of trash rack helps push sediment through discharge gates.
- Placing sediment discharge gates at a point that maximizes hydraulic gradient would provide maximum sediment removal and discharge to mixing zone downstream of crest gates.
- Debris boom orientated at intake to push floating debris through crest gates.

HEAD GATES

- Replacing radial gates with overpour gates at canal headworks, in coordination with river level controls, should allow for reduced river check height needed to deliver 550 cfs into the canal per preliminary hydraulic calculations (TBD).

TRASH SCREEN

- Trash screen will be easily accessible by operators and allow for removal of material and maintenance activities.

ACCESS AND MAINTENANCE

- Stop logs in the inlet channel would isolate the inlet channel for maintenance. Stop logs on the river side wall of inlet channel would allow access into the river for removal of material from crest gates.
- Access ramp to inlet channel would likely be earthen to allow access for tracked equipment for maintenance given the constrained nature of the site. The access ramp could be concrete but would require a flatter slope than earthen slopes would allow.
- Catwalk across river provides access to crest gates and stop logs for maintenance access.

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN 3D VIEW

PROJECT NUMBER
10383385

PROJECT MANAGER
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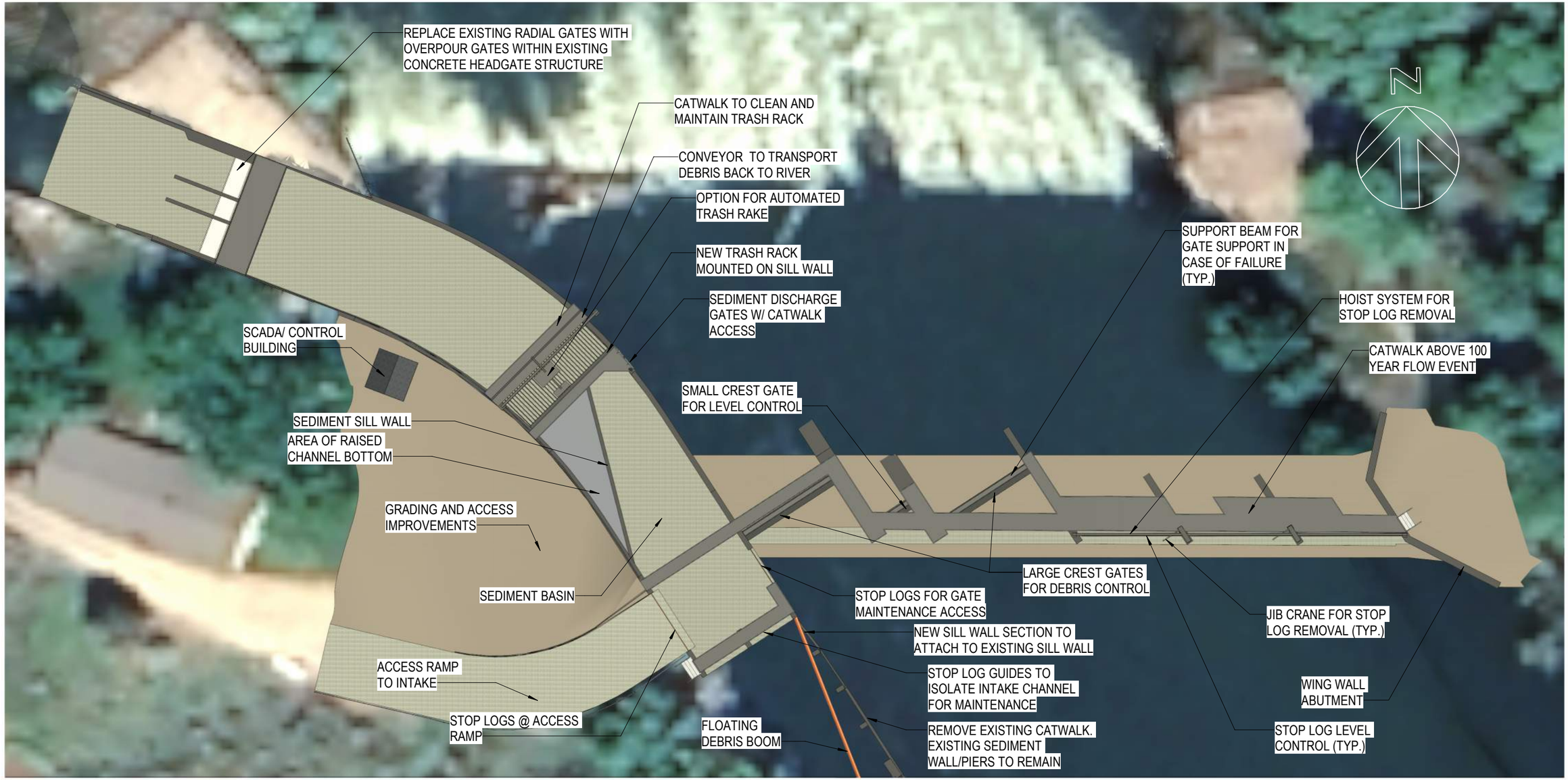
DATE
05/20/2024

EXHIBIT NUMBER
C-103

ALTERNATIVE 2



1 ALTERNATIVE 2 PLAN VIEW
1" = 30' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN PLAN VIEW

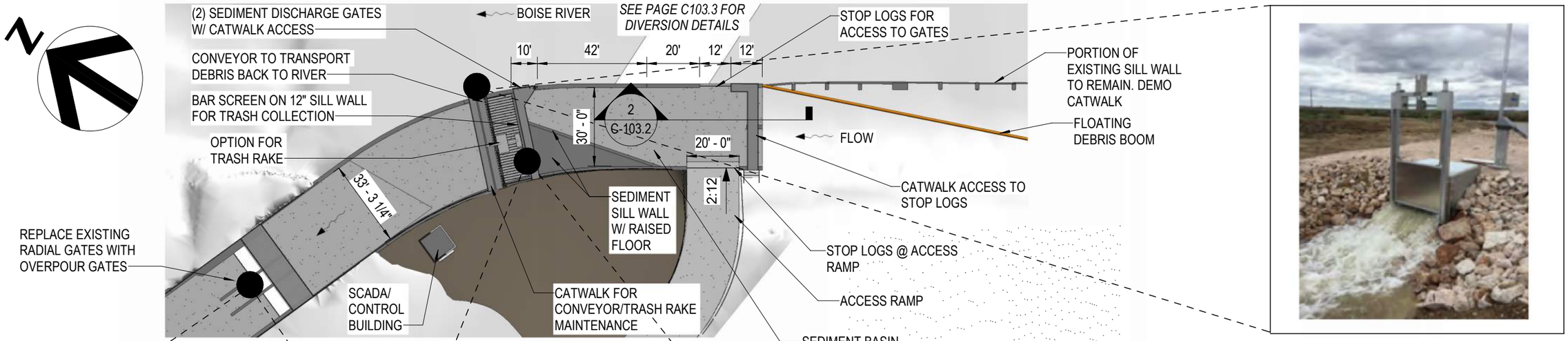
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-103.1

ALTERNATIVE 2



PROPOSED SLUICE GATE EXAMPLE

Rubicon Slip Gate

HEADGATE EXAMPLE

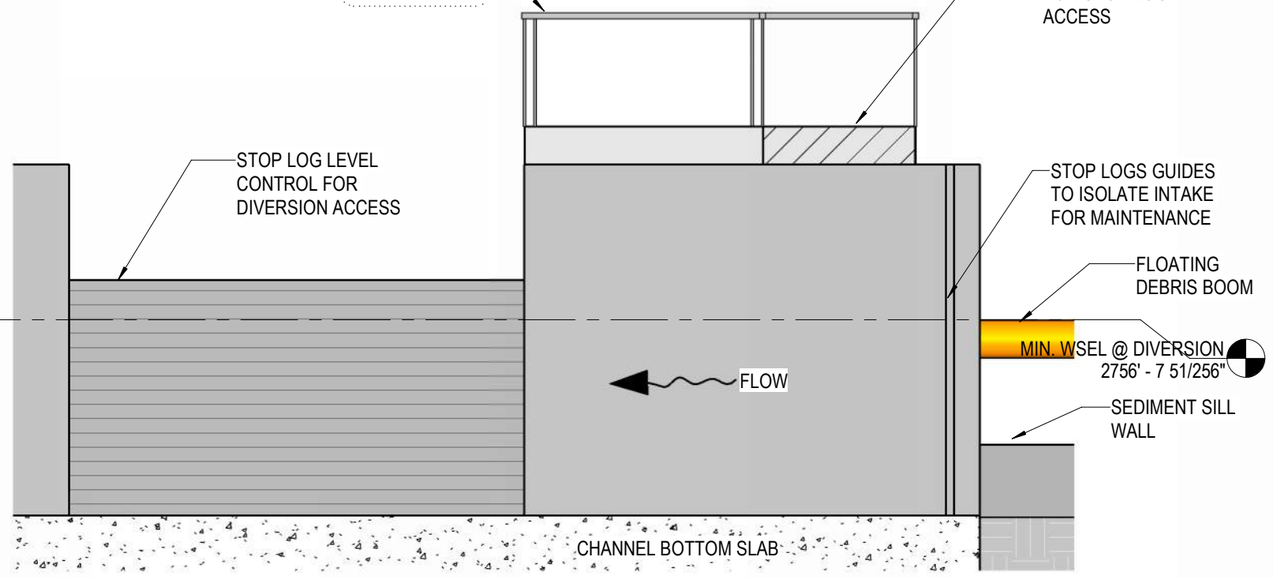
Pelican Gate

(courtesy of Rodney Hunt website)

TRASH RACK EXAMPLE

Atlas SSI Gator Rake and Trash Rack

(courtesy of Atlas SSI website)



2 INTAKE SECTION

1/4" = 1' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN INTAKE DETAIL

PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

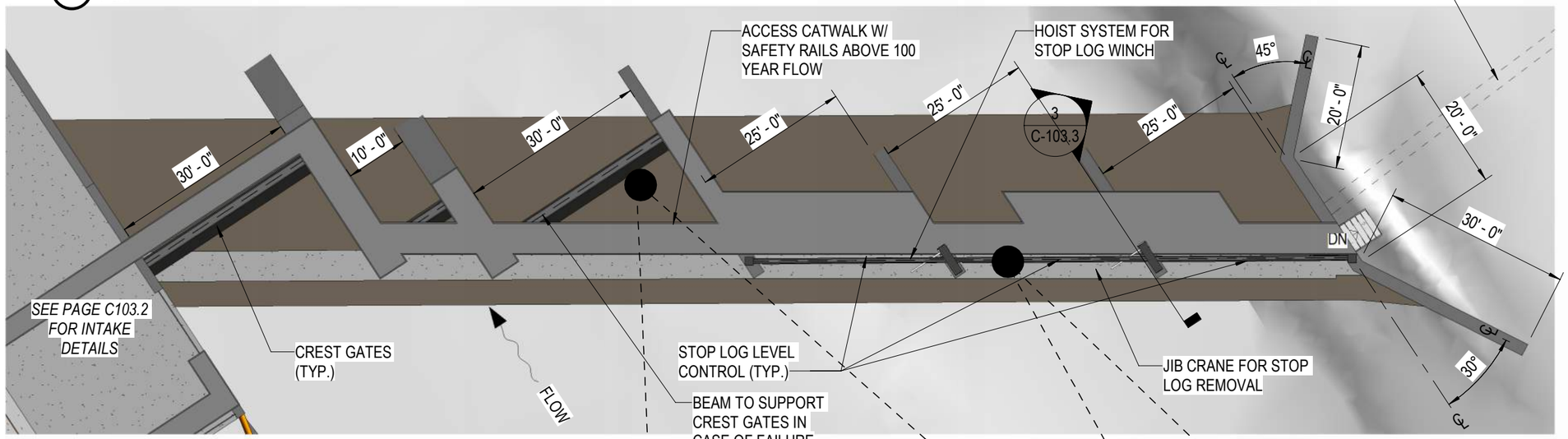
DATE
05/20/2024

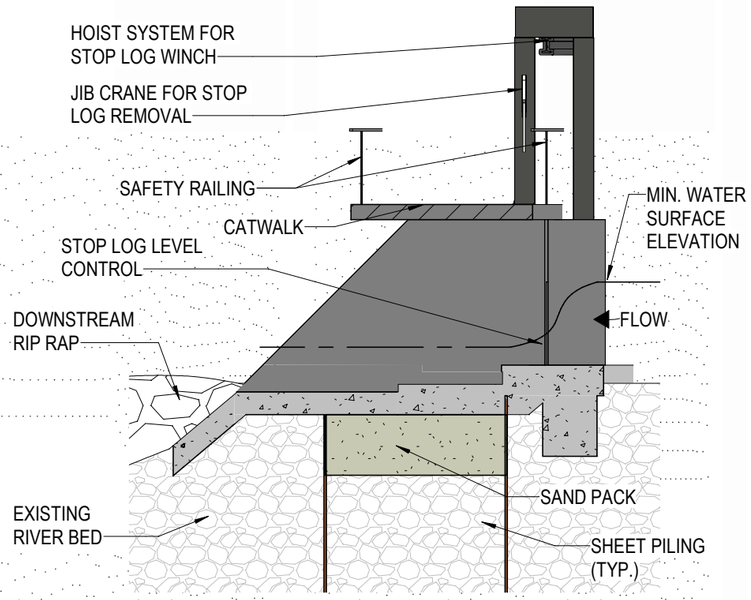
EXHIBIT NUMBER
C-103.2

ALTERNATIVE 2

1 ALT. 2 DIVERSION PLAN

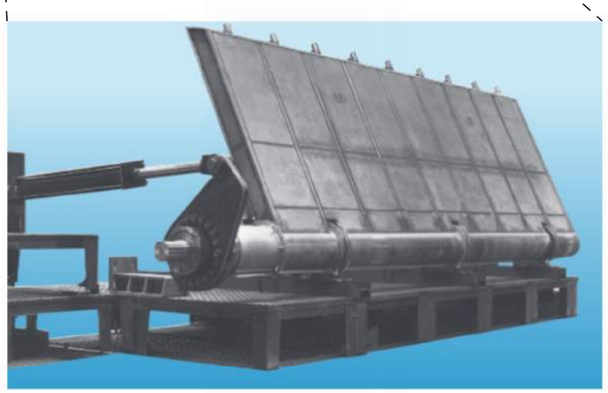
1" = 20'-0"





3 DIVERSION SECTION @ STOP LOGS

1" = 10'-0"



CREST GATE EXAMPLE
(courtesy of Rodney Hunt website)

STOP LOG LIFT EXAMPLE
(courtesy of NOV Plasti-Fab website)

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN DIVERSION DETAIL

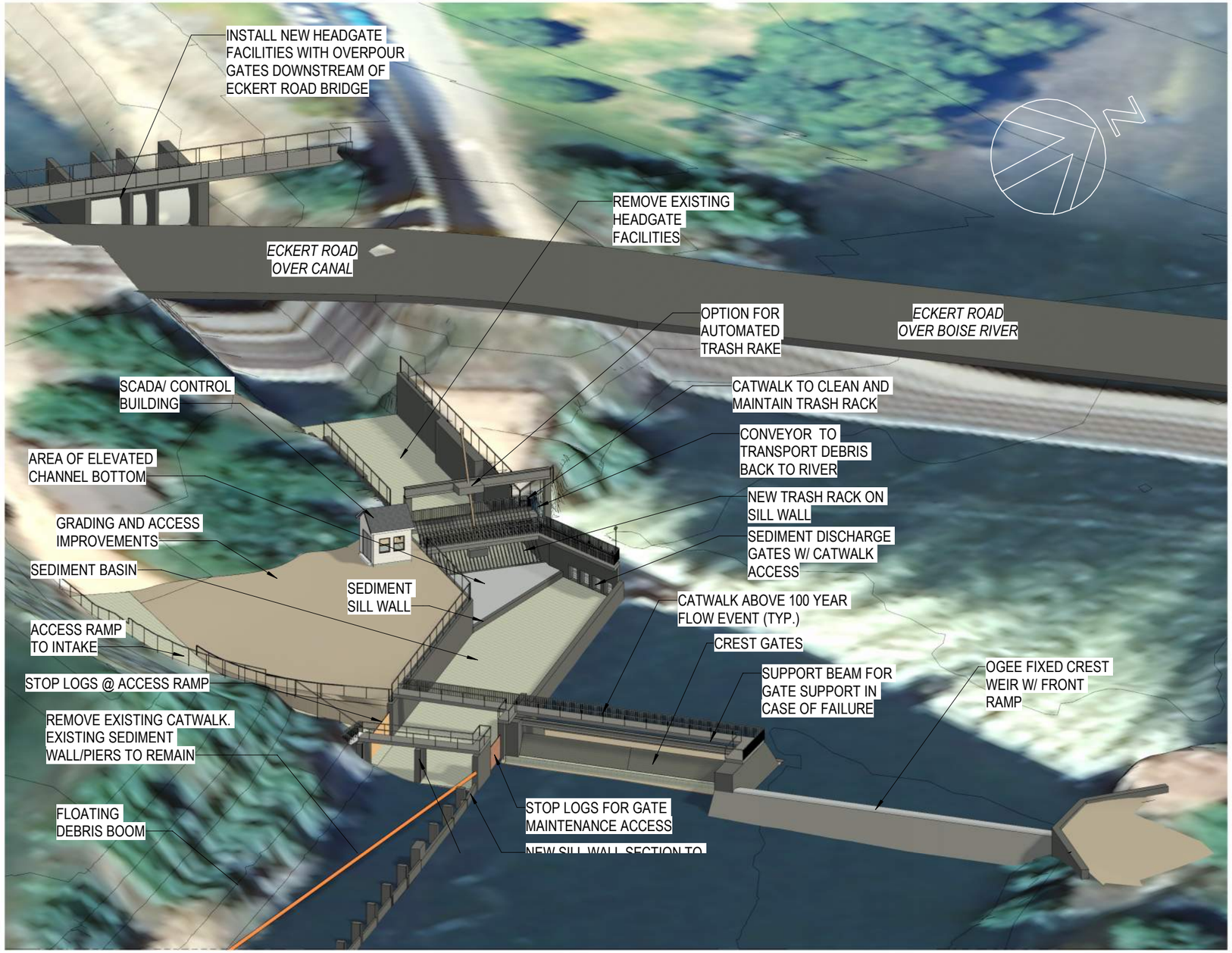
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-103.3

ALTERNATIVE 2



ALT. 3A HIGHLIGHTS

DIVERSION DAM

- Constructing the diversion upstream of the existing diversion would allow for continued operation of the existing diversion dam during construction of the new structure.
- Orienting the dam perpendicular to flow to minimize overall length across the river would allow the right abutment to be located near the existing right dam abutment, requiring less earthwork.
- Combination of crest gates and a fixed crest would be used.
- Fixed crest would require hydraulic engineering evaluation of either an ogee crest or some other fixed control.

SEDIMENT MANAGEMENT

- Inlet channel footprint would be reduced compared to Diversion Structure Replacement Upstream of Existing Structure Alternatives 1.
- Inlet channel design would require a means to flush sediment by re-suspending it when performing flushing operations downstream (e.g., air nozzles).
- Daily operation of sediment discharge gates would be required with the intent of passing smaller sediment load daily versus a larger load for an isolated release.
- Debris boom orientated at intake to push floating debris through crest gates.

HEAD GATES

- A new canal headworks structure with new overpour gates further downstream in the canal would provide adequate area at the river for new inlet facilities and new equipment, and provide better access for O&M of the headgates in the canal headworks.

TRASH SCREEN

- Trash screen will be easily accessible by operators and allow for removal of material and maintenance activities.

ACCESS AND MAINTENANCE

- Stop logs in inlet channel would isolate inlet channel for maintenance. Stop logs on river side wall of inlet channel would allow access into the river for removal of material from crest gates.
- Access ramp to inlet channel would likely be earthen to allow access for tracked equipment for maintenance given the constrained nature of the site. The access ramp could be concrete but would require a flatter slope than earthen slopes would allow.
- Catwalk above crest gates provides maintenance access to gates. No catwalk over the fixed crest section of the diversion. There will not be access from the park directly to the diversion/intake facility.

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN 3D VIEW

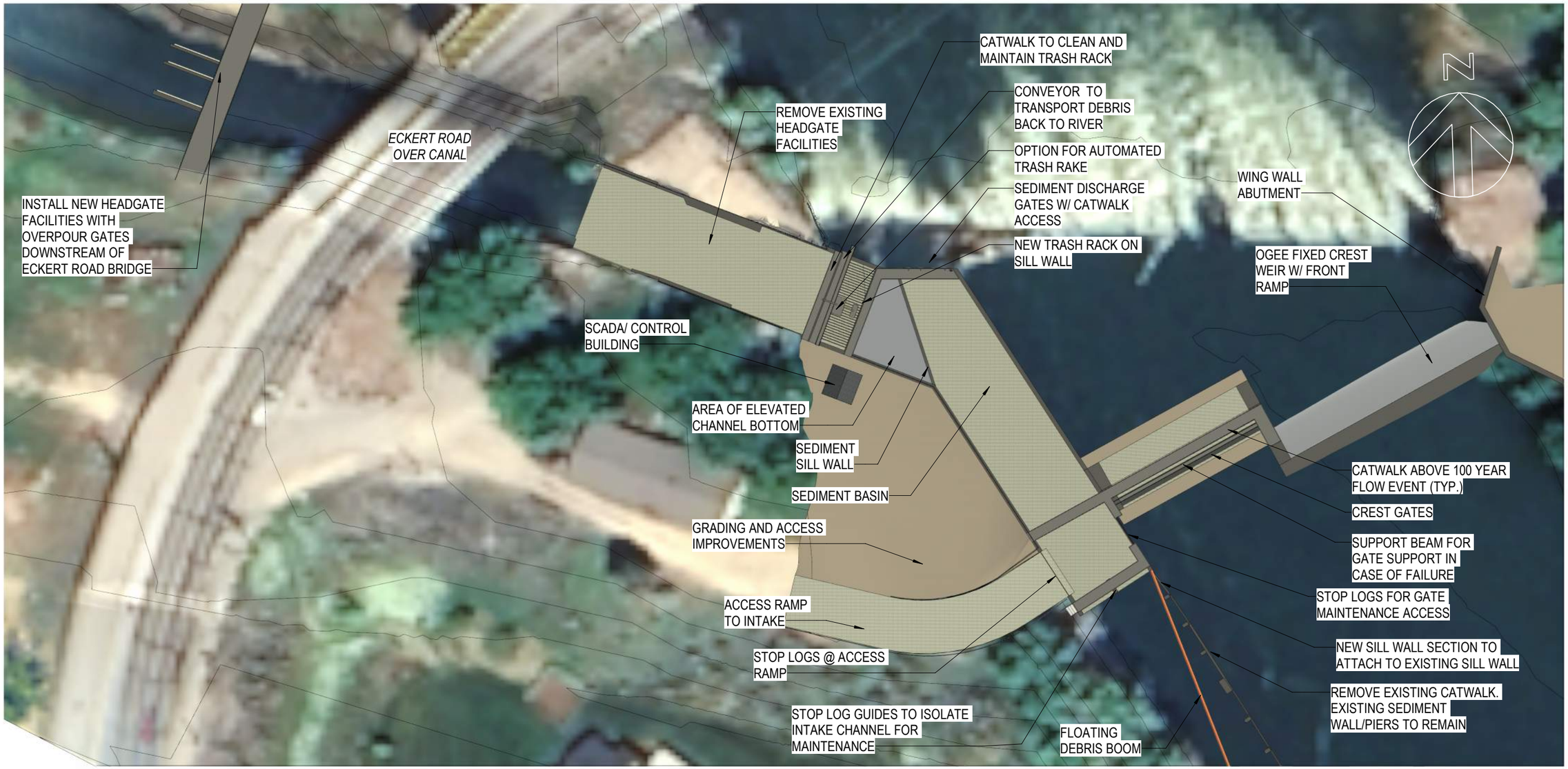
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-104

ALTERNATIVE 3A



1 ALTERNATIVE 3A PLAN VIEW

1"=40' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN PLAN VIEW

PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-104.1

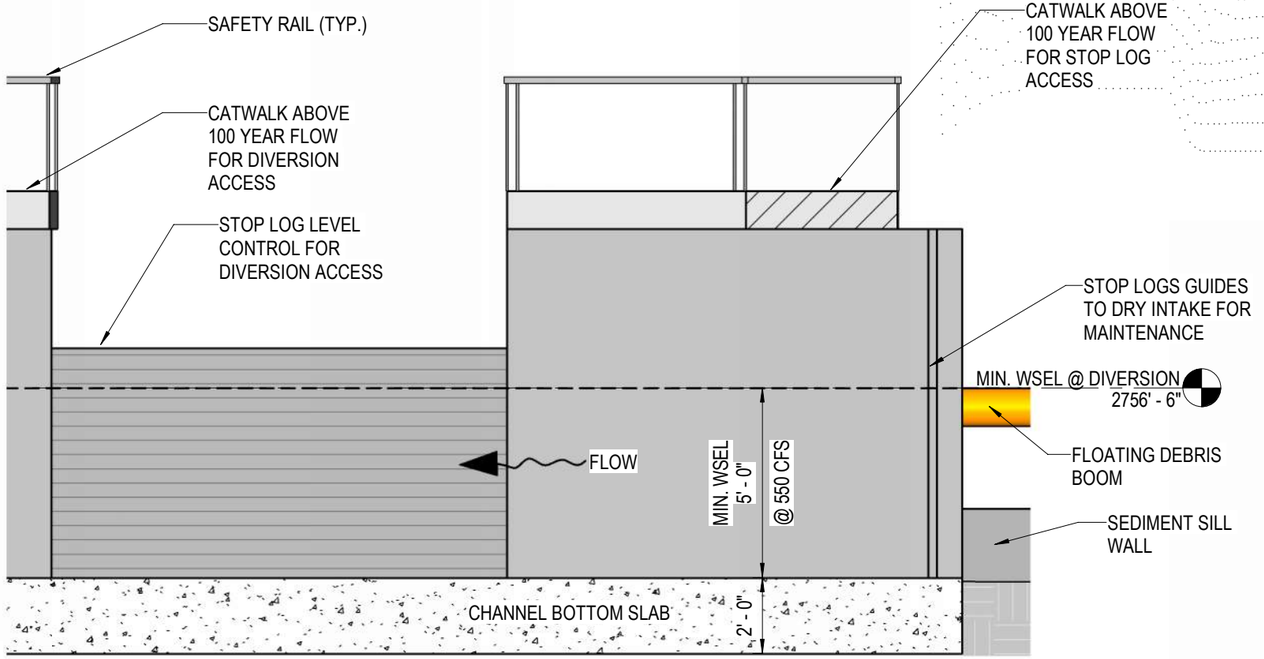
ALTERNATIVE 3A

PROPOSED SLUICE GATE EXAMPLE
Rubicon Slip Gate

DEBRIS BOOM EXAMPLE
Worthington Tuffboom
(courtesy of Worthington website)

HEADGATE EXAMPLE
Langemann Gate
(courtesy of Aqua Systems 2000 website)

TRASH RACK EXAMPLE
Atlas SSI Gator Rake and Trash Rack
(courtesy of Atlas SSI website)



2 / C 104.2 INTAKE SECTION
1/4" = 1' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN INTAKE DETAIL

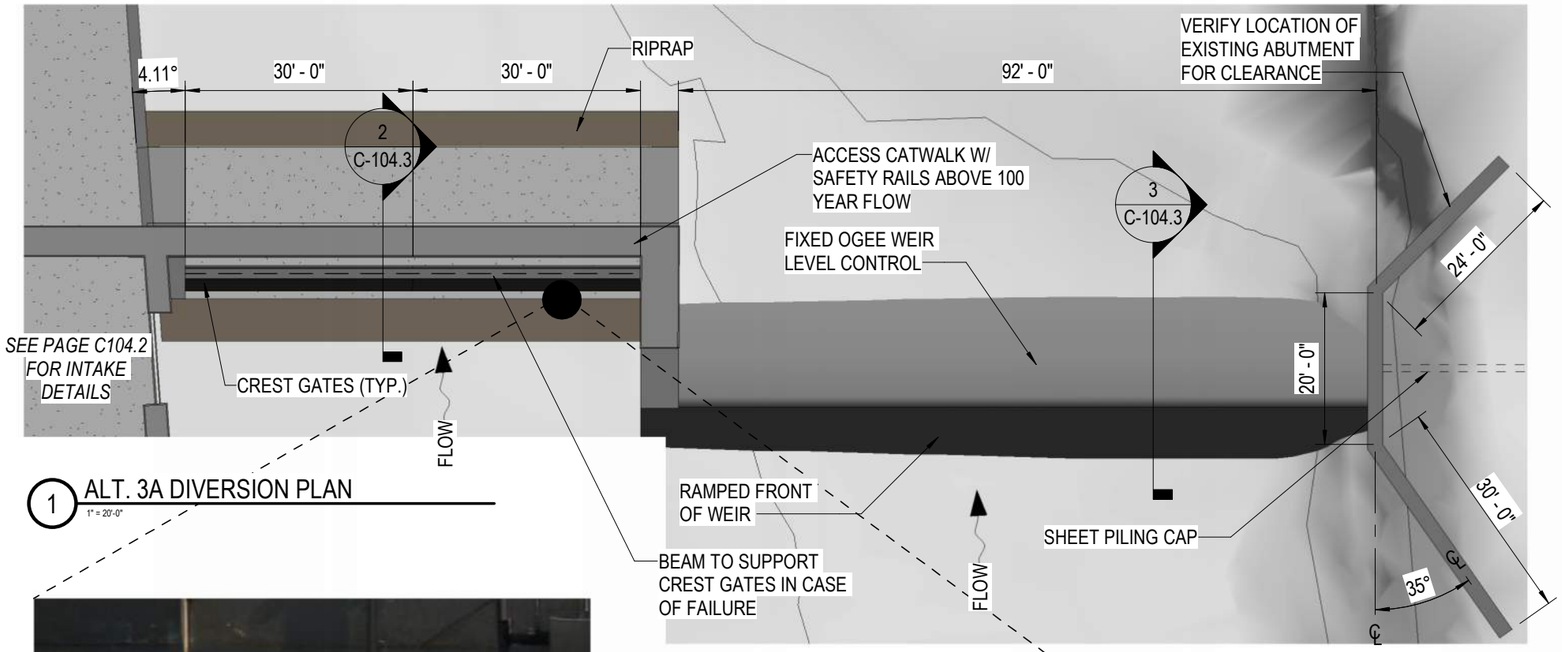
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

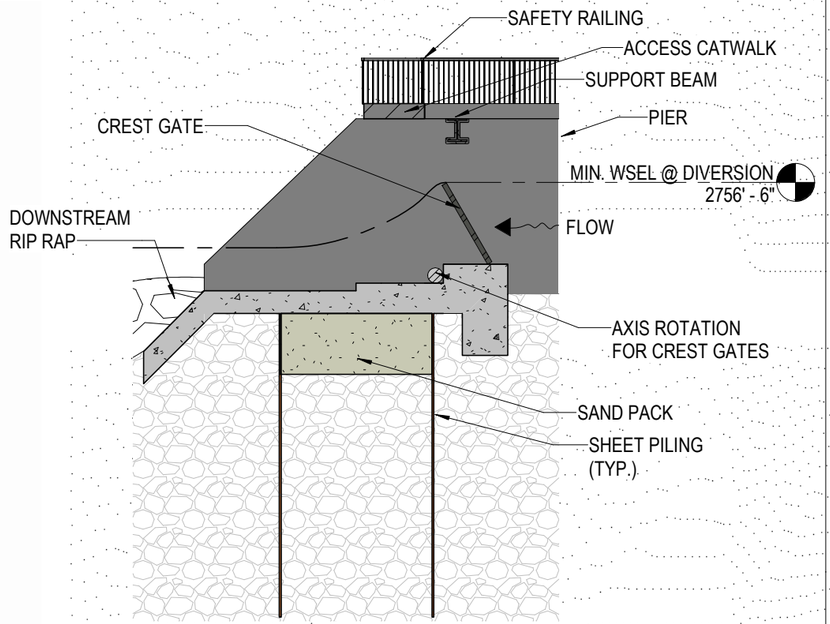
EXHIBIT NUMBER
C-104.2

ALTERNATIVE 3A

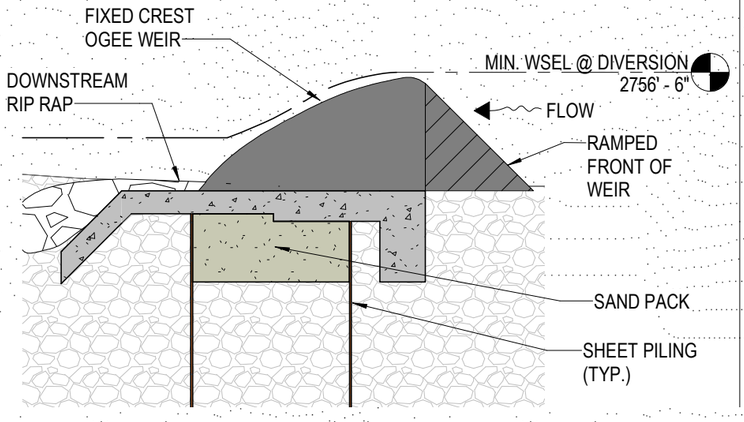


1 ALT. 3A DIVERSION PLAN
1" = 20'-0"

CREST GATE
(courtesy of Oberr



2 DIVERSION SECTION @ CREST GATES
1" = 10'-0"



PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN DIVERSION DETAIL

PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

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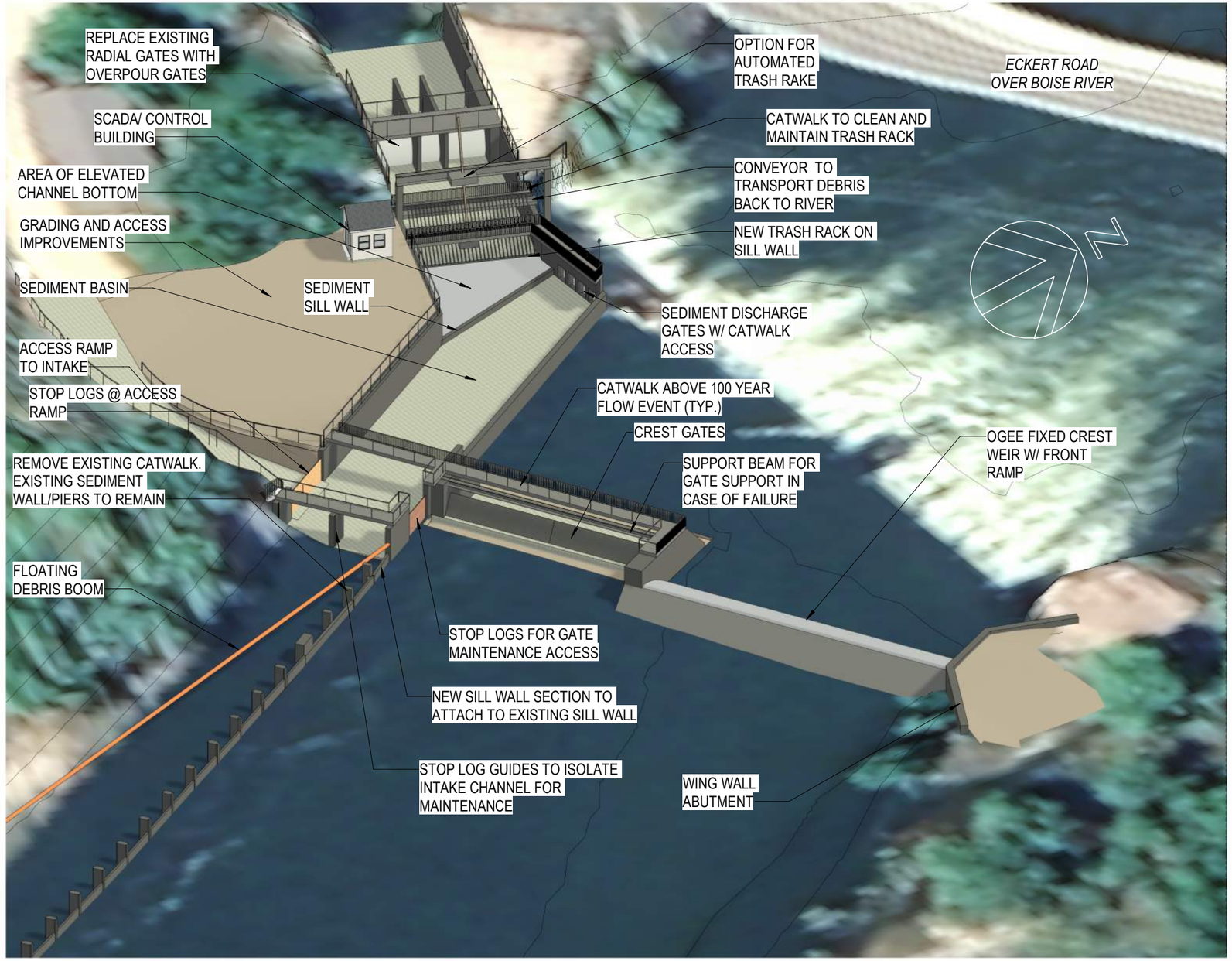
05/20/2024

EXHIBIT NUMBER
C-104.3

ALTERNATIVE 3A



ALT. 3B HIGHLIGHTS

DIVERSION DAM

- Constructing the diversion upstream of the existing diversion would allow for continued operation of the existing diversion dam during construction of the new structure.
- Orienting the dam perpendicular to flow to minimize overall length across the river would allow the right abutment to be located near the existing right dam abutment, requiring less earthwork.
- Combination of crest gates and a fixed crest would be used.
- Fixed crest would require hydraulic engineering evaluation of either an ogee crest or some other fixed control.

SEDIMENT MANAGEMENT

- Inlet channel footprint would be reduced compared to Diversion Structure Replacement Upstream of Existing Structure Alternatives 1.
- Inlet channel design would require a means to flush sediment by re-suspending it when performing flushing operations downstream (e.g., air nozzles).
- Daily operation of sediment discharge gates would be required with the intent of passing smaller sediment load daily versus a larger load for an isolated release.
- Debris boom orientated at intake to push floating debris through crest gates.

HEAD GATES

- Replacing radial gates with overpour gates at canal headworks, in coordination with river level controls, should allow for reduced river check height needed to deliver 550 cfs into the canal per preliminary hydraulic calculations (TBD).

TRASH SCREEN

- Trash screen will be easily accessible by operators and allow for removal of material and maintenance activities.

ACCESS AND MAINTENANCE

- Stop logs in inlet channel would isolate inlet channel for maintenance. Stop logs on river side wall of inlet channel would allow access into the river for removal of material from crest gates.
- Access ramp to inlet channel would likely be earthen to allow access for tracked equipment for maintenance given the constrained nature of the site. The access ramp could be concrete but would require a flatter slope than earthen slopes would allow.
- Catwalk above crest gates provides maintenance access to gates. No catwalk over the fixed crest section of the diversion. There will not be access from the park directly to the diversion/intake facility.

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN 3D VIEW

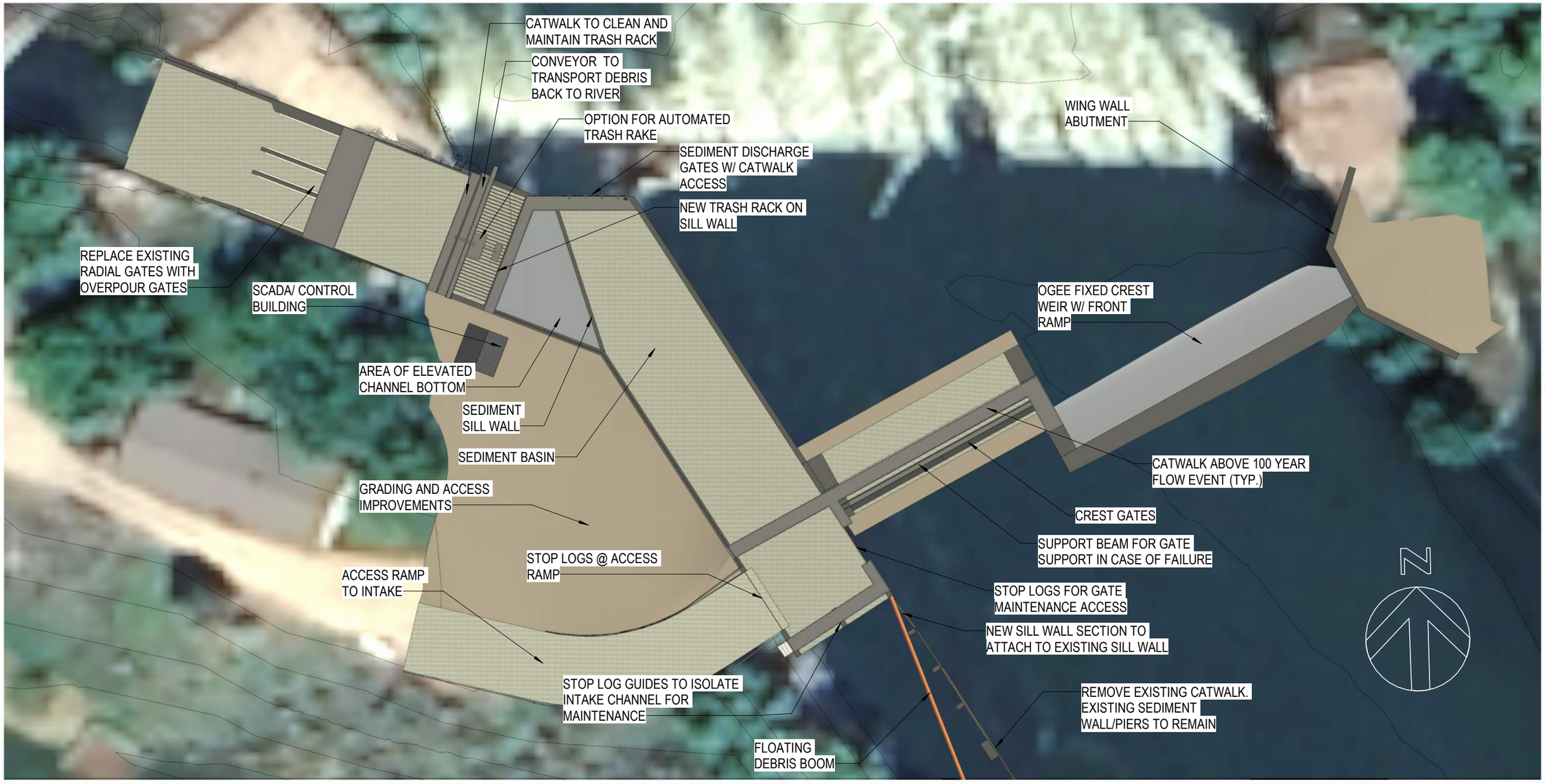
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-105

ALTERNATIVE 3B



1 ALTERNATI'

1"=30' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN PLAN VIEW

PROJECT NUMBER
10383385

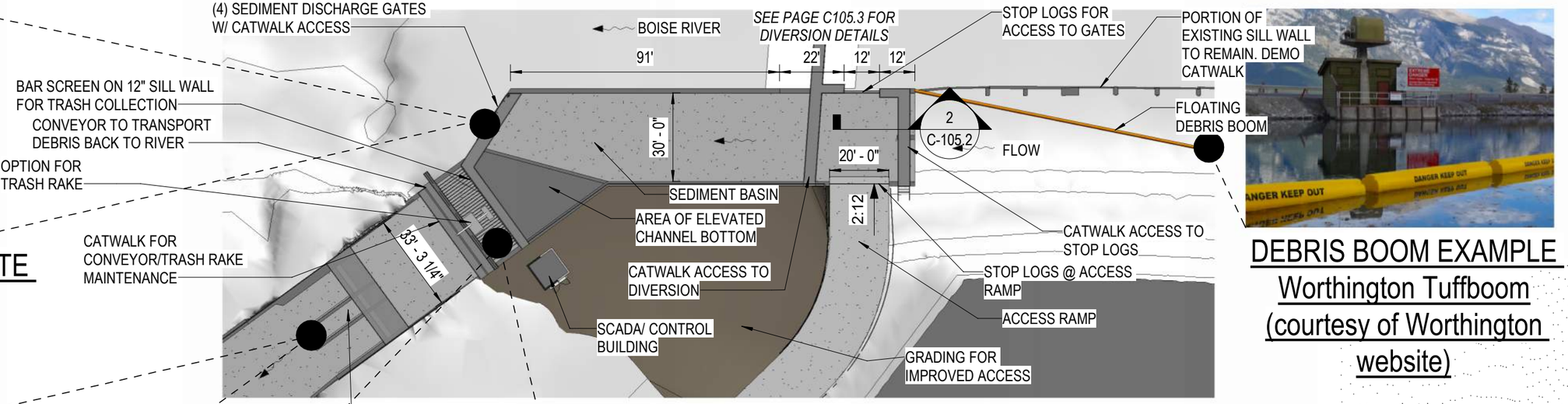
PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-105.1

ALTERNATIVE 3B

PROPOSED SLUICE GATE EXAMPLE
Rubicon Slip Gate

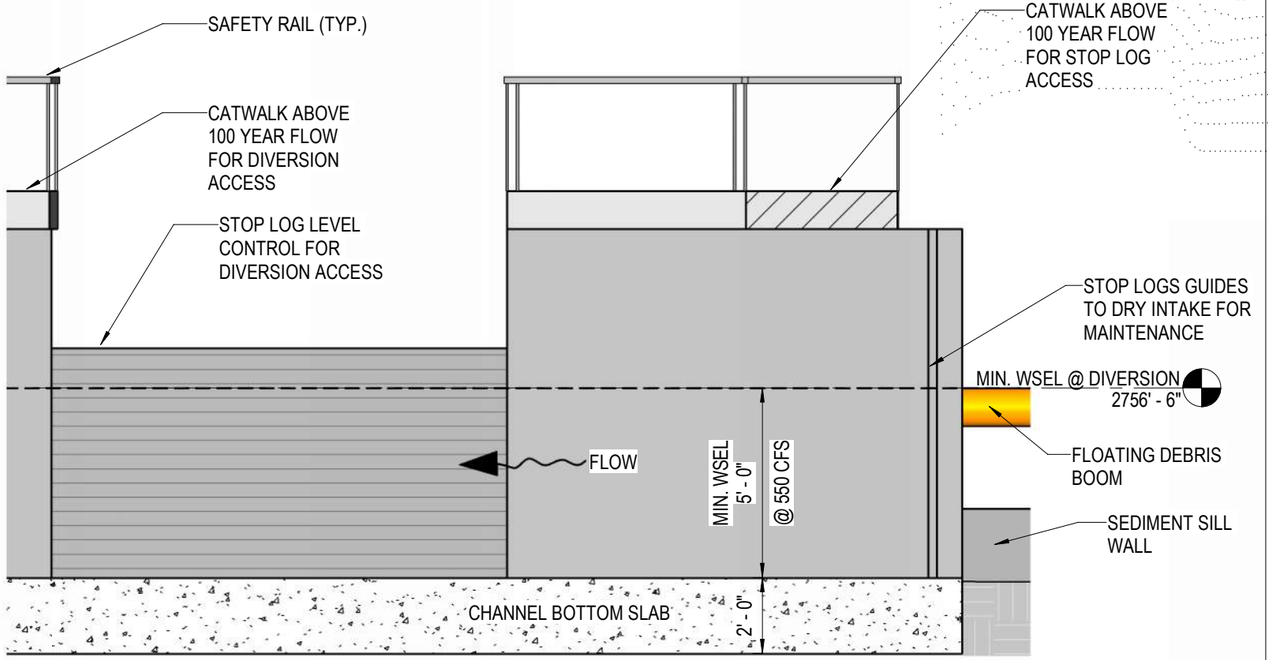


DEBRIS BOOM EXAMPLE
Worthington Tuffboom
(courtesy of Worthington website)

HEADGATE EXAMPLE
Langemann Gate
(courtesy of Aqua Systems 2000 website)

REPLACE EXISTING RADIAL GATES WITH OVERPOUR GATES

TRASH RACK EXAMPLE
Atlas SSI Gator Rake and Trash Rack
(courtesy of Atlas SSI website)



2 / C 105.2 INTAKE SECTION
1/4" = 1' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN INTAKE DETAIL

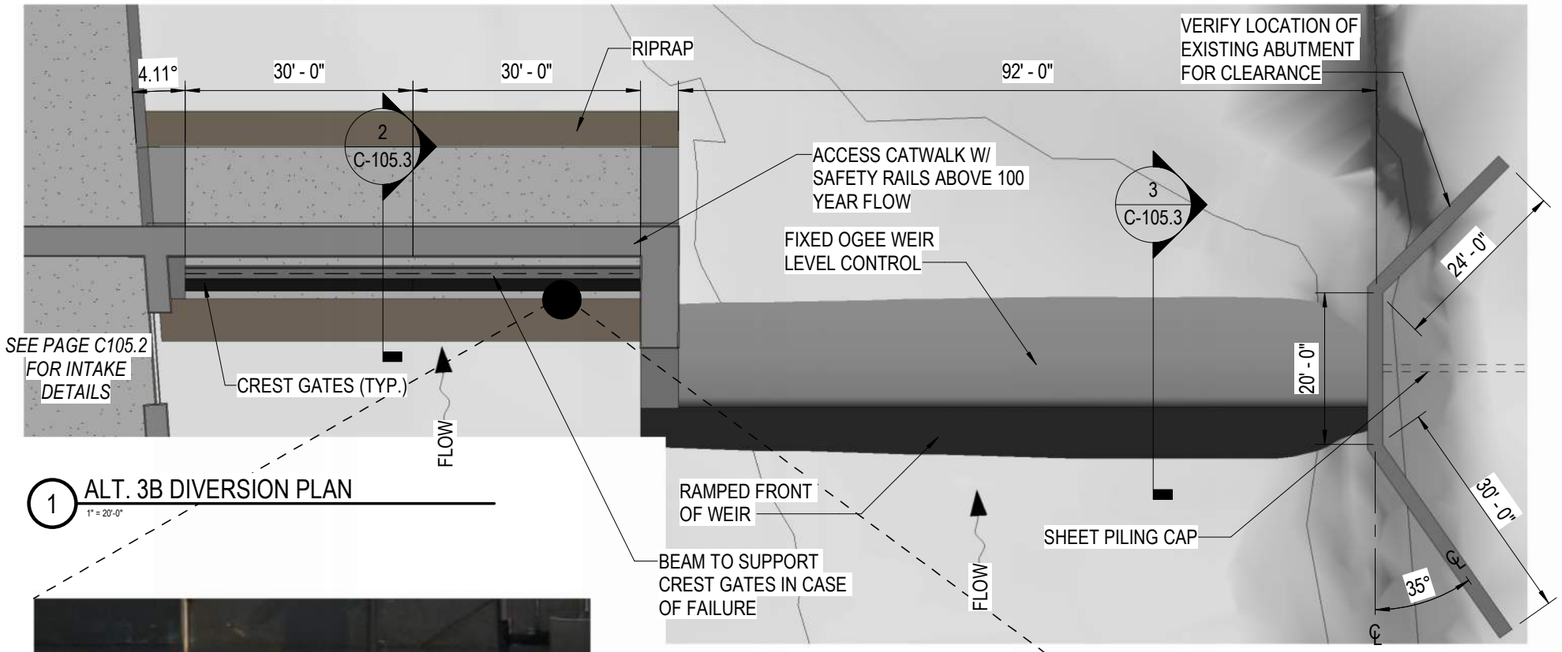
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

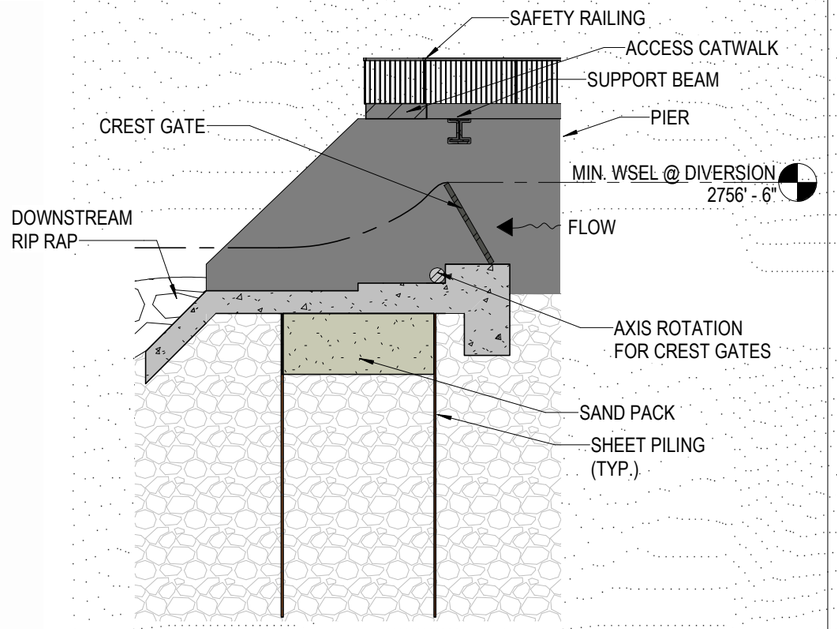
EXHIBIT NUMBER
C-105.2

ALTERNATIVE 3B

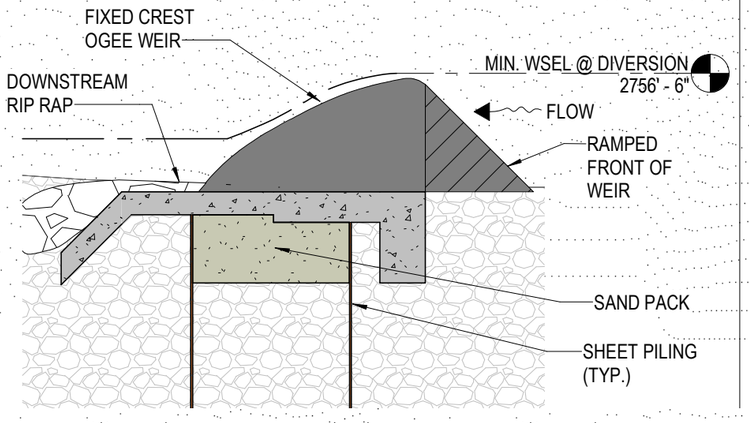


1 ALT. 3B DIVERSION PLAN
1" = 20'-0"

CREST GATE
(courtesy of Oberr



2 DIVERSION SECTION @ CREST GATES
1" = 10'-0"



PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN DIVERSION DETAIL

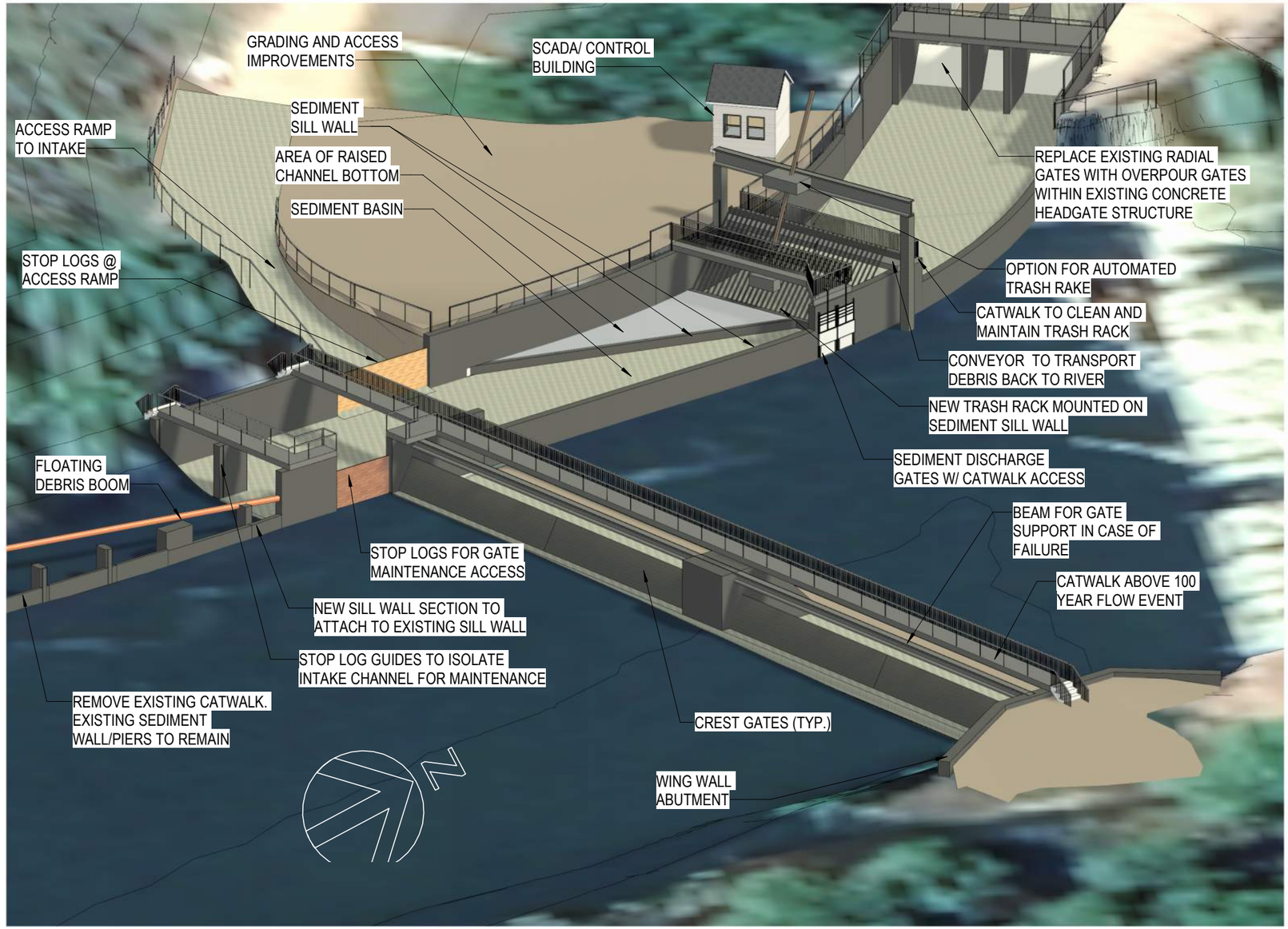
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-105.3

ALTERNATIVE 3B



ALT. 4A HIGHLIGHTS

DIVERSION DAM

- Constructing the diversion upstream of the existing diversion would allow for continued operation of the existing diversion dam during construction of the new structure.
- Orienting the dam perpendicular to the flow to minimize overall length across the river would allow the right abutment to be located near the existing right dam abutment, requiring less earthwork.
- Installing crest gates spanning the entire width of the river would provide the ability to pass debris downstream from any location across the entire dam structure.

SEDIMENT MANAGEMENT

- Inlet channel footprint would be reduced compared to Diversion Structure Replacement Upstream of Existing Structure Alternatives 1 and 3.
- Replacing the existing sediment wall with a new sill wall to be submerged, extending 1 to 1.5 feet above the channel bottom, would prevent the heaviest of the sediment load in the river from entering the inlet channel. Partial raised floor upstream of trash rack helps push sediment through discharge gates.
- Placing sediment discharge gates at a point that maximizes hydraulic gradient would provide maximum sediment removal and discharge to mixing zone downstream of crest gates.
- Debris boom orientated at intake to push floating debris through crest gates.

HEAD GATES

- Replacing radial gates with overpour gates at canal headworks, in coordination with river level controls, should allow for reduced river check height to deliver 550 cfs into the canal per preliminary hydraulic calculations (TBD).

TRASH SCREEN

- Trash screen will be easily accessible by operators and allow for removal of material and maintenance activities.

ACCESS AND MAINTENANCE

- Stop logs in the inlet channel would isolate the inlet channel for maintenance. Stop logs on the river side wall of inlet channel would allow access into the river for removal of material from crest gates.
- Access ramp to inlet channel would likely be earthen to allow access for tracked equipment for maintenance given the constrained nature of the site. The access ramp could be concrete but would require a flatter slope than earthen slopes would allow.
- Catwalk across river above gates provides maintenance access to crest gates.

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN 3D VIEW

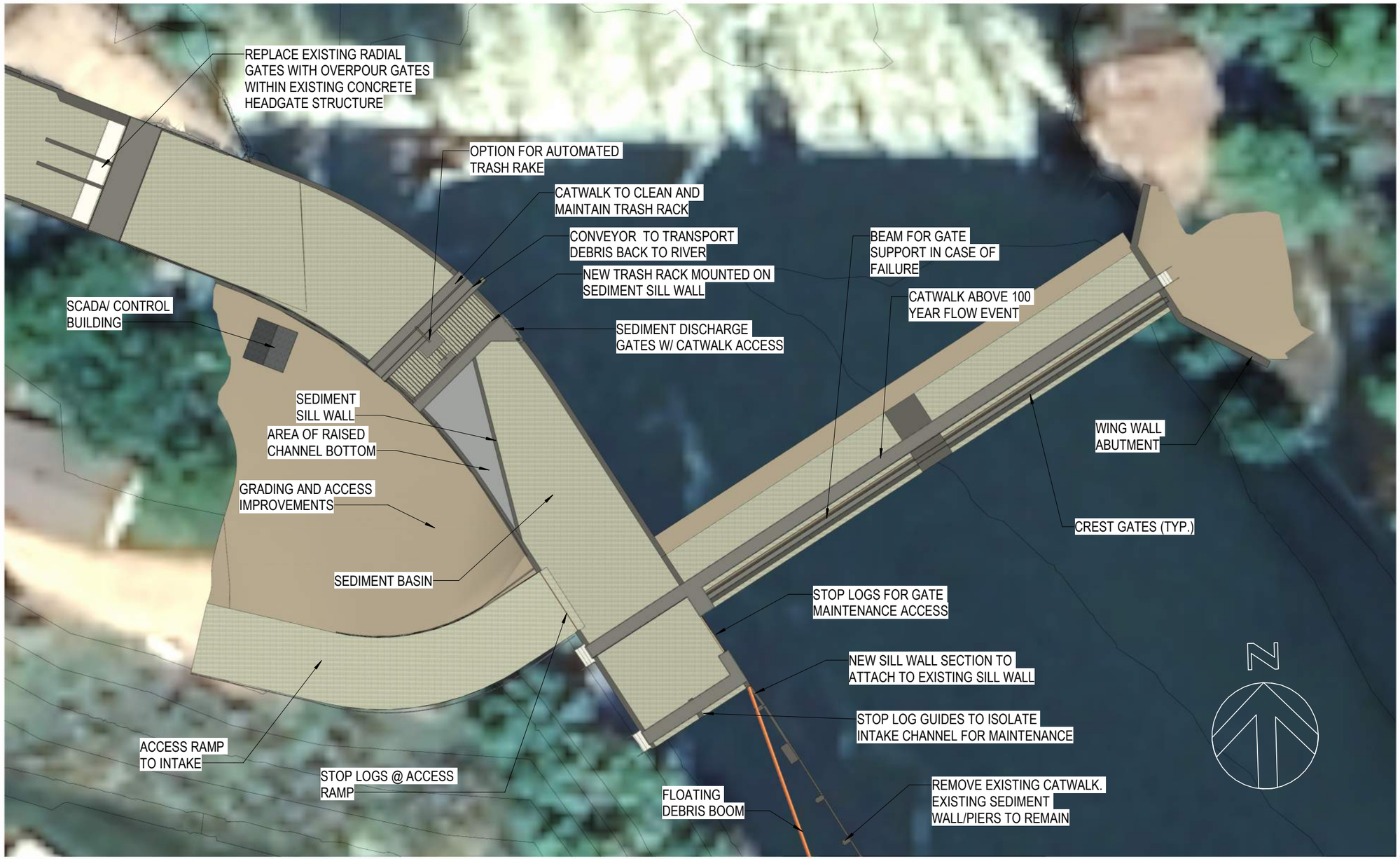
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-106

ALTERNATIVE 4A



1 ALTERNATIVE 4A PLAN VIEW

1" = 30' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN PLAN VIEW

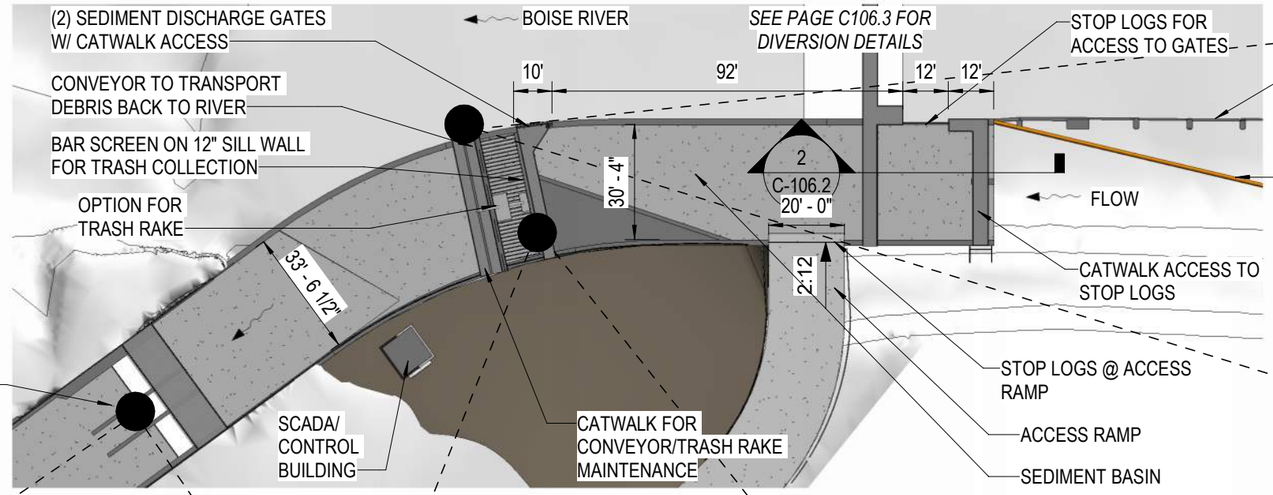
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-106.1

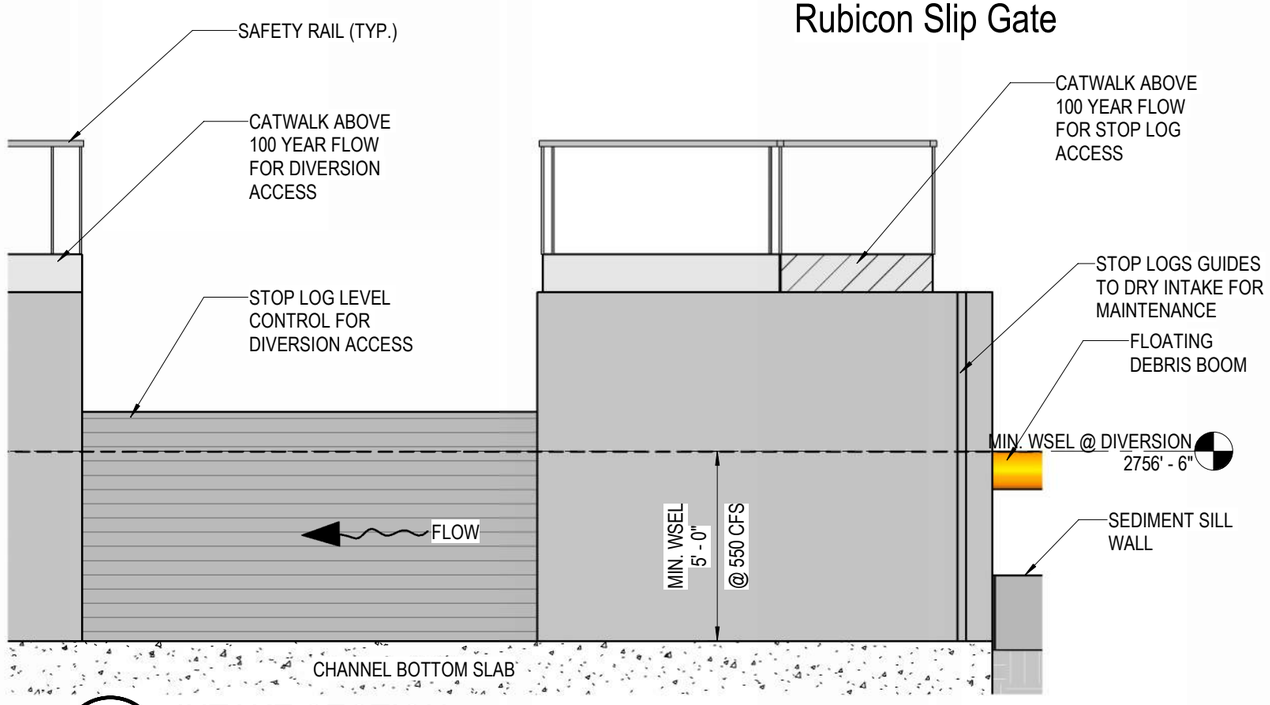
ALTERNATIVE 4A



PROPOSED SLUICE GATE EXAMPLE
Rubicon Slip Gate

HEADGATE EXAMPLE
Pelican Gate
(courtesy of Rodney Hunt website)

TRASH RACK EXAMPLE
Atlas SSI Gator Rake and Trash Rack
(courtesy of Atlas SSI website)



2 / C 106.2 INTAKE SECTION
1/4" = 1' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN INTAKE DETAIL

PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

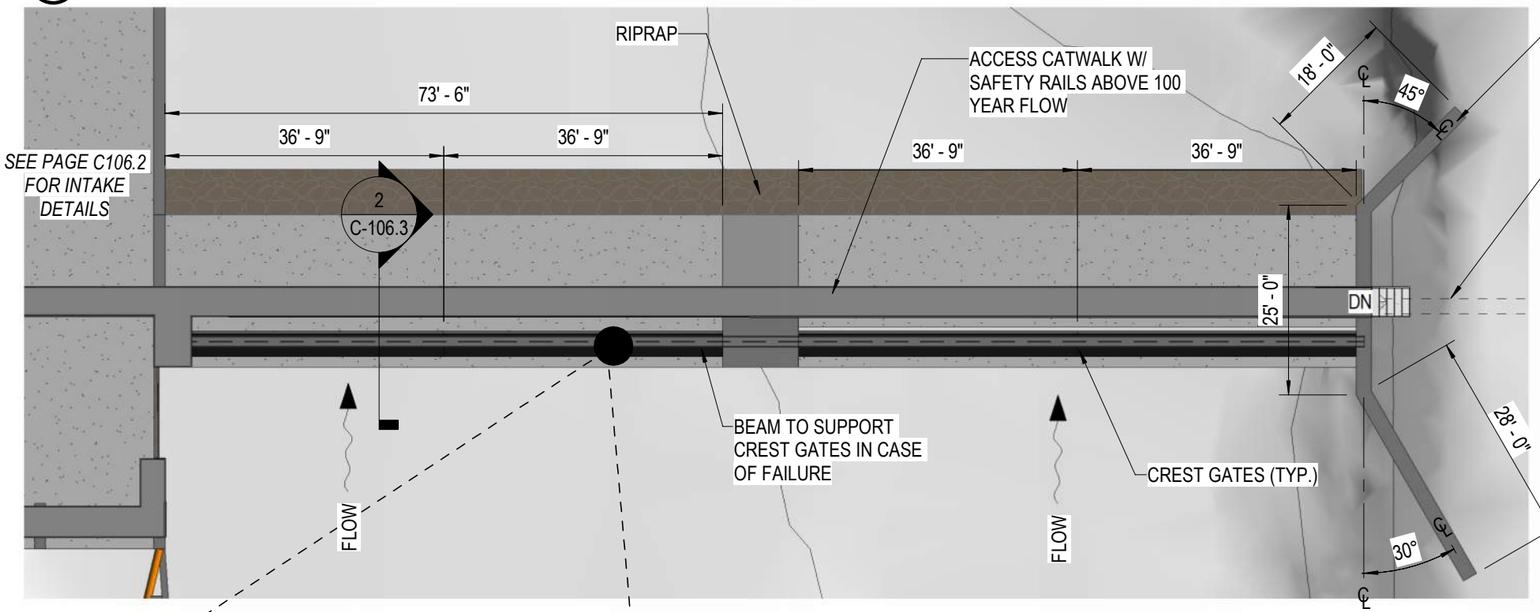
DATE
05/20/2024

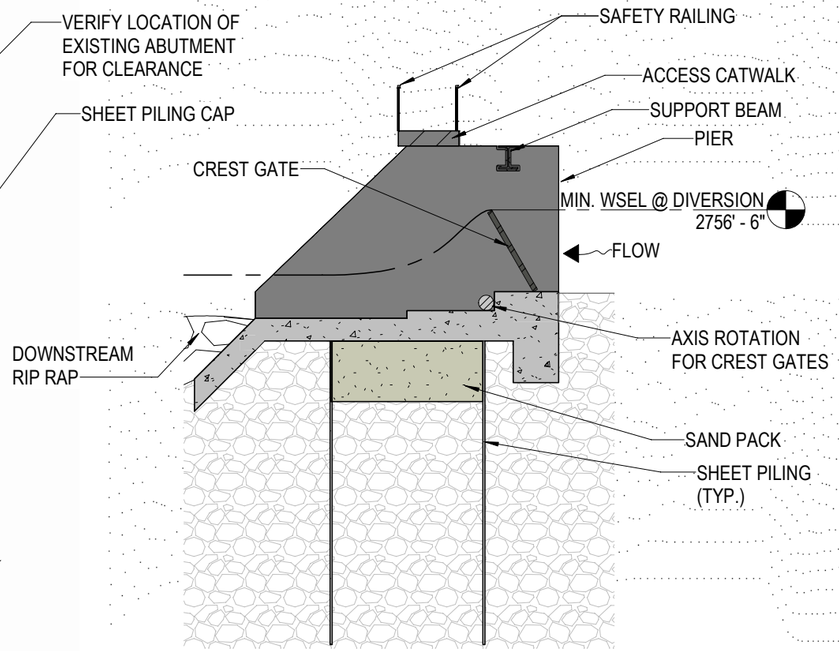
EXHIBIT NUMBER
C-106.2

ALTERNATIVE 4A

1 ALT. 4A DIVERSION PLAN

1" = 20'-0"

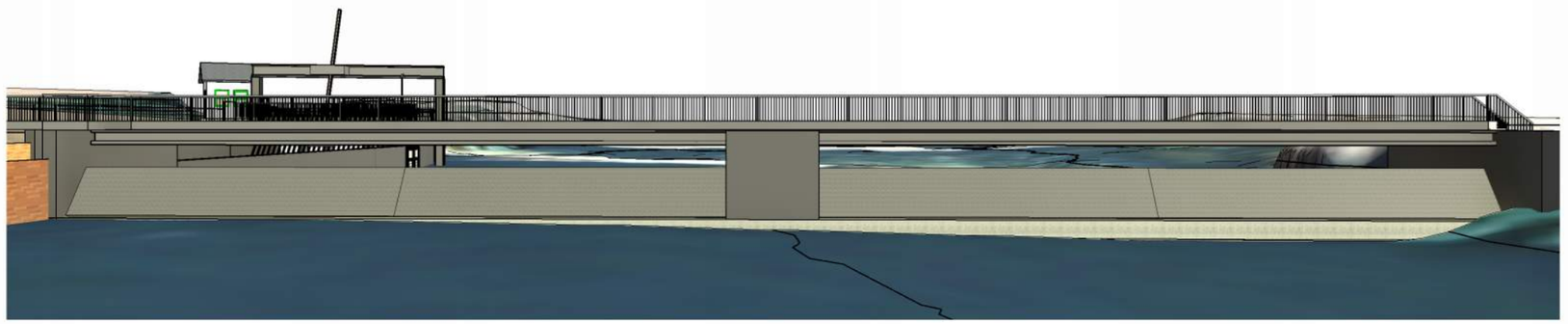




2 DIVERSION SECTION @ CREST GATES

1" = 10'-0"

CREST GATE EXAMPLE
(courtesy of Rodney Hunt website)



3 DIVERSION RENDERING LOOKING NORTH

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN DIVERSION DETAIL

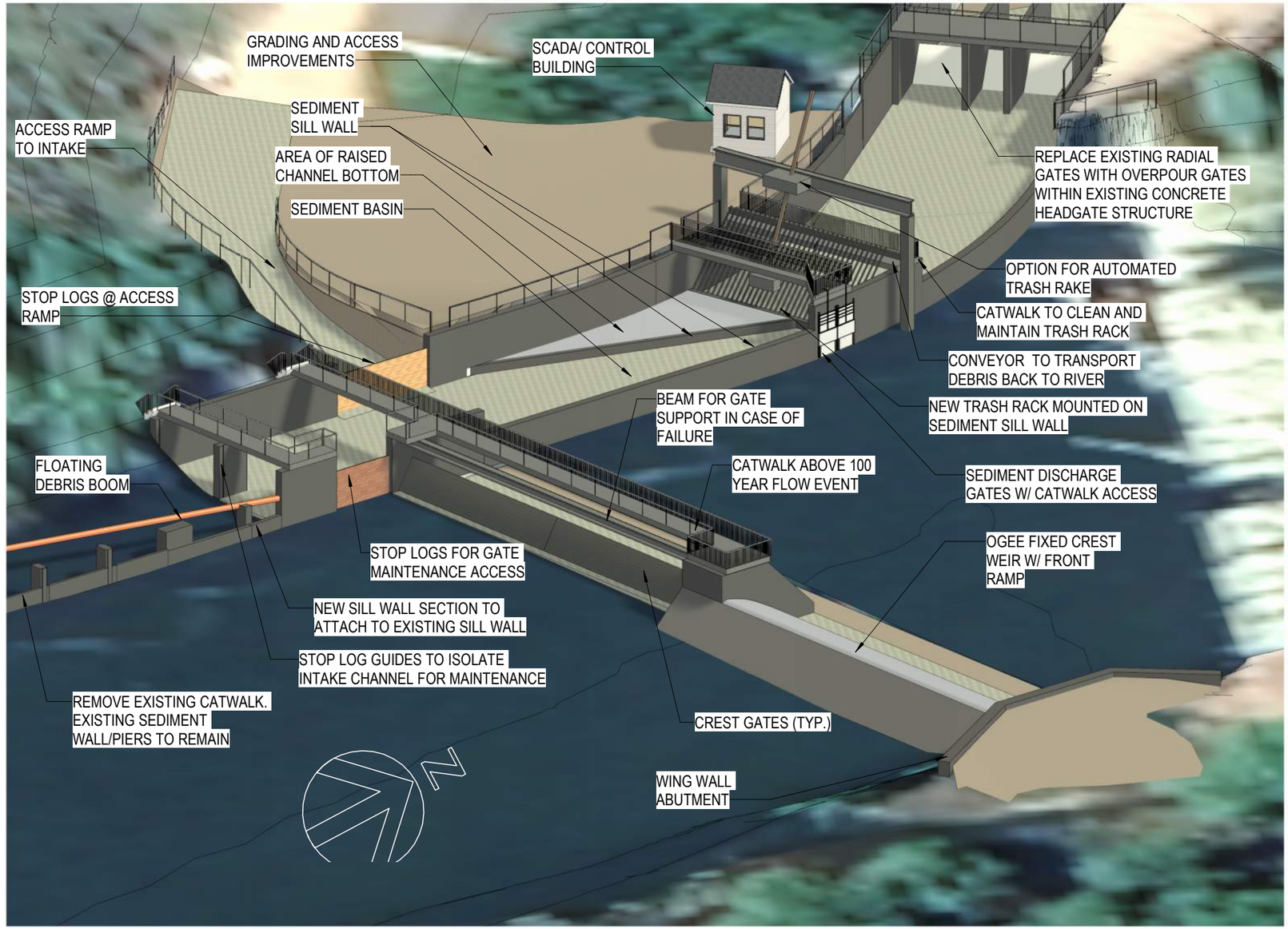
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-106.3

ALTERNATIVE 4A



ALT. 4B HIGHLIGHTS

DIVERSION DAM

- Constructing the diversion upstream of the existing diversion would allow for continued operation of the existing diversion dam during construction of the new structure.
- Orienting the dam perpendicular to the flow to minimize overall length across the river would allow the right abutment to be located near the existing right dam abutment, requiring less earthwork.
- Combination of crest gates and a fixed crest would be used.
- Fixed crest would require hydraulic engineering evaluation of either an ogee crest or some other fixed control.

SEDIMENT MANAGEMENT

- Inlet channel footprint would be reduced compared to Diversion Structure Replacement Upstream of Existing Structure Alternatives 1 and 3.
- Replacing the existing sediment wall with a new sill wall to be submerged, extending 1 to 1.5 feet above the channel bottom, would prevent the heaviest of the sediment load in the river from entering the inlet channel. Partial raised floor upstream of trash rack helps push sediment through discharge gates.
- Placing sediment discharge gates at a point that maximizes hydraulic gradient would provide maximum sediment removal and discharge to mixing zone downstream of crest gates.
- Debris boom orientated at intake to push floating debris through crest gates.

HEAD GATES

- Replacing radial gates with overpour gates at canal headworks, in coordination with river level controls, should allow for reduced river check height to deliver 550 cfs into the canal per preliminary hydraulic calculations (TBD).

TRASH SCREEN

- Trash screen will be easily accessible by operators and allow for removal of material and maintenance activities.

ACCESS AND MAINTENANCE

- Stop logs in the inlet channel would isolate the inlet channel for maintenance. Stop logs on the river side wall of inlet channel would allow access into the river for removal of material from crest gates.
- Access ramp to inlet channel would likely be earthen to allow access for tracked equipment for maintenance given the constrained nature of the site. The access ramp could be concrete but would require a flatter slope than earthen slopes would allow.
- Catwalk above crest gates provides maintenance access to gates. No catwalk over the fixed crest section of the diversion. There will not be access from the park directly to the diversion/intake facility.

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN 3D VIEW

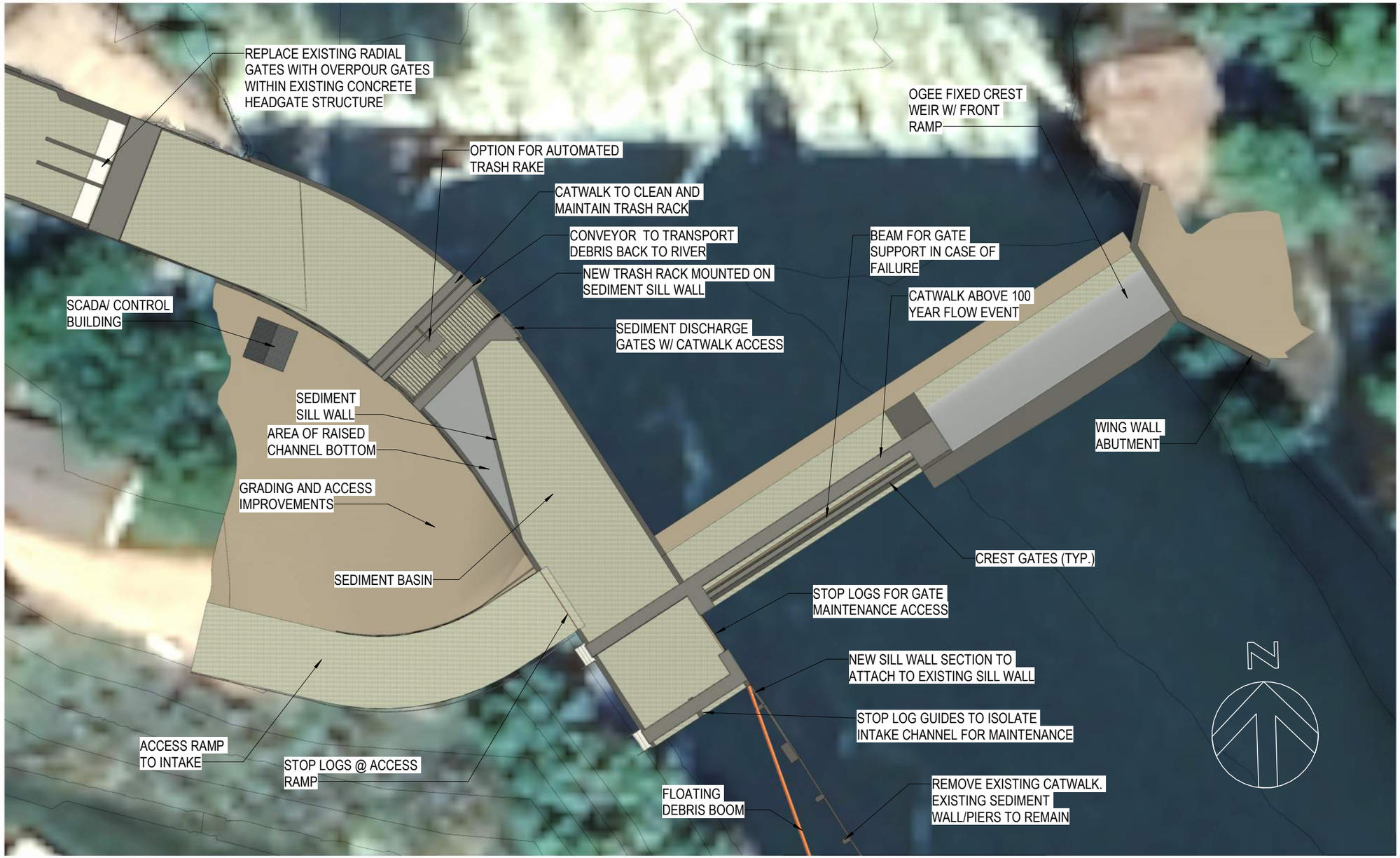
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-107

ALTERNATIVE 4B



1 ALTERNATIVE 4B PLAN VIEW

1" = 30' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN PLAN VIEW

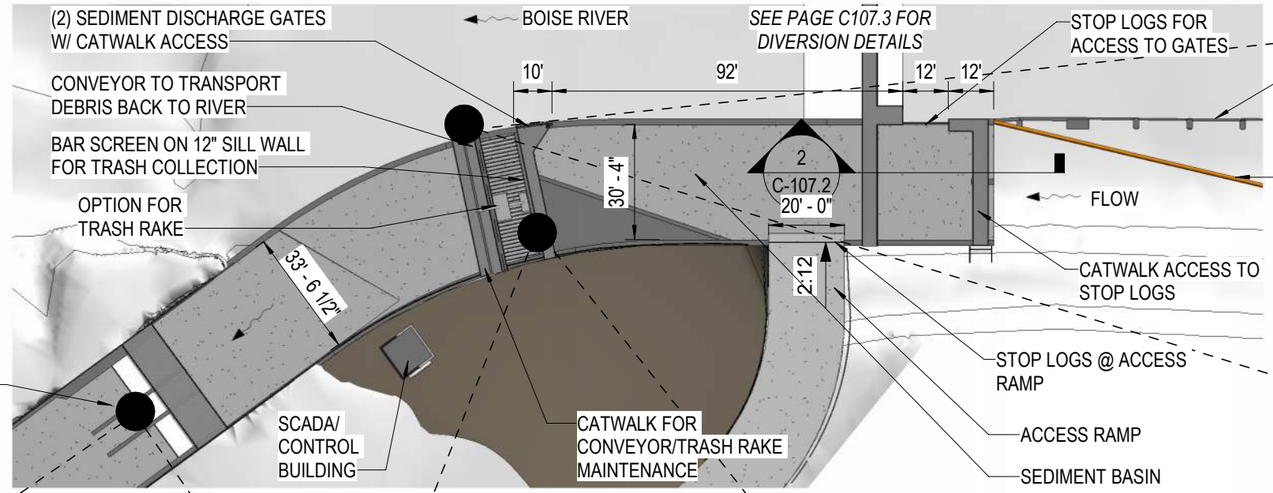
PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-107.1

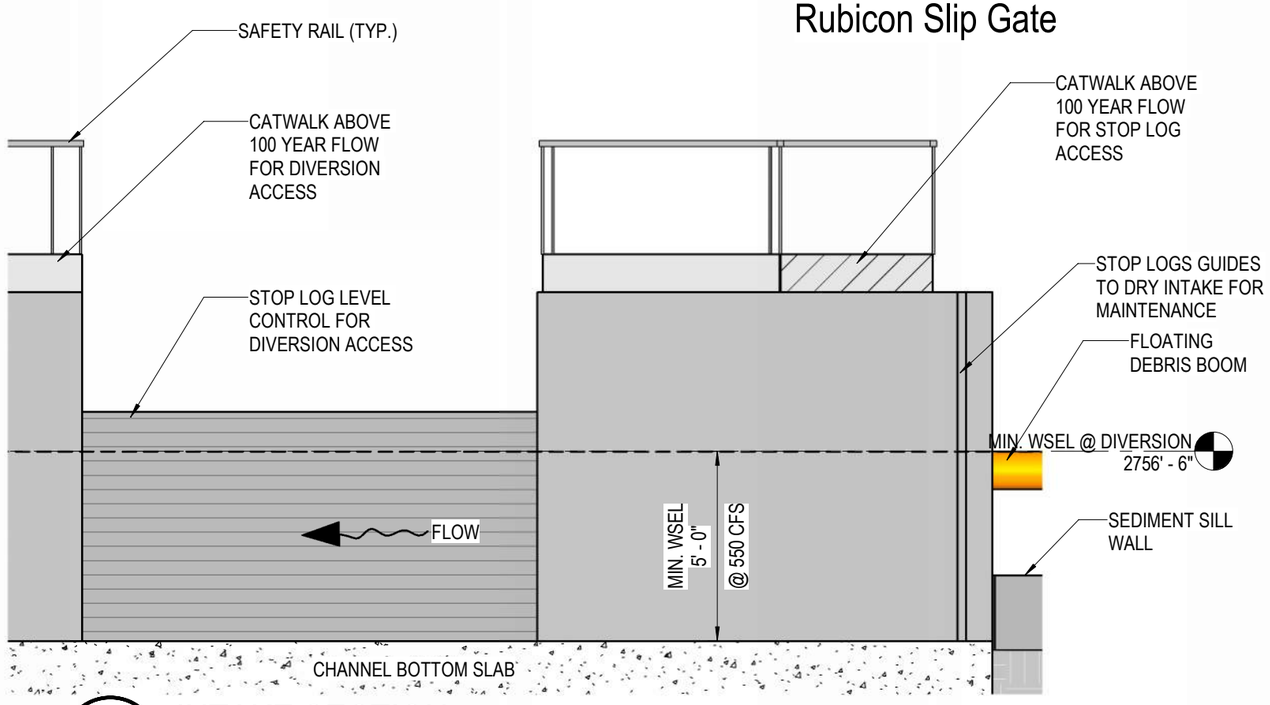
ALTERNATIVE 4B



PROPOSED SLUICE GATE EXAMPLE
Rubicon Slip Gate

HEADGATE EXAMPLE
Pelican Gate
(courtesy of Rodney Hunt website)

TRASH RACK EXAMPLE
Atlas SSI Gator Rake and Trash Rack
(courtesy of Atlas SSI website)



2 / C 107.2 INTAKE SECTION
1/4" = 1' 0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN INTAKE DETAIL

PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

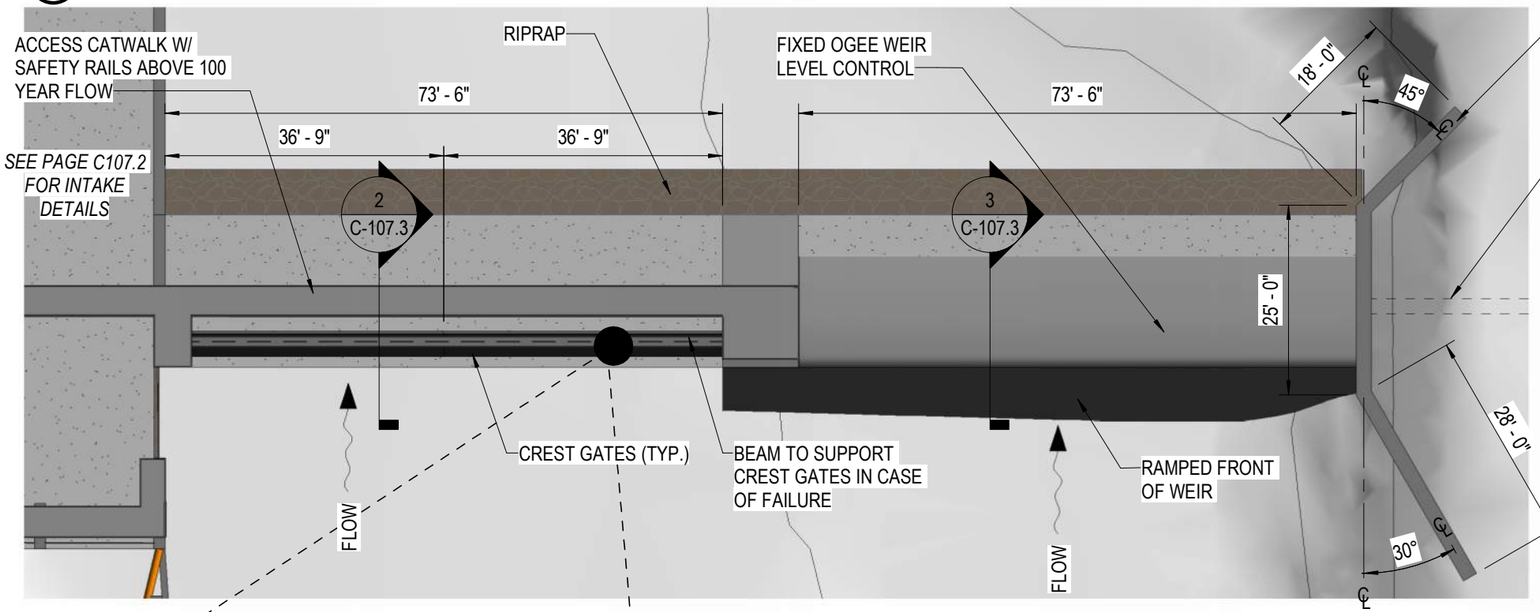
DATE
05/20/2024

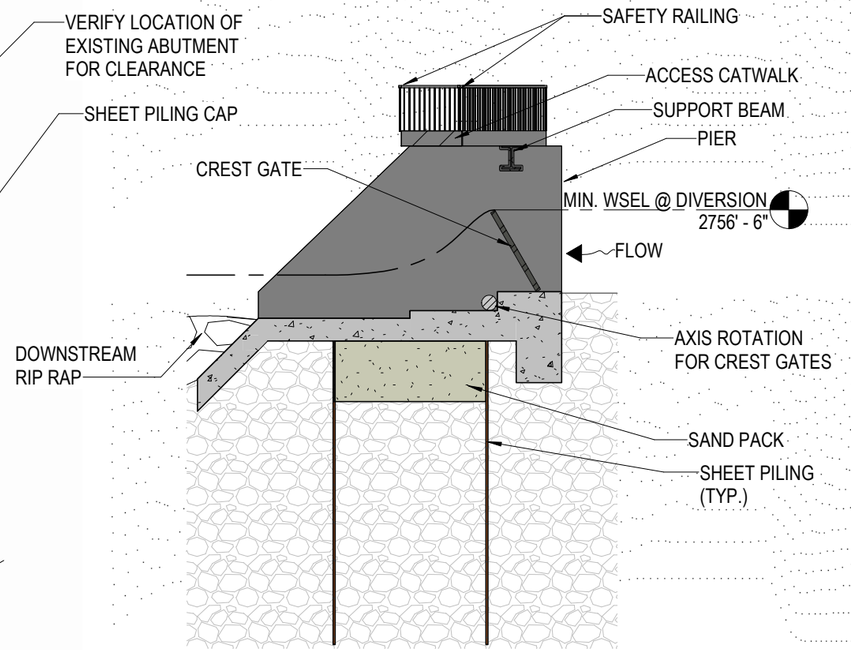
EXHIBIT NUMBER
C-107.2

ALTERNATIVE 4B

1 ALT. 4B DIVERSION PLAN

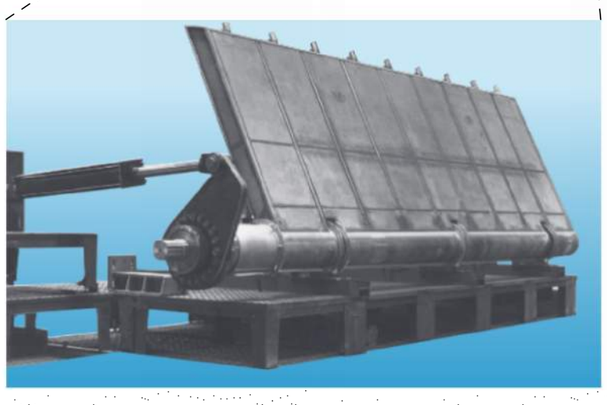
1" = 20'-0"



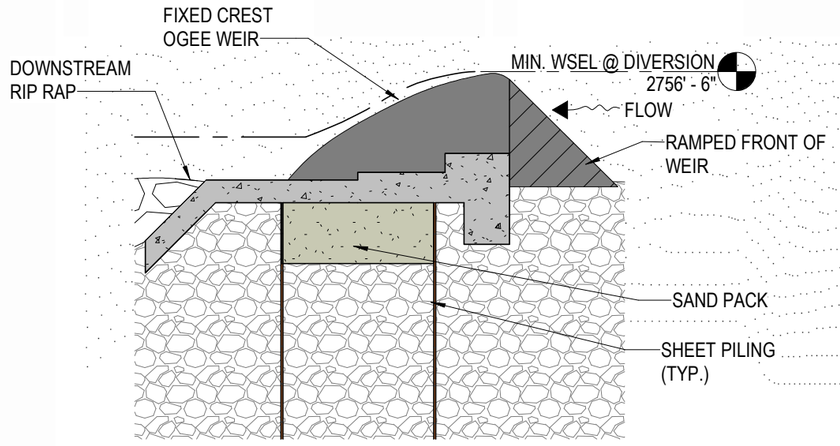


2 DIVERSION SECTION @ CREST GATES

1" = 10'-0"



CREST GATE EXAMPLE
(courtesy of Rodney Hunt website)



3 DIVERSION SECTION @ OGEE WEIR

1" = 10'-0"

PROJECT TITLE
RIDENBAUGH DIVERSION MODIFICATION

SHEET TITLE
CONCEPTUAL DESIGN DIVERSION DETAIL

PROJECT NUMBER
10383385

PROJECT MANAGER
J. ROLDAN

DATE
05/20/2024

EXHIBIT NUMBER
C-107.3

ALTERNATIVE 4B

Appendix B

Combined Notes from MCDA Alternatives Scoring Workshops

Combined Meeting Notes

Ridenbaugh Diversion Modernization

Following are combined meeting notes from the HDR internal workshop followed by the joint NMID staff and HDR staff workshop to score the seven alternatives for the Ridenbaugh Diversion Modernization project. These notes represent the discussion and reasoning for assigning each criterion score to the alternatives. Refer to the Multi-Criteria Decision Analysis Report (HDR, May 29, 2024) for results of the scoring process.

May 17, 2024 – HDR Internal Alternatives Scoring Workshop
May 23, 2024 – NMID Staff and HDR Staff Alternatives Scoring Workshop

HDR Staff: Stan Schweissing, Amy Johnson, John Roldan, Kristy Newkirk, Brandon Noble, Holten White
NMID Staff: Greg Curtis, Dave Duvall

CRITERIA SCORING

1 - O&M functionality and Effectiveness

- 1A --- SCORE: Very Low
    - Simplest to operate aside from the slotted wall
    - River control has fewer moving parts
    - Slotted wall – may take a few years to fine-tune it
    - Operations – Obermeyer (or similar) are easy to use
    - If things go wrong, NMID doesn't have redundancy – changing the gates would be a huge undertaking
    - When it works it will work great
    - It would be hard to maintain without piers/catwalk access. No option to fail. Need to be able to deploy action if there is a maintenance problem.
- 1B --- SCORE: Very Low
    - Little better than 1A since you can see gates with the catwalk
    - Greg thinks lowest score
    - Catwalk does not differentiate enough from a very low
    - Simplest to operate beside for the slotted wall
    - River control has fewer moving parts
    - Slotted wall – may take a few years to fine-tune it
    - Operations – Obermeyer (or similar) are easy to use
    - If things go wrong, NMID doesn't have redundancy – changing the gates would be a huge undertaking
    - When it works it will work great

    - Catwalk could include a beam to help hold the gates up for maintenance
- 2 --- SCORE: Moderate
    - Could be 3 bays of leaf gates, will have debris hung up on the gates. Maybe more bays/gates if they want.
    - Provides a lot of redundancy and reliability, maintenance access is very easy
    - Operations – will have to pull stop logs, have to maintain gates
    - Harder to move debris than for Obermeyer type layout, would have to get debris in the right spot (not as simple)
    - Parallel to existing dam – anecdotally, don't think there will be anything hanging up on stop logs
    - Still pulling stop logs, but now the stop logs are bigger
    - Improvement from how NMID operates it now – would have the possibility of modulating water level in river rather than just modulating it with the radial gates at the headgates
    - Less learning curve
    - *Potential for a 2B alternative, exchange crest gates for an ogee. Consider during design phase.*
- 3A --- SCORE: Very Low
    - Greg- very low score because headgates are so far away
    - Have to cross the road to verify headgates are operating – can't see headgates from scada house
    - Low maintenance on ogee weir
    - Easy access to maintain gates in diversion
    - Greg suggests lower than alternative 2
    - Longer learning curve with split facilities – getting headgates to modulate w/ diversion
- 3B --- SCORE: Strong
    - Low maintenance on half of diversion
    - Catwalk to access gates
    - Can remove debris easily from gates
- 4A --- SCORE: Moderate
    - More gates, a little more maintenance than 4b
    - Operations simpler than 2
    - Can get debris through wherever it accumulates
- 4B --- SCORE: Strong
    - Similar to 3B

2 - Safety and Security

- 1A --- SCORE: Strong
    - Good security – public can't get to facility
    - Nothing in river for floaters to get hung up on
    - Can't be seen by floaters very well
    - All alternatives have operators out of water
- 1B --- SCORE: Moderate
    - Catwalks up higher from water (bad for normal operations, good for high flow events)
    - Public might access structure/facility
- 2 --- SCORE: Low
    - Catwalks up higher from water (bad for normal operations, good for high flow events)
    - Public might access structure/facility
- 3A --- SCORE: Very Low
    - Have to cross road to access headgates
    - Lots of moving parts – more handling with headgates across road
    - Catwalks up higher from water (bad for normal operations, good for high flow events)
    - Public can't access – good
    - Smooth horizon – a little more unsafe because floaters can't see it and could maybe go over it.
- 3B --- SCORE: Moderate
    - Catwalks up higher from water (bad for normal operations, good for high flow events)
    - Public can't access – good
- 4A --- SCORE: Moderate
    - Public could maybe access – bad
- 4B --- SCORE: Moderate
    - Public can't access – good

3 - Ability to Accommodate Future Improvements

- 1A --- SCORE: Very Low
    - Greg thinks the catwalk will make things easier, 1A and 1B the same score
    - Farmers screen would impact the ramp in
    - No piers- it would be a big lift to change gates
    - Flexibility in slotted wall, can change to just sill wall without a slot
    - Stop log intake entrance can change to slide gate

    - Fish passage in river would probably need a pier - could have a little gate, maybe need to go around the structure
    - Fish exclusion from the canal – maybe could add a farmers screen because there is room but it would remove the sediment basin (trade off)
    - Fish screening is the main improvement envisioned and this option doesn't have a lot of options
- 1B --- SCORE: Very Low
    - No piers- it would be a big lift to change gates
    - Flexibility in slotted wall, can change to just sill wall without a slot
    - Stop log intake entrance can change to slide gate
    - Fish passage in river would probably need a pier - could have a little gate, maybe need to go around the structure
    - Fish exclusion from the canal – maybe could add a farmers screen because there is room but it would remove the sediment basin (trade off)
    - Fish screening is the main improvement envisioned and this option doesn't have a lot of options. It would be even more complicated than 1A because catwalk would have to be removed to add a pier
- 2 --- SCORE: Strong
    - Lots of bays, easier to retrofit, room in front of intake to add farmers screen
    - Slots between piers allow for different gates in the future
    - Could remove a diversion bay to attach a fish passage later
    - Fish exclusion – could add a farmers screen in front of the intake
    - Small area for fish screen at intake entrance – trouble with sweeping velocities etc. Probably would have to reconstruct in front of the structure.
    - Exclusion not good, passage in the river is good
    - Better than 3A
- 3A --- SCORE: Moderate
    - Pier in middle, flexibility in intake channel
    - Ogee would be major demo to add fish passage – but its only demo
    - Room for farmers screen in front of structure if needed
    - Small area for fish screen at intake entrance – trouble with sweeping velocities etc. Probably would have to reconstruct in front of the structure
    - Exclusion not good, passage in the river is good
- 3B --- SCORE: Moderate
    - Same as 3A
- 4A --- SCORE: Moderate
    - One center pier
    - Catwalk might help

    - Don’t have a small gate to dedicate for fish passage
    - Same intake as 2
    - Need to move catwalk and build a pier for a small fish passage in river
    - To build a pier, harder than demo for ogee weir
- 4B --- SCORE: Moderate
    - One center pier
    - Catwalk might help
    - Ogee would be major demo to add fish passage – but its only demo
    - Room for farmers screen in front of structure if needed
    - Small area for fish screen at intake entrance – trouble with sweeping velocities etc. Probably would have to reconstruct in front of the structure
    - Exclusion not good, passage in the river is good

4 - Constructability

- 1A--- SCORE: Moderate
    - Biggest footprint for the intake
    - No piers in river – sill only, uncertainty in procurement for gates – Obermeyer gates probably on this one so a little risk for having only one option for gate
    - Maybe need an interim pier in between seasons to support the end gate
    - Estimating one month for gate installation
    - If the backside of the trash screen doesn’t interfere with the new trash rack, could be building everything upstream – closest to the trash rake of all options
- 1B --- SCORE: Low
    - Same bullet points as 1A
    - Harder than 1A because of the catwalk – requires large crane
- 2 --- SCORE: Very Low
    - Most complicated in the river
    - More earthwork on right bank
    - A lot of mechanical equipment
    - More complicated catwalk
    - A lot more mechanical equipment, a lot of concrete in the river
    - Phasing would be easy to stop at a pier in the river
    - Right abutment is further up, maybe more earthwork – same alignment as existing dam
    - New structure further away from existing structure with the curve – better for phasing
    - Curved walls shouldn’t be too much more complicated

    - More complicated with the catwalks – more pieces, more time
- 3A --- SCORE: Low
    - With two sites - Greg says this is even worse - low
    - Moving headgates – adds a lot of time and risk
    - Construction activities on both sides of the road – large construction footprint
    - Shorter catwalk, easier construction than catwalk across river
    - Close to existing diversion and trash rake at intake
- 3B --- SCORE: Strong
    - Better than 3A because don't have to reconstruct the headworks
    - Shorter catwalk, less mechanical equipment in the river
    - Close to existing diversion and trash rake at intake
- 4A --- SCORE: Moderate
    - Only 1 pier in river
    - Catwalk is a little harder – need crane to set it but easier than 1B because of center pier
    - Curved intake is further away from existing structure
- 4B --- SCORE: Very Strong
    - More room around the new structure to the existing structure
    - Only 1 pier in river
    - Ogee not too bad to construct
    - Catwalk is smaller so easier
    - Curved intake is further away from existing structure

No projects are very strong because the river construction is always going to be risky and difficult

5 - Stakeholder Support

- 1A --- SCORE: Very Strong
    - not much visible in river
- 1B --- SCORE: Strong
    - Gates disappear when down, but catwalk is visible
- 2 --- SCORE: Low
    - Low – a lot in the river, still have stop logs (perception of how this is modernization if still stop logs). The hoist is the highest structure of all the alternatives
    - Not elegant

- 3A --- SCORE: Low
    - Visual issue with headgates being close to existing park/public
    - Fewer piers in river
    - Ogee visible in low flows when gates are open but invisible with ponding depth
- 3B --- SCORE: Moderate
    - Fewer piers in river
    - Ogee visible in low flows when gates are open but invisible with ponding depth
- 4A --- SCORE: Strong
    - Fewer piers in river
    - Ogee visible in low flows when gates are open but invisible with ponding depth
    - Better than alternatives with Ogees (3B and 4B)
- 4B --- SCORE: Moderate
    - Fewer piers in river
    - Ogee visible in low flows when gates are open but invisible with ponding depth

6 - Ease of Permitting Compliance

- 1A --- SCORE: Strong
    - Within the area of the existing structure, more likely to get a no-rise
- 1B --- SCORE: Strong
    - Within the area of the existing structure, more likely to get a no-rise
- 2 --- SCORE: Moderate
    - Tie in on the right abutment is not in the same place. May be a challenge with permitting (City of Boise)
- 3A --- SCORE: Low
    - Ogee weir may be an issue causing a flood water level rise
- 3B --- SCORE: Low
    - Ogee weir may be an issue causing a flood water level rise
- 4A --- SCORE: Strong
    - Within the area of the existing structure, more likely to get a no-rise
    - Based on gates
- 4B --- SCORE: Low
    - Ogee weir may be an issue causing a flood water level rise

Appendix C

Class 4 Opinions of Probable Construction Costs for Alternatives

Memo

Date:	Monday, June 17, 2024
Project:	Ridenbaugh Diversion Modernization
To:	Nampa & Meridian Irrigation District
From:	HDR
Subject:	Class 4 Opinions of Probable Construction Costs for Alternatives

Introduction

Nampa & Meridian Irrigation District (NMID) has requested HDR's professional services in creating alternative conceptual designs to modernize the Ridenbaugh Diversion and headworks. In addition to the concept designs, HDR has compiled Opinions of Probable Construction Costs (OPCC) for the current seven alternatives included in the multi-criteria decision analysis (MCDA) process. This memo describes the level of detail of the OPCCs, the assumptions made concerning construction phasing and price escalation, and a summary of the means and results of the OPCC exercise.

Opinion of Probable Construction Costs – Classes

Any opinions of probable construction costs provided by HDR are made on the basis of information available to the HDR engineers and on the basis of the engineer's experience and qualifications. These opinions represent the estimator's judgment as an experienced and qualified professional engineer. However, since HDR has no control over the cost of labor, materials, equipment, or services furnished by others, over the contractor(s') methods of determining prices, or over competitive bidding or market conditions, HDR does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable cost presented here.

The level of detail required in cost estimating for different levels of design has been described in publications by the Association for the Advancement of Cost Engineering (AACE). AACE describes cost estimating "classes" which estimate the level of accuracy of cost estimates based on the level of design completion. The class definitions are included in Table 1.

Table 1. Classification of Construction Cost Estimates (from AACE)

Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
Project Phase Description[1]	Master Plan or Concept Design	Predesign Report and 10% Drawings	50% to 60% of Design Completed	90% to 95% of Design Complete	Bid Documents
Level of Project Definition[2]	0% to 2%	1% to 15%	10% to 40%	30% to 70%	70% to 100%
Accuracy of Estimate[2,3]	-50% to +100%	-30% to +50%	-20% to +30%	-15% to +20%	-10% to +15%
Undefined Work (Contingency)[2]	25% to 40%	20% to 30%	15% to 25%	10% to 20%	5% to 15%

Notes:
Estimates do not represent extreme market fluctuations due to events that cannot be predicted.

1. *Based on typical project deliverables*
2. *Based on OPCC definition*
3. *Accuracy represents the variance from the estimate. For example, a Class 4 estimate is -30% to +50% and will be between 0.7 and 1.5 times the estimate prepared by the engineer or professional estimator.*

For the Ridenbaugh Diversion Modernization, HDR has completed preliminary 10% designs on seven alternative concepts. Based on Table 1, HDR has compiled seven Class 4 OPCCs, with an expected accuracy from -30% to +50% of the estimated project cost.

Phasing and Escalation

NMID services approximately 69,000 acres of land throughout the district during the irrigation season from April to October and water delivery cannot be interrupted due to construction. Construction can only occur between November and the end of March. The design and construction scope were separated into three workflow phases to accommodate the construction season constraints: engineering design and permitting, first half of construction, and second half of construction. The first phase included the Permitting and Final Engineering Design OPCC line-item costs. The remaining line items were split into two equal workflows, however, HDR understands that it is most advantageous to complete as much construction as possible within the first season. This plan will be refined and may be modified as the design progresses. It is also expected that the successful construction contractor will create a detailed construction phasing plan that may differ from the assumptions presented in this memo.

With the three phases spanning the years 2024 to 2027, price escalation was added to the OPCC totals. With the limited phasing information available, a normal distribution was applied to each phases' cash flow. HDR assumed 5% cost escalation per year, applied in January of each year. The first phase was assumed to span June 2024 to June 2025. Assuming a normal distribution of costs over that time, 69% of the total cost of the first phase would occur in 2024 with no price escalation. 31% of the first phase would occur in 2025 and was escalated 5% from 2024 values. The second phase spanned November 2025 to March 2026. 16% of this phase's spending occurred in 2025 and was escalated 5% from 2024 values. 84% of this phase's spending occurred in 2026 and was escalated 10% from 2024 values. The final phase spanned November 2026 to March 2027. 16% of this phase's spending occurred in 2026 and was

escalated 10% from 2024 values. 84% of this phase's spending occurred in 2027 and was escalated 15% from 2024 values. Figure 1 shows an example monthly expenditure schedule including the annual 5% escalation.

Figure 1: Example Monthly Expenditure Graph with Escalation

Summary of Costs

HDR compiled Class 4 OPCCs for each of the seven alternatives. Phasing and escalation were included as described in the previous section. The estimates were compiled using information from previous experience and projects, recent bid forms on similar projects, and Gordon RSmeans data. Gordon RSmeans provides up to date 2024 construction unit costs for diverse types of construction projects, corrected for Boise, Idaho markets.

Due to the level of accuracy and detail with the 10% design concepts, HDR considers these OPCCs to be conservative. As the design progresses and the OPCCs are updated accordingly, HDR expects opportunities to reduce the overall cost. In addition to more accurate estimates, HDR has identified several opportunities to reduce the project cost:

- Budget considerations during equipment selection
- Early material procurement to reduce cost escalations
- Owner procurement to reduce Contractor markup costs
- Self-performance of smaller workflows

Table 2 shows the estimated cost summary for all conceptual design alternatives, including the estimated Class 4 accuracy range of -30% to +50%.

Appendix A includes the individual OPCC detailed spreadsheets for each alternative. Appendix B shows the individual Monthly Expenditure Schedules for each alternative. The Monthly Expenditure Schedule graphs show the estimated cost activities per month for the duration of the project.

Table 2. Alternative Concept Opinions of Probable Construction Costs

Alt.	Description	Low: 30%	Low: 15%	Estimate	High: +20%	High: +50%
1A	Crest Gates across River w/out Piers, Slotted Intake Wall	$ 14,040,300	$ 17,048,900	**$ 20,057,500**	$ 24,069,000	$ 30,086,300
1B	Crest Gates across River w/out Piers, Slotted Intake Wall, and Catwalk	$ 15,062,300	$ 18,290,000	**$ 21,517,600**	$ 25,821,100	$ 32,276,400
2	Three Crest Gates and Three Stop Log Bays, with Curved Intake	$ 13,996,600	$ 16,995,800	**$ 19,995,100**	$ 23,994,100	$ 29,992,600
3A	Crest Gates and Ogee Weir - Headgates Downstream	$ 14,677,100	$ 17,822,200	**$ 20,967,300**	$ 25,160,800	$ 31,451,000
3B	Crest Gates and Ogee Weir	$ 13,555,000	$ 16,459,700	**$ 19,364,300**	$ 23,237,200	$ 29,046,500
4A	Crest Gates, Center Pier, Catwalk with Curved Intake	$ 13,292,700	$ 16,141,100	**$ 18,989,600**	$ 22,787,500	$ 28,484,300
4B	Crest Gates and Ogee Weir with Curved Intake	$ 13,128,600	$ 15,941,800	**$ 18,755,100**	$ 22,506,100	$ 28,132,600

***Includes 5% annual cost escalations over three years*

Appendix A

Opinions of Probable Construction Costs

Class 4 Opinions of Probable Construction Cost Memo
June 17, 2024

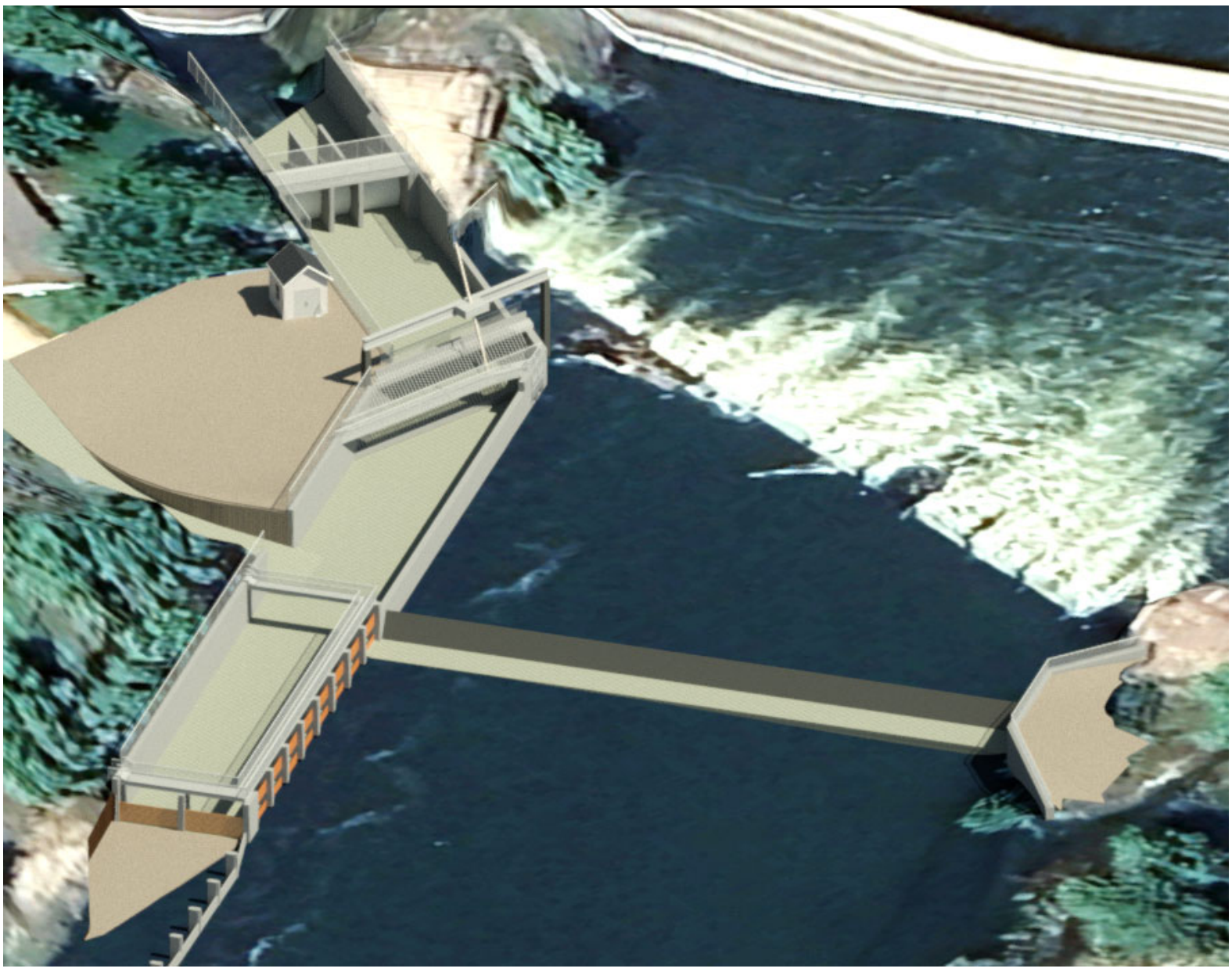
hdrinc.com 412 E. Parkcenter Blvd. Suite 100, Boise, ID 83706-6659
(208) 387-7000

Ridenbaugh Diversion Design Alternative 1A

Project: Ridenbaugh Modernization
Submittal: Task 15 - Preliminary Design OPCC

Estimate By: HDR
Date: 6/17/2024

Alternative: 1A - Crest Gates across River w/out Piers, Slotted Intake Wall



Concept Base Estimate Item Schedule

No	Item	Units	Quantity	Cost / Unit	Subtotal
02 Existing Conditions					
1	Construction Staking	LS	1	$ 25,000	$ 25,000
2	Crane Rental	LS	1	$ 132,000	$ 132,000
02 Existing Conditions					
3	Demolition - Diversion	LS	1	$ 90,000	$ 90,000
4	Demolition - Sediment Sill Wall	LS	1	$ 35,000	$ 35,000
5	Demolition - Trash Rack	LS	1	$ 15,000	$ 15,000
6	Demolition - 1936 Headgates/ Headwall/ Walkway	LS	1	$ 70,000	$ 70,000
7	Demolition - Headgate Forebay	LS	1	$ 10,000	$ 10,000
8	Demolition - Radial Headgates	LS	1	$ 20,000	$ 20,000
03 Concrete					
9	Concrete - Diversion	CY	536	$ 1,800	$ 964,800
10	Concrete - Inlet Channel Walls	CY	897	$ 1,800	$ 1,614,600
~~11~~	~~Concrete - Ogee Weir~~	CY	0	$ 1,800	$ -
~~12~~	~~Concrete - Trash Screen~~	CY	0	$ 1,800	$ -
~~13~~	~~Concrete - Head gates~~	CY	0	$ 1,800	$ -
14	Concrete - Parkside Abutment Walls	CY	80	$ 1,800	$ 144,000
~~15~~	~~Concrete - Debris boom anchors~~	CY	0	$ 1,800	$ -
05 Metals					
~~16~~	~~Metal - Headgates - Crest Gates~~	LF	0	$ 63	$ -
17	Metal - Headgates - Radial Gates	LF	60	$ 63	$ 3,780
18	Metal - Intake - Sluice Gates	LF	20	$ 63	$ 1,260
19	Metal - Diversion - Crest Gates	LF	170	$ 63	$ 10,710
20	Metal - Catwalk - Deck and Framing	SF	1176	$ 500	$ 588,000
21	Metal - Catwalk - Railing	LF	664	$ 142	$ 94,288
22	Metal - Trash Rack - Rack	LF	975	$ 63	$ 61,425
23	Metal - Trash Rack -Framing	LF	88	$ 231	$ 20,328
24	Metal - Stairs	Flight	2	$ 1,900	$ 3,800
25	Metal - Stoplogs - Mount	LF	120	$ 63	$ 7,560
26	Metal - Stoplogs - Stoplogs	LF	2136	$ 50	$ 106,800
06 Special Construction					
27	Building - SCADA and Controls	SF	100	$ 300	$ 30,000
11 Process Equipment					
28	Equipment - Headgates- Radial - 6'	EACH	1	$ 75,000	$ 75,000
29	Equipment - Headgates- Radial - (2) 12'	EACH	1	$ 300,000	$ 300,000

~~30~~	~~Equipment - Headgates- Crest~~	EACH	0	$ 115,000	$ -
31	Equipment - Diversion gates - Crest - 30'	EACH	5.5	$ 175,000	$ 962,500
32	Equipment - Intake gates- Sluice	EACH	2	$ 50,000	$ 100,000
33	Equipment - Trash Rack - Rake and Conveyor	EACH	1	$ 750,000	$ 750,000
~~34~~	~~Equipment - Diversion - Stop log hoist~~	EACH	0	$ 17,500	$ -
~~35~~	~~Equipment - Diversion - Stop log jib crane~~	EACH	0	$ 10,000	$ -
~~36~~	~~Equipment - Intake - Debris Boom~~	EACH	0	$ 46,000	$ -
37	Process Piping - Diversion	LF	200	$ 80	$ 16,000
38	Process Piping - Headgates	LF	100	$ 80	$ 8,000
39	Process Piping - Intake	LF	200	$ 80	$ 16,000
22 Plumbing					
40	Plumbing - Materials - Trash Rack Spray Bar	EACH	1	$ 14,000	$ 14,000
41	Plumbing - Labor - Trash Rack Spray Bar	EACH	1	$ 10,000	$ 10,000
25 Integrated Automation					
~~42~~	~~Controls - Headgates - Crest~~	LS	0	$ 100,000	$ -
43	Controls - Headgates - Radial	LS	1	$ 100,000	$ 100,000
44	Controls - Diversion gates - Crest	LS	1	$ 100,000	$ 100,000
45	Controls - Intake gates - Sluice	LS	1	$ 50,000	$ 50,000
46	Controls - Building - SCADA integration	LS	1	$ 50,000	$ 50,000
47	Controls - Trash Rack - equipment integration	LS	1	$ 20,000	$ 20,000
26 Electrical					
~~48~~	~~Electrical - Headgates - Crest~~	LS	0	$ 10,000	$ -
49	Electrical - Headgates - Radial	LS	1	$ 10,000	$ 10,000
50	Electrical - Diversion gates - Crest	LS	1	$ 10,000	$ 10,000
51	Electrical - Intake gates - Sluice	LS	1	$ 10,000	$ 10,000
52	Electrical - Building - SCADA	LS	1	$ 20,000	$ 20,000
53	Electrical - Trash Rack	LS	1	$ 7,500	$ 7,500
31 Earthwork					
54	Clearing - North Bank - Vegetation Clearing	Acre	1	$ 11,000	$ 11,000
55	Clearing - South Bank - Vegetation Clearing	Acre	0.5	$ 11,000	$ 5,500
56	Clearing - North Bank - Tree Removal	LS	1	$ 7,500	$ 7,500
57	Grading - North Bank - Abutment	SY	278	$ 4	$ 1,112
58	Grading - North Bank - Access Road	SY	2688	$ 4	$ 10,752
59	Grading - South Bank	SY	740	$ 4	$ 2,960
60	Excavation - Diversion	B.C.Y.	1111	$ 90	$ 99,990
61	Excavation - Intake	B.C.Y.	1165	$ 90	$ 104,850
62	Excavation - Intake ramp	B.C.Y.	2318	$ 90	$ 208,620
63	Excavation - Headgates	B.C.Y.	500	$ 90	$ 45,000
64	Erosion and Sediment Control	LF	500	$ 16	$ 8,000
65	Bank Stabilization - Riprap	CY	150	$ 140	$ 21,000
66	Water Management - Cofferdam	LS	1	$ 800,000	$ 800,000
67	Water Management - Dewatering	Days	264	$ 1,430	$ 377,520
68	Foundation - Piles	LF	433	$ 78	$ 33,774
32 Exterior Improvements					
69	Finish - Gravel - Ramp	SF	2318	$ 45	$ 104,310
70	Finish - Gravel - North Side Access	SF	24200	$ 50	$ 1,210,000
71	Fences - Fences and Gates (includes removal)	LF	535	$ 108	$ 57,780
72	Culvert - North Side Access	LF	70	$ 2,105	$ 147,350
73	Approach - North Side Access	SF	900	$ 50	$ 45,000
74	Structure - Park Kiosk	LS	1	$ 10,000	$ 10,000
75	Planting - North Side land restoration	Acre	1	$ 2,000	$ 2,000
76	Planting - South Side land restoration	Acre	0.5	$ 2,000	$ 1,000
33 Utilities					
77	Utilities - Transformer/Meter upgrade	LS	1	$ 25,000	$ 25,000
34 - Transportation					
78	Traffic Control	LS	$ 1	$ 100,000	$ 100,000
				Subtotal:	**$ 9,960,369**
		Mobilization	10%		$996,037
		General Conditions	6%		$597,622
		Permitting	2%		$149,406
		Insurance & Bonds	2%		$199,207
		Contractors Profit	15%		$1,494,055
		Estimating Contingency	30%		$2,988,111
		Engineering Construction Phase Services	5%		$498,018
		Final Engineering Design	12%		$1,195,244
				Base Estimate Total	**$18,078,070**
	Class IV Opinion of Probable Construction Cost Range (Present Value)			Low: -30%	$12,654,700
				Low: -15%	$15,366,400
				Estimate	$18,078,100
				High: +20%	$21,693,800
				High: +50%	$27,117,200

Ridenbaugh Diversion Design Alternative 1A

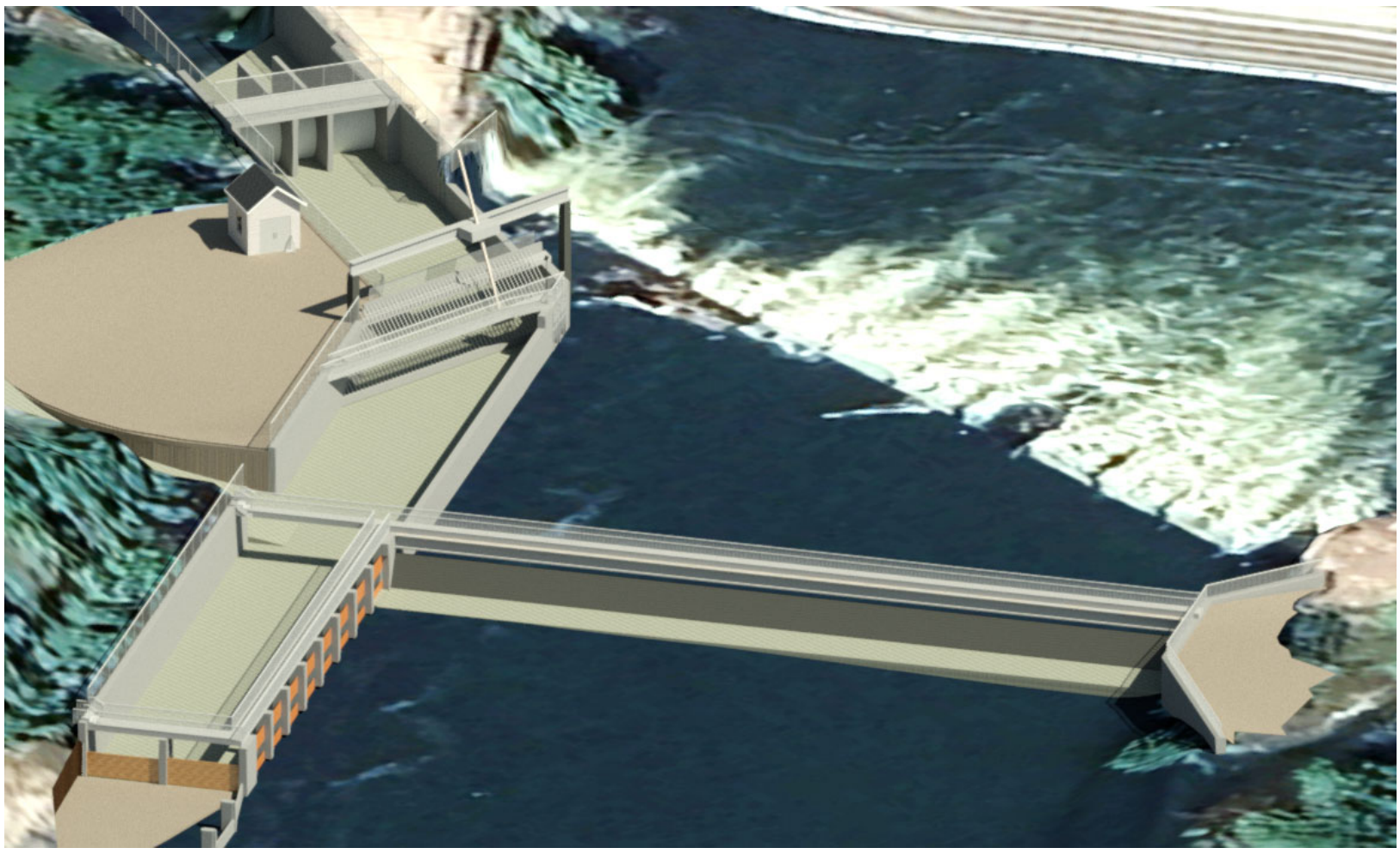
5% Annual Escalation Cost						
Estimate Range	**2024 Estimate**	**2025 Escalation**	**2026 Escalation**	**2027 Escalation**	**Total Escalation**	**Total Project Cost**
Low: -30%	$12,654,700	$61,200	$585,700	$738,900	$1,385,600	$14,040,300
Low: -15%	$15,366,400	$74,200	$711,200	$897,200	$1,682,600	$17,048,900
Estimate	$18,078,100	$87,300	$836,700	$1,055,500	$1,979,500	$20,057,500
High: +20%	$21,693,700	$104,800	$1,004,100	$1,266,600	$2,375,400	$24,069,000
High: +50%	$27,117,200	$131,000	$1,255,100	$1,583,200	$2,969,200	$30,086,300

Ridenbaugh Diversion Design Alternative 1B

Project: Ridenbaugh Modernization
Submittal: Task 15 - Preliminary Design OPCC

Estimate By: HDR
Date: 6/17/2024

Alternative: 1B - Crest Gates across River w/out Piers, Slotted Intake Wall and Catwalk



Concept Base Estimate Item Schedule

No	Item	Units	Quantity	Cost / Unit	Subtotal
02 Existing Conditions					
1	Construction Staking	LS	1	$ 25,000	$ 25,000
2	Crane Rental	LS	1	$ 132,000	$ 132,000
02 Existing Conditions					
3	Demolition - Diversion	LS	1	$ 90,000	$ 90,000
4	Demolition - Sediment Sill Wall	LS	1	$ 35,000	$ 35,000
5	Demolition - Trash Rack	LS	1	$ 15,000	$ 15,000
6	Demolition - 1936 Headgates/ Headwall/ Walkway	LS	1	$ 70,000	$ 70,000
7	Demolition - Headgate Forebay	LS	1	$ 10,000	$ 10,000
8	Demolition - Radial Headgates	LS	1	$ 20,000	$ 20,000
03 Concrete					
9	Concrete - Diversion	CY	536	$ 1,800	$ 964,800
10	Concrete - Inlet Channel Walls	CY	897	$ 1,800	$ 1,614,600
~~11~~	~~Concrete - Ogee Weir~~	CY	0	$ 1,800	$ -
~~12~~	~~Concrete - Trash Screen~~	CY	0	$ 1,800	$ -
~~13~~	~~Concrete - Head gates~~	CY	0	$ 1,800	$ -
14	Concrete - Parkside Abutment Walls	CY	80	$ 1,800	$ 144,000
~~15~~	~~Concrete - Debris boom anchors~~	CY	0	$ 1,800	$ -
05 Metals					
~~16~~	~~Metal - Headgates - Crest Gates~~	LF	0	$ 63	$ -
17	Metal - Headgates - Radial Gates	LF	60	$ 63	$ 3,780
18	Metal - Intake - Sluice Gates	LF	20	$ 63	$ 1,260
19	Metal - Diversion - Crest Gates	LF	340	$ 63	$ 21,420
20	Metal - Catwalk - Deck and Framing	SF	2508	$ 500	$ 1,254,000
21	Metal - Catwalk - Railing	LF	991	$ 142	$ 140,722
22	Metal - Trash Rack - Rack	LF	975	$ 63	$ 61,425
23	Metal - Trash Rack -Framing	LF	88	$ 231	$ 20,328
24	Metal - Stairs	Flight	3	$ 1,900	$ 5,700
25	Metal - Stoplogs - Mount	LF	120	$ 63	$ 7,560
26	Metal - Stoplogs - Stoplogs	LF	2136	$ 50	$ 106,800
06 Special Construction					
27	Building - SCADA and Controls	SF	100	$ 300	$ 30,000
11 Process Equipment					
28	Equipment - Headgates- Radial - 6'	EACH	1	$ 75,000	$ 75,000
29	Equipment - Headgates- Radial - (2) 12'	EACH	1	$ 300,000	$ 300,000
~~30~~	~~Equipment - Headgates- Crest~~	EACH	0	$ 115,000	$ -
31	Equipment - Diversion gates - Crest - 30'	EACH	5.5	$ 175,000	$ 962,500
32	Equipment - Intake gates- Sluice	EACH	2	$ 50,000	$ 100,000
33	Equipment - Trash Rack - Rake and Conveyor	EACH	1	$ 750,000	$ 750,000
~~34~~	~~Equipment - Diversion - Stop log hoist~~	EACH	0	$ 17,500	$ -

~~35~~	~~Equipment - Diversion - Stop log jib crane~~	EACH	0	$ 10,000	$ -
~~36~~	~~Equipment - Intake - Debris Boom~~	EACH	0	$ 46,000	$ -
37	Process Piping - Diversion	LF	200	$ 80	$ 16,000
38	Process Piping - Headgates	LF	100	$ 80	$ 8,000
39	Process Piping - Intake	LF	200	$ 80	$ 16,000
22 Plumbing					
40	Plumbing - Materials - Trash Rack Spray Bar	EACH	1	$ 14,000	$ 14,000
41	Plumbing - Labor - Trash Rack Spray Bar	EACH	1	$ 10,000	$ 10,000
25 Integrated Automation					
~~42~~	~~Controls - Headgates - Crest~~	LS	0	$ 100,000	$ -
43	Controls - Headgates - Radial	LS	1	$ 100,000	$ 100,000
44	Controls - Diversion gates - Crest	LS	1	$ 100,000	$ 100,000
45	Controls - Intake gates - Sluice	LS	1	$ 50,000	$ 50,000
46	Controls - Building - SCADA integration	LS	1	$ 50,000	$ 50,000
47	Controls - Trash Rack - equipment integration	LS	1	$ 20,000	$ 20,000
26 Electrical					
~~48~~	~~Electrical - Headgates - Crest~~	LS	0	$ 10,000	$ -
49	Electrical - Headgates - Radial	LS	1	$ 10,000	$ 10,000
50	Electrical - Diversion gates - Crest	LS	1	$ 10,000	$ 10,000
51	Electrical - Intake gates - Sluice	LS	1	$ 10,000	$ 10,000
52	Electrical - Building - SCADA	LS	1	$ 20,000	$ 20,000
53	Electrical - Trash Rack	LS	1	$ 7,500	$ 7,500
31 Earthwork					
54	Clearing - North Bank - Vegetation Clearing	Acre	1	$ 11,000	$ 11,000
55	Clearing - South Bank - Vegetation Clearing	Acre	0.5	$ 11,000	$ 5,500
56	Clearing - North Bank - Tree Removal	LS	1	$ 7,500	$ 7,500
57	Grading - North Bank - Abutment	SY	278	$ 4	$ 1,112
58	Grading - North Bank - Access Road	SY	2688	$ 4	$ 10,752
59	Grading - South Bank	SY	740	$ 4	$ 2,960
60	Excavation - Diversion	B.C.Y.	1111	$ 90	$ 99,990
61	Excavation - Intake	B.C.Y.	1165	$ 90	$ 104,850
62	Excavation - Intake ramp	B.C.Y.	2318	$ 90	$ 208,620
63	Excavation - Headgates	B.C.Y.	500	$ 90	$ 45,000
64	Erosion and Sediment Control	LF	500	$ 16	$ 8,000
65	Bank Stabilization - Riprap	CY	150	$ 140	$ 21,000
66	Water Management - Cofferdam	LS	1	$ 800,000	$ 800,000
67	Water Management - Dewatering	Days	264	$ 1,430	$ 377,520
68	Foundation - Piles	LF	433	$ 78	$ 33,774
32 Exterior Improvements					
69	Finish - Gravel - Ramp	SF	2318	$ 45	$ 104,310
70	Finish - Gravel - North Side Access	SF	24200	$ 50	$ 1,210,000
71	Fences - Fences and Gates (includes removal)	LF	535	$ 108	$ 57,780
72	Culvert - North Side Access	LF	70	$ 2,105	$ 147,350
73	Approach - North Side Access	SF	900	$ 50	$ 45,000
74	Structure - Park Kiosk	LS	1	$ 10,000	$ 10,000
75	Planting - North Side land restoration	Acre	1	$ 2,000	$ 2,000
76	Planting - South Side land restoration	Acre	0.5	$ 2,000	$ 1,000
33 Utilities					
77	Utilities - Transformer/Meter upgrade	LS	1	$ 25,000	$ 25,000
34 - Transportation					
78	Traffic Control	LS	1	$ 100,000	$ 100,000
				Subtotal:	**$10,685,413**
	Mobilization	10%			$1,068,541
	General Conditions	6%			$641,125
	Permitting	2%			$160,281
	Insurance & Bonds	2%			$213,708
	Contractors Profit	15%			$1,602,812
	Estimating Contingency	30%			$3,205,624
	Engineering Construction Phase Services	5%			$534,271
	Final Engineering Design	12%			$1,282,250
				Base Estimate Total	**$19,394,025**

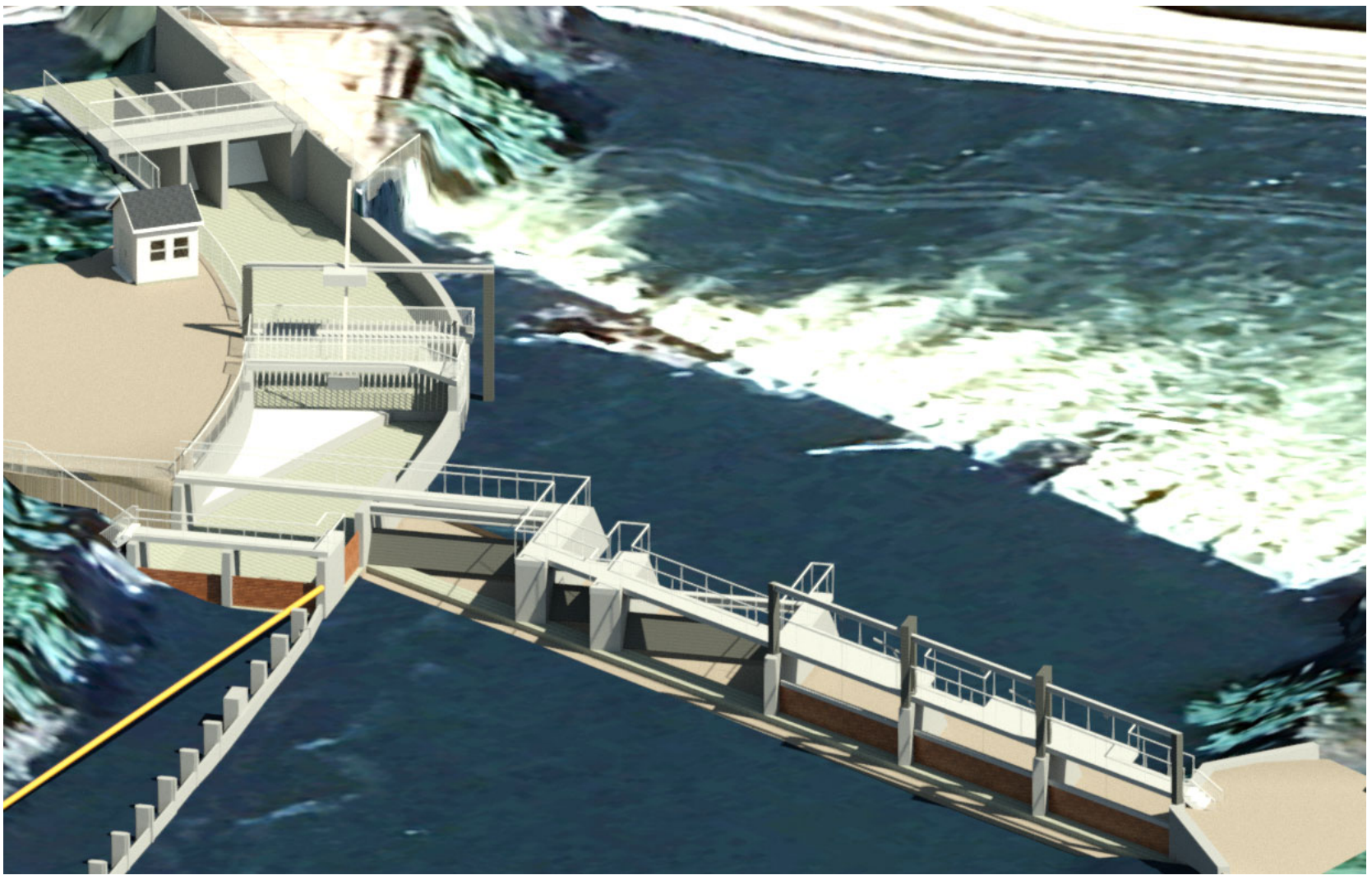
Class IV Opinion of Probable Construction Cost Range	Low: -30%	$13,575,900
(Present Value)	Low: -15%	$16,485,000
	Estimate	$19,394,100
	High: +20%	$23,272,900
	High: +50%	$29,091,100

Ridenbaugh Diversion Design Alternative 1B

5% Annual Escalation						
Estimate Range	2024 Estimate	2025 Escalation	2026 Escalation	2027 Escalation	Total Escalation	Total Project
Low: -30%	$13,575,900	$65,600	$628,400	$792,700	$1,486,500	$15,062,300
Low: -15%	$16,485,000	$79,600	$763,000	$962,500	$1,805,000	$18,290,000
Estimate	$19,394,100	$93,700	$897,600	$1,132,300	$2,123,600	$21,517,600
High: +20%	$23,272,900	$112,400	$1,077,100	$1,358,800	$2,548,300	$25,821,100
High: +50%	$29,091,100	$140,500	$1,346,400	$1,698,500	$3,185,300	$32,276,400

Project: Ridenbaugh Modernization
Submittal: Task 15 - Preliminary Design OPCC
Estimate By: HDR
Date: 6/17/2024

Alternative: 2 - Three Crest Gates and Three Stop Log Bays, with Curved Intake



Concept Base Estimate Item Schedule

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1	Construction Staking	LS	1	$ 25,000	$ 25,000
2	Crane Rental	LS	1	$ 132,000	$ 132,000
02 Existing Conditions					
3	Demolition - Diversion	LS	1	$ 90,000	$ 90,000
4	Demolition - Sediment Sill Wall	LS	1	$ 35,000	$ 35,000
5	Demolition - Trash Rack	LS	1	$ 15,000	$ 15,000
6	Demolition - 1936 Headgates/ Headwall/ Walkway	LS	1	$ 70,000	$ 70,000
7	Demolition - Headgate Forebay	LS	1	$ 10,000	$ 10,000
8	Demolition - Radial Headgates	LS	1	$ 20,000	$ 20,000
03 Concrete					
9	Concrete - Diversion	CY	856	$ 1,800	$ 1,540,800
10	Concrete - Inlet Channel Walls	CY	514	$ 1,800	$ 925,200
~~11~~	~~Concrete - Ogee Weir~~	CY	0	$ 1,800	$ -
~~12~~	~~Concrete - Trash Screen~~	CY	0	$ 1,800	$ -
~~13~~	~~Concrete - Head gates~~	CY	0	$ 1,800	$ -
14	Concrete - Parkside Abutment Walls	CY	61	$ 1,800	$ 109,800
15	Concrete - Debris boom anchors	CY	0.15	$ 1,800	$ 270
05 Metals					
16	Metal - Headgates - Crest Gates	LF	40	$ 63	$ 2,520
~~17~~	~~Metal - Headgates - Radial Gates~~	LF	0	$ 63	$ -
18	Metal - Intake - Sluice Gates	LF	20	$ 63	$ 1,260
19	Metal - Diversion - Crest Gates	LF	200	$ 63	$ 12,600
20	Metal - Catwalk - Deck and Framing	SF	2315	$ 500	$ 1,157,500
21	Metal - Catwalk - Railing	LF	835	$ 142	$ 118,570
22	Metal - Trash Rack - Rack	LF	975	$ 63	$ 61,425
23	Metal - Trash Rack -Framing	LF	88	$ 231	$ 20,328
24	Metal - Stairs	Flight	4	$ 1,900	$ 7,600
25	Metal - Stoplogs - Mount	LF	84	$ 63	$ 5,292
26	Metal - Stoplogs - Stoplogs	LF	1932	$ 50	$ 96,600
06 Special Construction					
27	Building - SCADA and Controls	SF	100	$ 300	$ 30,000
11 Process Equipment					
~~28~~	~~Equipment - Headgates- Radial - 6'~~	EACH	0	$ 75,000	$ -
~~29~~	~~Equipment - Headgates- Radial - (2) 12'~~	EACH	0	$ 300,000	$ -
30	Equipment - Headgates- Crest	EACH	3	$ 115,000	$ 345,000
31	Equipment - Diversion gates - Crest - 30'	EACH	2.5	$ 175,000	$ 437,500
32	Equipment - Intake gates- Sluice	EACH	2	$ 50,000	$ 100,000
33	Equipment - Trash Rack - Rake and Conveyor	EACH	1	$ 750,000	$ 750,000

34	Equipment - Diversion - Stop log hoist	EACH	3	$ 17,500	$ 52,500
35	Equipment - Diversion - Stop log jib crane	EACH	2	$ 10,000	$ 20,000
36	Equipment - Intake - Debris Boom	EACH	1	$ 46,000	$ 46,000
37	Process Piping - Diversion	LF	200	$ 80	$ 16,000
38	Process Piping - Headgates	LF	100	$ 80	$ 8,000
39	Process Piping - Intake	LF	200	$ 80	$ 16,000
22 Plumbing					
40	Plumbing - Materials - Trash Rack Spray Bar	EACH	1	$ 14,000	$ 14,000
41	Plumbing - Labor - Trash Rack Spray Bar	EACH	1	$ 10,000	$ 10,000
25 Integrated Automation					
42	Controls - Headgates - Crest	LS	1	$ 100,000	$ 100,000
~~43~~	~~Controls - Headgates - Radial~~	LS	0	$ 100,000	$ -
44	Controls - Diversion gates - Crest	LS	1	$ 100,000	$ 100,000
45	Controls - Intake gates - Sluice	LS	1	$ 50,000	$ 50,000
46	Controls - Building - SCADA integration	LS	1	$ 50,000	$ 50,000
47	Controls - Trash Rack - equipment integration	LS	1	$ 20,000	$ 20,000
26 Electrical					
48	Electrical - Headgates - Crest	LS	1	$ 10,000	$ 10,000
~~49~~	~~Electrical - Headgates - Radial~~	LS	0	$ 10,000	$ -
50	Electrical - Diversion gates - Crest	LS	1	$ 10,000	$ 10,000
51	Electrical - Intake gates - Sluice	LS	1	$ 10,000	$ 10,000
52	Electrical - Building - SCADA	LS	1	$ 20,000	$ 20,000
53	Electrical - Trash Rack	LS	1	$ 7,500	$ 7,500
31 Earthwork					
54	Clearing - North Bank - Vegetation Clearing	Acre	1	$ 11,000	$ 11,000
55	Clearing - South Bank - Vegetation Clearing	Acre	0.5	$ 11,000	$ 5,500
56	Clearing - North Bank - Tree Removal	LS	1	$ 7,500	$ 7,500
57	Grading - North Bank - Abutment	SY	278	$ 4	$ 1,112
58	Grading - North Bank - Access Road	SY	2688	$ 4	$ 10,752
59	Grading - South Bank	SY	740	$ 4	$ 2,960
60	Excavation - Diversion	B.C.Y.	1156	$ 90	$ 104,040
61	Excavation - Intake	B.C.Y.	814	$ 90	$ 73,260
62	Excavation - Intake ramp	B.C.Y.	2318	$ 90	$ 208,620
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68	Foundation - Piles	LF	433	$ 78	$ 33,774
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69	Finish - Gravel - Ramp	SF	2318	$ 45	$ 104,310
70	Finish - Gravel - North Side Access	SF	24200	$ 50	$ 1,210,000
71	Fences - Fences and Gates (includes removal)	LF	485	$ 108	$ 52,380
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74	Structure - Park Kiosk	LS	1	$ 10,000	$ 10,000
75	Planting - North Side land restoration	Acre	1	$ 2,000	$ 2,000
76	Planting - South Side land restoration	Acre	0.5	$ 2,000	$ 1,000
33 Utilities					
77	Utilities - Transformer/Meter upgrade	LS	1	$ 25,000.00	$ 25,000.00
34 - Transportation					
78	Traffic Control	LS	1	$ 100,000	$100,000
				Subtotal:	**$9,929,343**
	Mobilization	10%			$992,934
	General Conditions	6%			$595,761
	Permitting	2%			$148,940
	Insurance & Bonds	2%			$198,587
	Contractors Profit	15%			$1,489,401
	Estimating Contingency	30%			$2,978,803
	Engineering Construction Phase Services	5%			$496,467
	Final Engineering Design	12%			$1,191,521
				Base Estimate Total	**$18,021,758**

Class IV Opinion of Probable Construction Cost Range	Low: -30%	$12,615,300
(Present Value)	Low: -15%	$15,318,500
	Estimate	$18,021,800
	High: +20%	$21,626,200
	High: +50%	$27,032,700

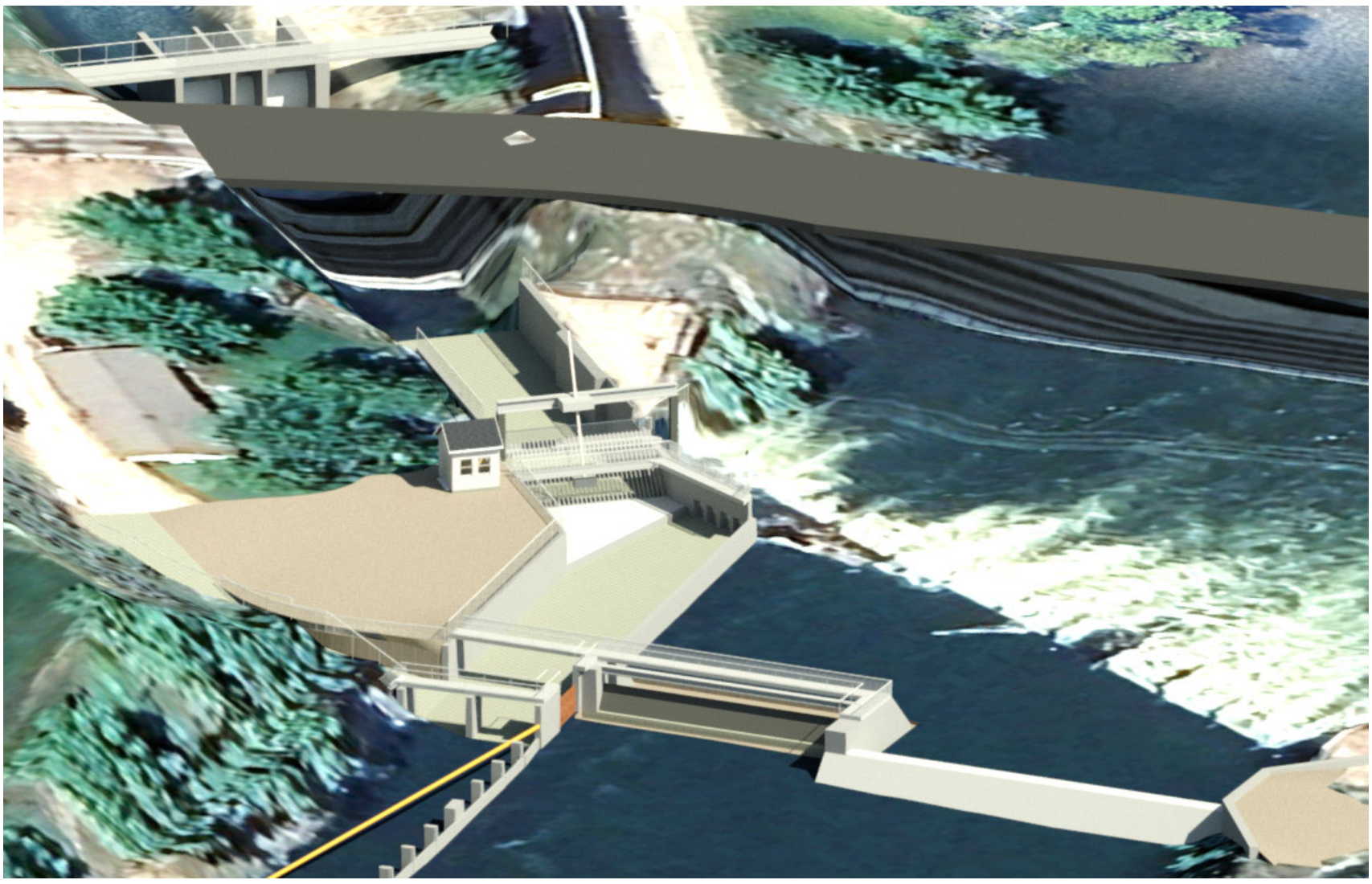
Ridenbaugh Diversion Design Alternative 2

5% Annual Escalation						
Estimate Range	**2024 Estimate**	**2025 Escalation**	**2026 Escalation**	**2027 Escalation**	**Total Escalation**	**Total Estimate**
Low: -30%	$12,615,300	$61,000	$583,900	$736,600	$1,381,300	$13,996,600
Low: -15%	$15,318,500	$74,000	$709,000	$894,400	$1,677,300	$16,995,800
Estimate	$18,021,800	$87,100	$834,100	$1,052,200	$1,973,300	$19,995,100
High: +20%	$21,626,200	$104,500	$1,000,900	$1,262,700	$2,368,000	$23,994,100
High: +50%	$27,032,700	$130,600	$1,251,100	$1,578,300	$2,959,900	$29,992,600

Project: Ridenbaugh Modernization
Submittal: Task 15 - Preliminary Design OPCC

Estimate By: HDR
Date: 6/17/2024

Alternative: 3A- Crest Gates and Ogee Weir - Headgates Downstream



Concept Base Estimate Item Schedule

No	Item	Units	Quantity	Cost / Unit	Subtotal
02 Existing Conditions					
1	Construction Staking	LS	1	$ 25,000	$ 25,000
2	Crane Rental	LS	1	$ 132,000	$ 132,000
02 Existing Conditions					
3	Demolition - Diversion	LS	1	$ 90,000	$ 90,000
4	Demolition - Sediment Sill Wall	LS	1	$ 35,000	$ 35,000
5	Demolition - Trash Rack	LS	1	$ 15,000	$ 15,000
6	Demolition - 1936 Headgates/ Headwall/ Walkway	LS	1	$ 70,000	$ 70,000
7	Demolition - Headgate Forebay	LS	1	$ 10,000	$ 10,000
8	Demolition - Radial Headgates	LS	1	$ 20,000	$ 20,000
03 Concrete					
9	Concrete - Diversion	CY	639	$ 1,800	$ 1,150,200
10	Concrete - Inlet Channel Walls	CY	578	$ 1,800	$ 1,040,400
11	Concrete - Ogee Weir	CY	346	$ 1,800	$ 622,800
~~12~~	~~Concrete - Trash Screen~~	CY	0	$ 1,800	$ -
13	Concrete - Head gates	CY	200	$ 1,800	$ 360,000
14	Concrete - Parkside Abutment Walls	CY	65	$ 1,800	$ 117,000
15	Concrete - Debris boom anchors	CY	0.15	$ 1,800	$ 270
05 Metals					
16	Metal - Headgates - Crest Gates	LF	40	$ 63	$ 2,520
~~17~~	~~Metal - Headgates - Radial Gates~~	LF	0	$ 63	$ -
18	Metal - Intake - Sluice Gates	LF	20	$ 63	$ 1,260
19	Metal - Diversion - Crest Gates	LF	200	$ 63	$ 12,600
20	Metal - Catwalk - Deck and Framing	SF	2084	$ 500	$ 1,042,000
21	Metal - Catwalk - Railing	LF	714	$ 142	$ 101,388
22	Metal - Trash Rack - Rack	LF	975	$ 63	$ 61,425
23	Metal - Trash Rack -Framing	LF	85	$ 231	$ 19,635
24	Metal - Stairs	Flight	3	$ 1,900	$ 5,700
25	Metal - Stoplogs - Mount	LF	48	$ 63	$ 3,024
26	Metal - Stoplogs - Stoplogs	LF	720	$ 50	$ 36,000
06 Special Construction					
27	Building - SCADA and Controls	SF	100	$ 300	$ 30,000
11 Process Equipment					
~~28~~	~~Equipment - Headgates- Radial - 6'~~	EACH	0	$ 75,000	$ -
~~29~~	~~Equipment - Headgates- Radial - (2) 12'~~	EACH	0	$ 300,000	$ -
30	Equipment - Headgates- Crest	EACH	3	$ 115,000	$ 345,000
31	Equipment - Diversion gates - Crest - 30'	EACH	2	$ 175,000	$ 350,000
32	Equipment - Intake gates- Sluice	EACH	4	$ 50,000	$ 200,000

33	Equipment - Trash Rack - Rake and Conveyor	EACH	1	$ 750,000	$ 750,000
~~34~~	~~Equipment - Diversion - Stop log hoist~~	EACH	0	$ 17,500	$ -
~~35~~	~~Equipment - Diversion - Stop log jib crane~~	EACH	0	$ 10,000	$ -
36	Equipment - Intake - Debris Boom	EACH	1	$ 46,000	$ 46,000
37	Process Piping - Diversion	LF	200	$ 80	$ 16,000
38	Process Piping - Headgates	LF	100	$ 80	$ 8,000
39	Process Piping - Intake	LF	200	$ 80	$ 16,000
22 Plumbing					
40	Plumbing - Materials - Trash Rack Spray Bar	EACH	1	$ 14,000	$ 14,000
41	Plumbing - Labor - Trash Rack Spray Bar	EACH	1	$ 10,000	$ 10,000
25 Integrated Automation					
42	Controls - Headgates - Crest	LS	1	$ 100,000	$ 100,000
~~43~~	~~Controls - Headgates - Radial~~	LS	0	$ 100,000	$ -
44	Controls - Diversion gates - Crest	LS	1	$ 100,000	$ 100,000
45	Controls - Intake gates - Sluice	LS	1	$ 50,000	$ 50,000
46	Controls - Building - SCADA integration	LS	1	$ 50,000	$ 50,000
47	Controls - Trash Rack - equipment integration	LS	1	$ 20,000	$ 20,000
26 Electrical					
48	Electrical - Headgates - Crest	LS	1	$ 10,000	$ 10,000
~~49~~	~~Electrical - Headgates - Radial~~	LS	0	$ 10,000	$ -
50	Electrical - Diversion gates - Crest	LS	1	$ 10,000	$ 10,000
51	Electrical - Intake gates - Sluice	LS	1	$ 10,000	$ 10,000
52	Electrical - Building - SCADA	LS	1	$ 20,000	$ 20,000
53	Electrical - Trash Rack	LS	1	$ 7,500	$ 7,500
31 Earthwork					
54	Clearing - North Bank - Vegetation Clearing	Acre	1	$ 11,000	$ 11,000
55	Clearing - South Bank - Vegetation Clearing	Acre	0.5	$ 11,000	$ 5,500
56	Clearing - North Bank - Tree Removal	LS	1	$ 7,500	$ 7,500
57	Grading - North Bank - Abutment	SY	278	$ 4	$ 1,112
58	Grading - North Bank - Access Road	SY	2688	$ 4	$ 10,752
59	Grading - South Bank	SY	740	$ 4	$ 2,960
60	Excavation - Diversion	B.C.Y.	939	$ 90	$ 84,510
61	Excavation - Intake	B.C.Y.	878	$ 90	$ 79,020
62	Excavation - Intake ramp	B.C.Y.	2318	$ 90	$ 208,620
63	Excavation - Headgates	B.C.Y.	1000	$ 90	$ 90,000
64	Erosion and Sediment Control	LF	500	$ 16	$ 8,000
65	Bank Stabilization - Riprap	CY	150	$ 140	$ 21,000
66	Water Management - Cofferdam	LS	1	$ 800,000	$ 800,000
67	Water Management - Dewatering	Days	264	$ 1,430	$ 377,520
68	Foundation - Piles	LF	419	$ 78	$ 32,682
32 Exterior Improvements					
69	Finish - Gravel - Ramp	SF	2318	$ 45	$ 104,310
70	Finish - Gravel - North Side Access	SF	24200	$ 50	$ 1,210,000
71	Fences - Fences and Gates (includes removal)	LF	450	$ 108	$ 48,600
72	Culvert - North Side Access	LF	70	$ 2,105	$ 147,350
73	Approach - North Side Access	SF	900	$ 50	$ 45,000
74	Structure - Park Kiosk	LS	1	$ 10,000	$ 10,000
75	Planting - North Side land restoration	Acre	1	$ 2,000	$ 2,000
76	Planting - South Side land restoration	Acre	0.5	$ 2,000	$ 1,000
33 Utilities					
77	Utilities - Transformer/Meter upgrade	LS	1	$ 25,000	$ 25,000
34 - Transportation					
78	Traffic Control	LS	1	$ 100,000	$ 100,000.00
				Subtotal:	**$10,412,158**
	Mobilization	10%			$1,041,216
	General Conditions	6%			$624,729
	Permitting	2%			$156,182
	Insurance & Bonds	2%			$208,243
	Contractors Profit	15%			$1,561,824
	Estimating Contingency	30%			$3,123,647
	Engineering Construction Phase Services	5%			$520,608
	Final Engineering Design	12%			$1,249,459
				Base Estimate Total	**$18,898,067**

Class IV Opinion of Probable Construction Cost Range	Low: -30%	$13,228,700
(Present Value)	Low: -15%	$16,063,400
	Estimate	$18,898,100
	High: +20%	$22,677,700
	High: +50%	$28,347,200

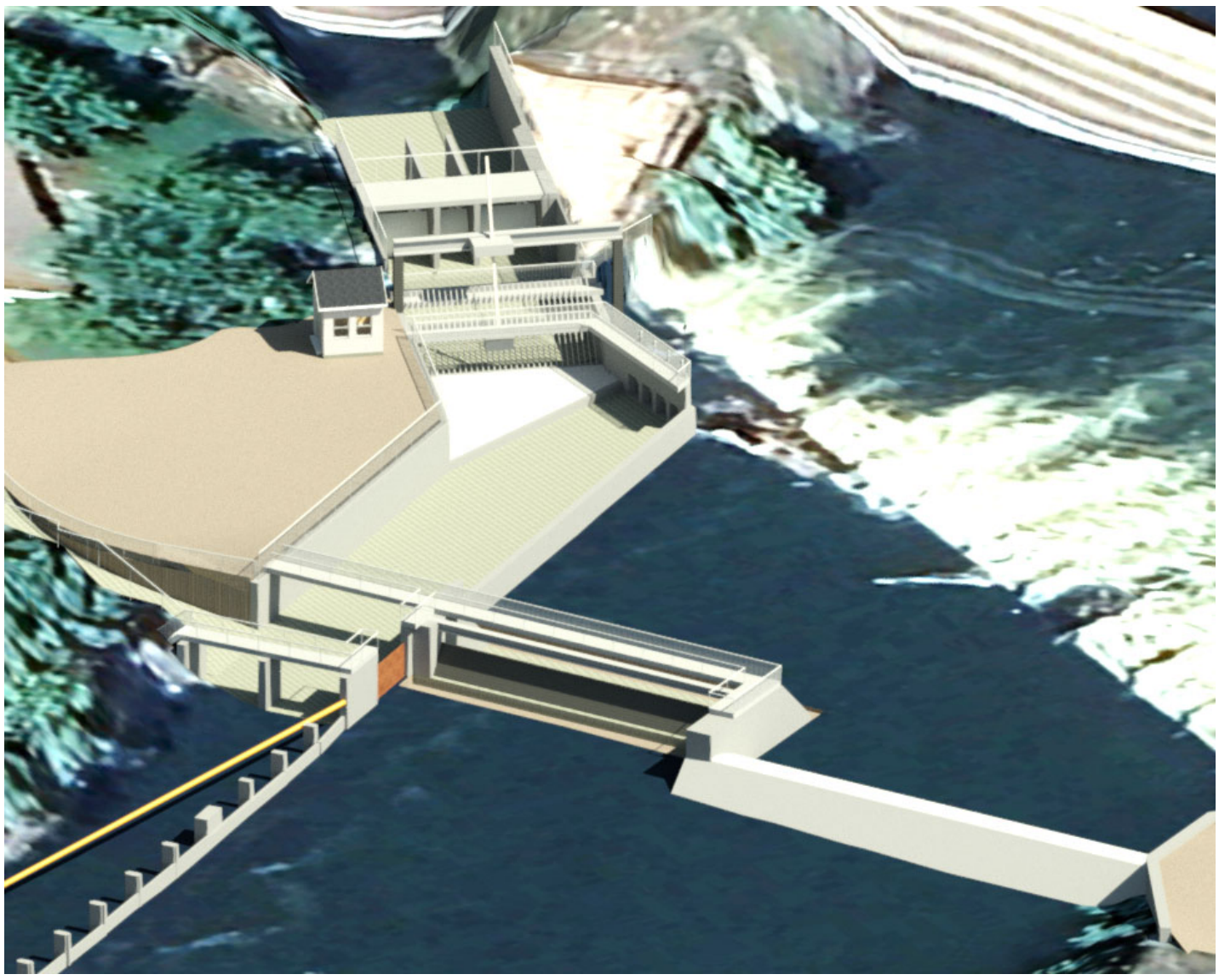
Ridenbaugh Diversion Design Alternative 3A

5% Annual Escalation						
Estimate Range	**2024 Estimate**	**2025 Escalation**	**2026 Escalation**	**2027 Escalation**	**Total Escalation**	**Total Estimate**
Low: -30%	$13,228,700	$63,900	$612,300	$772,400	$1,448,500	$14,677,100
Low: -15%	$16,063,400	$77,600	$743,500	$937,900	$1,758,900	$17,822,200
Estimate	$18,898,100	$91,300	$874,700	$1,103,400	$2,069,300	$20,967,300
High: +20%	$22,677,700	$109,500	$1,049,600	$1,324,100	$2,483,100	$25,160,800
High: +50%	$28,347,200	$136,900	$1,312,000	$1,655,100	$3,103,900	$31,451,000

Project: Ridenbaugh Modernization
Submittal: Task 15 - Preliminary Design OPCC

Estimate By: HDR
Date: 6/17/2024

Alternative: 3B- Crest Gates and Ogee Weir



Concept Base Estimate Item Schedule

No	Item	Units	Quantity	Cost / Unit	Subtotal
02 Existing Conditions					
1	Construction Staking	LS	1	$ 25,000	$ 25,000
2	Crane Rental	LS	1	$ 132,000	$ 132,000
02 Existing Conditions					
3	Demolition - Diversion	LS	1	$ 90,000	$ 90,000
4	Demolition - Sediment Sill Wall	LS	1	$ 35,000	$ 35,000
5	Demolition - Trash Rack	LS	1	$ 15,000	$ 15,000
6	Demolition - 1936 Headgates/ Headwall/ Walkway	LS	1	$ 70,000	$ 70,000
7	Demolition - Headgate Forebay	LS	1	$ 10,000	$ 10,000
8	Demolition - Radial Headgates	LS	1	$ 20,000	$ 20,000
03 Concrete					
9	Concrete - Diversion	CY	639	$ 1,800	$ 1,150,200
10	Concrete - Inlet Channel Walls	CY	578	$ 1,800	$ 1,040,400
11	Concrete - Ogee Weir	CY	346	$ 1,800	$ 622,800
~~12~~	~~Concrete - Trash Screen~~	CY	0	$ 1,800	$ -
~~13~~	~~Concrete - Head gates~~	CY	0	$ 1,800	$ -
14	Concrete - Parkside Abutment Walls	CY	65	$ 1,800	$ 117,000
15	Concrete - Debris boom anchors	CY	0.15	$ 1,800	$ 270
05 Metals					
16	Metal - Headgates - Crest Gates	LF	40	$ 63	$ 2,520
~~17~~	~~Metal - Headgates - Radial Gates~~	LF	0	$ 63	$ -
18	Metal - Intake - Sluice Gates	LF	20	$ 63	$ 1,260
19	Metal - Diversion - Crest Gates	LF	200	$ 63	$ 12,600
20	Metal - Catwalk - Deck and Framing	SF	1285	$ 500	$ 642,500
21	Metal - Catwalk - Railing	LF	714	$ 142	$ 101,388
22	Metal - Trash Rack - Rack	LF	975	$ 63	$ 61,425
23	Metal - Trash Rack -Framing	LF	85	$ 231	$ 19,635
24	Metal - Stairs	Flight	3	$ 1,900	$ 5,700
25	Metal - Stoplogs - Mount	LF	48	$ 63	$ 3,024
26	Metal - Stoplogs - Stoplogs	LF	720	$ 50	$ 36,000
06 Special Construction					
27	Building - SCADA and Controls	SF	100	$ 300	$ 30,000
11 Process Equipment					
~~28~~	~~Equipment - Headgates- Radial - 6'~~	EACH	0	$ 75,000	$ -
~~29~~	~~Equipment - Headgates- Radial - (2) 12'~~	EACH	0	$ 300,000	$ -
30	Equipment - Headgates- Crest	EACH	3	$ 115,000	$ 345,000
31	Equipment - Diversion gates - Crest - 30'	EACH	2	$ 175,000	$ 350,000

32	Equipment - Intake gates- Sluice	EACH	4	$ 50,000	$ 200,000
33	Equipment - Trash Rack - Rake and Conveyor	EACH	1	$ 750,000	$ 750,000
~~34~~	~~Equipment - Diversion - Stop log hoist~~	EACH	0	$ 17,500	$ -
~~35~~	~~Equipment - Diversion - Stop log jib crane~~	EACH	0	$ 10,000	$ -
36	Equipment - Intake - Debris Boom	EACH	1	$ 46,000	$ 46,000
37	Process Piping - Diversion	LF	200	$ 80	$ 16,000
38	Process Piping - Headgates	LF	100	$ 80	$ 8,000
39	Process Piping - Intake	LF	200	$ 80	$ 16,000
22 Plumbing					
40	Plumbing - Materials - Trash Rack Spray Bar	EACH	1	$ 14,000	$ 14,000
41	Plumbing - Labor - Trash Rack Spray Bar	EACH	1	$ 10,000	$ 10,000
25 Integrated Automation					
42	Controls - Headgates - Crest	LS	1	$ 100,000	$ 100,000
~~43~~	~~Controls - Headgates - Radial~~	LS	0	$ 100,000	$ -
44	Controls - Diversion gates - Crest	LS	1	$ 100,000	$ 100,000
45	Controls - Intake gates - Sluice	LS	1	$ 50,000	$ 50,000
46	Controls - Building - SCADA integration	LS	1	$ 50,000	$ 50,000
47	Controls - Trash Rack - equipment integration	LS	1	$ 20,000	$ 20,000
26 Electrical					
48	Electrical - Headgates - Crest	LS	1	$ 10,000	$ 10,000
~~49~~	~~Electrical - Headgates - Radial~~	LS	0	$ 10,000	$ -
50	Electrical - Diversion gates - Crest	LS	1	$ 10,000	$ 10,000
51	Electrical - Intake gates - Sluice	LS	1	$ 10,000	$ 10,000
52	Electrical - Building - SCADA	LS	1	$ 20,000	$ 20,000
53	Electrical - Trash Rack	LS	1	$ 7,500	$ 7,500
31 Earthwork					
54	Clearing - North Bank - Vegetation Clearing	Acre	1	$ 11,000	$ 11,000
55	Clearing - South Bank - Vegetation Clearing	Acre	0.5	$ 11,000	$ 5,500
56	Clearing - North Bank - Tree Removal	LS	1	$ 7,500	$ 7,500
57	Grading - North Bank - Abutment	SY	278	$ 4	$ 1,112
58	Grading - North Bank - Access Road	SY	2688	$ 4	$ 10,752
59	Grading - South Bank	SY	740	$ 4	$ 2,960
60	Excavation - Diversion	B.C.Y.	939	$ 90	$ 84,510
61	Excavation - Intake	B.C.Y.	878	$ 90	$ 79,020
62	Excavation - Intake ramp	B.C.Y.	2318	$ 90	$ 208,620
63	Excavation - Headgates	B.C.Y.	500	$ 90	$ 45,000
64	Erosion and Sediment Control	LF	500	$ 16	$ 8,000
65	Bank Stabilization - Riprap	CY	150	$ 140	$ 21,000
66	Water Management - Cofferdam	LS	1	$ 800,000	$ 800,000
67	Water Management - Dewatering	Days	264	$ 1,430	$ 377,520
68	Foundation - Piles	LF	419	$ 78	$ 32,682
32 Exterior Improvements					
69	Finish - Gravel - Ramp	SF	2318	$ 45	$ 104,310
70	Finish - Gravel - North Side Access	SF	24200	$ 50	$ 1,210,000
71	Fences - Fences and Gates (includes removal)	LF	527	$ 108	$ 56,916
72	Culvert - North Side Access	LF	70	$ 2,105	$ 147,350
73	Approach - North Side Access	SF	900	$ 50	$ 45,000
74	Structure - Park Kiosk	LS	1	$ 10,000	$ 10,000
75	Planting - North Side land restoration	Acre	1	$ 2,000	$ 2,000
76	Planting - South Side land restoration	Acre	0.5	$ 2,000	$ 1,000
33 Utilities					
77	Utilities - Transformer/Meter upgrade	LS	1	$ 25,000	$ 25,000
34 - Transportation					
78	Traffic Control	LS	1	$ 100,000	$ 100,000
				Subtotal:	**$9,615,974**

Mobilization	10%	$961,600
General Conditions	6%	$577,000
Permitting	2%	$144,300
Insurance & Bonds	2%	$192,400
Contractors Profit	15%	$1,442,400
Estimating Contingency	30%	$2,884,800
Engineering Construction Phase Services	5%	$480,800
Final Engineering Design	12%	$1,154,000
	Base Estimate Total	**$17,453,274**

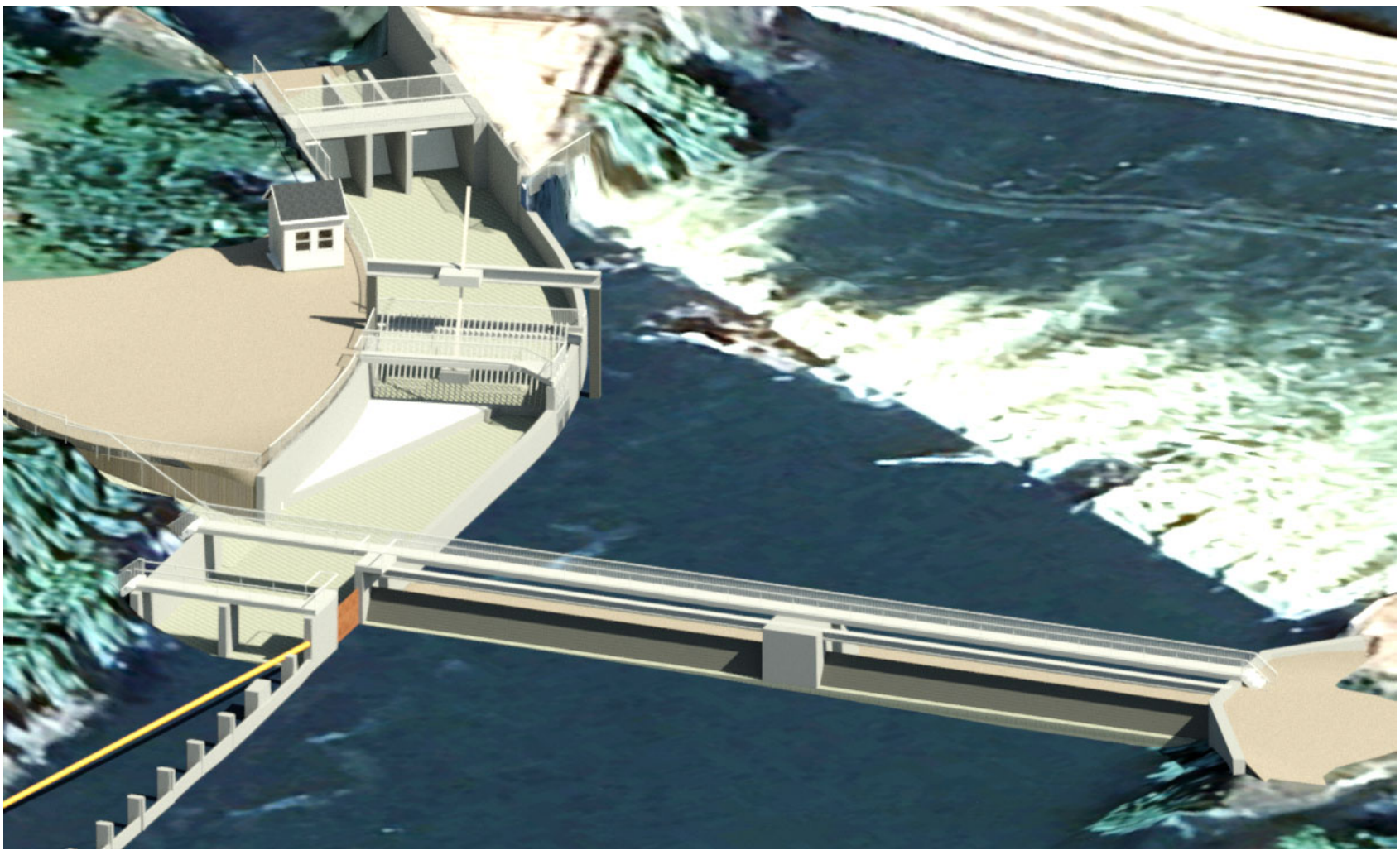
Class IV Opinion of Probable Construction Cost Range	Low: -30%	$12,217,300
	Low: -15%	$14,835,300
	Estimate	$17,453,300
	High: +20%	$20,944,000
	High: +50%	$26,180,000

Ridenbaugh Diversion Design Alternative 3B

5% Annual Escalation						
Estimate Range	**2024 Estimate**	**2025 Escalation**	**2026 Escalation**	**2027 Escalation**	**Total Escalation**	**Total Estimate**
Low: -30%	$12,217,300.00	$59,000.00	$565,500.00	$713,300.00	$1,337,700.00	$13,555,000.00
Low: -15%	$14,835,300.00	$71,700.00	$686,600.00	$866,200.00	$1,624,400.00	$16,459,700.00
Estimate	$17,453,300.00	$84,300.00	$807,800.00	$1,019,000.00	$1,911,000.00	$19,364,300.00
High: +20%	$20,944,000.00	$101,200.00	$969,300.00	$1,222,800.00	$2,293,200.00	$23,237,200.00
High: +50%	$26,180,000.00	$126,500.00	$1,211,700.00	$1,528,500.00	$2,866,500.00	$29,046,500.00

Project: Ridenbaugh Modernization
Submittal: Task 15 - Preliminary Design OPCC
Estimate By: HDR
Date: 6/17/2024

Alternative: 4A- Crest Gates, Center Pier, Catwalk with Curved Intake



Concept Base Estimate Item Schedule

No	Item	Units	Quantity	Cost / Unit	Subtotal
02 Existing Conditions					
1	Construction Staking	LS	1	$ 25,000	$ 25,000
2	Crane Rental	LS	1	$ 132,000	$ 132,000
02 Existing Conditions					
3	Demolition - Diversion	LS	1	$ 90,000	$ 90,000
4	Demolition - Sediment Sill Wall	LS	1	$ 35,000	$ 35,000
5	Demolition - Trash Rack	LS	1	$ 15,000	$ 15,000
6	Demolition - 1936 Headgates/ Headwall/ Walkway	LS	1	$ 70,000	$ 70,000
7	Demolition - Headgate Forebay	LS	1	$ 10,000	$ 10,000
8	Demolition - Radial Headgates	LS	1	$ 20,000	$ 20,000
03 Concrete					
9	Concrete - Diversion	CY	639	$ 1,800	$ 1,150,200
10	Concrete - Inlet Channel Walls	CY	410	$ 1,800	$ 738,000
~~11~~	~~Concrete - Ogee Weir~~	CY	0	$ 1,800	$ -
~~12~~	~~Concrete - Trash Screen~~	CY	0	$ 1,800	$ -
~~13~~	~~Concrete - Head gates~~	CY	0	$ 1,800	$ -
14	Concrete - Parkside Abutment Walls	CY	65	$ 1,800	$ 117,000
15	Concrete - Debris boom anchors	CY	0.15	$ 1,800	$ 270
05 Metals					
16	Metal - Headgates - Crest Gates	LF	40	$ 63	$ 2,520
~~17~~	~~Metal - Headgates - Radial Gates~~	LF	0	$ 63	$ -
18	Metal - Intake - Sluice Gates	LF	20	$ 63	$ 1,260
19	Metal - Diversion - Crest Gates	LF	340	$ 63	$ 21,420
20	Metal - Catwalk - Deck and Framing	SF	1534	$ 500	$ 767,000
21	Metal - Catwalk - Railing	LF	641	$ 142	$ 91,022
22	Metal - Trash Rack - Rack	LF	975	$ 63	$ 61,425
23	Metal - Trash Rack -Framing	LF	85	$ 231	$ 19,635
24	Metal - Stairs	Flight	5	$ 1,900	$ 9,500
25	Metal - Stoplogs - Mount	LF	48	$ 63	$ 3,024
26	Metal - Stoplogs - Stoplogs	LF	720	$ 50	$ 36,000
06 Special Construction					
27	Building - SCADA and Controls	SF	100	$ 300	$ 30,000
11 Process Equipment					
~~28~~	~~Equipment - Headgates- Radial - 6'~~	EACH	0	$ 75,000	$ -
~~29~~	~~Equipment - Headgates- Radial - (2) 12'~~	EACH	0	$ 300,000	$ -
30	Equipment - Headgates- Crest	EACH	3	$ 115,000	$ 345,000
31	Equipment - Diversion gates - Crest - 30'	EACH	5.5	$ 175,000	$ 962,500
32	Equipment - Intake gates- Sluice	EACH	4	$ 50,000	$ 200,000
33	Equipment - Trash Rack - Rake and Conveyor	EACH	1	$ 750,000	$ 750,000
~~34~~	~~Equipment - Diversion - Stop log hoist~~	EACH	0	$ 17,500	$ -

~~35~~	~~Equipment - Diversion - Stop log jib crane~~	EACH	0	$ 10,000	$ -
36	Equipment - Intake - Debris Boom	EACH	1	$ 46,000	$ 46,000
37	Process Piping - Diversion	LF	200	$ 80	$ 16,000
38	Process Piping - Headgates	LF	100	$ 80	$ 8,000
39	Process Piping - Intake	LF	200	$ 80	$ 16,000
22 Plumbing					
40	Plumbing - Materials - Trash Rack Spray Bar	EACH	1	$ 14,000	$ 14,000
41	Plumbing - Labor - Trash Rack Spray Bar	EACH	1	$ 10,000	$ 10,000
25 Integrated Automation					
42	Controls - Headgates - Crest	LS	1	$ 100,000	$ 100,000
~~43~~	~~Controls - Headgates - Radial~~	LS	0	$ 100,000	$ -
44	Controls - Diversion gates - Crest	LS	1	$ 100,000	$ 100,000
45	Controls - Intake gates - Sluice	LS	1	$ 50,000	$ 50,000
46	Controls - Building - SCADA integration	LS	1	$ 50,000	$ 50,000
47	Controls - Trash Rack - equipment integration	LS	1	$ 20,000	$ 20,000
26 Electrical					
48	Electrical - Headgates - Crest	LS	1	$ 10,000	$ 10,000
~~49~~	~~Electrical - Headgates - Radial~~	LS	0	$ 10,000	$ -
50	Electrical - Diversion gates - Crest	LS	1	$ 10,000	$ 10,000
51	Electrical - Intake gates - Sluice	LS	1	$ 10,000	$ 10,000
52	Electrical - Building - SCADA	LS	1	$ 20,000	$ 20,000
53	Electrical - Trash Rack	LS	1	$ 7,500	$ 7,500
31 Earthwork					
54	Clearing - North Bank - Vegetation Clearing	Acre	1	$ 11,000	$ 11,000
55	Clearing - South Bank - Vegetation Clearing	Acre	0.5	$ 11,000	$ 5,500
56	Clearing - North Bank - Tree Removal	LS	1	$ 7,500	$ 7,500
57	Grading - North Bank - Abutment	SY	278	$ 4	$ 1,112
58	Grading - North Bank - Access Road	SY	2688	$ 4	$ 10,752
59	Grading - South Bank	SY	740	$ 4	$ 2,960
60	Excavation - Diversion	B.C.Y.	939	$ 90	$ 84,510
61	Excavation - Intake	B.C.Y.	878	$ 90	$ 79,020
62	Excavation - Intake ramp	B.C.Y.	2318	$ 90	$ 208,620
63	Excavation - Headgates	B.C.Y.	500	$ 90	$ 45,000
64	Erosion and Sediment Control	LF	500	$ 16	$ 8,000
65	Bank Stabilization - Riprap	CY	150	$ 140	$ 21,000
66	Water Management - Cofferdam	LS	1	$ 800,000	$ 800,000
67	Water Management - Dewatering	Days	264	$ 1,430	$ 377,520
68	Foundation - Piles	LF	419	$ 78	$ 32,682
32 Exterior Improvements					
69	Finish - Gravel - Ramp	SF	2318	$ 45	$ 104,310
70	Finish - Gravel - North Side Access	SF	24200	$ 50	$ 1,210,000
71	Fences - Fences and Gates (includes removal)	LF	527	$ 108	$ 56,916
72	Culvert - North Side Access	LF	70	$ 2,105	$ 147,350
73	Approach - North Side Access	SF	900	$ 50	$ 45,000
74	Structure - Park Kiosk	LS	1	$ 10,000	$ 10,000
75	Planting - North Side land restoration	Acre	1	$ 2,000	$ 2,000
76	Planting - South Side land restoration	Acre	0.5	$ 2,000	$ 1,000
33 Utilities					
77	Utilities - Transformer/Meter upgrade	LS	1	$ 25,000	$ 25,000
34 - Transportation					
78	Traffic Control	LS	1	$ 100,000	$ 100,000
				Subtotal:	**$9,430,028**
	Mobilization	10%			$943,003
	General Conditions	6%			$565,802
	Permitting	2%			$141,450
	Insurance & Bonds	2%			$188,601
	Contractors Profit	15%			$1,414,504
	Estimating Contingency	30%			$2,829,008
	Engineering Construction Phase Services	5%			$471,501
	Final Engineering Design	12%			$1,131,603
				Base Estimate Total	**$17,115,501**

Class IV Opinion of Probable Construction Cost Range	Low: -30%	$11,980,900
(Present Value)	Low: -15%	$14,548,200
	Estimate	$17,115,600
	High: +20%	$20,538,700
	High: +50%	$25,673,300

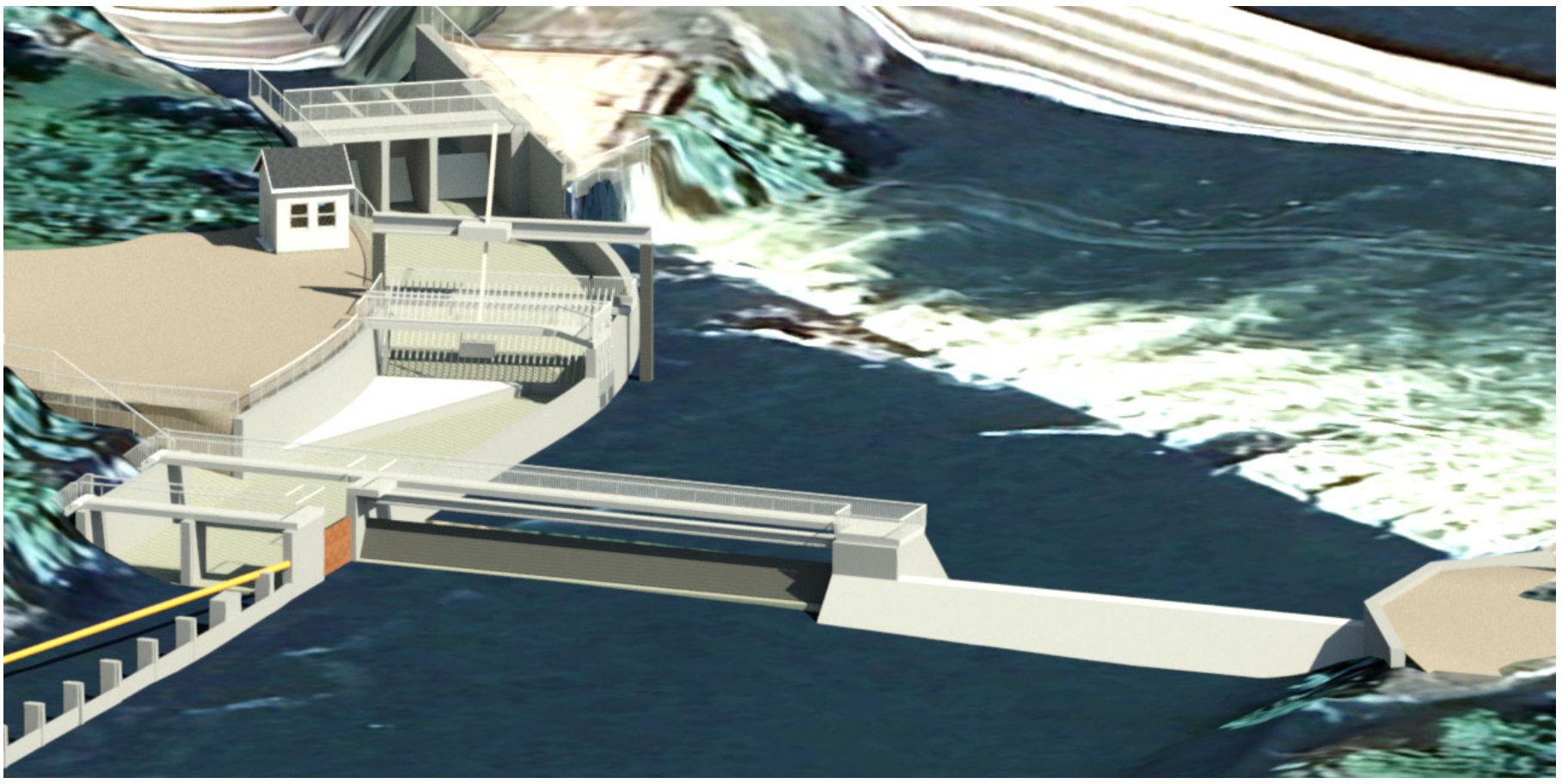
Ridenbaugh Diversion Design Alternative 4A

5% Annual Escalation						
Estimate Range	**2024 Estimate**	**2025 Escalation**	**2026 Escalation**	**2027 Escalation**	**Total Escalation**	**Total Estimate**
Low: -30%	$11,980,900	$57,900	$554,500	$699,500	$1,311,900	$13,292,700
Low: -15%	$14,548,200	$70,300	$673,400	$849,400	$1,593,000	$16,141,100
Estimate	$17,115,600	$82,700	$792,200	$999,300	$1,874,100	$18,989,600
High: +20%	$20,538,700	$99,200	$950,600	$1,199,200	$2,248,900	$22,787,500
High: +50%	$25,673,300	$124,000	$1,188,200	$1,498,900	$2,811,100	$28,484,300

Project: Ridenbaugh Modernization
Submittal: Task 15 - Preliminary Design OPCC

Estimate By: HDR
Date: 6/17/2024

Alternative: 4B- Crest Gate and Ogee Weir with Curved Intake



Concept Base Estimate Item Schedule

No	Item	Units	Quantity	Cost / Unit	Subtotal
02 Existing Conditions					
1	Construction Staking	LS	1	$ 25,000	$ 25,000
2	Crane Rental	LS	1	$ 132,000	$ 132,000
02 Existing Conditions					
3	Demolition - Diversion	LS	1	$ 90,000	$ 90,000
4	Demolition - Sediment Sill Wall	LS	1	$ 35,000	$ 35,000
5	Demolition - Trash Rack	LS	1	$ 15,000	$ 15,000
6	Demolition - 1936 Headgates/ Headwall/ Walkway	LS	1	$ 70,000	$ 70,000
7	Demolition - Headgate Forebay	LS	1	$ 10,000	$ 10,000
8	Demolition - Radial Headgates	LS	1	$ 20,000	$ 20,000
03 Concrete					
9	Concrete - Diversion	CY	639	$ 1,800	$ 1,150,200
10	Concrete - Inlet Channel Walls	CY	410	$ 1,800	$ 738,000
11	Concrete - Ogee Weir	CY	346	$ 1,800	$ 622,800
~~12~~	~~Concrete - Trash Screen~~	CY	0	$ 1,800	$ -
~~13~~	~~Concrete - Head gates~~	CY	0	$ 1,800	$ -
14	Concrete - Parkside Abutment Walls	CY	65	$ 1,800	$ 117,000
15	Concrete - Debris boom anchors	CY	0.15	$ 1,800	$ 270
05 Metals					
16	Metal - Headgates - Crest Gates	LF	40	$ 63	$ 2,520
~~17~~	Metal - Headgates - Radial Gates	LF	0	$ 63	$ -
18	Metal - Intake - Sluice Gates	LF	20	$ 63	$ 1,260
19	Metal - Diversion - Crest Gates	LF	200	$ 63	$ 12,600
20	Metal - Catwalk - Deck and Framing	SF	1285	$ 500	$ 642,500
21	Metal - Catwalk - Railing	LF	714	$ 142	$ 101,388
22	Metal - Trash Rack - Rack	LF	975	$ 63	$ 61,425
23	Metal - Trash Rack -Framing	LF	85	$ 231	$ 19,635
24	Metal - Stairs	Flight	3	$ 1,900	$ 5,700
25	Metal - Stoplogs - Mount	LF	48	$ 63	$ 3,024
26	Metal - Stoplogs - Stoplogs	LF	720	$ 50	$ 36,000
06 Special Construction					
27	Building - SCADA and Controls	SF	100	$ 300	$ 30,000
11 Process Equipment					
~~28~~	~~Equipment - Headgates- Radial - 6'~~	EACH	0	$ 75,000	$ -
~~29~~	~~Equipment - Headgates- Radial - (2) 12'~~	EACH	0	$ 300,000	$ -
30	Equipment - Headgates- Crest	EACH	3	$ 115,000	$ 345,000
31	Equipment - Diversion gates - Crest - 30'	EACH	2	$ 175,000	$ 350,000
32	Equipment - Intake gates- Sluice	EACH	4	$ 50,000	$ 200,000
33	Equipment - Trash Rack - Rake and Conveyor	EACH	1	$ 750,000	$ 750,000
~~34~~	~~Equipment - Diversion - Stop log hoist~~	EACH	0	$ 17,500	$ -

~~35~~	~~Equipment - Diversion - Stop log jib crane~~	EACH	0	$ 10,000	$ -
36	Equipment - Intake - Debris Boom	EACH	1	$ 46,000	$ 46,000
37	Process Piping - Diversion	LF	200	$ 80	$ 16,000
38	Process Piping - Headgates	LF	100	$ 80	$ 8,000
39	Process Piping - Intake	LF	200	$ 80	$ 16,000
22 Plumbing					
40	Plumbing - Materials - Trash Rack Spray Bar	EACH	1	$ 14,000	$ 14,000
41	Plumbing - Labor - Trash Rack Spray Bar	EACH	1	$ 10,000	$ 10,000
25 Integrated Automation					
42	Controls - Headgates - Crest	LS	1	$ 100,000	$ 100,000
~~43~~	Controls - Headgates - Radial	LS	0	$ 100,000	$ -
44	Controls - Diversion gates - Crest	LS	1	$ 100,000	$ 100,000
45	Controls - Intake gates - Sluice	LS	1	$ 50,000	$ 50,000
46	Controls - Building - SCADA integration	LS	1	$ 50,000	$ 50,000
47	Controls - Trash Rack - equipment integration	LS	1	$ 20,000	$ 20,000
26 Electrical					
48	Electrical - Headgates - Crest	LS	1	$ 10,000	$ 10,000
~~49~~	~~Electrical - Headgates - Radial~~	LS	0	$ 10,000	$ -
50	Electrical - Diversion gates - Crest	LS	1	$ 10,000	$ 10,000
51	Electrical - Intake gates - Sluice	LS	1	$ 10,000	$ 10,000
52	Electrical - Building - SCADA	LS	1	$ 20,000	$ 20,000
53	Electrical - Trash Rack	LS	1	$ 7,500	$ 7,500
31 Earthwork					
54	Clearing - North Bank - Vegetation Clearing	Acre	1	$ 11,000	$ 11,000
55	Clearing - South Bank - Vegetation Clearing	Acre	0.5	$ 11,000	$ 5,500
56	Clearing - North Bank - Tree Removal	LS	1	$ 7,500	$ 7,500
57	Grading - North Bank - Abutment	SY	278	$ 4	$ 1,112
58	Grading - North Bank - Access Road	SY	2688	$ 4	$ 10,752
59	Grading - South Bank	SY	740	$ 4	$ 2,960
60	Excavation - Diversion	B.C.Y.	939	$ 90	$ 84,510
61	Excavation - Intake	B.C.Y.	878	$ 90	$ 79,020
62	Excavation - Intake ramp	B.C.Y.	2318	$ 90	$ 208,620
63	Excavation - Headgates	B.C.Y.	500	$ 90	$ 45,000
64	Erosion and Sediment Control	LF	500	$ 16	$ 8,000
65	Bank Stabilization - Riprap	CY	150	$ 140	$ 21,000
66	Water Management - Cofferdam	LS	1	$ 800,000	$ 800,000
67	Water Management - Dewatering	Days	264	$ 1,430	$ 377,520
68	Foundation - Piles	LF	419	$ 78	$ 32,682
32 Exterior Improvements					
69	Finish - Gravel - Ramp	SF	2318	$ 45	$ 104,310
70	Finish - Gravel - North Side Access	SF	24200	$ 50	$ 1,210,000
71	Fences - Fences and Gates (includes removal)	LF	527	$ 108	$ 56,916
72	Culvert - North Side Access	LF	70	$ 2,105	$ 147,350
73	Approach - North Side Access	SF	900	$ 50	$ 45,000
74	Structure - Park Kiosk	LS	1	$ 10,000	$ 10,000
75	Planting - North Side land restoration	Acre	1	$ 2,000	$ 2,000
76	Planting - South Side land restoration	Acre	0.5	$ 2,000	$ 1,000
33 Utilities					
77	Utilities - Transformer/Meter upgrade	LS	1	$ 25,000	$ 25,000
34 - Transportation					
78	Traffic Control	LS	1	$ 100,000	$ 100,000.00
				Subtotal:	**$9,313,574**
	Mobilization	10%			$931,357
	General Conditions	6%			$558,814
	Permitting	2%			$139,704
	Insurance & Bonds	2%			$186,271
	Contractors Profit	15%			$1,397,036
	Estimating Contingency	30%			$2,794,072
	Engineering Construction Phase Services	5%			$465,679
	Final Engineering Design	12%			$1,117,629
				Base Estimate Total	**$16,904,137**

Class IV Opinion of Probable Construction Cost Range	Low: -30%	$11,832,900
(Present Value)	Low: -15%	$14,368,600
	Estimate	$16,904,200
	High: +20%	$20,285,000
	High: +50%	$25,356,300

Ridenbaugh Diversion Design Alternative 4B

5% Annual Escalation						
Estimate Range	**2024 Estimate**	**2025 Escalation**	**2026 Escalation**	**2027 Escalation**	**Total Escalation**	**Total Estimate**
Low: -30%	$11,832,900	$57,200	$547,700	$690,900	$1,295,700	$13,128,600
Low: -15%	$14,368,600	$69,400	$665,000	$838,900	$1,573,300	$15,941,800
Estimate	$16,904,200	$81,700	$782,400	$987,000	$1,850,900	$18,755,100
High: +20%	$20,285,000	$98,000	$938,900	$1,184,400	$2,221,100	$22,506,100
High: +50%	$25,356,300	$122,500	$1,173,600	$1,480,400	$2,776,400	$28,132,600

Appendix B

Alternative Monthly Expenditure Schedules

Class 4 Opinions of Probable Construction Cost Memo
June 17, 2024

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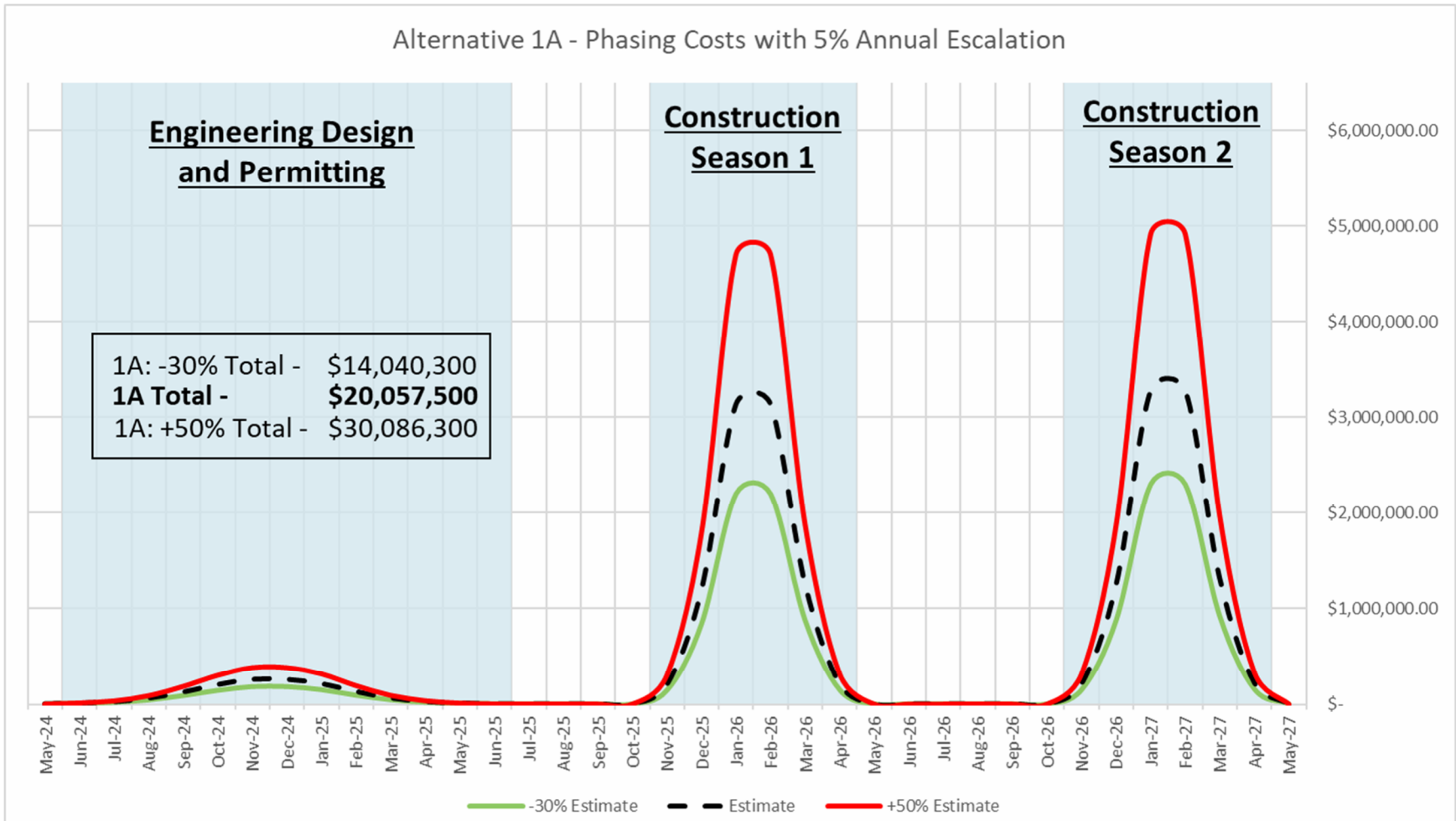
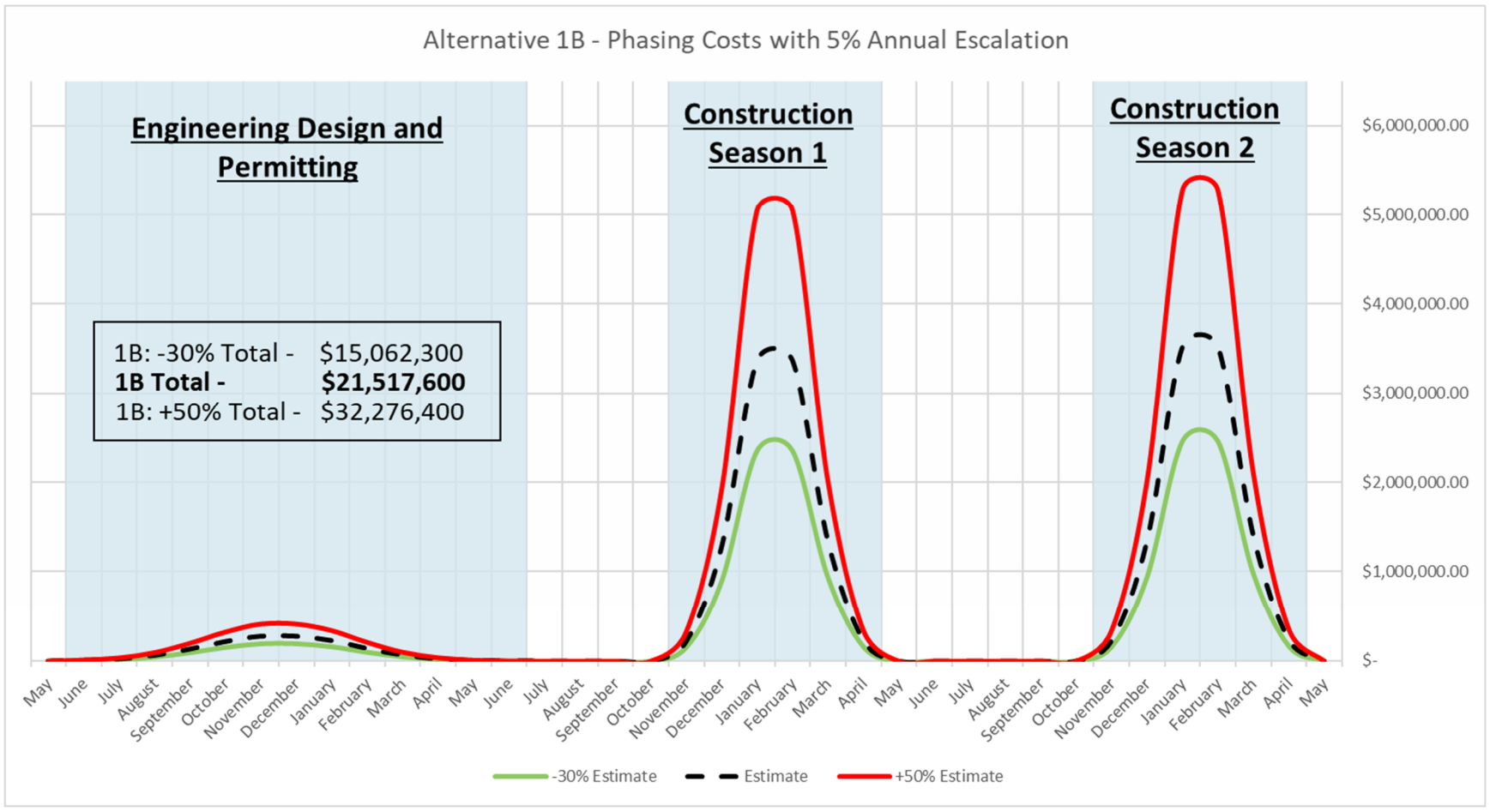
(208) 387-7000


Alternative 1A - Phasing Costs with 5% Annual Escalation
Engineering Design and Permitting
Construction Season 1
Construction Season 2
1A: -30% Total - $14,040,300
1A Total - $20,057,500
1A: +50% Total - $30,086,300
$6,000,000.00
$5,000,000.00
$4,000,000.00
$3,000,000.00
$2,000,000.00
$1,000,000.00
$-
May-24 Jun-24 Jul-24 Aug-24 Sep-24 Oct-24 Nov-24 Dec-24 Jan-25 Feb-25 Mar-25 Apr-25 May-25 Jun-25 Jul-25 Aug-25 Sep-25 Oct-25 Nov-25 Dec-25 Jan-26 Feb-26 Mar-26 Apr-26 May-26 Jun-26 Jul-26 Aug-26 Sep-26 Oct-26 Nov-26 Dec-26 Jan-27 Feb-27 Mar-27 Apr-27 May-27
-30% Estimate
Estimate
+50% Estimate


Alternative 1B - Phasing Costs with 5% Annual Escalation
Engineering Design and Permitting
Construction Season 1
Construction Season 2
1B: -30% Total - $15,062,300
1B Total - $21,517,600
1B: +50% Total - $32,276,400
$6,000,000.00
$5,000,000.00
$4,000,000.00
$3,000,000.00
$2,000,000.00
$1,000,000.00
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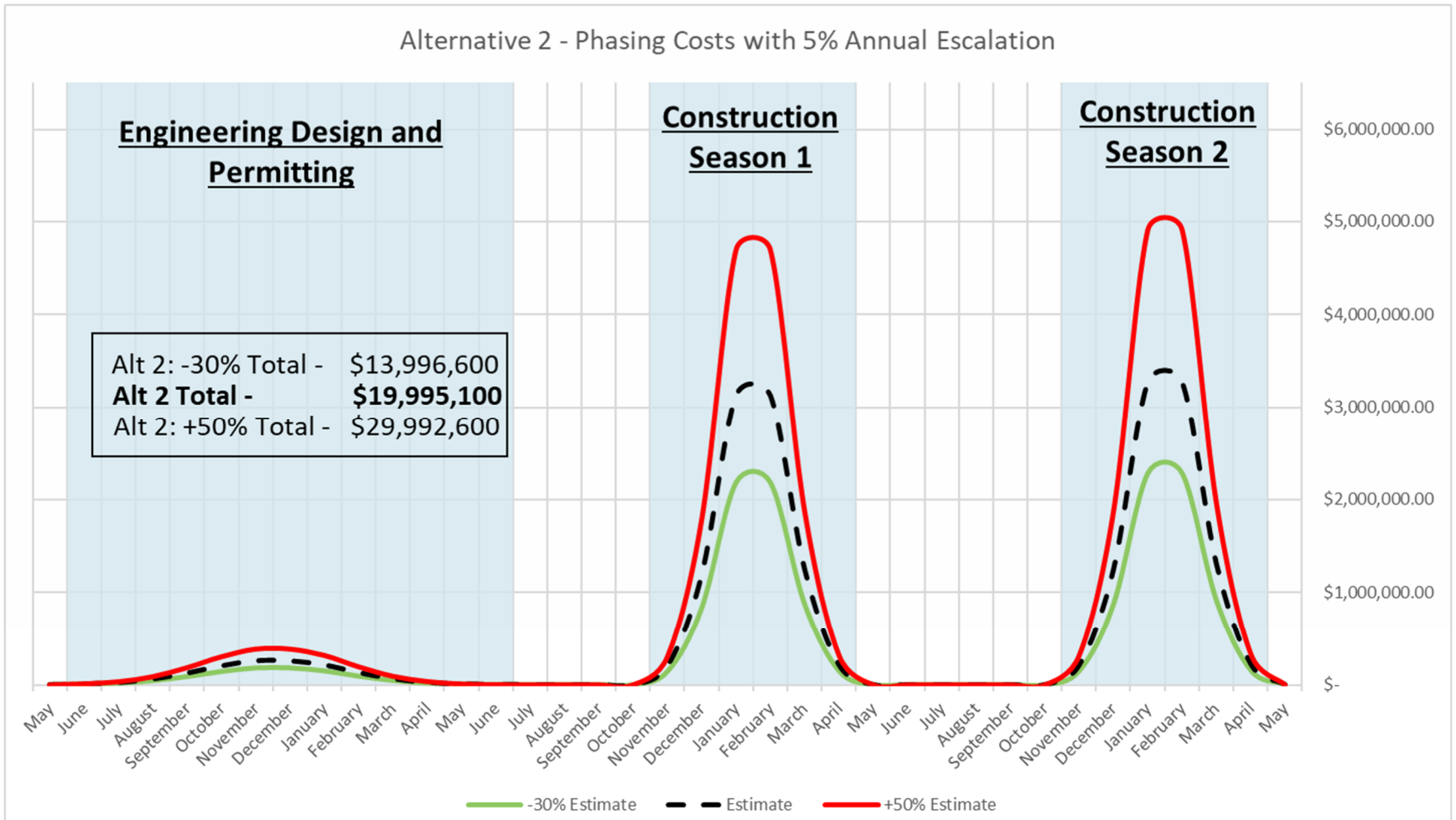
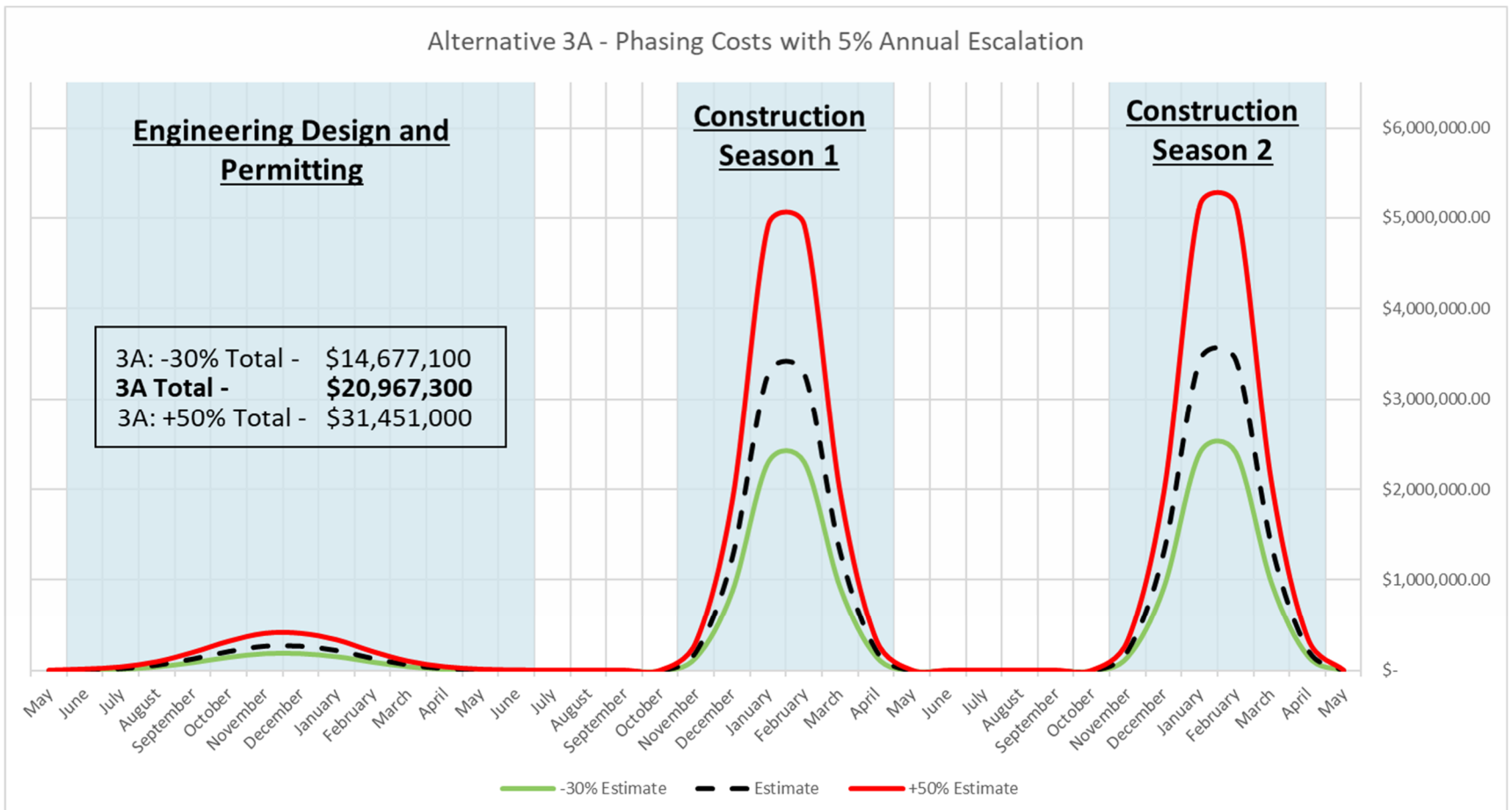
May June July August September October November December January February March April May June July August September October November December January February March April May June July August September October November December January February March April May
-30% Estimate
Estimate
+50% Estimate





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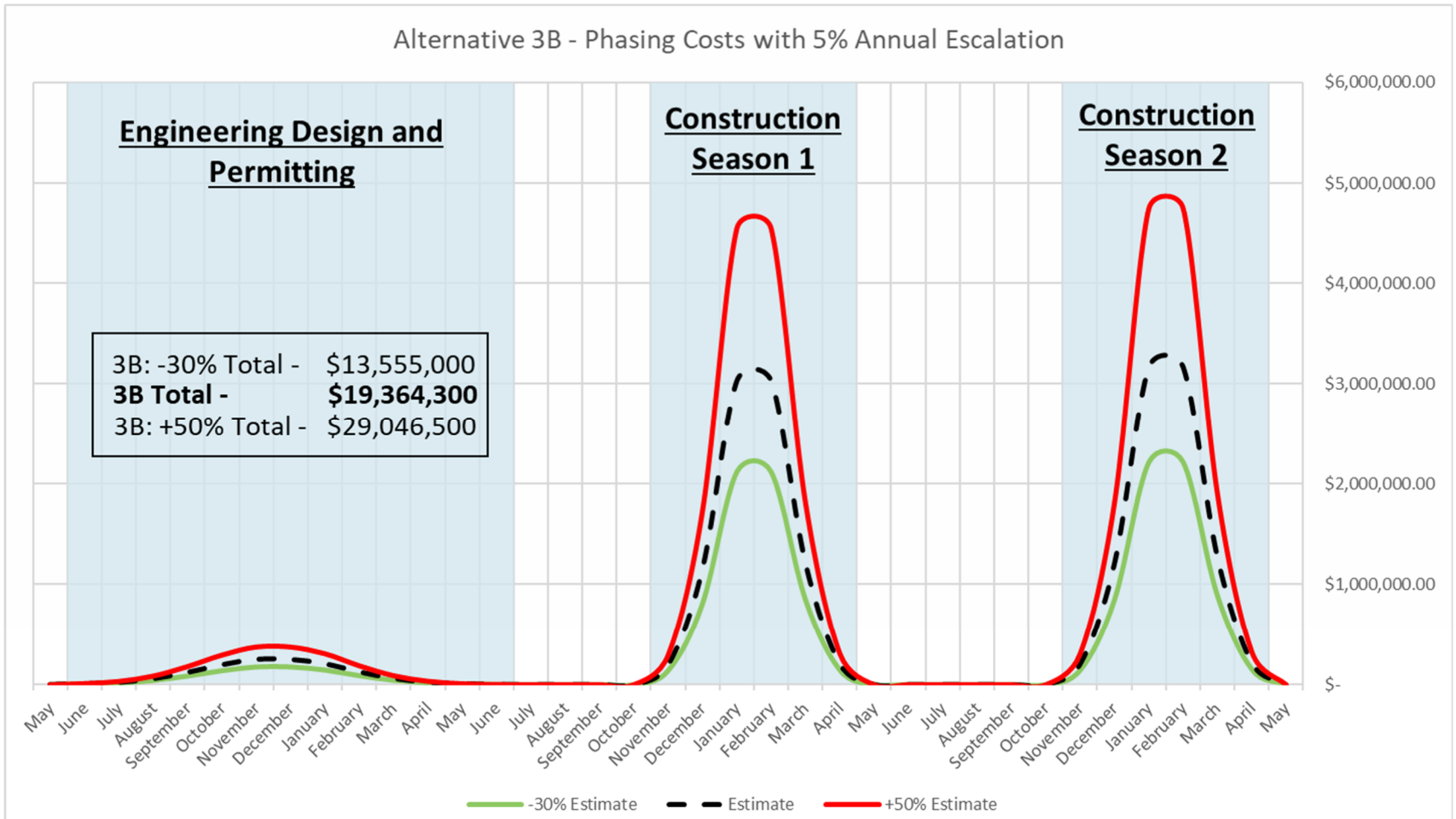
Alternative 3B - Phasing Costs with 5% Annual Escalation
Engineering Design and Permitting
Construction Season 1
Construction Season 2
3B: -30% Total - $13,555,000
3B Total - $19,364,300
3B: +50% Total - $29,046,500
$6,000,000.00
$5,000,000.00
$4,000,000.00
$3,000,000.00
$2,000,000.00
$1,000,000.00
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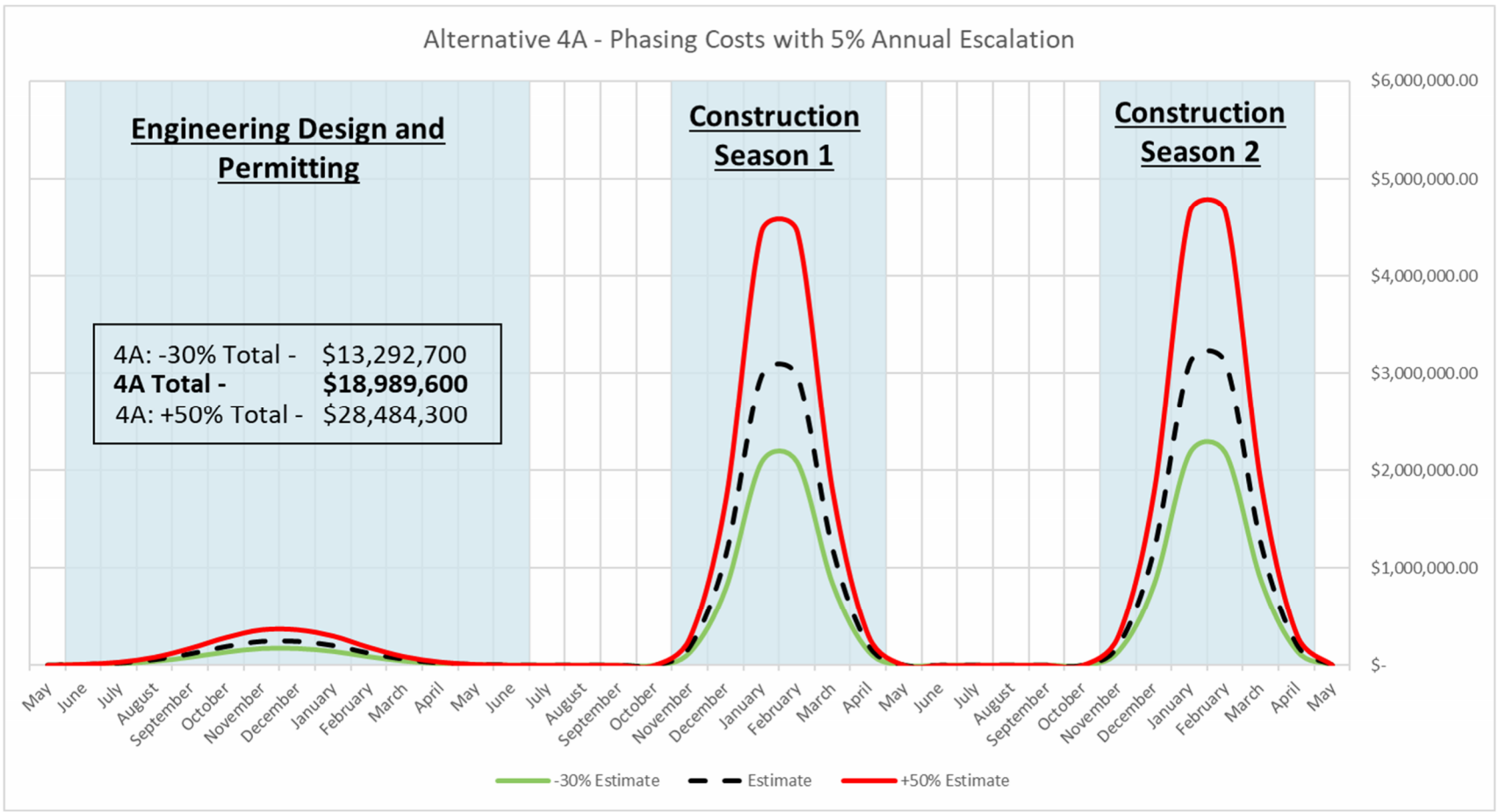
May June July August September October November December January February March April May June July August September October November December January February March April May June July August September October November December January February March April May
-30% Estimate
Estimate
+50% Estimate


Alternative 4A - Phasing Costs with 5% Annual Escalation
Engineering Design and Permitting
Construction Season 1
Construction Season 2
4A: -30% Total - $13,292,700
4A Total - $18,989,600
4A: +50% Total - $28,484,300
$6,000,000.00
$5,000,000.00
$4,000,000.00
$3,000,000.00
$2,000,000.00
$1,000,000.00
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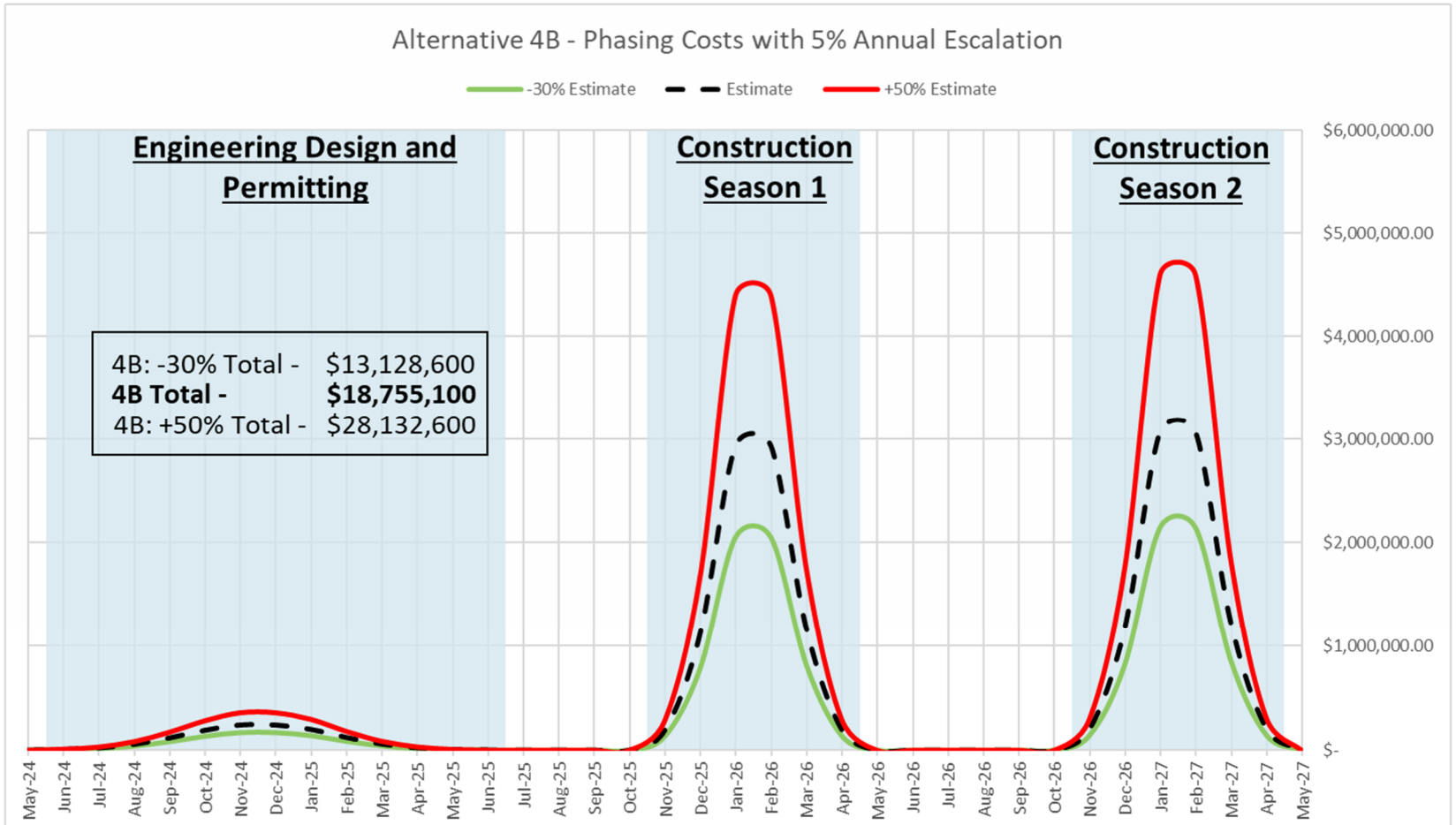
May June July August September October November December January February March April May June July August September October November December January February March April May June July August September October November December January February March April May
-30% Estimate
Estimate
+50% Estimate


Alternative 4B - Phasing Costs with 5% Annual Escalation
-30% Estimate
Estimate
+50% Estimate
Engineering Design and Permitting
Construction Season 1
Construction Season 2
4B: -30% Total - $13,128,600
4B Total - $18,755,100
4B: +50% Total - $28,132,600
$6,000,000.00
$5,000,000.00
$4,000,000.00
$3,000,000.00
$2,000,000.00
$1,000,000.00
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Appendix D

Operation and Maintenance
Qualitative Cost Estimate Discussion

Operation and Maintenance Qualitative Cost Estimate Discussion

Ridenbaugh Diversion Modernization

The following table summarizes the results of the qualitative assessment performed for the anticipated Operations and Maintenance (O&M) requirements of each alternative.

Ranking	Alt. No.	O&M Rank
Higher Cost	2	7
	1B	6
	4A	5
	1A	4
	3A	3
	3B	2
Lower Cost	4B	1

Alternative: 1A
O&M Rank: 4
Description: Single span of crest gates over the river, sediment and debris control is managed through a slotted intake wall. This alternative was ranked fourth in the comparative O&M ranking due to the perceived level of operation that would be required for the slotted intake wall and the crest gates. It was assumed that the slotted intake wall would present equipment with high cycles of operation that would require attention from operators and additional costs for replacement and maintenance.

Alternative: 1B
O&M Rank: 6
Description: Single span of crest gates over the river, sediment and debris control is managed through a slotted intake wall. The main variation in this alternative is the addition of a catwalk for access to the north bank of the river. This alternative was ranked sixth in the comparative O&M ranking due to the perceived level of operation that would be required for the slotted intake wall and the crest gates. It was assumed that the slotted intake wall would present equipment with high cycles of operation that would require attention from operators and additional costs for replacement and maintenance. The catwalk introduces potential requirements for operations and maintenance that elevated the score for O&M.

Alternative: 2
O&M Rank: 7
Description: Alternative 2 presents a composite diversion with multiple types of gates, including three crest gates, three stop log bays, within the intake channel the gates controlling

the water level are changed to crest gates. This alternative was ranked seventh due in large part to the overall complexity of the alternative. Based solely on the number of moving components that would be employed for operation, this alternative presents a significant O&M requirement.

Alternative: 3A
O&M Rank: 3
Description: Alternative 3A consists of a single span of crest gates, combined with a single span ogee weir. Access over the crest gates is accomplished with a catwalk and associated structural beam for raising crest gates in the event of failure. This alternative was ranked third overall due to the limited number of moving components. The canal control gates are relocated in this alternative to downstream of the roadway crossing. The expected O&M costs for this alternative are expected to be reduced in this alternative.

Alternative: 3B
O&M Rank: 2
Description: Alternative 3A consists of a single span of crest gates, combined with a single span ogee weir. Access over the crest gates is accomplished with a catwalk and associated structural beam for raising crest gates in the event of failure. This alternative was ranked second overall due to the limited number of moving components. The expected O&M costs for this alternative are expected to be reduced in this alternative.

Alternative: 4A
O&M Rank: 5
Description: Alternative 4A presents two separate spans of crest gates for in-river level control. These gates can be accessed from above by the represented catwalk and structural beam. This alternative was ranked fifth due to the extents of the crest gates and the span of catwalk. Given the spans of the crest gates and the potential for damage to the catwalk, this alternative was perceived to have an overall higher O&M burden associated with it.

Alternative: 4B
O&M Rank: 1
Description: Alternative 4B combines concepts from 4A and 3B and manages level control through a single span of crest gates and a fixed ogee weir. The crest gates are accessed by a span of catwalk. The gates can be supported by a structural beam spanning the crest opening. HDR reviewed this concept for O&M and ranked this as first among the alternatives. This was based on the limited number of moving parts and the ability of operators to access the diversion.

Appendix B

Scoping: Information Package, Mailing List, Comments Received, and Summary Table

Scoping Information

Proposal for Nampa and Meridian Irrigation District (NMID)
Ridenbaugh Canal Headworks Modernization Project
Boise, Ada County, Idaho

The Nampa and Meridian Irrigation District (NMID) has been selected by the Bureau of Reclamation for a U.S. Department of the Interior Water Sustain and Manage America's Resources for Tomorrow (WaterSMART) grant to modernize their headworks facility in the Boise River for the Ridenbaugh Canal. This information package summarizing NMID's proposal is being sent to the potentially interested and/or affected parties by Reclamation to share information and to seek public input.

Why Am I Receiving This Scoping Notice?

Actions undertaken or funded by Federal Agencies must be analyzed in accordance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations to determine potential environmental consequences. Scoping is one step of the NEPA process in which agencies seek input from those who may have an interest in or be directly affected by a proposed project. You can help us identify important issues and concerns regarding this proposed project by providing your written comments during this scoping period which will run from October 1-31, 2024.

What is the Ridenbaugh Canal Headworks Facility?

The Ridenbaugh Canal headworks facility serves as the diversion point for up to 550 cubic feet per second (cfs) of water from the Boise River to enter into the Ridenbaugh Canal. It was constructed in the 1930s and is located in the Boise River just upstream of the Eckert Road bridge and Barber Park (shown on the attached Map 1). The existing diversion structure spans the entire Boise River and connects into elevated/stabilized abutment structures on both the right and left bank.

The west side of the project area is located on NMID property and contains the intake to the Ridenbaugh Canal which is comprised of a sediment wall, wing walls, trash rack, and intake gates. The east side of the project area is located on City of Boise Parks and Recreation property which consists of open land with a small stream/wetland complex. Trout Unlimited has a conservation easement through the small stream/wetland complex. A portion of the eastern project area is proposed for the future City of Boise Alta Harris Park. The full project area and structures described are shown in the maps attached to this scoping information document.

What is the Current Condition of this Facility?

The infrastructure proposed to be modernized is nearing the end of its intended useful life and its ongoing age-based deterioration presents increasing maintenance needs and operational safety

hazards. NMID contracted for an evaluation of the existing headworks facility based on common engineering practice, which identified the following issues requiring correction:

- Concrete, metal, and wooden components of the diversion structure, sediment wall sill, and intake gate structure are displaying the effects of freeze/thaw cycles and general deterioration from over 80 years of operation.

- Seepage is occurring under the intake gates wing wall structure which places the integrity of the walls in question.

- Scour occurring at the downstream edge of the diversion structure and around the right abutment which places the reliability of the diversion structure in question.

- The deteriorating condition of the headworks facility is causing a continually increasing maintenance effort and creates more dangerous working conditions for NMID operators.

- Existing operations have historically altered the water elevation in the river above the current diversion structure to facilitate the diversion of water into the Ridenbaugh Canal. To increase water surface elevations required for diversion during the irrigation season (April 1-October 31), NMID staff must install and remove stop logs manually from a wooden walkway into the diversion structure, which is slow, imprecise, and dangerous.

What is the Proposed Action?

Reclamation proposes to provide WaterSMART grant funding for NMID to modernize their headworks facility in the Boise River for the Ridenbaugh Canal. This modernization project would include the following elements (shown on the attached Map 2):

- Demolish the existing diversion structure piers and maintenance walkway, sediment wall maintenance walkway, 220 feet of the sediment wall next to the original headgates and radial gates (remainder of the sediment wall to remain in place), trash rack, original headgates and radial gates wing walls, east side (right bank) abutment and other infrastructure.

- Remove rock and concrete debris at the existing diversion structure and along the banks of the Boise River. The floor slab of the existing structure would remain in place as a grade control to reduce the risk of impacts from scour immediately downstream from the new diversion structures and to minimize potential for impact to the existing bridge downstream from the new structure (Eckert Road).

- Clear vegetation along the main river channel banks in the area of the proposed new headworks facility.

- Install new headworks facility consisting of the following (shown on the attached Map 2):
    - Concrete diversion structure upstream of the existing diversion structure with automated overpour gates on the west half and a fixed crest ogee weir on the east side of the diversion structure
    - Sediment basin upstream from the entrance to the canal with a stop log structure at the entrance
    - Sediment bypass gate to discharge natural sediment load back to the Boise River
    - Automated self-cleaning trash rack between the sediment basin and the entrance to the canal
    - Headworks facility control building in the upland area on the west side
    - Access ramp on the west side into the sediment basin
    - Reroute of existing access road on the east side (existing access road would be restored to surrounding conditions)

- Plant native trees, shrubs, and herbaceous species along the Boise River in disturbed areas.

- Stabilize the project area post-construction, using Best Management Practices.

Some of the construction activities would occur below the ordinary high-water mark (OHWM) of the Boise River, potentially in adjacent wetlands, and upland properties on both the east (right bank) and west (left bank) side of the project area. The proposed project would not modify the existing project's purpose and need, water surface elevations in the Boise River at this location, or any existing surface water diversion rights.

Why is This Project Being Considered?

The modernization project would remedy the existing issues noted in the engineering evaluation and listed above. It would also address associated operational safety hazards. In addition to extending the life of the project, headworks modernization would provide additional benefits and address other issues of concern summarized below:

- In its current configuration, manual installation and removal of the wooden stop logs from a wooden walkway is required of NMID operators which creates a safety hazard. Automating the diversion structure operation would remove this hazard while improving response time and debris management to flood flow releases and other upstream flow changes in the Boise River.

- Modernizing the diversion structure would reduce the time, fuel consumption, and safety risks associated with manual adjustment of the diversion by NMID staff.

- Better managing the diversion structure pool would reduce operation loss and improve administration of water diversion.

When and How Would This Project Occur?

The project would be scheduled to be constructed over a two-year period, with construction below the OHWM taking place in two separate phases during low-water periods (generally October through April; the exact timing would be dependent on water flows in the Boise River) of the 2025-2026 and 2026-2027 water years. Each year of construction would involve the installation of a cofferdam on one or the other sides of the river channel and temporarily dewatering that part of the Boise River channel within the project area to facilitate construction activities below the OHWM while flows would be diverted to the other side of the river channel. Construction and staging in the upland parts of the project area (identified on the attached Map 3) would occur year-round. Following construction, operation of the Ridenbaugh Canal headworks would continue to result in overall water surface elevations and diversions as they have historically occurred.

Are Any Other Alternatives Being Considered?

The proposed actions described in this document are the result of a preliminary feasibility study that was undertaken from 2023 to 2024 which examined numerous potential actions to address the current conditions of this facility as noted above. This alternatives analysis evaluated seven different headworks facility configurations; the Proposed Action detailed above was selected based on maximized structure functionality, least effort for operations and maintenance, and providing the greatest level of safety for NMID staff and the general public.

Reclamation will develop an Environmental Assessment which will include consideration of the Proposed Action Alternative and a No Action Alternative. Additional alternatives could be developed in response to issues identified throughout the NEPA process.

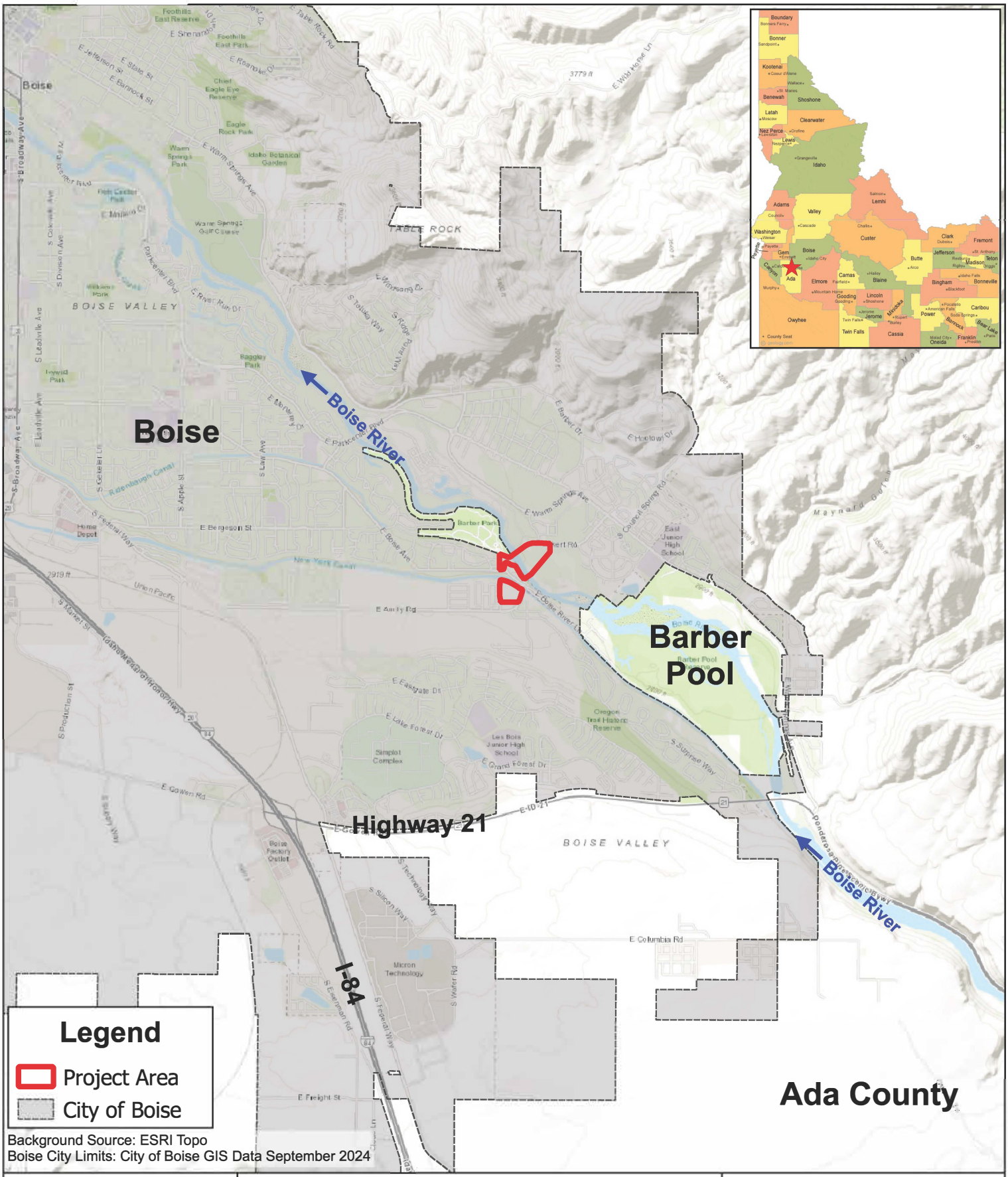
I Have a Comment – How Do I Provide It?

Written comments can be submitted electronically by emailing them to sra-nepa-comments@usbr.gov. They can also be mailed or hand-delivered to:

Ms. Amy Goodrich
Natural Resource Specialist
Snake River Area Office
Bureau of Reclamation
230 Collins Road
Boise, Idaho 83702

How Long Do I Have to Submit Comments?

Public involvement is encouraged throughout the NEPA process; however, your comments can best be used if they are provided before October 31, 2024.



Map 1: Project Area Vicinity

NMID Ridenbaugh Canal Headworks Modernization

Boise, Idaho (Ada County)

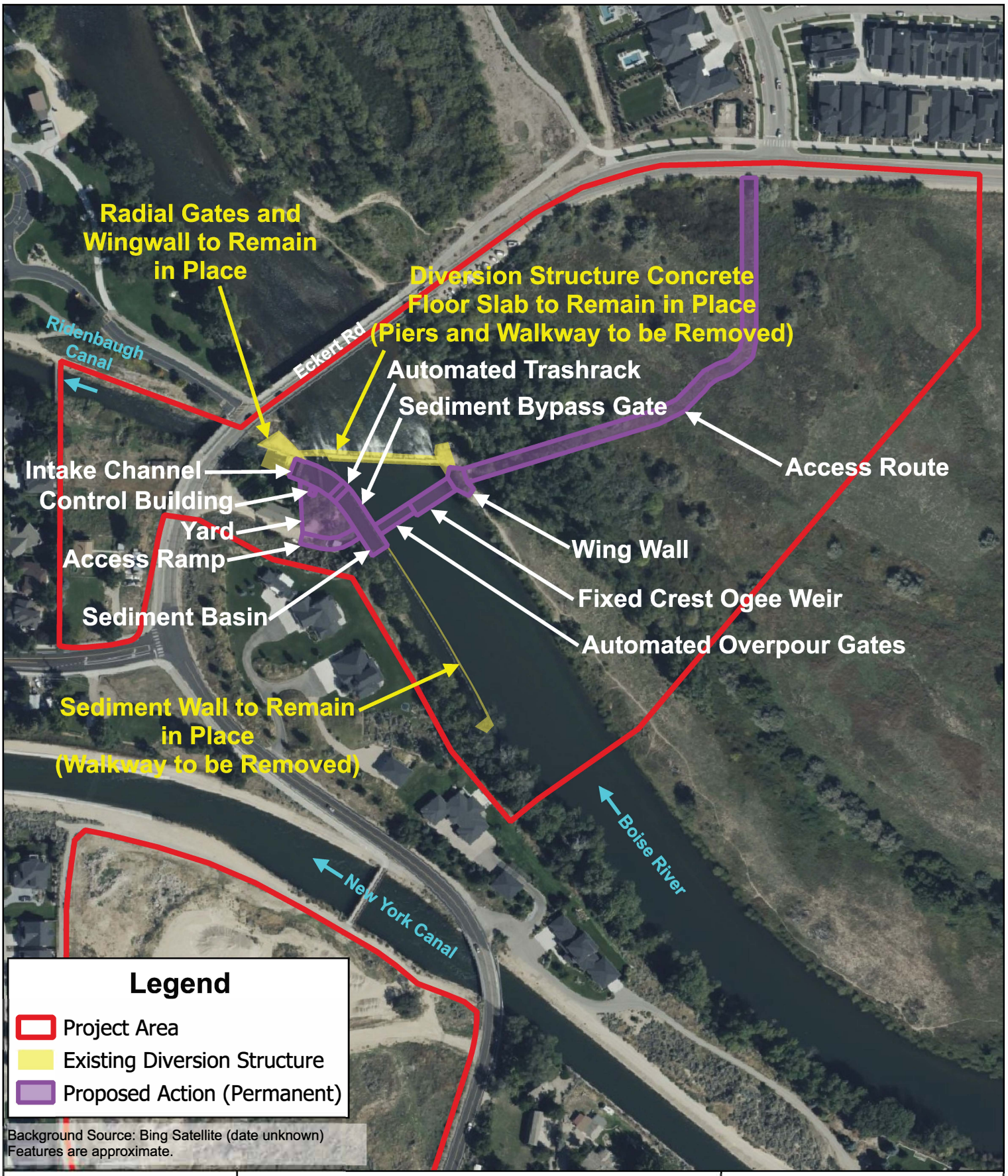
Bureau of Reclamation NEPA EA Scoping

BUREAU OF RECLAMATION

NAMPA & MERIDIAN IRRIGATION DIST.

N

0 0.5 1 mi



— BUREAU OF — RECLAMATION

NAMPA & MERIDIAN IRRIGATION DIST.

Map 2: Proposed Action Elements

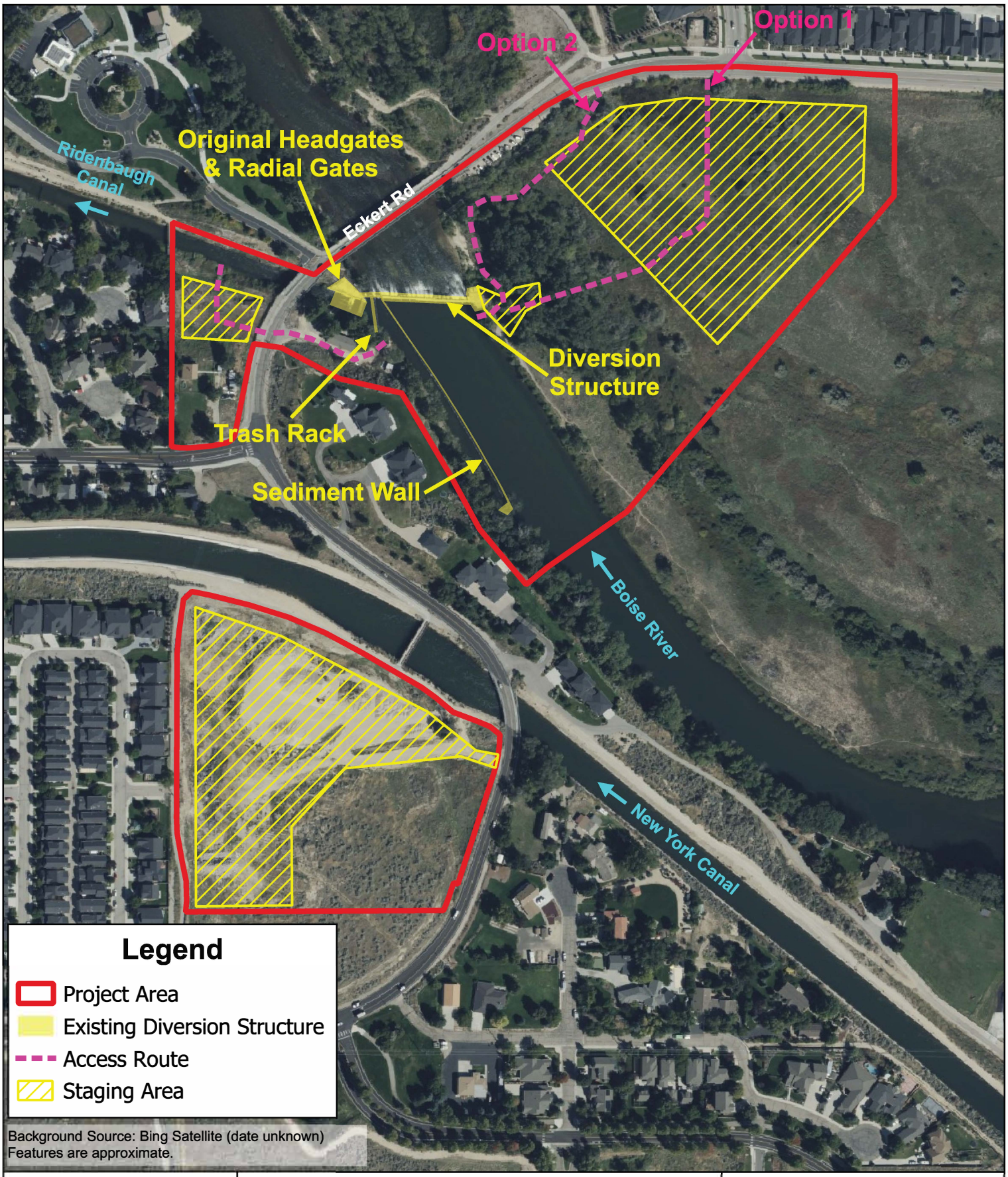
NMID Ridenbaugh Canal Headworks Modernization

Boise, Idaho (Ada County)

Bureau of Reclamation NEPA EA Scoping

N

0 125 250 ft



BUREAU OF RECLAMATION

NAMPA & MERIDIAN IRRIGATION DIST.

Map 3: Staging and Access

NMID Ridenbaugh Canal Headworks Modernization

Boise, Idaho (Ada County)

Bureau of Reclamation NEPA EA Scoping

N

0 125 250 ft

Mail Recipients of Scoping Materials

FIRST NAME	LAST NAME	ADDCONCAT	STATCONCAT	Column1	Column2	Column3
THOMAS L	ALLEN	3712 E SHADY GLEN DR	BOISE	ID	83706-5776	
LISA	ANDERSON	5 SALTILLO	RANCHO SANTA MARGARITA	ID	92688-0000	
STACEY G	ANDERSON	4387 S EPSILON AVE	BOISE	ID	83716-0000	
DANIEL K	ARRINGTON	606 N BACON DR	BOISE	ID	83712-0000	
MATTHEW RYAN	BAISLEY	4345 S EPSILON AVE	BOISE	ID	83716-0000	
JASON	BAKER	3791 S HARRIS RANCH AVE	BOISE	ID	83716-0000	
CHRISTOPHER D	BALDWIN	3867 S ECKERT RD	BOISE	ID	83716-0000	
MICHAEL P	BANKS	4494 S AXIOM AVE	BOISE	ID	83716-0000	
TAMMY LYNN	BARRY	3827 S MILL SITE LN	BOISE	ID	83716-5598	
LARRY WAYNE	BECCARD	3611 E BOISE AVE	BOISE	ID	83706-0000	
HORACE W	BELKNAP	4370 E AMITY RD	BOISE	ID	83716-5629	
AMIT	BEN-HORIN	6095 E FOXGROVE DR	BOISE	ID	83716-0000	
RUSSELL	BENSON	4089 S SUNTREE WAY	BOISE	ID	83706-0000	
AMY M	BLACK	3794 S SINGLE TREE AVE	BOISE	ID	83716-0000	
MICHAEL	BLACK	3691 E SHADY GLEN DR	BOISE	ID	83706-0000	
CHRISTOPHER M	BOOHER	4341 E RIVERNEST DR	BOISE	ID	83716-0000	
DOUGLAS L	BOWLES	3705 E BOISE AVE	BOISE	ID	83706-0000	
CHARLES	BOYD	4479 E LOGGER DR	BOISE	ID	83716-0000	
DANIELLE	BOYD	3986 S SUNTREE WAY	BOISE	ID	83706-0000	
JANICE L	BOYD	3950 S SUNTREE WAY	BOISE	ID	83706-5786	
JOHN F	BOYD	3986 S SUNTREE WAY	BOISE	ID	83706-5786	
RYAN	BOYD	4404 S OLD SPORT LN	BOISE	ID	83716-0000	
RYAN	BOYD	4404 S OLD SPORT LN	BOISE	ID	83716-0000	
SHARI	BOYLE	4539 E LOGGER DR	BOISE	ID	83716-0000	
NYDIA	BRAUN	4395 S EPSILON AVE	BOISE	ID	83716-0000	
MARY E	BREVIK	3845 E SHADY GLEN DR	BOISE	ID	83706-5779	
JASON	BRICKNER	4031 S SUNTREE WAY	BOISE	ID	83706-5774	
KENNETH R	BROBECK	4480 S OREGON TRAIL PL	BOISE	ID	83716-5655	
MARK L	BROWN	4092 S SUNTREE WAY	BOISE	ID	83706-5700	
JEREMY	BYINGTON	3727 E SHADY GLEN DR	BOISE	ID	83706-0000	
JOANNE	CAMBARERI-SMITH	4470 S AXIOM AVE	BOISE	ID	83716-0000	
KYLE	CAMPBELL	4480 S CRUZATTE LN	BOISE	ID	83716-0000	
TRACY	CARLSON	3782 S SINGLE TREE AVE	BOISE	ID	83716-0000	
BEVERLY A	CHANEY	4414 S AXIOM AVE	BOISE	ID	83716-0000	
CHISHENG	CHANG	4506 E RIVERNEST DR	BOISE	ID	83716-0000	
WEI-CHUN	CHANG	4386 S AXIOM AVE	BOISE	ID	83716-0000	
AN-JEN	CHENG	3811 S ECKERT RD	BOISE	ID	83716-0000	
SUZANNE L	CHETWOOD	4371 E AMITY RD	BOISE	ID	83716-0000	
RICHARD	CHIPMAN	4621 S OREGON TRAIL WAY	BOISE	ID	83716-0000	
WONJUN	CHOI	4373 E RIVERNEST DR	BOISE	ID	83716-0000	
DAVID	CHRISTENSEN	3883 E SHADY GLEN DR	BOISE	ID	83706-0000	
LEW A	CHUMICH	3715 E SHADY GLEN DR	BOISE	ID	83706-5778	
FAITH A	COX	4398 S EPSILON AVE	BOISE	ID	83716-0000	
J NICK	CRAWFORD	3980 E ASPEN HILL CT	BOISE	ID	83706-5780	
WILLIAM H JR	CREESE	4373 S AXIOM AVE	BOISE	ID	83716-0000	
MICHAEL	CULLEN	3640 E BOISE AVE	BOISE	ID	83706-0000	
JOSEPH M	CULLEN JR	3619 E BOISE AVE	BOISE	ID	83706-5745	
IAN C	DAVEY	3734 S MILLBROOK WAY	BOISE	ID	83716-0000	
PETER	DAVIDSON	4880 E BOISE RIVER LN	BOISE	ID	83716-0000	
COREY M	DAVIS	3955 E HELIX ST	BOISE	ID	83716-0000	
MARGARET B	DAYRIES	3863 S ECKERT RD	BOISE	ID	83716-0000	
BRIDGET JENNIFER	DENNY	4598 S CRUZATTE LN	BOISE	ID	83716-0000	
ARUN KUMAR	DHAYALAN	4465 S AXIOM AVE	BOISE	ID	83716-0000	
GARY D	DICK	3868 E SHADY GLEN DR	BOISE	ID	83706-5777	
TODD A	DINKELMAN	3655 E SHADY GLEN DR	BOISE	ID	83706-0000	
JEFFERY P JR	DITTMAN	3746 S MILLBROOK WAY	BOISE	ID	83716-0000	
KEVIN B	DITTY	3740 S MILLBROOK WAY	BOISE	ID	83716-0000	
DARRIN P	DONITHORNE	3833 S ECKERT RD	BOISE	ID	83716-0000	
ELIZABETH F	DONOHUE	4372 S CRUZATTE LN	BOISE	ID	83716-0000	
KODY	DUCKWITZ	4492 S CRUZATTE LN	BOISE	ID	83716-0000	
MARK	DURCAN DERMOT	420 W MAIN ST APT 402	BOISE	ID	83702-0000	
DAVID ROSS	ECONOMY	3885 E BOISE AVE	BOISE	ID	83706-0000	
LAUREN	ELLIOTT	4468 S CRUZATTE LN	BOISE	ID	83716-0000	
ERIC	ELLSWORTH	3679 E SHADY GLEN DR	BOISE	ID	83706-0000	
BRADLEY H	ENGLAND	4491 S AXIOM AVE	BOISE	ID	83716-0000	
RUSSELL	EVANS	4008 S SUNTREE WAY	BOISE	ID	83706-0000	
DARWIN	FAN	1699 E SILVERSPOT LN	BOISE	ID	83706-0000	
GREG E	FANNIN	3740 E SHADY GLEN DR	BOISE	ID	83706-0000	
ANDREW	FARIAS	3751 E SHADY GLEN DR	BOISE	ID	83706-0000	
KAREN	FARMER	4357 S AXIOM AVE	BOISE	ID	83716-0000	
SHAUN	FLAHERTY	3920 E SHADY GLEN CT	BOISE	ID	83706-0000	
MARTY B	FLICHEL	4355 E AMITY RD	BOISE	ID	83716-0000	
MATTHEW DAVID	FLYNN	4394 S CRUZATTE LN	BOISE	ID	83716-0000	
BENNETT JAMES	FORNAL	3803 S ECKERT RD	BOISE	ID	83716-0000	
SHIRLEY J	FRANCIS	4437 S EPSILON AVE	BOISE	ID	83716-0000	
JUSTIN GRAHAM	FULLMER	3709 S MILLBROOK WAY	BOISE	ID	83716-0000	
LYNDSAY M	GASTELECUTTO	3937 E HELIX ST	BOISE	ID	83716-0000	
ANDREW L	GIACOMAZZI	PO BOX 5601	BOISE	ID	83705-0000	
JOHN SPIKER	GIBB	3818 S MILLBROOK WAY	BOISE	ID	83716-0000	
RICHARD W	GIPSON	5729 S HORSESHOE PL	BOISE	ID	83716-0000	
JULIA A	GOODNOE	4446 E RIVERNEST DR	BOISE	ID	83716-0000	
KENT	GRAHAM	3735 S MILLBROOK WAY	BOISE	ID	83716-0000	
REBEKAH	GREEN	4550 S EPSILON AVE	BOISE	ID	83716-0000	
RACHEL MARY	GRENA	3779 S HARRIS RANCH AVE	BOISE	ID	83716-0000	
ALLEN	GRENGS	3801 E BOISE AVE	BOISE	ID	83706-0000	
LAUREN	GRISWOLD	3883 E HELIX ST	BOISE	ID	83716-0000	
DAIBAO	GUO	4434 E RIVERNEST DR	BOISE	ID	83716-0000	
JEREMY J	HAENER	4662 S MORNING LIGHT PL	BOISE	ID	83716-0000	
MELISSA M	HAGMAN	4250 E AMITY RD	BOISE	ID	83716-0000	
REBECCA H	HAIRE	3836 S HARRIS RANCH AVE	BOISE	ID	83716-0000	
MARYLEE KREBS	HALE	3934 E ASPEN HILL CT	BOISE	ID	83706-0000	
SCOTT R	HATTER	3801 E SHADY GLEN DR	BOISE	ID	83706-0000	
ROBERT A	HEIMER	3677 E BOISE AVE	BOISE	ID	83706-5745	
RUSSELL T	HEITZ	3703 E SHADY GLEN DR	BOISE	ID	83706-0000	
EMERY A	HELM	3822 E SHADY GLEN DR	BOISE	ID	83706-0000	
KAREN L	HENDERSON	3716 S HARRIS RANCH AVE	BOISE	ID	83716-0000	
THOMAS B	HENNESSEY	3984 E FORKED DEER ST	BOISE	ID	83716-0000	
ALEXANDRA	HEREDEA	3871 E HELIX ST	BOISE	ID	83716-0000	
MATTHEW	HERRALA	3949 E HELIX ST	BOISE	ID	83716-0000	
WILLIAM JAMES	HEYER	4114 E BOISE AVE	BOISE	ID	83716-0000	
RONALD R	HIATT	4608 S MORNING LIGHT PL	BOISE	ID	83716-0000	
THOMAS J	HIDALGO	4406 S AXIOM AVE	BOISE	ID	83716-0000	
THOMAS N	HUNT	3942 E FORKED DEER ST	BOISE	ID	83716-0000	
DAVID	HWANG	5840 S HORSESHOE PL	BOISE	ID	83716-0000	
ANKIT	JAIN	15565 NW TRAKEHNER WAY	PORTLAND	OR	97229-0000	
SCOTT ALLEN	JENKINS	3756 S SINGLE TREE AVE	BOISE	ID	83716-0000	
RALIEGH J	JENSEN	4900 E BOISE RIVER LN	BOISE	ID	83716-0000	
MARLA	JOHNSON	4628 S OREGON TRAIL WAY	BOISE	ID	83716-0000	
FRANK N	JOHNSON III	3974 E SHADY GLEN CT	BOISE	ID	83706-6923	
KYUBONG	JUNG	4457 E LOGGER DR	BOISE	ID	83716-0000	
JAISHANKAR	KASTHURI	3767 S HARRIS RANCH AVE	BOISE	ID	83716-0000	
COLEMAN ANTHONY	KAVANAGH	4528 S AXIOM AVE	BOISE	ID	83716-0000	
GEORGE A	KELLEY	3969 S SUNTREE WAY	BOISE	ID	83706-0000	
MICHAEL D	KNOLL	3778 E SHADY GLEN DR	BOISE	ID	83706-5776	
RONALD G	KORTHALS	4475 S OREGON TRAIL PL	BOISE	ID	83716-5656	
SARA L	KOSKELLA	4339 S AXIOM AVE	BOISE	ID	83716-0000	
MOHAMMAD REZA ZAMANI	KOUHPANJI	4463 S EPSILON AVE	BOISE	ID	83716-0000	

LUCIA MARIE	LAFERRIERE	4462 S AXIOM AVE	BOISE	ID	83716-0000
SCOTT	LANSBURG	3829 S MILLBROOK WAY	BOISE	ID	83716-0000
SCOTT PAUL	LANSBURG	3829 S MILLBROOK WAY	BOISE	ID	83716-0000
CHARLES	LAWSON	3844 E SHADY GLEN DR	BOISE	ID	83706-0000
HUYONG	LEE	3804 S MILLBROOK WAY	BOISE	ID	83716-0000
CHRISTOPHER	LEONARD	4556 S CRUZATTE LN	BOISE	ID	83716-0000
YAN	LI	7074 E LA CUESTA ST	BOISE	ID	83716-0000
ROGER	LINGLE	3643 E SHADY GLEN DR	BOISE	ID	83706-5789
DANIEL R	LOUGHMILLER	3922 S SUNTREE WAY	BOISE	ID	83706-0000
ALEXANDER	MACDONALD III	4417 E RIVERNEST DR	BOISE	ID	83716-0000
TATIANA	MALLOSH	4471 E LOGGER DR	BOISE	ID	83716-0000
KAY L	MANTOOTH	4076 S SUNTREE WAY	BOISE	ID	83706-0000
SHANE D	MARCUM	4310 E BOISE RIVER LN	BOISE	ID	83716-0000
BENJAMIN LEON	MCCLAIN	4537 S AXIOM AVE	BOISE	ID	83716-0000
PATRICK F	MCINTIRE	4444 E AMITY RD	BOISE	ID	83716-0000
DANIEL	MILLS	4533 S EPSILON AVE	BOISE	ID	83716-0000
KERI L	MOELLER	4532 S EPSILON AVE	BOISE	ID	83716-0000
NILS	MONSERUD	4361 S EPSILON AVE	BOISE	ID	83716-0000
RYAN C	MOORE	4451 E LOGGER DR	BOISE	ID	83716-0000
JACLYN M	NATONIEWSKI	4310 S CRUZATTE LN	BOISE	ID	83716-0000
TYLER	NEILL	3800 E SHADY GLEN DR	BOISE	ID	83706-0000
ARTHUR	NEPHEW	3796 E BOISE AVE	BOISE	ID	83706-0000
PETER M	NEUMANN	4406 S EPSILON AVE	BOISE	ID	83716-0000
CORRIE L	NEWLAND	4391 S AXIOM AVE	BOISE	ID	83716-0000
MICHAEL J	O'HARA	4482 S AXIOM AVE	BOISE	ID	83716-0000
CAMILLE R	OLDENBURG	4045 S SUNTREE WAY	BOISE	ID	83706-0000
ANNE	OLOW	4496 S EPSILON AVE	BOISE	ID	83716-0000
BRIAN D	ORR	3756 E SHADY GLEN DR	BOISE	ID	83706-5776
BENJAMIN C	OTT	4073 S SUNTREE WAY	BOISE	ID	83706-0000
PAUL	OU YANG	3848 E FORKED DEER LN	BOISE	ID	83716-0000
RUDOLFO	OZUNA	3817 S ECKERT RD	BOISE	ID	83716-0000
RICHARD A	PAULSON	4030 S SUNTREE WAY	BOISE	ID	83706-5700
HANNAH	PENNINGTON	5938 E PLAYWRIGHT ST	BOISE	ID	83716-0000
KEVIN J	PETER	3841 S ECKERT RD	BOISE	ID	83716-0000
CHRISTOPHER W	PETZ	3702 S HARRIS RANCH AVE	BOISE	ID	83716-0000
VINOD K	PILLAI	4366 S AXIOM AVE	BOISE	ID	83716-0000
MALINDA A	PLUMLEE	3823 E SHADY GLEN DR	BOISE	ID	83706-0000
VINCENT M	POXLEITNER	PO BOX 1242	MCCALL	ID	83638-0000
BRENT	PRICE	2895 S GREBE PL	BOISE	ID	83716-0000
ROBERT N	PYLE	3800 E BOISE AVE	BOISE	ID	83706-0000
LARRY J	RICH	3887 S ECKERT RD	BOISE	ID	83716-0000
EDWARD J	RITTER	3008 S SHADYWOOD WAY	BOISE	ID	83716-0000
RONALD L	ROGERS	4402 S CRUZATTE LN	BOISE	ID	83716-0000
KIMBERLY J	RONHOVDEE	4540 S OREGON TRAIL PL	BOISE	ID	83716-0000
KATHY	ROWAN	3842 S MILLBROOK WAY	BOISE	ID	83716-0000
R JOSEPH	RUEHRWEIN	4100 S SUNTREE WAY	BOISE	ID	83706-0000
RICHARD ALLEN	RUTHERFORD	4470 E RIVERNEST DR	BOISE	ID	83716-0000
JULIE M	RYAN	3824 S MILLBROOK WAY	BOISE	ID	83716-0000
STANLEY J	SCHOOLER	3915 S SUNTREE WAY	BOISE	ID	83706-0000
PAULIE	SCHWEITZER	3813 S MILLBROOK WAY	BOISE	ID	83716-0000
WILLIAM KENNETH	SEITZINGER	3655 E BOISE AVE	BOISE	ID	83706-5745
MATTHEW	SHADDLE	3684 E SHADY GLEN DR	BOISE	ID	83706-0000
FAZAL A	SHARIFF	6225 E DEER FLAT RD	KUNA	ID	83634-0000
RANDY J	SHELTON	4084 S SUNTREE WAY	BOISE	ID	83706-5700
HOWARD J	SHEPPA	3726 E SHADY GLEN DR	BOISE	ID	83706-0000
SANG HOON	SHIN	5427 S MESA TRAIL PL	MERIDIAN	ID	83642-0000
SHAWN R	SIMONSON	3899 E SHADY GLEN DR	BOISE	ID	83706-0000
MARK FELL	SINDELL	3837 S ECKERT RD	BOISE	ID	83716-0000
LACEY K	SINN	4319 E AMITY RD	BOISE	ID	83716-0000
COLLIN	SJOBECK	4447 S AXIOM AVE	BOISE	ID	83716-0000
DWIGHT H	SLADE	4519 S AXIOM AVE	BOISE	ID	83716-0000
JEREMY D	SMITH	3747 S HARRIS RANCH AVE	BOISE	ID	83716-0000
KAREN A	SMITH	3656 E SHADY GLEN DR	BOISE	ID	83706-5788
NATE	SMITH	225 POOR FARM RD	GRANGEVILLE	ID	83530-0000
ANDREW	SNOOK	4417 S AXIOM AVE	BOISE	ID	83716-0000
STEPHEN D	SNYDER	3768 S SINGLE TREE AVE	BOISE	ID	83716-0000
MATTHEW J	SOMERO	4362 S EPSILON AVE	BOISE	ID	83716-0000
SAMANTHA	SPAIN	4471 S EPSILON AVE	BOISE	ID	83716-0000
PATRICK A	SPENCE	4530 S AXIOM AVE	BOISE	ID	83716-0000
AARON	SPIELMAN	3668 E SHADY GLEN DR	BOISE	ID	83706-0000
LAVANYA	SRIRAM	6521 E PLAYWRIGHT DR	BOISE	ID	83716-0000
CATHRYN	STAUFFER	4495 S EPSILON AVE	BOISE	ID	83716-0000
VALERIE J	STEFFEN	3956 E ASPEN HILL CT	BOISE	ID	83706-0000
DONETA	STEPHENSEN	4405 S EPSILON AVE	BOISE	ID	83716-0000
RICHARD P	STERLING	3769 E SHADY GLEN DR	BOISE	ID	83706-5778
STEVE	STRANZL	3968 S SUNTREE WAY	BOISE	ID	83706-0000
THOMAS C	STREDWICK	4340 E BOISE RIVER LN	BOISE	ID	83716-0000
THOMAS W	TESCHE	3787 E SHADY GLEN DR	BOISE	ID	83706-0000
KEVIN A	TETZ	3906 S SUNTREE WAY	BOISE	ID	83706-0000
JOHN L	THIEL	3773 E BOISE AVE	BOISE	ID	83706-5747
BENJAMIN P	THOMAS	4643 S OREGON TRAIL WAY	BOISE	ID	83716-0000
PETER DAVIS	THOMETZ	4478 S EPSILON AVE	BOISE	ID	83716-0000
GRANT	THOMPSON	4463 E LOGGER DR	BOISE	ID	83716-0000
MELISSA MARELL	THOMSEN	4424 S CRUZATTE LN	BOISE	ID	83716-0000
BRITTANY	TODOROV	3760 S HARRIS RANCH AVE	BOISE	ID	83716-0000
SCOTT	TRIPP	3 FOX VALE LN	NASHVILLE	TN	37221-0000
CHARLES A	URATA	11390 WHITE ROCK RD STE 200	RANCHO CORDOVA	CA	95742-0000
ROGER W	VALENTINE	3837 S MILLBROOK WAY	BOISE	ID	83716-0000
EARL THOMAS DUKE	VANCAMPEN	3875 S ECKERT RD	BOISE	ID	83716-0000
JULIA	VANWINKLE	3977 E ASPEN HILL CT	BOISE	ID	83706-0000
JANET	VAUGHN	3860 E FORKED DEER LN	BOISE	ID	83716-0000
ARVIND	VAZ	3727 S MILLBROOK WAY	BOISE	ID	83716-0000
SRINATH	VENKATESAN	5760 S HAKKASAN AVE	BOISE	ID	83716-0000
TED R	VERMAAS	3914 S SUNTREE WAY	BOISE	ID	83706-5786
JOSHUA	VEST	4521 E LOGGER DR	BOISE	ID	83716-0000
ROBERT C	VON LINTIG	4380 S EPSILON AVE	BOISE	ID	83716-0000
JOHN TYLER	WALSH	4482 E RIVERNEST DR	BOISE	ID	83716-0000
MICHAEL F	WALTON	4458 E RIVERNEST DR	BOISE	ID	83716-0000
SHANNON	WALTON	4359 E RIVERNEST DR	BOISE	ID	83716-0000
PAUL E	WARNER	4700 E BOISE RIVER LN	BOISE	ID	83716-0000
JAKE P	WATSON	3978 E ASPEN HILL CT	BOISE	ID	83706-0000
MICHAEL	WATSON	3752 S HARRIS RANCH AVE	BOISE	ID	83716-0000
BRETT	WATTERSON	4542 E RIVERNEST DR	BOISE	ID	83716-0000
BRENDA J	WESTBURY	4023 S SUNTREE WAY	BOISE	ID	83706-0000
TIFFANY	WHITE	4518 E RIVERNEST DR	BOISE	ID	83716-0000
ROSEMARY	WICKOWSKI	3938 E SHADY GLEN CT	BOISE	ID	83706-6923
SONNY CALVIN	WIERSEMA	5036 E WOODCUTTER DR	BOISE	ID	83716-0000
ANNE B	WILDE	4425 E RIVERNEST DR	BOISE	ID	83716-0000
KEVIN	WILEY	3803 S HARRIS RANCH AVE	BOISE	ID	83716-0000
KENNETH	WILKINSON	4097 S SUNTREE WAY	BOISE	ID	83706-0000
JAMES BRIAN	WILSON	3716 S MILLBROOK WAY	BOISE	ID	83716-0000
KEVIN W	WILSON	4409 E RIVERNEST DR	BOISE	ID	83716-0000
SHAWN	WOODWORTH	3901 E BOISE AVE	BOISE	ID	83706-0000
AUTUM ROSE	WORTHIT	3799 S SINGLE TREE AVE	BOISE	ID	83716-0000
PAUL J	WROTEN	3040 E WINDSONG DR	BOISE	ID	83712-0000
FANG	YANG	16611 MALAGA HILLS DR	ROUND ROCK	TX	78681-5534
DILLON	ZARPENTINE	4105 S SUNTREE WAY	BOISE	ID	83706-0000
4378 AXION LLC		3389 S LONGLEAF AVE	BOISE	ID	83716-0000

ADA COUNTY - TREASURERS OFFICE		200 W FRONT ST	BOISE	ID	83702-0000
AMOS MIKE & JANET A TRUST		3956 E SHADY GLEN CT	BOISE	ID	83706-0000
BARBER JUNCTION OAI		6149 N MEEKER PL STE 150	BOISE	ID	83713-0000
BARBER POINT NO 1 HOA INC		PO BOX 50132	BOISE	ID	83702-0000
BOYER FAMILY TRUST		12969 BLUE HERON CIR	OJAI	CA	93023-0000
BROYLES PAUL ROTHWELL & ESTHER VIRGINIA TRUST		3867 E SHADY GLEN DR	BOISE	ID	83706-5779
CAILLAT CHRISTIAN & GRISELHOUBER CHRISTINE LIVING TRUST		4646 S OREGON TRAIL WAY	BOISE	ID	83716-0000
COBBLEY FAMILY TRUST		1835 S RIDGE POINT WAY	BOISE	ID	83712-0000
CROWLEY FAMILY TRUST		3738 S HARRIS RANCH AVE	BOISE	ID	83716-0000
CSHR BOISE SPE LLC		2603 MAIN ST STE 1050	IRVINE	CA	92614-0000
CUNNINGHAM MICHAEL W REVOCABLE TRUST		3730 S MILLBROOK WAY	BOISE	ID	83716-0000
DELUNA FAMILY TRUST		PO BOX 81	MCCALL	ID	83638-0000
DL DOUBLE K LLC		3997 S MESA VIEW LN	BOISE	ID	83706-0000
FICKEL FAMILY REVOCABLE TRUST		10061 E GRAND AVE	GREENWOOD VILLAGE	CO	80111-0000
FRIEND FAMILY TRUST		6624 N FAIRBORN AVE	MERIDIAN	ID	83646-0000
GORMAN GALVAN TRUST		3818 S HARRIS RANCH AVE	BOISE	ID	83716-0000
GREENE GREGORY MARC & TERESA BETH LIVING TRUST		4541 S OREGON TRAIL PL	BOISE	ID	83716-5658
GRIFFITH BONNIE B LIVING TRUST		4551 S EPSILON AVE	BOISE	ID	83716-0000
HARRIS FAMILY LIMITED PARTNERSHIP		877 W MAIN ST STE 501	BOISE	ID	83702-0000
HELLA MATTHEW DAVID LIVING TRUST		3878 E FORKED DEER ST	BOISE	ID	83716-0000
HELLA RICHARD A REVOCABLE TRUST		3960 E FORKED DEER ST	BOISE	ID	83716-0000
HEYER LOYAL & VELDA LIVING TRUST		4008 E BOISE AVE	BOISE	ID	83716-0000
HIGH CANYON RANCHLANDS 1 LLC		877 W MAIN ST STE 501	BOISE	ID	83702-0000
HOSS FAMILY TRUST		5 SANKATY CIR	HENDERSON	NV	89052-0000
HOUGH FAMILY LIVING TRUST		4640 S MORNING LIGHT PL	BOISE	ID	83716-0000
HUEY FAMILY TRUST		3836 S MILLBROOK WAY	BOISE	ID	83716-0000
IDAHO POWER COMPANY		PO BOX 70	BOISE	ID	83707-0070
INTERMOUNTAIN GAS CO		PO BOX 5650	BISMARCK	ND	58506-5650
JEFFERSON MARIE H TRUST		3905 E BOISE AVE	BOISE	ID	83706-0000
KINNETT STEPHEN J		3710 S MILLBROOK WAY	BOISE	ID	83716-0000
KORTHALS RONALD & JONI FAMILY TRUST		4475 S OREGON TRAIL PL	BOISE	ID	83716-5656
LANSBURG FAMILY TRUST		3829 S MILLBROOK WAY	BOISE	ID	83716-0000
MALCOLM LLC		4007 S SUNTREE WAY	BOISE	ID	83706-0000
MCGRATH FAMILY REVOCABLE TRUST		3966 PROMONTORY CT	BOULDER	CO	80304-0000
MCKAY SCOTT S		4068 S SUNTREE WAY	BOISE	ID	83706-5700
MEYERS JOHN & DEEDRA TRUST		4337 E AMITY RD	BOISE	ID	83716-0000
MURPHY RACHEL ANNE LIVING TRUST		4501 E LOGGER DR	BOISE	ID	83716-0000
NAMPA & MERIDIAN IRRIGATION DISTRICT		1503 1ST ST S	NAMPA	ID	83651-4324
OWL CREEK IRREVOCABLE TRUST		1775 E STATE ST # 398	BOISE	ID	83702-0000
PARFITT TODD T		3910 DILLON AVE	CHEYENNE	WY	82001-0000
PUKASH FAMILY REVOCABLE TRUST		4052 S SUNTREE WAY	BOISE	ID	83706-0000
RED RIVER INVESTMENTS LLC		200 N 3RD ST STE 100	BOISE	ID	83702-0000
RESIDENCE TRUST UNDER SWAN FAMILY GIFT TRUST		3896 E FORKED DEER ST	BOISE	ID	83716-0000
SEUFERT W T & JANIS L TRUST		3739 E SHADY GLEN DR	BOISE	ID	83706-5778
SMITCHKO SAMANTHA		4530 E RIVERNEST DR	BOISE	ID	83716-0000
SMITH ROGER CRAIG FAMILY TRUST		6568 S FEDERAL WAY # 384	BOISE	ID	83716-0000
SOLAIRE HOMEOWNERS ASSOCIATION INC		3140 W BELLTOWER LN	MERIDIAN	ID	83646-0000
SOLAIRE SUBDIVISION LLC		910 E CAROL ST	MERIDIAN	ID	83646-0000
SOLAVA ENTERPRISES LLC		859 E RUBICON DR	BOISE	ID	83716-0000
STAMP PROPERTIES LLC		3120 E RIVERNEST DR	BOISE	ID	83706-0000
STERNER BARBARA J 2019 INTER VIVOS TRUST		3763 S SINGLE TREE AVE	BOISE	ID	83716-0000
TERNDRUP DANA AND HOLLY FAMILY TRUST		3722 S HARRIS RANCH AVE	BOISE	ID	83716-0000
TINER FAMILY REVOCABLE TRUST		3927 E SHADY GLEN CT	BOISE	ID	83706-0000
TRAILSIDE PLACE NO 2 OWNERS ASSOCIATION INC		5660 E FRANKLIN RD STE 310	NAMPA	ID	83687-0000
VALLIN JOHN & TERRY REVOCABLE TRUST		4624 S MORNING LIGHT PL	BOISE	ID	83716-0000
VERBARENDSE LIVING TRUST		3812 S MILLBROOK WAY	BOISE	ID	83716-0000
VIGOR PROPERTIES LLC		3881 S ECKERT RD	BOISE	ID	83716-0000
WAYDA JULIE R FAMILY TRUST		21941 SEACREST LN	HUNTINGTON BEACH	CA	92646-0000
WHITSETT DOUGLAS K PROFIT SHARING PLAN & TRUST		6095 N HILL POINT WAY	STAR	ID	83669-0000
WIGHT BRIAN & LIBBY FAMILY LIVING TRUST		4550 S OREGON TRAIL PL	BOISE	ID	83716-0000
WOEHRMANN SAM & SETH COTTERELL 2019 REVOCABLE TRUST		167 CASTRO ST	SAN FRANCISCO	CA	94114-0000

Greeting	First Name	Last Name	Position	Organization	Address1	Address2	City	State	Zip
				Boise Project Board of Control	2465 Overland Rd		Boise	ID	83705
	Robin	Lee-Beusan	Water Resources Analyst	City of Boise	150 North Capitol Boulevard		Boise	ID	83702
Honorable	Lauren	McLean	Mayor	City of Boise	150 North Capitol Boulevard		Boise	ID	83702
Mr.	John	Roldan	Strategic Water Resources Manager	City of Boise	150 North Capitol Boulevard		Boise	ID	83702
			President Board of Directors	Boise Chamber of Commerce	1101 W. Front Street		Boise	ID	83702
	Casey	Attebery		Senator Crapo's Office	251 East Front Street, Suite 205		Boise	ID	83702
Ms.	Rachel	Burkett		Senator Risch's Office	350 North 9th Street Suite 302		Boise	ID	83702-5470
Mr.	Dirk	Mendive		Congressman Fulcher's Office	33 E. Broadway Avenue, Suite 251		Meridian	ID	83642
Mr.	Craig	Quarterman		Congressman Simpson's Office	802 W. Bannock, Suite 600		Boise	ID	83702-5820
Mr.	Mike	Roach		Senator Risch's Office	350 North 9th Street Suite 302		Boise	ID	83702-5470
Mr.	Mitch	Silvers		Senator Crapo's Office	251 East Front Street, Suite 205		Boise	ID	83702
Mr.	Rod	Beck	County Commissioner	Ada County	200 West Front Street, 3rd Floor		Boise	ID	83702
Mr.	Ryan	Davidson	County Commissioner	Ada County	200 West Front Street, 3rd Floor		Boise	ID	83702
Mr.	Kendra	Kenyon	County Commissioner	Ada County	200 West Front Street, 3rd Floor		Boise	ID	83702
Mr.	Phil	McGrane	County Clerk	Ada County	200 W. Front street		Boise	ID	83702
			Commissioner	Ada County Board of County Commissioners	200 W. Front street		Boise	ID	83702
Mr.	Jeff	Alexander	Operations Staff Officer	U.S. Forest Service	1249 South Vinnell Way Suite 200		Boise	ID	83709
Mr.	Kyle	Blasch	Director	U.S. Geological Survey	230 Collins Road		Boise	ID	83702
Mr.	Jim	Fincher	District Manager	Bureau of Land Management	3948 Development Avenue		Boise	ID	83705
Mr.	Tom	Nelson	Power Generation Supervisor	Lucky Peak Power Plant	9731 East Highway 21		Boise	ID	83716
Ms.	Johnna	Sandow	Branch Chief	NOAA Fisheries	800 E. Park Blvd, PLAZA IV Suite 220		Boise	ID	83712-7768
Mr.	Christopher	Swanson	State Supervisor	U.S. Fish and Wildlife Service	1387 S. Vinnell Way, Suite 368		Boise	ID	83709
Mr.	James H.	Werntz	Director	Environmental Protection Agency	950 West Bannock Suite 900		Boise	ID	83702
Mr.	John	Williams	Constituent Account Executive	Bonneville Power Administration	1109 W Main Street #315		Boise	ID	83702
				Fort Hall Agency-BIA	PO Box 220		Fort Hall	ID	83202
Ms.	Carolyn	Smith		US Army Corps of Engineers	Walla Walla Regulatory District	720 E. Park Blvd. Suite 245	Boise	ID	83712
Ms.	Lorri	Grey		Nampa-Meridian Irrigation District	1503 First St South		Nampa	ID	83651
				Big Bend Irrigation District	727 Foxtail Rd		Adrian	ID	97901
				Boise-Kuna Irrigation District	PO Box 330		Kuna	ID	83634
				New York Irrigation District	6616 Overland Rd		Boise	ID	83709
				Wilder Irrigation District	PO Box 416		Caldwell	ID	83606
Mr.	Bruce	Wong	Managing Director	Ada County Highway District	3775 N. Adams Street		Garden Cit	ID	83714
Mr.	Paul	Arrington	Executive Director and General Counsel	Idaho Water Users Association	101 S. Capitol Blvd. STE 1205		Boise	ID	83702
	Morgan	Brummund	Policy Analyst	Governor's Office of Energy & Mineral Resources	PO Box 83720		Boise	ID	83720
Ms.	Susan	Buxton	Director	Idaho Department of Parks and Recreation	PO Box 83720		Boise	ID	83720-0065
Mr.	Jess	Byrne	Director	Idaho Department of Environmental Quality	1410 N. Hilton		Boise	ID	83706
Mr.	Roger	Chase	Chairman	Idaho Water Resource Board	PO Box 83720		Boise	ID	83720-0098
Ms.	Katrine	Franks		Office of the Governor	PO Box 83720		Boise	ID	83720-0001
Mr.	Dave	Jones	District Engineer	Idaho Transportation Department	P.O. Box 7129		Boise	ID	83707
Honorable	Brad	Little	Governor	State of Idaho	PO Box 83720		Boise	ID	83720-0001
Mr.	Dustin	Miller	Director	Idaho Department of Lands	300 N 6th Street #103		Boise	ID	83702
Mr.	Scott	Pugrud	Administrator	Office of Species Conservation	PO Box 83720		Boise	ID	83720-0195
Mr.	Aaron	Scheff	Regional Administrator	Idaho Department of Environmental Quality	1445 N. Orchard Street		Boise	ID	83706-2239
Mr.	Mathew	Weaver	Director	Idaho Department of Water Resources	PO Box 83720		Boise	ID	83720-0098
Ms.	Katie	Gibble	Stream Channel Protection Program	Idaho Department of Water Resources	PO Box 83720		Boise	ID	83720-0098
			Director	Idaho Department of Fish and Game	PO Box 25		Boise	ID	83707

Greeting	First Name	Last Name	Position	Organization	Address1	City	State	Zip
Mr.	Ken	Lewis	Executive Director	Idaho Rivers United	3380 W Americana Ter Ste 140	Boise	ID	83706
Ms.	Marie	Kellner	Conservation Programs Director	Idaho Conservation League	PO Box 844	Boise	ID	83701
Mr.	Brian	Brooks	Executive Director	Idaho Wildlife Federation	1020 W Main Street Suite 450	Boise	ID	83702
Ms.	Lisa	Young	Chapter Director	Idaho Chapter Sierra Club	503 W. Franklin	Boise	ID	83702
Mr.	Will	Whelan	Director of Government Relations	Nature Conservancy	950 W Bannock Street Suite 210	Boise	ID	83702
Mr.	John	Robison	Public Lands Director	Idaho Conservation League	P.O. Box 844	Boise	ID	83701
Mr.	Daryl	Kurt	President	Trout Unlimited, Ted Trueblood Chapter	1608 N 15th St.	Boise	ID	83702
				Boise River Enhancement Network	PO Box 9402	Boise	ID	83707
				Idaho Foundation for Parks and Lands	5657 Warm Springs Ave.	Boise	ID	83716
Mr.	Ted	Sorenson	Manager	Barber Pool Hydro, LLC	PO Box 1855	Idaho Falls	ID	83403

Ridenbaugh Canal Headworks Modernization Project - Scoping Comment/Response Summary Table			
Commenter	**Comment Summary**	**Resource Area(s)**	**EA Discussion - Chapter**
ACHD	Potential project overlap with planned (2029) Eckert Bridge, Ridenbaugh Canal Bridge, and New York Canal Bridge reconstruction/realignment project. Request inclusion in any future project coordination.	Transportation, Future Actions	3.9 2.6
Anonymous	Complaint about previous practices re: staging area use. Concerned about air quality effects due to concrete crushing activities adjacent to home sites. Permanent dumping of excessive amounts of demolished materials rather than off-site removal negatively affects residents. Requests off-site removal of materials from this project.	Air quality, Noise, Visual Resources, Public Health & Safety	3.15 3.10 3.11 3.12
Banks, Jeff	Would like to see inclusion of safe recreator passage and an engineered wave feature in project design.	Purpose & Need, Recreation	1.3 3.8
Bass, Adam	Include downstream in-stream recreation passage over diversion structure to comply with Idaho State Code 36-1601(b). Request for additional public comment period.	Purpose & Need, Recreation, Scoping	1.3 3.8 4.1
City of Boise Public Works Dep't	Letter of support, including request for ongoing coordination re: floodplain permitting, access easement. Request evaluation of effects to fish passage, upstream river temperatures, instream aquatic habitat during and after construction.	Water Quality, Biota	3.3 3.5

Ridenbaugh Canal Headworks Modernization Project - Scoping Comment/Response Summary Table			
Commenter	**Comment Summary**	**Resource Area(s)**	**EA Discussion - Chapter**
Collins, Paul	Examine opportunity to incorporate floater passage/recreation feature into the diversion upgrade	Purpose & Need, Recreation	1.3 3.8
Griffith, Ned	-Support IDFG's recommendation for mechanisms to prevent fish entrainment and measures to reduce sediment mobilization and damage to riparian zone -Staging area activities should include appropriate recycling/reuse/environmentally sound disposal methods of demolished materials -Include measures to minimize noise and light pollution to adjacent community from staging area operations (e.g., pulverizing/grinding machinery positioned away from staging area abutments with private residences) -Post-project cleanup should include re-grading staging areas and complete debris removal	Biota, Noise, Visual Resources, Public Health and Safety	3.5 3.10 3.11 3.12
Gross, James	Opportunity to add recreational passage, this location is a candidate for a static wave feature. Low-head dam is a public safety hazard.	Purpose & Need, Recreation	1.3 3.8
Huey, Brian	Concerned about concrete canal lining effects to groundwater.	Outside scope of project	Not Addressed

Ridenbaugh Canal Headworks Modernization Project - Scoping Comment/Response Summary Table			
Commenter	**Comment Summary**	**Resource Area(s)**	**EA Discussion - Chapter**
Idaho Conservation League	-Request to be sent any responses to public comments. -Feasibility study was not made public/public comments were not sought on all seven alternatives considered in that study; request BOR evaluate all seven alternatives separately in EA-Feasibility study did not evaluate alternatives on criteria such as recreational access/passage, fish passage, WQ/sediment effects, riparian effects-Request configuration other than low-head dam, request fish screening to prevent entrainment, floater passage or designated portage route-Analysis should consider opportunities to enhance fishing/birdwatching access, adjacent riparian habitat such as elements (stone steps) to address current recreator trampling of riparian area adjacent to diversion	Alts Considered but Eliminated,Water Quality,Biota,Recreation	2.53.33.53.8
Idaho Foundation for Parks and Lands	IFPL holds a conservation easement that was not accounted for in the scoping maps (runs the length of the N side of the river in the project area, between Trout Unlimited' s waterway easement and the Boise River. This is City of Boise land but the easement language precludes any permanent development or road/motorized access.	Land Use	3.16
Idaho Water Users Ass'n	Letter of support - recommendation to highlight improved water management and safety	Acknowledged	Not Addressed

Ridenbaugh Canal Headworks Modernization Project - Scoping Comment/Response Summary Table			
Commenter	**Comment Summary**	**Resource Area(s)**	**EA Discussion - Chapter**
IDFG	-Request inclusion in EA of specific BMP details (for demolition, construction, post-construction stabilization) to be incorporated -Recommend timing of demolition activities occur in Feb-Apr if not isolated by cofferdam to avoid effects to whitefish & brown trout spawning/egg incubation -Compliance with Idaho Code 36-906 requirements for fish passage and screening of diverted waters is required. Request that Reclamation coordinate with stakeholders to refine the proposed action accordingly.	Water Quality, Biota,	3.3 3.5 & Appendix F
Jefferson, Marie	Request analysis of potential effects to fish/food web from proposed clearing of riparian vegetation	Biota	3.5
Johnson, Frank & Tracie	Request attention to minimizing effects to adjacent property owners (dust, noise)	Noise, Visual Resources	3.10 3.11

Ridenbaugh Canal Headworks Modernization Project - Scoping Comment/Response Summary Table			
Commenter	**Comment Summary**	**Resource Area(s)**	**EA Discussion - Chapter**
Jones, Jeff	-Need for reduction/mitigation of release of fine sediments, including measures to reduce erosion during timeframes between construction periods,-Include emergency response measures in the event of flooding, fire, etc.-Suggest incorporation of placement of clean gravel in project closeout to mitigate effects of upstream impoundments-Suggest integration of shading considerations for selection of streambank revegetation spp., -Request WQ protection measures during project construction (i.e., spills) and post-construction (i.e., runoff erosion). Include protection measures for on-site fuel storage and invasive spp. introduction.	Proposed Action,Water Quality,Biota,Public Health and Safety	2.43.33.53.12
Kaehn, Loren	Request further evaluation of including designed fish/recreator passage to reduce public safety hazard. Assess if kayaking/river-surfing wave is feasible at this location which would have positive economic impact.	Purpose & Need, Biota, Recreation	1.3 3.5 3.8
Manweiler, Dave	Concern about safety/unauthorized activities presently observed occurring in staging areas	Outside scope of project	Not Addressed
Nakaya, Jamison	Would like to see inclusion of safe recreator passage and an engineered wave feature in project design.	Purpose & Need, Recreation, Public Health and Safety	1.3 3.8 3.12

Ridenbaugh Canal Headworks Modernization Project - Scoping Comment/Response Summary Table			
Commenter	**Comment Summary**	**Resource Area(s)**	**EA Discussion - Chapter**
Nielsen, Justin	Request consideration of design incorporation of a recreational feature such as Obermeyer gate style adjustable weir for benefits to recreators, fish passage, sediment transport, habitat/riverine processes, and public safety	Purpose & Need, Recreation, Public Health and Safety	1.3 3.5 3.12
Nutt, Lisa	-Fish screens are required per Idaho Code 36-906 -Request hazardous liquids/refueling containment plan be developed -Need for invasive weed control in staging areas for before, during, and after construction, per Idaho Title 22, Ch. 24 (Noxious Weeds) -Need to develop access and parking management plan for NE and SW staging areas -Expand native revegetation activities at river site to include staging areas -Consider partnering with Intermountain Bird Observatory and Idaho Foundation for Parks and Public Lands Barber Pool Conservation Area regarding vegetation management planning	Alts Considered but Eliminated, Water Quality, Biota, Invasive Species Management, Recreation, Partnering with other organizations	2.5 3.3 3.5 3.6 3.8 Not Addressed
O'Brien, Jon	Opposition to reconstruction of river-spanning low-head dam. Request for navigable passage in form of low-cost, static system integrated into design.	Purpose & Need, Recreation, Public Health and Safety	1.3 3.8 3.12

Ridenbaugh Canal Headworks Modernization Project - Scoping Comment/Response Summary Table			
Commenter	**Comment Summary**	**Resource Area(s)**	**EA Discussion - Chapter**
Painter, Megan	Consider addition of safe recreator passage/inclusion of recreation feature. Design period should be used to refine full economic and safety benefits of a structure modernization.	Purpose & Need,Recreation,Public Health and Safety	1.33.83.12
Pearse, Troy	-Analyze potential impacts to fish, include fish screening measure -Limit sediment mobilization to limit impacts to downstream brown trout redds (Dec thru Feb). -Suggest incorporation of gravel augmentation to improve spawning habitat by building cofferdam using appropriately-sized and cleaned gravels which could be left in-channel at the project's conclusion	Proposed Action, Water Quality, Biota	2.4 3.3 3.5
Thometz, Peter	Staging area at Eckert/Amity has become a dumping area; grinding of debris in proximity to residences is disruptive. Request this project dispose of debris at a licensed facility.	Noise, Visual Resources	3.10, 3.11
USACE	Assignation of DoA file number and request for continued NMID coordination on necessary permitting actions	Agency Consultation and Coordination	4.2.3
Wadsworth, Nick	Consider incorporation of a whitewater recreational wave feature to improve recreator safety, fish passage, and local economic growth.	Purpose & Need, Biota, Recreation	1.3 3.5 3.8

MENU

Columbia-Pacific Northwest Region

Columbia River Basin in Idaho, Oregon, Washington,
Montana & Wyoming

Reclamation / Columbia-Pacific Northwest Region / Environmental Documents / Ridenbaugh Canal Headworks Modernization Project

CPN REGION

Nampa & Meridian Irrigation District Ridenbaugh Canal Headworks Modernization Project

The Nampa Meridian Irrigation District (NMID) has been preliminary selected for a U.S. Department of the Interior's Water Sustain and Manage America's Resources for Tomorrow (Water SMART) grant to modernize their headworks facility in the Boise River for the Ridenbaugh Canal, which is nearing the end of its intended useful life and which presents increasing maintenance needs and operational safety hazards in its present condition.

Details of the proposed modernization project can be found in the Scoping Information Document (linked below).

The analysis of this proposal and any alternatives will be documented in an Environmental Assessment, with an expected completion in the summer of 2025. After the completion of environmental compliance requirements, the WaterSMART grant can be administered.

Public comments regarding the proposed modernization project should be submitted no later than October 31, 2024. Comments may be emailed to: sra-nepa-comments@usbr.gov, or submitted via US mail at the contact information provided below.

Related Documents

10/2024 Preliminary Scoping Information Document PDF 4,434 KB

Related Links

Reclamation WaterSMART

Nampa & Meridian Irrigation District

Contact

Amy Goodrich
208-383-2250
agoodrich@usbr.gov

Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

Last Updated: 10/2/24

Outlook

[EXTERNAL] Request for Comments - Ridenbaugh Canal Headworks Modernization Project

From Bella Loera <bloera@achdidaho.org>
Date Wed 10/9/2024 12:51 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Good afternoon,

My name is Bella Loera and I am a Transportation Planner at the Ada County Highway District. I am reaching out in hopes of being included in correspondences throughout the progression of the Ridenbaugh Canal Headworks Modernization Project. ACHD is currently undertaking a concept study that will evaluate the future reconstruction and potential realignment of the Eckert Bridge, Ridenbaugh Canal Bridge, and New York Canal Bridge. This comprehensive 10-month technical study marks the first phase in a multi-stage approach to the overall concept. Due to the complexity of this project, we do not anticipate construction, if adopted, to commence until approximately 2029.

At this point, we do not foresee any point of concern with the overlap of the NMID project and the Eckert Rd Bridge project, but in light of the timeline for both projects, ACHD would like to be included as a stakeholder for all future communications. Please feel free to reach out if there are any questions or concerns, I will be able to serve as a point of contact for ACHD during this process.

Thank you,

Bella Loera
Transportation Planner | Planning

Ada County Highway District (ACHD)
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Outlook

[EXTERNAL] Comment to SRA-1216 2.1.4.17

From Adam Bass <bassadam16@gmail.com>
Date Wed 11/20/2024 12:59 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Hello Ms. Amy Goodrich,

I am commenting to the proposed project at the Nampa Meridian Irrigation District to modernize the headworks facility in the Boise River for the Ridenbaugh Canal.

The document that I have reviewed states public involvement is encouraged throughout the NEPA process which is why I am providing comment now. Please include me in further details about this project and opportunities to comment. I have only been informed of this project today.

I paddle this section and have to portage the structure which is extremely difficult and near impossible for those with physical or mental disabilities. Idaho State Code 36-1601(a) has been used by IDL to determine the Boise River is a navigable river. Idaho State Code 36-1601(b) describes that all navigable rivers "shall be open to the public as a public highway for travel and passage."

The scoping information states "the operation of the headworks would continue to result in overall water surface elevations and diversions as they have historically occurred." This is in violation of 36-1601(b) because the structure has historically closed the public's use as a public highway for travel and passage, especially by those who are physically and cognitively disadvantaged.

The scoping information states the Proposed Action provides the greatest level of safety for NMID staff and the general public. **Why hasn't the general public had a chance to weigh in on the alternatives?** This alternative appears to require the general public to portage the structure like it currently does. Portaging can be one of the most dangerous things for recreators especially if there is no designated portage route and they are physically or cognitively impaired.

I encourage the project team to design the proposed structure to be in alignment with Idaho State Code 36-1601(b). It is easily possible to design an irrigation structure to accommodate both navigation and irrigation headwater needs. 36-1601(c) does not apply because it is possible for the

design team to develop a structure that is both navigable and provides necessary backwater elevations for irrigation.

Please answer the bold question above and also the question of, **will this structure provide navigational requirements as described in Idaho Code 36-1601?**

Thank you, and Sincerely,

A paddler of the general public

To Amy Goodrich, Natural Resource Specialist, Bureau of Reclamation, Boise Idaho, October 2024

Subject: Proposed Staging Area for the Ridenbaugh Canal Project

Greetings,

Thank you for the opportunity to provide feedback on the pending Ridenbaugh Canal Project. As an owner of property adjacent the proposed Staging Area, owned by the Nampa & Meridian Irrigation District, I have reasonable concerns regarding the current and potential use of the property.

While a project staging area is necessary, please consider taking deconstruction materials directly to licensed facilities, operating under government and state regulations, for recycling. Current operations on the land have not always been friendly to residents wishing to peacefully enjoy their homes and a clean environment.

Over the past few years, the designated Staging Area, once a vacant field, is now resembling an industry dump site. Air quality has often been an issue.

Particularly concerning is concrete crushing machinery parked, at times, within yards of homes and next to a walking path. It is possible for old concrete rubble to contain materials the government has banned from use. Crushing concrete rubble releases eye irritating dust that may also be hazardous to breathe.

Project demolition materials previously dumped in the targeted Staging Area have included decomposing tires, pipe, decaying wood, metal debris and chunks of old concrete. Recently, I watched piles of concrete rubble rise above the property chain link fence. Despite a firebreak created, should a fire occur, combined rubber, wood, and metal debris would result in chemical fire releasing toxic gases and pollutants.

Over time, neighborhoods built up around the designated Staging Area and many laws, including the Congressional Clean Air Act, were passed. Land uses are a multifaceted concern to the community.

Please consider taking deconstruction materials directly to licensed facilities for recycling rather than storing or recycling any materials at the proposed Staging Area. Residents in the area of SE Boise would simply like to enjoy our homes, live in a clean environment, protect our properties and safeguard our health.

Work done by the District is appreciated and can co-exist with community stewardship. Again, thank you.

Outlook

[EXTERNAL] Canals

From Brian Huey <chuckerkiller1@gmail.com>
Date Wed 10/23/2024 11:03 AM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

The biggest concern for everyone is lining the canals with concrete. We already have an aquifer t that is reseading because of development and growth. People wells are going dry. Concrete will add to a big problem that is going to get worse on its own. Water and development is not even in the table right now. Only money.

Outlook

[EXTERNAL] Case Update Notification (Department of the Interior letter regarding irrigation modernization) Service Hub:0064200001

From donotreply <enterpriseservicemanagement@cityofboise.org>
Date Fri 10/4/2024 11:21 AM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Hello Amy Goodrich,

This is to inform you that the following comment has just been added to your Case, whose details are listed further below:

- **Case Number:** CAS-06447-W4K3Y9
- **Title:** Department of the Interior letter regarding irrigation modernization
- **Contact:** Amy Goodrich
- **Type:** Constituent Services – Interaction
- **Service Category:** Constituent Interactions
- **Service Group:** Constituent Comment, Compliment, Question
- **Priority:** Normal
- **Status Reason:** Solved
- **Description:**

PUBLIC WORKS DEPARTMENT
MAYOR: Lauren McLean | DIRECTOR: Stephan Burgos

October 31, 2024

Ms. Amy Goodrich
Natural Resource Specialist
Snake River Area Office
Bureau of Reclamation
230 Collins Road
Boise, Idaho 83702

Re: Ridenbaugh Canal Headworks Project NEPA Scoping Comment Request

Dear Ms. Goodrich,

Thank you for the opportunity to respond to the Bureau of Reclamation request for comments. The City of Boise (City) has on-going support for Nampa & Meridian Irrigation District (NMID) in their efforts to reconstruct the headworks of the Ridenbaugh Canal. NMID is one of the largest irrigation water providers to Boise and integral to surface water delivery for many City facilities.

The City of Boise Department of Parks and Recreation is actively coordinating with NMID on this project. The City and NMID are working together to determine site needs and constraints, and in the process of finalizing an easement for access through the Alta Harris Park site to the diversion structure for construction and maintenance.

The City Public Works Department (PW) and Planning and Development Services (PDS) is coordinating with NMID on floodplain permitting requirements. The City expects this coordination effort to continue as necessary for NMID to obtain and comply with a Boise City floodplain permit, River System permit and an Erosion and Sediment Control permit.

As the Bureau of Reclamation prepares the scope for the Environmental Assessment, the City would also recommend evaluating possible direct, indirect and cumulative impacts of the preferred alternative as it relates to:

- Fish passage through the project site,
- Influence of diversion structure on river temperature upstream,
- Instream habitat for fish and other aquatic organisms impacts during and after construction

Thank you for the opportunity to prove input on the Ridenbaugh Canal headworks replacement project. Please reach out if you have any questions.

Best,

Robin Lee-Beusan
Water Resources Program Coordinator
Public Works Department
City of Boise

Outlook

[EXTERNAL] Case Update Notification (Department of the Interior letter regarding irrigation modernization) Service Hub:0064200001

From donotreply <enterpriseservicemanagement@cityofboise.org>
Date Fri 10/4/2024 11:21 AM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Hello Amy Goodrich,

This is to inform you that the following comment has just been added to your Case, whose details are listed further below:

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- **Type:** Constituent Services – Interaction
- **Service Category:** Constituent Interactions
- **Service Group:** Constituent Comment, Compliment, Question
- **Priority:** Normal
- **Status Reason:** Solved
- **Description:**

Outlook

[EXTERNAL] Juveniles at construction site

From David Manweiler <dmanweiler@icloud.com>
Date Sat 10/26/2024 6:24 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Hello: I'm a homeowner on the south side of the Ridenbaugh Canal project. Observed 4 juveniles mulling around equipment and throwing rocks. My wife and I took pictures and asked them to leave(politely). They left but were disrespectful and rude. Concerned they may return later. Dave Manweiler (208) 863-7444. 4228 S. Redhawk Pl. Boise,83716. Thank you.
Sent from my iPad

Outlook

[EXTERNAL] Proposed Ridenbaugh Canal Headwaters work: public comments

From Frank Johnson <fjohnson.lutes81@gmail.com>
Date Thu 10/31/2024 1:47 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Dear. Ms. Goodrich,
Thank you for the opportunity to provide comments regarding the proposed Nampa Meridian Irrigation District Ridenbaugh Canal Headworks Modernization Project. My wife Tracie and I have been direct neighbors to the impacted property for the last 25 years with a property line fence separating us from the field that will be used as a parking/staging area for the project. Although we were saddened to have the large old maple tree that grew on the property removed, and the grassy field graded and covered over with dirt, we understand the need for the project and the modernization. The employees and their families who have lived in the house above that field have been good neighbors, and when issues have arisen over the years (such as periodic flooding of our yard from irrigation and grading mishaps) they and the District have been great at addressing the situation. Thank you.

With the dust, noise, and activity that will be going on in that staging area during the project, we would appreciate some attention to finding ways to minimize adverse impacts on our home. We might propose an easement along our back fenceline bordering the project to allow for planting of a few medium-height trees to provide for a bit of privacy from the staging area and cut down on noise and dust. We would be happy to talk through any possible mitigation options.

Thank you for considering this request. We value the collaboration we've always experienced from the irrigation district team.

Frank (and Tracie) Johnson
3974 E. Shady Glen Ct.
Boise, 83706
208.891.4341

IDAHO CONSERVATION LEAGUE

208.345.6933 • PO Box 844, Boise, ID 83702 • www.idahoconservation.org

Ms. Amy Goodrich
Natural Resource Specialist
Snake River Area Office
Bureau of Reclamation
230 Collins Road
Boise, Idaho 83702

October 31, 2024

Re: Ridenbaugh Canal Headworks Modernization Project

Dear Ms. Goodrich,

I am writing on behalf of the Idaho Conservation League (ICL) to submit comments on the Proposal for Nampa and Meridian Irrigation District (NMID) Ridenbaugh Canal Headworks Modernization Project Boise, Ada County, Idaho (the Project). Since 1973, the Idaho Conservation League has had a long history of involvement with water quality, recreation, and public access issues. As Idaho's largest state-based conservation organization we represent over 25,000 members and supporters who have a deep personal interest in ensuring that our water, recreation opportunities, and public access is protected throughout the state.

We thank you for the opportunity to submit comments and ask that you please send us any response to public comments on this opportunity. Please feel free to contact us if you have any questions or require additional information.

Sincerely,

Will Tiedemann
Conservation Associate
Idaho Conservation League
wtiedemann@idahoconservation.org
208.286.444

Alternatives Analysis

Per the Scoping Information document available on the Bureau of Reclamation's (BoR) Project website:

> *The proposed actions described in this document are the result of a preliminary feasibility study that was undertaken from 2023 to 2024 which examined numerous potential actions to address the current conditions of this facility as noted above. This alternatives analysis evaluated seven different headworks facility configurations; the Proposed Action detailed above was selected based on maximized structure functionality, least effort for operations and maintenance, and providing the greatest level of safety for NMID staff and the general public.*
>
> *Reclamation will develop an Environmental Assessment which will include consideration of the Proposed Action Alternative and a No Action Alternative. Additional alternatives could be developed in response to issues identified throughout the NEPA process.*

Currently, the referenced preliminary feasibility study has not been publicly posted on the BoR's Project website. Thus, the consideration of potential Project alternatives will not include public input and the environmental impact of the seven different proposed alternatives will not be disclosed to the public. This is despite Federal NEPA regulations that state Environmental Assessments (EAs) shall, "briefly discuss Alternatives as required by section 102(2)(H) of NEPA and (the) environmental effects of the proposed action and alternatives."[1]

While Federal NEPA regulations on scoping do give agencies the power to "identify and eliminate from detailed study the issues that are not important or have been covered by prior environmental review(s)"[2], there is no discussion or justification within the Project Scoping Information document that EA level analysis of all seven alternatives is unimportant. To the contrary, the Project Scoping Information document states the seven alternatives were evaluated based on "maximized structure functionality, least effort for operations and maintenance, and providing the greatest level of safety for NMID staff and the general public", but fails to indicate or provide further information on other evaluation criteria. Additional evaluation criteria for evaluation include, but are not limited to, recreational passage/access, fish passage and mortality, water quality effects (sediment), and riparian effects.

Given the size of the Boise metropolitan area downstream of the Project, any one of these criteria has the potential to impact tens of thousands of people, if not hundreds of thousands. For example, over 100,000 people annually recreationally float the Boise river from Barber Park down.[3] Providing a safe and easy in-stream recreational bypass for the Project would allow an extension of this float and provide expanded recreational opportunities, yet the BoR provides no information or opportunity for public input on how the seven different Project alternatives might impact recreation.

---

[1] 40 CFR 1501.5(c)(2)(ii-iii)
[2] 40 CFR 1502.4(d)(1)
[3] Per Ada County Parks and Recreation (https://adacounty.id.gov/parksandwaterways/float-the-boise-river/#floating_safety)

This area is also popular for fishing and bird watching. The Bureau should consider how project design elements could affect and ideally enhance fish and wildlife habitat. For example, recreational fishing activities immediately downstream of the diversion dam has led to some degree of bank trampling and erosion. The installation of stone steps at strategic locations combined with riparian restoration efforts could maintain or enhance access while improving riparian and watershed conditions. Preventing the entrainment of fish in the canal is also important for maintaining fish populations in the Boise River. Passage for river recreationists could be enhanced both through the diversion structure on appropriate watercraft or along a designated portage route. Low head dam designs are extremely dangerous so we recommend that the Bureau of Reclamation consider different configurations. We also encourage the Bureau to consider any possibilities to improve adjacent riparian and wetland habitat through project construction and maintenance activities and flow management.

Given the importance of the Boise River and the Ridenbaugh Canal area in particular to Treasure Valley residents, we recommend broadening the public outreach effort and providing sufficient information for substantive comments. As stated by the Federal NEPA regulations "The purpose of public engagement (within NEPA) is to inform the public of an agency's proposed action, allow for meaningful engagement during the NEPA process, and ensure decision makers are informed by the views of the public."[4] Excluding the public from the alternatives evaluation and selection process fails to achieve the purpose of public engagement. **The BoR should reconsider the scope of the Project and include all seven Project alternatives for public comment within the forthcoming EA.**

[4] 40 CFR 1501.9(a)

IDAHO WATER USERS ASSOCIATION

101 S. Capitol Blvd. STE 1205 Boise, ID 83702
P: 208-344-6690 E: iwua@iwua.org W: iwua.org

October 14, 2024

Ms. Amy Goodrich
Natural Resources Specialist
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, Idaho 83702

RE: Ridenbaugh Canal Headworks Modernization Project / Scoping Comments

Ms. Goodrich:

On behalf of the Idaho Water Users Association (IWUA), I am writing to express support for the Ridenbaugh Canal Headworks Modernization Project. This project is a prime example of the good work that can be done with funding partnerships to address aging water infrastructure needs.

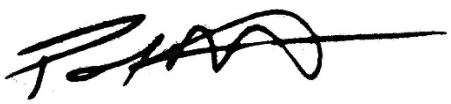
Nampa and Meridian Irrigation District (NMID) has provided water across the Treasure Valley (Valley) since it was formed in 1904. Delivery of irrigation water has been of significant value to the economy of the Valley. As we have seen the Valley grow and urbanize, the delivery of irrigation water to homes for yards and gardens not only provides a more cost-effective water supply for homeowners but also reduces the depletion of the groundwater supply. When completed, this project will help to ensure NMID infrastructure can continue delivering water and benefiting the community for many years to come.

IWUA is a non-profit corporation representing approximately 300 canal companies, irrigation districts, groundwater districts, municipal and public water supplies, hydroelectric companies, aquaculture interests, agri-businesses, professional firms, and individuals throughout Idaho. Our purpose is to promote, aid, and assist in the development, control, conservation, preservation, and utilization of Idaho's water resources.

IWUA members regularly utilize Reclamation's WaterSMART grant programs to improve water management throughout Idaho. The Ridenbaugh Project is a great example of the type of project we support due to the multiple benefits that will be realized. The NEPA Scoping Information document provides a good summary of the issues necessitating modernization of the Ridenbaugh Headworks. Any NEPA analysis on the Ridenbaugh Project should recognize the improved water management and safety that will result from modernization.

Thank you for the opportunity to comment.

Sincerely,



Paul L. Arrington
Executive Director / General Counsel

IDAHO DEPARTMENT OF FISH AND GAME
SOUTHWEST REGION
15950 N. Gate Blvd.
Nampa, Idaho 83687

Brad Little / Governor
Jim Fredericks / Director

October 31, 2024

Ms. Amy Goodrich
Natural Resource Specialist
Snake River Area Office
Bureau of Reclamation
230 Collins Rd.
Boise, ID 83702
sra-nepa-comments@usbr.gov

RE: Proposal for NMID Ridenbaugh Canal Headworks Modernization Project Scoping Comments

Dear Ms. Goodrich,

The Idaho Department of Fish and Game (Department) has reviewed the Nampa and Meridian Irrigation District (NMID) and the Bureau of Reclamation (Reclamation) proposal to modernize the Ridenbaugh Canal headworks facility. Reclamation has requested scoping comments from stakeholders and the public. Reclamation will also develop an Environmental Assessment (EA) which will include consideration of the Proposed Action Alternative and a No Action Alternative, as well as other alternatives that could be developed in response to issues identified throughout the National Environmental Policy Act (NEPA) process.

The purpose of these scoping comments is to advise Reclamation about the potential fish and wildlife implications related to the project. Resident species of fish and wildlife are property of all Idaho citizens, and the Department and the Idaho Fish and Game Commission are expressly charged with statutory responsibility to preserve, protect, perpetuate and manage all fish and wildlife in Idaho (Idaho Code § 36-103(a)). In fulfillment of our statutory charge and direction as provided by the Idaho Legislature, we offer the following comments, recommendations, and suggestions.

Proposed Actions

Demolition, Rock and Debris Removal, Timing

- The scoping document describes that demolition of many components of the existing headworks, as well as rock and concrete debris will be removed at the existing diversion structure and along the banks of the Boise River, but does not provide details about how the removal will occur, e.g., excavators will be used, isolation and silt screens to maintain water quality downstream, etc. The scoping document proposes that work would take place during low-water periods, generally October through April, over a 2-year period. The document describes the use of a cofferdam to dewater part of the channel to facilitate construction activities. It is not clear in the scoping document if that includes demolition activities. Sediment or debris moving downstream during the proposed work time period could affect mountain whitefish and brown trout spawning and incubating.

- Recommendations:
    - The Department recommends that specific details of Best Management Practices (BMPs) that maintain water quality be included in the plan/EA, and not simply saying that BMPs will be used, as stated in the scoping document.
    - If isolation via cofferdam will not be used during demolition and removal work, the Department recommends that removal work occurs as late as possible during the low water window to avoid possible effects on whitefish and brown trout spawning and egg incubation. This means demolition and removal work should occur February through April.

Install New Headworks

- The Department has requirements related to fishways (for structures that restrict fish passage) and screening of diverted waters for protection of fish in Idaho Code 36-906. See Section 36-906 – Idaho State Legislature

- Recommendations:
    - The Department asks that Reclamation coordinate with the Department and stakeholders to refine the proposed action and alternatives related to compliance with the above-mentioned requirements.

Stabilize Project Area Post-construction

- The scoping document states that post-construction stabilization will use BMPs but does not elaborate further. This is very vague and leaves the reader wondering which BMPs will be incorporated and if the banks of the project area will look similar post-construction as they do now.

- Recommendations:
    - The Department recommends that specific details of the BMPs to be used for post-construction stabilization be included in the plan/EA, e.g., if rip rap is to be used, the Department recommends that large woody debris and native riparian vegetation be incorporated into the rip rap layer.

The Department appreciates the opportunity to provide scoping comments pertinent to the Ridenbaugh Canal Headworks Modernization Project. Please contact Brandon Flack in the Southwest Region office at (208) 465-8465 or via email at brandon.flack@idfg.idaho.gov if you have any additional questions concerning this letter.

Sincerely,

Josh Royse
Southwest Regional Supervisor

JR/BF

ecc: Josh Royse, Brandon Flack: IDFG Southwest Region
sra-nepa-comments@usbr.gov: Ms. Amy Goodrich

e-file: S:\TECH ASSISTANCE\BOR\Ridenbaugh Canal\Ridenbaugh Canal Scoping Comments_FINAL_10312024

Outlook

[EXTERNAL] NIMD Diversion Upgrade

From James Gross <jameskurtisgross@gmail.com>
Date Thu 10/31/2024 7:50 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Hello USBR,

I'd like to add some public comments on this project as an avid river user of the Boise Whitewater Park and barber park diversion dam during high flows for recreational river surfing.

1) This project is a great opportunity to add a recreational bypass to maintain river navigability.

2) This location is of great consideration for a static kayak/river surf wave feature which has been successfully accomplished in town down stream and adds great economic and recreational benefit to the entire area.

3) A classic low head dam option without navigable bypass should be a last resort as they block river navigation and have killed over 625 Americans since the early 1900s.

Thank you for your consideration on public input.

Respectfully,

James Gross

Outlook

[EXTERNAL] NMID Ridenbaugh Canal Headworks Modernization- public comment

From Jamison Nakaya <jamisonnakaya@gmail.com>
Date Thu 10/31/2024 1:14 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Hi,
Please consider safe passage for recreation users and the addition of a wave feature. The wave feature would allow for kayak, surfing, and boogie boarding. I can give further feedback on a surfing wave feature if you would like.

There are numerous design and engineering options for a wave feature. Some designs allow for water flow variability and diversion, and other designs provide for wave shaping options. Some designs can be less expensive and are static. I believe some of the required features of NMID as listed on "Map 2: Proposed Action Elements" can be incorporated into a surf wave design meeting both criteria.

Thank you.

Best Regards,
Jamison Nakaya
(208) 810-0720
JamisonNakaya@gmail.com

Outlook

[EXTERNAL] Barber/Alta Harris Park Area NMID Diversion Upgrade COMMENT

From Jeff Banks <jeff.banks@northwest-bank.com>
Date Thu 10/31/2024 9:10 AM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Regarding the subject modernization project under Water SMART grant program. I support the project for the following:

- Modernization will lead to more efficient use of the resource by the irrigation districts and the community as a whole.
- Modernization affords the opportunity to increase the safety of the public through well-designed river features that:
  - Provide for the distribution of the resource yet:
    - Mitigate risks of low head diversion damns by providing for “safe passage” via recreation bypass.
    - Provide recreational opportunities for the general public (kayaking, rafting, tubing, surfing) giving the general public the ability to enjoy the public resource.

I am happy to be involved in any public hearings/committees as needed.

Jeffrey Banks
President, Idaho Division
Northwest Bank
1750 W. Front Street, Suite 150
Boise, ID 83702
Phone: 208.332.0718
jeff.banks@northwest-bank.com

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www.northwest-bank.com

Outlook

[EXTERNAL] Ridenbaugh Canal Headworks Modernization Project.

From Barbara and Jeff Jones <mountainjones@outlook.com>
Date Sun 10/27/2024 10:39 AM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

As a Boise resident and Boise River user, I appreciate the opportunity to provide input on this project.

Fisheries associated with the Boise River have become an important recreational and economic components of the community.

Project design components to mitigate and reduce the release of fine sediment in the river during construction are important. Consider measures to reduce fine sediment releases from the project. In addition to proposed revegetation, low water season construction, but also measures to protect disturbed areas from erosion during the periods between scheduled work periods.

Plan, as one can, for emergency response measures in the event of anomalous weather conditions such as flooding or fire on land adjacent the defined project area.

Plan for the project closeout. Perhaps an opportunity to place or leave clean gravel, suitable for trout and white fish spawning, in the river to mitigate the loss of restorative gravel lost to the upstream impoundments.

Consider, as appropriate, stream side vegetation that will shade bank areas and contribute to both shading and hiding cover for aquatic biota.

Include water quality protection measures from spills, and runoff in the final project plans. On-site fuel storage and invasive species introduction are concerns that need to be addressed in the final project plans and considered in the Environmental Assessment of the effects this project could have on the Boise River and adjacent lands.

Thank you,

Jeff Jones

Outlook

[EXTERNAL] Diversion upgrade above barber park.

From Jonathan O'Brien <renoriversurf@gmail.com>
Date Thu 10/31/2024 6:49 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Greetings,

I'm a stakeholder in the city of Boise and I want to encourage you to create a recreational, navigable passageway and to NOT install a low head dam. Furthermore, a surfing feature similar to the Boise whitewater park would greatly improve the area in every way. There are low cost, static systems than can be installed (as opposed to the moving, expensive, operator required design in Boise) that add beauty and usage. Please look at "big nasty" the top static feature at Kelly's whitewater park in cascade. Users come from around the world to surf this feature and it operates under similar cfs as the boise river.

Thank you for your consideration

Jon O'Brien
908-787-2936

Outlook

[EXTERNAL] NMID NEPA Scoping comments

From Justin Nielsen <jnielski@yahoo.com>
Date Thu 10/31/2024 3:24 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

All,

As a hydraulic engineer and a recreational enthusiast that utilizes the whitewater parks made from diversion structures downstream, I encourage the design to include a recreational feature for public use and fish/wildlife/river process consideration. The obermeyer gate style udjustable weirs provide a direct benefit to the irrigation district to be able to adjust water surface elevations to meet demand, allow for sediment transport during flood events, improve habitat and riverine processes, and improve public safety. White water parks have been immensely popular and valuable to the local community and have a proven track record of recreational safety.

I am in support of this proposal and strongly encourage incorporating recreational features in this location considering funding is from a WaterSmart Grant federal source.

Regards,
Justin Nielsen P.E.
Sent from my iPhone

Outlook

[EXTERNAL] Ridenbaugh Canal Headworks Modernization Scoping Comments

From Jim and Lisa Nutt <nutthouse2021@outlook.com>
Date Wed 10/30/2024 4:28 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Ms. Amy Goodrich
Natural Resources Specialist
Bureau of Reclamation
Snake River Area Office
230 Collins Road Boise, Idaho 83702

Ms. Goodrich,

Please consider these 7 comments for project design, environmental analysis, and project implementation of the Ridenbaugh Canal Headworks Modernization Project.

1. Fish screens are required on diversion canals in Idaho to help reduce entrainment of fish. I did not see any mention of this in the scoping or project information. This year when the Ridenbaugh Canal was shut down, I observed seven 10+-inch trout entrained in the section of the canal between Apple Street and Geckler Street. Fish screens can substantially reduce this risk for fish when installed and maintained. Idaho state law requires screening water diversions.

2023 Idaho Code
Title 36 - FISH AND GAME
Chapter 9 - PROTECTION OF FISH Section 36-906 - FISHWAYS IN DAMS — SCREENS IN DIVERSIONS — REMOVAL OF UNUSED DAMS — PENALTY.
Universal Citation:
ID Code § 36-906 (2023)

(b) Screening of Diverted Waters. No person shall operate any mill, factory, power plant or other manufacturing concern run by water power and having either a head or tail race, or for any person to maintain and operate any ditch, flume, canal or other water conduit receiving or taking water from any stream or lake in this state without first installing and maintaining a suitable screen or other device to prevent fish from entering therein; said screens shall be installed and maintained in a manner and to such specifications and at such locations as may be required by the director and at the expense of the owner or operator of such diversion.

2. Please develop a Hazardous Liquids /Refueling Containment Plan for this project to keep hazardous liquids and petroleum products, such as, but not limited to, fueling, from entering the Boise River, its aquifer, soils, or tributaries. A hazardous liquids spill containment plan should include procedures for responding to a spill, such as:

- Evacuation: Evacuate the area and provide assistance to anyone injured.
- Containment: Close doors to isolate the spill, cover drains, and use absorbent materials, barriers, or spill berms to contain the spill.
- Reporting: Immediately report the spill to the appropriate authorities, such as emergency services and environmental agencies.
- Security: Secure the area until emergency response personnel arrive.
- Cleanup: Only qualified personnel with the proper training and equipment should clean up the spill. Use the appropriate spill response kits and absorbents, and follow established procedures for disposal.
- Documentation: Document the spill, including the location, size, materials involved, and actions taken.

Relevant rules and regulations regarding hazardous liquids include:

- The Idaho Ground Water Quality Rule [IDAPA 16.01.11.301.01.A] states, in part: "…activities with the potential to degrade sensitive or general resource aquifers shall be managed in a manner which maintains or improves existing ground water quality through the use of best management practices."

- The Ada County's Critical Materials Regulation (CMR) [IDAPA 41.01.400.02.K] requires that certain types and quantities of critical materials be secondarily contained in order to protect the Aquifer from contamination. County codes and ordinances state that the storage of critical materials must be in conformance with the county's Comprehensive Plan, and their Zoning and Building ordinances. The comprehensive plan has provisions for protecting ground water quality. Additionally, through conditional use permits, the county can impose more restrictive measures for safeguarding against releases.

- Idaho's Petroleum Storage Tank Fund requires additional valving and periodic leak detection monitoring before it will insure petroleum storage sites that do not have secondary containment.

- State and local fire codes require secondary containment for certain types and quantities of hazardous materials.

3. The northeast and southwest project staging areas (identified on Map 3) have existing invasive species. Disturbed ground provides a suitable place for weedy species to thrive and outcompete natives. Staging equipment can both disseminate weed seeds when leaving these areas as well as bring in weed species when arriving. There is also a greater risk that equipment will spread weeds beyond the staging area footprints. There is no mention of **weed/invasive species control actions before, during, or following project implementation**. Idaho state law requires landowners to control noxious weeds on their property (see relevant state law excerpt below). Please add design criteria to address invasive species control consistent with laws, regulations, and BMPs. The project mentions BMPs to stabilize the project area post-construction but there is no mention of BMPs to reduce the risk of further weed spread or address established weeds. A useful defense plan to handle invasive species is Early Detection and Rapid Response (EDRR). Federal Agencies, including the Bureau of Reclamation, utilize EDRR. If your staff is unfamiliar with invasive species detection, management or control during a construction action, they can get assistance from agencies such as the Idaho State Department of Agriculture Noxious Weed Management and Control Program or the USDA National Invasive Species Information Center. Within the US Department of Interior, the USDI Office of Policy

Analysis states the Bureau of Reclamation actively manages the risk of aquatic and terrestrial invasive species throughout the 17 western United States. This includes preventing the introduction, establishment, and spread of aquatic and terrestrial invasive species as well as eradication and control activities to minimize adverse impacts. For further information it also provides the following Bureau of Reclamation Invasive Species POC contact: Jolene Trujillo, IPM/Invasive Species Coordinator, Denver, CO, tel. 303-445-2903.

Relevant state law:

TITLE 22
AGRICULTURE AND HORTICULTURE
CHAPTER 24
NOXIOUS WEEDS

22-2407. Landowner and citizen duties. (1) It shall be the duty and responsibility of all landowners to control noxious weeds on their land and property, in accordance with this chapter and with rules promulgated by the director.
(2) The cost of controlling noxious weeds shall be the obligation of the landowner.
(3) Noxious weed control must be for prevention, eradication, rehabilitation, control or containment efforts. However, areas may be modified from the eradication requirement if the landowner is a participant in a county-approved weed management plan or county-approved cooperative weed management area.
(4) The landowner shall reimburse the county control authority for work done because of failure to comply with a five (5) day notice, as outlined in section 22-2405, Idaho Code.
(5) If an article is infested with noxious weeds, it shall not be moved from designated premises until it is treated in accordance with the applicable rules, or in accordance with the written permission of a control authority.
History:
[(22-2407) 1970, ch. 149, sec. 2, p. 448; am. 1974, ch. 18, sec. 62, p. 364; am. 1981, ch. 309, sec. 3, p. 635; am. 1987, ch. 331, sec. 2, p. 691; am. and redesignated 1989, ch. 298, sec. 2, p. 731; am. and redesig. 1993, ch. 247, sec. 10, p. 867; am. 2006, ch. 225, sec. 5, p. 675.]

4. The access route(s) and the northeast staging area will be readily visible and accessible from S. Eckert Road and the walking path along S. Eckert Rd. There is no information on how unauthorized motorized access will be managed either during implementation or post-project. Access and parking along the river outside Barber Park is always in high demand for anglers, river floaters during the float season, and walkers. Users often fill the pullout parking area along S. Eckert Road on the east side of the river and people pull their cars along the side of S. Eckert Rd in an attempt to get off the road but still park there. This access route and staging area will become an attractive option if there is no management of unauthorized access and no effective restriction once the disturbed areas are restored post-project. Please include design criteria to address unauthorized motorized access during and after the project is complete. This will also help your planted native vegetation and other restorative actions to succeed.

5. The southwest staging area is at risk of unauthorized motorized use from the adjacent housing development and E Amity Rd due to its visibility. Please include access management design criteria for this area to allow restoration of the staging area to succeed and reduce soil damage and further weed spread and establishment post-project.

6. The project mentions native trees, shrubs, and herbaceous species will be planted along the Boise River in disturbed areas. That is terrific, although it is not clear if this includes the staging areas. For example, the southwest staging area is along the New York Canal, not the Boise River. Please clarify the design criteria language if it applies to all disturbed areas in this project's footprint. If the current criteria only applies to disturbed ground along the Boise River, then please create an additional criteria to plant native tree, shrub, and

herbaceous plantings in all disturbed areas inclusive of the staging areas, to reduce the risk of further spread and establishment of noxious weeds.

7. Consider establishing a partnership with the Intermountain Bird Observatory (IBO) Diane Moore Nature Center and/or the Idaho Foundation for Parks and Public Lands Barber Pool Conservation Area. These entities are actively removing invasive weed species and re-establishing native plants upstream of the Ridenbaugh Canal Headworks Modernization Project along the Boise River . Shared advice and information could improve success of your own restoration efforts in this same ecological community. One or both organizations may be able to offer intel on native plant source materials, timing and location for re-establishment of natives as well as their successes and failures with weed control along the Boise River.

Thank you for the opportunity to comment on this project.

Sincerely,

Lisa M. Nutt

Outlook

[EXTERNAL] NMID Diversion Upgrade - Near Proposed Alta Harris Park - NEPA Comments

From Loren Kaehn <kaehnl@yahoo.com>
Date Thu 10/31/2024 9:43 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>
Cc Paul Collins <collins04md@gmail.com>; Sarah Collings <scollings@cityofboise.org>; dholloway@cityofboise.org <dholloway@cityofboise.org>; Mayor McLean <mayormclean@cityofboise.org>; Jimmy Hallyburton <jhallyburton@cityofboise.org>

To: Ms. Amy Goodrich
Natural Resources Specialist
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, Idaho 83702

From: Loren Kaehn
Secretary, Idaho Surf Association

Thank you for the opportunity to comment on the proposed NMID diversion improvements. Many in the community are in favor of BoR grants to improve and modernize irrigation diversions on the Boise River. Over 40 diversions exist on the Boise and Payette river systems, some are quite old and present both operational challenges and hazards in the river.

There can be many benefits to improving diversions, as noted in the BoR Scoping document including:
-Minimizing safety risks to irrigation district employees
-Automation to improve efficiency
-Flood risk mitigation
-Address seepage, scouring
-Sediment bypass and transport

Two areas of consideration by BoR and NMID that could benefit the community include:

1) Further evaluate reducing safety risks for recreationalists, as noted in the NMID 2022 grant application. While sections downriver are currently more popular with floaters, many areas of the Boise river are gaining popularity with SUP, rafters, kayaker and tubers. As Alta Harris Park is developed, more floaters would potentially be in the vicinity of the NMID structure. People may be on the river bank swimming, fishing, hiking, wading, etc - although the area adjacent to the river are a conservation easement with important fish habitat. Creating a low hazard diversion, with designed recreational and fish passage would likely be a significant benefit to the community. Numerous recent fatalities have occurred at low head dams and dams without passage in Idaho (Henry Fork triple fatality 2023, Teton River fatality 2019, numerous past Boise and Payette river low head dam incidents). Lastly, the US Water Resources

Development Act of 2022 authorized USACE to inventory all US low head dams, and future federal efforts will likely be focused around continuing to modify existing structures to reduce recreational hazards.

2) Further assess if an in-water recreational feature for kayaking and river surfing is feasible at a modified diversion. The successes of Boise Whitewater Park, Bend Whitewater Park, Missoula Whitewater Park have been at active existing diversions. The adjustability needed for modern river diversions (e.g. for flood mitigation, automation) can lead to quality river recreation features as well. Recreational features can have many benefits, but one main one is economic impact. Whitewater parks have a $1M-$5M annual impact - with numerous jobs typically created as well. Frequently grants are available to supplement river recreation improvements, with over 100 whitewater parks built in the US. Large grants, including federal, state, local and private have all been used over the last fifteen years at numerous whitewater parks. Overall, the NMID diversion is a good potential site for in-water recreation - drop, flow and adjacent proposed public park make it a good potential recreation feature location. Recreational in-water improvements can be combined with fish passage and fish habitat creation to provide additional benefits.

In summary, the community is thankful for the support by BoR, NMID and stakeholders for upgrades to existing irrigation diversions. Please continue to consider the recreational aspect of river navigability, recreational hazard reduction and the feasibility of in-water recreational features. Paul Collins (Friends of the Park) and I would welcome the opportunity to meet with BoR and NMID and discuss further.

Thanks,
Loren Kaehn
Kaehnl@yahoo.com
208-871-5787

Outlook

[EXTERNAL] SRA-1216 2.1.4.17

From Marie Jefferson <mariejefferson@ymail.com>
Date Fri 10/18/2024 9:59 AM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Ms. Goodrich,

Several questions have arisen since receiving your notice of work to be done on the Boise River for the Ridenbaugh Canal:

a. How will the work impact my specific home location? I was unclear after reading the notice as to the exact changes the work will create to me specifically.

b. My brother was extensively involved with salmon tagging in the Washington, Oregon, Idaho areas for the specific purpose of identifying the impact changes made in the past were affecting the salmon; i.e. spawning, life cycle, and numbers. Do you have any concerns and/or made any provisions to prevent severe impact on the fish, plants, food and often overlooked filters naturally existing in the river which clearing vegetation will impact.. Have studies been done to preclude learning afterwards that "we should have considered this" during the planning phase. In other words has more than structure been considered?
There is much to be considered when preserving a river and the life in/on it which developed over the past 90 plus years while still meeting the needs of the community. Please review such plans in the light of these concerns.

Thank you,
Marie Jefferson
3905 E. Boise Avenue
Boise, ID 83706

Outlook

[EXTERNAL] Ridenbaugh Canal Headwaters Modernization

From Megan Cochran <megan.claire.cochran@gmail.com>
Date Thu 10/31/2024 8:34 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>
Cc Loren Kaehn <kaehnl@yahoo.com>

Hello,

I am reaching out in response to the proposed modernization of the current Ridenbaugh Canal Diversion. First and foremost, I fully support updates and increased safe passage and risk mitigation in these older canal infrastructures and wish to see continued updates and modernizations along the Boise River and other freshwater systems within our state. The increase in safety to the public and also canal employees is a priority.

I would like to reach out to ensure that the board has fully utilized this modernization to full benefit/impact potential before final plans/submissions and permitting begins. Updates to these structures is an opportune time to also ensure safe utilization for river recreation and even consider adding recreational features to the infrastructure as previously seen at the Garden City weir structures during their updates which was an important benefit to the overall project. As seen with that project, it allowed more precise control for our irrigators and has had an overwhelming economic and recreational benefit to a once struggling community.

The design period and project planning period is a crucial time to ensure full benefit potential is monopolized with the cost of the project and that design features ensure continue safe passage for recreational users. It is also a crucial consideration to the overall streamed restoration and riparian environment. All of which have seen great benefits from other recreational projects having been incorporated into infrastructure update projects.

I believe you are at a crucial tipping point in design and development and hope that you consider the full potential of this project.

Please feel free to reach out to me with any questions or clarifications, and again, thank you for your dedication and commitment to updating our dangerous low head dam and aging infrastructure to the benefit of our irrigators, our canal staff, and our community recreational members.

Thank you,

Megan Painter

Sent from my iPhone

Outlook

[EXTERNAL] Ridenbaugh Canal Headworks Modernization Project

From Ned Griffith <ngriffith40@hotmail.com>
Date Thu 10/31/2024 5:05 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Ms. Amy Goodrich
Bureau of Reclamation
Boise, ID

Dear Ms. Goodrich,

I am a property owner and resident of S. Epsilon Ave, Boise, ID close to the staging area for the Ridenbaugh Canal Headworks Modernization project. I support the project and its objectives, but I have concerns about the impacts on the Boise River fish population and on the neighborhoods close to the canal and the project staging area.

1) I support the Idaho Fish and Game Commission's recommendations regarding mechanisms to prevent fish entrapment, control of sedimentation, and measures to minimize damage to the riparian zone.

2) The activities at the staging area bordered by Boise Ave, Amity Road, and the residences on South Epsilon Ave need to include appropriate recycling, reuse, and environmentally safe disposal of all materials removed during demolition of existing facilities.

3) Staging area operations should minimize noise and light pollution impacting the bordering residential properties. Specifically, noisy pulverizing and grinding machinery should be positioned away from the staging area boundaries.

4) Post-project clean-up should include re-grading the staging area and the elimination of unsightly piles of debris. Areas not needed for on-going maintenance operations should be reseeded with native vegetation for both aesthetics and the repopulation of native wildlife.

Respectfully,

Edward Griffith
4551 S. Epsilon Ave.
Boise, ID 83716

Outlook

[EXTERNAL] The Ridenbaugh Canal headworks

From Nick Wadsworth <nbwads@gmail.com>
Date Thu 10/31/2024 8:39 PM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

To whom it may concern,

I am pleased to learn about the plans to modernize the Ridenbaugh Canal headworks facility. Incorporating a whitewater recreational wave feature could potentially enhance safety, improve fish passage, and stimulate local economic growth. The Boise Whitewater Park serves as a successful model, transforming a previously hazardous area into a vibrant community asset. Implementing a similar feature could yield comparable benefits for our community.

Sincerely,

Nick Wadsworth

Outlook

[EXTERNAL] The Ridenbaugh restoration

From Paul Collins <CollinsPaulMD@outlook.com>
Date Mon 10/28/2024 8:00 AM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

I have been working with the upgrades and improvements for the various diversions along the Boise River for quite a while. The Whitewater Park in Boise is an example, and there are others.
The upgrade of the Ridenbaugh canal system is a potential opportunity not only for creating a safer environment for the rapidly changing population near the structures, but also offers an opportunity to enhance the growing sport of whitewater activities. This includes kayaking, surfing (even hundreds of miles from the ocean!), etc.
Our primary goal from the onset many years ago was to make the use of the flowing summertime Boise River safer. I believe we have achieved that goal at the diversions that have been enhanced.
I would appreciate an opportunity, along with other interested river users, to meet and discuss the potential for diversion upgrades that also provide safe and diverse opportunities to use the flowing power of the Boise River.
Thank you for considering this request.
Paul Collins MD
208-861-8257

Outlook

[EXTERNAL] Ridenbaugh Canal Headworks Modernization Project

From Peter Thometz <p.thometz58@gmail.com>
Date Thu 10/10/2024 10:59 AM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Dear Ms Amy Goodrich,

I want to thank you for the informative letter regarding the proposed Nampa Meridian Irrigation District Ridenbaugh Canal Headworks Modernization Project. I feel it is important to protect the natural resources we have in the Treasure Valley and understand the importance of this project has to maintain those resources.

I only have one question regarding the project that wasn't addressed in the proposed project letter you sent out to neighbors in the work area. Let me preface that I live across the pedestrian path form the Nampa Meridian Pit at Eckert Rd and E Amity Rd. I know they have been using this area since 1904 as a staging area for work on both the Ridenbaugh and New York canals. They have been moving debris in and out of the pit for decades I know. Three years ago they dumped an unprecedented amount of concrete, tree limbs, tree trunks, metal, tires and other various junk. As I write they are just finishing cleaning up the massive piles that were there. It was a little concerning because they were grinding the wood and concrete debris no more than 50 yards from my back doors. Im glad its over now and wasn't to disruptive.

My question is, is the proposed modernization project going to use this pit to dump the debris from this project or will they be taking the debris to a licensed facility? I understand the use of this property and when I bought my house in 2016 I knew there would be activity when they were doing maintenance on the canals. My only

concern was it seemed to turn into a dump rather than a working pit and staging area.

Thank you for listening to me and please let me know what they intend to do with the project debris.

Sincerely,

Peter Thometz
4478 S Epsilon Ave
Boise, ID 83716

Outlook

[EXTERNAL] Ridenbaugh Canal Headworks Modernization Project Comment

From Troy Pearse <ttpearse@gmail.com>
Date Sun 10/27/2024 10:53 AM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

This is a comment regarding the proposed Ridenbaugh Canal Headworks modernization project .

This project should take into account it's potential impact to the fish in the Boise River, and should include adding screening to prevent fish entrapment as well as limiting sediment during work that could impact brown trout redds downstream, which are vulnerable from December through February.

To help offset the irrigation canal's years of impact on fish being sucked into the irrigation canal and dying, I would like to see a gravel augmentation done as a part of this project to improve spawning habitat on the Boise river, which is gravel starved due to Lucky Peak. By building the cofferdam out of sacks of clean, round 3/4 inch - 2 inch gravel, the gravel can be left in the river when the cofferdam is removed. This is an approach used in Garden City at the Garden City Heron Park project in 2020.

Thank you for the opportunity to provide input on this project.

Troy Pearse
8940 W. Duck Lake Drive
Garden City, Idaho 8714
208-870-1025

Outlook

[EXTERNAL] USACE Scoping Response; NMID, Ridenbaugh Headworks Modernization Project; NWW-2024-00182

From Smith, Carolyn D CIV USARMY CENWW (USA) <Carolyn.D.Smith@usace.army.mil>
Date Fri 10/4/2024 9:23 AM
To NEPA Mailbox, BOR SRA <sra-nepa-comments@usbr.gov>

Dear Ms. Goodrich,

This is in response to Bureau of Reclamation's October 1, 2024, letter requesting comments on the proposed Nampa Meridian Irrigation District (NMID), Ridenbaugh Canal Headworks Modernization Project. Thank you for providing the Corps of Engineers the opportunity to provide comment. According to information provided, the proposed project is to modernize an existing headworks facility in the Boise River on the Ridenbaugh Canal. This facility is managed by NMID and the proposed project would be funded by the U.S. Department of Interior Water Sustain and Manage America's Resources for Tomorrow (Water SMART) grant. This project has been assigned Department of the Army (DA) file number: NWW-2024-00182 please refer and/or have the applicant refer to this reference number in all future correspondence with us concerning this project.

The United States Army Corps of Engineers (USACE) is aware of the proposed project and participated in a pre-application meeting with representatives from NMID, HDR, and Sawtooth Law on April 5, 2024. On April 8, 2024, USACE sent a follow-up email to the meeting attendees and recommended that NMID follow-up with USACE and submit a Joint Application for Permits (JAP) when the concept design for the proposed project is finalized. As the proposed project would result in a discharge of the dredged or fill material within the Boise River, a Department of the Army (DA) permit may be required. The applicant should be made aware of this and should contact the Corps of Engineers Regulatory Division prior to commencing any such work impacting waters of the United States.

The DA exerts regulatory jurisdiction over waters of the United States, including wetlands, pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344). Section 404 of the Clean Water Act requires a DA permit to be obtained prior to discharging dredged or fill material into WOUS, including wetlands.

The Corps is grateful for this opportunity to provide comment and is prepared to assist the applicant in preparing a DA permit application should they move forward with proposing any work impacting

the Boise River or other waters of the United States, including wetlands.

Kind Regards,

Carolyn Smith *(She/Her)*

Environmental Resources Specialist, Regulatory Division

DESK: (208) 433-4497
MOBILE: (208) 530-5115
EMAIL: Carolyn.D.Smith@usace.army.mil
WEB: https://www.nww.usace.army.mil/Business-With-Us/Regulatory-Division/
ADDRESS: 720 E. Park Blvd, Suite 245 | Boise, Idaho | 83712

Appendix C

Endangered Species Act: IPaC Report

IPaC U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Ada County, Idaho

Local office

Idaho Fish And Wildlife Office

(208) 378-5243
(208) 378-5262

1387 South Vinnell Way, Suite 368
Boise, ID 83709-1657

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
North American Wolverine Gulo gulo luscus Wherever found This species only needs to be considered if the following condition applies: • Species may be present based on transient occurrence as it moves through or too suitable habitat. Effects should be considered to species and projects should consult with the Service, however, depending on the project, consultation may not be necessary. No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5123	Threatened

Birds

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

Insects

NAME	STATUS

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

Flowering Plants

NAME	STATUS
Slickspot Peppergrass Lepidium papilliferum There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4027	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, should follow appropriate regulations and implement required avoidance and minimization measures, as described in the various links on this page.

The data in this location indicates that no eagles have been observed in this area. This does not mean eagles are not present in your project area, especially if the area is difficult to survey. Please review the 'Steps to Take When No Results Are Returned' section of the Supplemental Information on Migratory Birds and Eagles document to determine if your project is in a poorly surveyed area. If it is, you may need to rely on other resources to determine if eagles may be present (e.g. your local FWS field office, state surveys, your own surveys).

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-

incidental-take-migratory-birds

- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Bald and Golden Eagle information is not available at this time

Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what

birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (FWS). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The FWS interprets the MBTA to prohibit incidental take.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Migratory bird information is not available at this time

Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your

project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list),

there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS

Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

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Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

PEM1A

FRESHWATER FORESTED/SHRUB WETLAND

PFO1A

RIVERINE

R3UBH

R4SBCr

R5UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata

should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix D

National Historic Preservation Act, Tribes, and Sacred Sites Consultation: State Historic Preservation Office, Tribes, and Memorandum of Agreement

United States Department of the Interior
BUREAU OF RECLAMATION
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:
SRA-1218
2.1.1.04

VIA ELECTRONIC MAIL ONLY

Ms. Ashley Molloy
Historic Preservation Review Officer
Idaho State Historical Society
210 Main Street
Boise, ID 83702-7264
ashley.molloy@ishs.idaho.gov

Subject: Invitation to Consult on the Proposed Ridenbaugh Canal Diversion Headworks Modernization Project—Arrowrock Division, Boise Project, Idaho

Dear Ms. Molloy:

The Bureau of Reclamation proposes to grant funds for the Nampa-Meridian Irrigation District's (NMID) plan to upgrade the diversion structure for the Ridenbaugh Canal in the Boise River, Ada County. The project area is located in T3N R3E, Section 29. The Ridenbaugh Diversion Headworks facility (10AA2146) has been previously determined eligible for listing on the National Register of Historic Places (NR).

The proposed actions constitute an undertaking according to the definition in the National Historic Preservation Act of 1966, as amended, triggering the Section 106 process. As required at 36 CFR §800.5(b), enclosed please find documentation in support of a finding of "Adverse Effect" to the historic properties, including that specified in §800.11(e): (1) A description of the undertaking, specifying the Federal involvement, and its area of potential effects (APE), including photographs, maps, drawings, as necessary; (2) a description of the steps taken to identify historic properties; (3) a description of the affected historic property and the characteristics that qualify it for the NR; (4) a description of the undertaking's effects on historic properties; (5) an explanation of why the criteria of adverse effect were found inapplicable; and (6) copies of any views provided by consulting parties and the public.

Description of the Undertaking

The NMID is modernizing their headworks facility in the Boise River for the Ridenbaugh Canal. The Ridenbaugh Canal headworks facility was constructed in the 1930s and consists of a diversion structure, sediment wall, wingwalls, trash rack, and intake gates. NMID is proposing to replace the existing headworks due to the observed existing physical condition of the facility and associated operational safety hazards. The project will remove and replace the existing diversion structure, sediment wall maintenance walkway, 220 feet of the sediment wall next to the intake

gates (remainder of the sediment wall to remain in place), trash rack, intake gates wing walls, east side (right bank) abutment and other infrastructure.

Steps Taken to Identify Historic Properties

The NMID contracted with TAG Historical Research and Consulting to perform cultural resources identification and reporting activities for this project. Intensive pedestrian surveys were conducted over three separate days in the spring of this year. The literature search was generated within the ICRIS project. The APE for this project encompasses the Ridenbaugh Diversion Headworks and adjacent land along both banks of the river and adjacent land on the west side of Eckert Road where the staging of equipment and materials will take place during construction. The APE is approximately 23 acres.

Description of the Affected Property

Two eligible historic properties are known to exist within the APE; the Ridenbaugh Diversion Headworks (10AA2146) and the Ridenbaugh Canal (10AA575). Both are part of one of the earliest successful efforts to provide irrigation water in the Treasure Valley. Construction of the original diversion structure and the initial seven miles of canal began in 1877 by William Morris. The Ridenbaugh name was acquired when Morris died and bequeathed the canal to nephew William Ridenbaugh. He subsequently sold the canal and water rights in 1888, and the canal was declared an irrigation district in 1904. In 1926 the canal system was expanded as part of the Boise Irrigation Project. A third cultural resource was identified during fieldwork, a residence at 3904 E. Boise Avenue, that was evaluated as ineligible.

Description of the Undertaking's Effects

The proposed project will involve the following actions that will directly affect the eligible diversion structure: demolition and replacement of the existing diversion structure, which uses check boards, with a new structure that uses automated overpour gates and an ogee weir; remove the catwalk on the existing 550-foot sediment control structure; replace sections of the existing sediment control structure with a new sediment basin; replace the existing weed and debris rack with a new self-cleaning rack; and install the necessary electrical, pneumatic, and mechanical systems to operate the various automated components of the entire new diversion structure.

Basis for Determining Adverse Effect to the Historic Property

No work related to the proposed modernization project will impact the contributing segment of the Ridenbaugh Canal and there will be No Adverse Effect to the eligible canal. However, the changes to the eligible diversion structure are recommended as a Finding of Adverse Effect as they will ultimately remove the existing feature and with it the characteristics that define the historic integrity of the Ridenbaugh Diversion Headworks. Development of a mitigation memorandum of agreement, in consultation with the SHPO, is recommended.

Reclamation seeks concurrence that the project will result in No Adverse Effect to the Ridenbaugh Canal (10AA575) and Adverse Effect to the Ridenbaugh Diversion Headworks

(10AA2146). Please direct any Section 106 process questions to Ms. Jennifer Rilk, Archeologist, at (208) 383-2257, or by email at jrilk@usbr.gov. If you are deaf, hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

Sincerely,

BRYAN HORSBURGH

Digitally signed by BRYAN HORSBURGH
Date: 2024.10.07 12:59:09 -06'00'

Bryan Horsburgh
Area Manager

Enclosures

STATE HISTORIC PRESERVATION OFFICE / IDAHO STATE HISTORICAL SOCIETY

SHPO Consultation Summary

SHPO Project #2024-1094

Any questions please email:
shpo@ishs.idaho.gov

Section 1: Project Information		
Organization Project No(s): MSFO-FY24-S106-02	Project Name: Ridenbaugh Canal Diversion Structure Modernization	
Lead Federal Agency: Bureau of Reclamation (BOR)		
Project Type:	☑ Federal - Section 106	☐ Federal - Section 110
	☐ CLG Survey	☐ Determination of Eligibility
Programmatic Agreement Applied:		

Section 2: Lead Agency Reviewer(s)		
Name: Jennifer Rilk	Email: jrilk@usbr.gov	Phone: 2083832257

Section 3: Additional Organizations	
Agency: TAG - Historical Research and Consulting	Name: Barbara Perry Bauer

Section 4: Project Description
Nampa-Meridian Irrigation District plans to modernize the Ridenbaugh Canal's diversion structure by replacing the existing check board structure with automated pneumatic gates and replacing the other structures at the diversion. NMID has been granted a WaterSMART grant from the Bureau of Reclamation to provide additional funding for the work.

Section 5: Final Determination(s) of Eligibility for Listing in the National Register of Historic Places	
	SHPO Count of Resources
Not Eligible	1
Eligible	2
Unevaluated	0

STATE HISTORIC PRESERVATION OFFICE / IDAHO STATE HISTORICAL SOCIETY

SHPO Consultation Summary

SHPO Project #2024-1094

Any questions please email:
shpo@ishs.idaho.gov

Smithsonian Number(s)	Property Type/Name	*SHPO Determination*
10AA11044	Building/3904 E Boise Avenue - House	Not Eligible
10AA2146	Structure/Ridenbaugh Canal diversion dam and headgates	Eligible
10AA575	Linear Resource/Ridenbaugh Canal	Eligible
SHPO Comments:		

☐ No Historic Properties Affected [36 CFR § 800.4(d)(1)]
☐ No Adverse Effect [36 CFR § 800.5(d)(1)]
☑ Adverse Effect [36 CFR § 800.5(d)(2)]
Agency Comments/Summary: Project activities will result in an adverse effect to an historic property due to its removal

The Idaho SHPO has reviewed the documentation and recommendations provided by Bureau of Reclamation (BOR):
Project Finding of Effect:
☐ We concur with the finding of effect of Adverse Effect and with the conditions of compliance (if applicable). ☑ We concur with the finding of effect of Adverse Effect, given stipulations explained below. ☐ We disagree with the finding of effect of Adverse Effect, as explained below or in the attached letter. ☐ No Comment

STATE HISTORIC PRESERVATION OFFICE / IDAHO STATE HISTORICAL SOCIETY

SHPO Consultation Summary

SHPO Project #2024-1094

Any questions please email:
shpo@ishs.idaho.gov

Section 7: Official SHPO Response
Tricia Canaday Date 11/13/2024 Deputy State Historic Preservation Officer
SHPO Comments: Thank you for consulting with our office. After reviewing the provided documentation, we concur with the eligibility determinations. Pursuant to 36 CFR § 800.5, we have applied the criteria of effect to the proposed undertaking and concur the proposed project actions will have an adverse effect to historic properties, specifically the Ridenbaugh Canal (10AA575) and the Ridenbaugh Canal Diversion Dam (10AA2146). We look forward to working with you, as well as other interested parties, including Richard Jarvis, Historic Preservation Planner for the City of Boise to avoid, minimize, or mitigate these adverse effects. To learn more about the mitigation process, please visit: https://history.idaho.gov/section-106/mitigation-process/. If you have any questions or comments, please contact me at kayla.mcelreath@ishs.idaho.gov.

MEMORANDUM OF AGREEMENT
between the
Idaho State Historic Preservation Office,
Nampa & Meridian Irrigation District,
and the
Bureau of Reclamation
Columbia-Pacific Northwest Region, Snake River Area Office
REGARDING THE
Ridenbaugh Canal Diversion Replacement Project, Boise, Idaho

The Bureau of Reclamation, Columbia-Pacific Northwest Region, Snake River Area Office (Reclamation) plans to fund a portion of the Nampa & Meridian Irrigation District's (NMID) Ridenbaugh Canal Diversion Replacement Project (undertaking) through the cost share component of its WaterSMART Grant Program via a Water and Energy Efficiency Grant, funded by the Infrastructure Investment and Jobs Act. Reclamation determined that the undertaking may have an adverse effect on an historic property eligible for listing in the National Register of Historic Places and consulted with the Idaho State Historic Preservation Officer (SHPO) pursuant to 36 CFR § 800, the regulations implementing Section 106 of the National Historic Preservation Act (NHPA) (54 USC § 306108).

In accordance with 36 CFR § 800.6(a)(1), Reclamation notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation, and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii). Now, therefore, Reclamation and the SHPO agree that the undertaking will be implemented in accordance with the following stipulations within this Memorandum of Agreement (MOA) to take into account the effect of the undertaking on the involved historic property.

1. Background

Reclamation proposes to grant funds to the NMID to remove and replace the existing Ridenbaugh Canal diversion structure, sediment wall maintenance walkway, 220 feet of the sediment wall next to the intake gates (remainder of the sediment wall to remain in place), trash rack, intake gates wing walls, east side (right bank) abutment and other infrastructure on the Boise River in Boise, Idaho.

Two eligible historic properties are known to exist within the area of potential effect – the Ridenbaugh Diversion Headworks (10AA2146) and the Ridenbaugh Canal (10AA575). Both are part of one of the earliest successful efforts to provide irrigation water in the Treasure Valley. Construction of the original diversion structure and the initial seven miles of canal began in 1877 by William Morris. The Ridenbaugh name was acquired when Morris died and bequeathed the canal to nephew William Ridenbaugh. He subsequently sold the canal and water rights in 1888, and the canal was declared an irrigation district in 1904. In 1926 the canal system was expanded as part of Reclamation's Boise Irrigation Project.

No work related to the proposed modernization project will impact the contributing segment of the Ridenbaugh Canal and there will be No Adverse Effect to the eligible canal. However, the changes to the eligible diversion structure will ultimately remove the existing feature and with it the characteristics that define the historic integrity of the Ridenbaugh Diversion Headworks. Reclamation recommended a Finding of Adverse Effect to the eligible diversion that will experience a change or elimination of all aspects of its integrity.

SHPO was consulted pursuant to the 36 CFR § 800 regulations and reviewed the proposed undertaking and, in consultation with Reclamation and NMID, developed feasible and prudent alternatives and means to minimize or satisfactorily mitigate the adverse effect. The Advisory Council on Historic Preservation (ACHP) was notified of the adverse effect and determined they do not need to participate in the consultation.

2. Authority

Reclamation has authority to cooperate and implement the agreed-to actions identified in this MOA, pursuant to the NHPA of 1966 as amended (54 USC § 300101 et seq.), as specified in the regulations in 36 CFR § 800, and specifically in Section 6(c) – Resolution of Adverse Effects without the Advisory Council on Historic Preservation. The Idaho State Historic Preservation Officer is authorized to enter a mitigation MOA under the same legislation.

3. Purpose

According to ACHP guidance, the MOA serves three main purposes: (1) to specify the alternatives or mitigation agreed to by the signatories; (2) to identify who is responsible for carrying out the specified measures; and (3) to serve, along with its implementation, as evidence of the agency's compliance with Section 106 of the NHPA. This MOA will serve to define actions to mitigate the adversely affected historic property.

4. Objective

MOAs established under the NHPA are developed to mitigate the adverse effects that federally instituted or federally funded projects will have on properties of local, regional, or national significance that are eligible for listing on the National Register. This MOA identifies mitigation tasks and responsible parties to mitigate the adverse effect to the Ridenbaugh Canal Diversion by its replacement.

5. Implementing Actions

Reclamation, SHPO, and NMID agree that the undertaking will be implemented in accordance with the following stipulations in order to mitigate the adverse effects of the undertaking on the affected historic property, and to meet Reclamation's responsibilities under Section 106 of the NHPA:

a. Reclamation will:

(1) Provide pertinent research materials available in its files at the request of other participants of this agreement to aid in the development of the information sections for the East End Historic District (District) report and resource record deliverables (detailed in 5c below; see map in Appendix A).
(2) Be provided the opportunity to review and comment on the draft deliverables prior to their finalization;
   i. Additional editing and review periods may occur as a result of the outcome of the initial review but should not exceed 30 days per each review to keep within the overall MOA schedule of two years.
(3) Be kept apprised annually of the progress being made on the tasks, and create an extension of time for the MOA, to be agreed upon by all parties, if necessary.
(4) Submit the final deliverables to SHPO to complete the Section 106 obligations of this MOA.

b. SHPO will:

(1) Provide guidance at the request of other participants on this agreement to aid in the development of the information sections for the comprehensive report and resource record deliverables (detailed in 5c below) as well as any other content of historic importance.
(2) Be provided the opportunity to review and comment on the content of historic importance to be included in the draft deliverables prior to finalization;
   i. Additional editing and review periods may occur as a result of the outcome of the initial review but should not exceed 45 days per each review to keep within the overall MOA schedule of two years.
(3) Receive the final deliverables from Reclamation, deposit them in the Idaho Cultural Resource Information System (ICRIS), the state repository, and make them available to the public.

c. NMID will:

(1) Provide funding in an amount up to, but not exceeding, $15,000 to TAG Historical Research and Consulting, an a/b/n of The Arrowrock Group, Inc., an Idaho corporation located in Boise, Idaho, for the explicit purpose of documenting up to 131 resources outlined in the East End District.
   i. The District has been identified by the Boise City Historic Preservation Commission as a priority area in need of current documentation;
   ii. The Boise City Historic Preservation Commission and SHPO have identified the boundary of the District and counted 131 properties within;
   iii. A new survey and documentation effort would update and add to previous efforts.
(2) Develop a contract with TAG to complete the following activities:
   i. Conduct an on-the-ground reconnaissance-level survey and documentation effort of as many of the resources within the District boundary identified by

the Boise City Historic Preservation Commission and SHPO as can be accomplished up to the cost limitation outlined above in 5.c.(1);

ii. Follow the Idaho SHPO guidance, and relevant guidance and Publications of the National Register of Historic Places;

iii. Coordinate with the Idaho SHPO to discuss preliminary survey results (e.g., changes that have occurred to involved resources since the 2003 survey effort, changes to potential boundaries, etc.) prior to report drafting;

iv. Develop of a comprehensive report that records homes and buildings through fieldwork, research, writing, editing and necessary clerical support;

v. Complete the appropriate "Project Resources" forms (District and individual properties) within the Idaho Cultural Resource Information System (ICRIS).

(3) Be provided the opportunity to review and comment on the draft deliverables prior to their finalization and submission;

i. Additional editing and review periods may occur as a result of the outcome of the initial review but should not exceed 30 days per each review to keep within the overall MOA schedule of two years.

(4) Provide a brief, written report via email to update Reclamation annually on the progress of the District's documentation;

i. Notify Reclamation at least one month in advance of the MOA expiration date if more time is needed so the agency can create an extension for review and approval.

6. Period of Performance

This MOA will become effective on the date of last signature hereto and will remain in effect for two years. This MOA may be terminated or extended upon the following conditions:

a. mutual agreement; and/or
b. 30 days written notice to the other party.

7. Modifications

The parties may formally request modifications of this MOA. Modifications shall be made only by mutual consent by the issuance of a written modification to this MOA, signed and dated by all Parties prior to the changes being performed.

8. Principal Contacts

Reclamation
Jennifer Rilk
Bureau of Reclamation
Snake River Area Office, SRA-1218
230 Collins Road
Boise, ID 83702
Phone: (208) 383-2257
Email: jrilk@usbr.gov

SHPO
Ashley Molloy
Historical Review Officer
State Historic Preservation Office
210 Main Street
Boise, ID 83702
Phone: (208) 488-7463
Email: Ashley.Molloy@ishs.idaho.gov

NMID
Lorri J. Gray
Secretary/Treasurer
Nampa & Meridian Irrigation District
1503 First Street South
Nampa, Idaho 83651-4395
Phone: 208-837-5473
Email: lgray@nmid.org

9. General Provisions

a. **This MOA is neither a fiscal nor a funds obligating document for Reclamation.** Any endeavor or transfer of anything of value involving reimbursement or contribution of funds from Reclamation to NMID or SHPO will be handled in accordance with applicable laws, regulations, and procedures including those for Government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the Parties and shall be independently authorized by appropriate statutory authority. This MOA does not provide such authority. Also, this MOA does not establish authority for noncompetitive award to NMID or SHPO of any contract or other agreement.

b. **Binding Rights or Obligations.** Nothing in this MOA is intended to create any right or benefit, substantive or procedural, enforceable at law by a party against the United States, its agencies its officers, or any other person. Nothing in this MOA shall be deemed to increase the liability of the United States beyond that currently provided in the Federal Tort Claims Act (28 U.S.C. §§ 2671 et seq.).

c. **No Sharing of Benefits.** No member of or delegate to Congress, or resident Commissioner, shall be admitted to any share or part of the MOA or to any benefit that may arise out of it.

d. **Freedom of Information Act.** Any information furnished to Reclamation under this MOA is subject to the Freedom of Information Act (5 U.S.C. § 552). Any information furnished to SHPO or NMID under this agreement, may be subject to the Idaho Public Records Act (§§ 9-337 et seq).

e. **Participation in Similar Activities.** This MOA in no way restricts the Parties from participating in similar activities with other public or private agencies, organizations, or individuals.

f. **Endorsement.** Any contributions made under this MOA do not by direct reference or implication convey endorsement of Parties' projects or activities.

10. Signatures

IN WITNESS WHEREOF, the parties hereto have executed this MOA as of the last date written below.

MEMORANDUM OF AGREEMENT
between the
Idaho State Historic Preservation Office,
Nampa & Meridian Irrigation District,
and the
Bureau of Reclamation
Columbia-Pacific Northwest Region, Snake River Area Office
REGARDING THE
Ridenbaugh Canal Diversion Replacement Project, Boise, Idaho

SIGNATORY:
SNAKE RIVER AREA OFFICE, BUREAU OF RECLAMATION

BY: _____ _____
Bryan Horsburgh, Area Manager Date

MEMORANDUM OF AGREEMENT
between the
Idaho State Historic Preservation Office,
Nampa & Meridian Irrigation District,
and the
Bureau of Reclamation
Columbia-Pacific Northwest Region, Snake River Area Office
REGARDING THE
Ridenbaugh Canal Diversion Replacement Project, Boise, Idaho

SIGNATORY:
STATE HISTORIC PRESERVATION OFFICE

BY: _____ 03/11/2025
Tricia Canaday, Deputy State Historic Preservation Officer — Date

MEMORANDUM OF AGREEMENT
between the
Idaho State Historic Preservation Office,
Nampa & Meridian Irrigation District,
and the
Bureau of Reclamation
Columbia-Pacific Northwest Region, Snake River Area Office
REGARDING THE
Ridenbaugh Canal Diversion Replacement Project, Boise, Idaho

SIGNATORY:
NAMPA & MERIDIAN IRRIGATION DISTRICT

BY: Donald Barksdale 3-10-25
Donald Barksdale, President Director — Date

Appendix A:

Map

Proposed boundary map of the East End Historic District (properties previously recorded—to be re-recorded—in red). Inset map shows Boise with location of red area denoting East End District.

~~ End of Document ~~

United States Department of the Interior
BUREAU OF RECLAMATION
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:
SRA-1208
2.1.4.17

VIA FEDERAL EXPRESS

Honorable Lee Juan Tyler
Chairman, Fort Hall Business Council
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203

Subject: Request for Comments Regarding the Proposed Nampa Meridian Irrigation District Ridenbaugh Canal Headworks Modernization Project, Ada County, Idaho

Dear Chairman Tyler:

The Nampa Meridian Irrigation District has been preliminary selected by the Bureau of Reclamation for a U.S. Department of the Interior Water Sustain and Manage America's Resources for Tomorrow (Water SMART) grant to modernize their headworks facility in the Boise River for the Ridenbaugh Canal. The purpose of this letter is to inform interested and affected Tribes of the proposal and to solicit comments pursuant to the National Environmental Policy Act of 1969. Enclosed is a Scoping Information Document describing the project proposal.

Scoping is a public involvement process used to determine the scope of issues to be addressed and identify issues related to a proposed action. Analysis of the proposal is ongoing and will be documented in an environmental assessment with an estimated completion in the summer of 2025. Comments received in response to this solicitation will be used to identify potential environmental issues related to the proposed action and to identify alternatives to the proposed action that meet the purpose of and need for the project.

Please help us identify important issues and concerns regarding the proposed action by providing your written comments by **October 31, 2024**. Written comments can be submitted electronically to sra-nepa-comments@usbr.gov, or mailed or hand-delivered to:

Ms. Amy Goodrich
Natural Resources Specialist
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, Idaho 83702

The primary contact for questions or comments for this analysis, accessibility needs, or other proposed project information is Ms. Goodrich at (208) 383-2250. Please direct any other concerns to

Ms. Jessica Asbill-Case, Native American Affairs Advisor, by phone at (208) 383-2282 or by email at jasbillcase@usbr.gov. If you are deaf, hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

Sincerely,

BRYAN HORSBURGH
Digitally signed by BRYAN HORSBURGH
Date: 2024.09.26 12:50:50 -06'00'

Bryan Horsburgh
Area Manager

Enclosure

cc: Mr. Wes Jones
Emergency Manager
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Mr. Cleve Davis
Environmental Program Manager
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Mr. Chad Colter
Fish and Wildlife Director
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Mr. Candon Tanaka
Tribal Water Engineer
Water Resources Department
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Ms. Christina Cutler
Environmental Specialist
Shoshone-Bannock Tribes
85 W. Agency Rd, Building #82
Fort Hall, ID 83203-0306

Mr. Lester Galloway
Tribal Water Resources Commissioner
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Ms. Gail Martin
Tribal Water Resources
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Mr. Frances Roy
Tribal Water Resources Sergeant At Arms
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Mr. Claudeo Broncho
Supervisor, Natural Resources and
Fish and Wildlife Policy Representative
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306

Ms. Carolyn B. Smith
Cultural Resources Coordinator
Water Resources Department
Shoshone-Bannock Tribes
85 W. Agency Rd., Building #82
Fort Hall, ID 83203-0306
(w/encl to each)

United States Department of the Interior
BUREAU OF RECLAMATION
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:
SRA-1216
2.1.4.17

VIA FEDERAL EXPRESS

Honorable Tracy Kennedy
Chairperson
Burns Paiute Tribes
100 Pasigo Street
Burns, OR 97720

Subject: Request for Comments Regarding the Proposed Nampa Meridian Irrigation District Ridenbaugh Canal Headworks Modernization Project, Ada County, Idaho

Dear Chairperson Kennedy:

The Nampa Meridian Irrigation District has been preliminary selected by the Bureau of Reclamation for a U.S. Department of the Interior Water Sustain and Manage America's Resources for Tomorrow (Water SMART) grant to modernize their headworks facility in the Boise River for the Ridenbaugh Canal. The purpose of this letter is to inform interested and affected Tribes of the proposal and to solicit comments pursuant to the National Environmental Policy Act of 1969. Enclosed is a Scoping Information Document describing the project proposal.

Scoping is a public involvement process used to determine the scope of issues to be addressed and identify issues related to a proposed action. Analysis of the proposal is ongoing and will be documented in an environmental assessment with an estimated completion in the summer of 2025. Comments received in response to this solicitation will be used to identify potential environmental issues related to the proposed action and to identify alternatives to the proposed action that meet the purpose of and need for the project.

Please help us identify important issues and concerns regarding the proposed action by providing your written comments by **October 31, 2024**. Written comments can be submitted electronically to sra-nepa-comments@usbr.gov, or mailed or hand-delivered to:

Ms. Amy Goodrich
Natural Resources Specialist
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, Idaho 83702

The primary contact for questions or comments for this analysis, accessibility needs, or other proposed project information is Ms. Goodrich at (208) 383-2250. Please direct any other concerns to Ms. Jessica Asbill-Case, Native American Affairs Advisor, by phone at (208) 383-2282 or by email at jasbillcase@usbr.gov. If you are deaf, hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

Sincerely,

BRYAN HORSBURGH
Digitally signed by BRYAN HORSBURGH
Date: 2024.09.26 12:49:13 -06'00'

Bryan Horsburgh
Area Manager

Enclosure

cc: Mr. Trey Wall
Natural Resources Director
Burns Paiute Tribes
71210 Foley Drive
Burns, OR 97720

Mr. Brandon Haslick
Fishery Program Manager
Burns Paiute Tribes
71210 Foley Drive
Burns, OR 97720

Mr. Matthew Hanneman
Wildlife Program Manager
Burns Paiute Tribes
71210 Foley Drive
Burns, OR 97720

Mr. Jason Fenton
Environmental Manager
Burns Paiute Tribes
71210 Foley Drive
Burns, OR 97720
(w/encl to each)

United States Department of the Interior

BUREAU OF RECLAMATION
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:
SRA-1216
2.1.4.17

VIA FEDERAL EXPRESS

Honorable Larina Bell
Chairperson, Tribal Council
Fort McDermitt Paiute-Shoshone Tribes
111 North Road
McDermitt, NV 89421

Subject: Request for Comments Regarding the Proposed Nampa Meridian Irrigation District Ridenbaugh Canal Headworks Modernization Project, Ada County, Idaho

Dear Chairperson Bell:

The Nampa Meridian Irrigation District has been preliminary selected by the Bureau of Reclamation for a U.S. Department of the Interior Water Sustain and Manage America's Resources for Tomorrow (Water SMART) grant to modernize their headworks facility in the Boise River for the Ridenbaugh Canal. The purpose of this letter is to inform interested and affected Tribes of the proposal and to solicit comments pursuant to the National Environmental Policy Act of 1969. Enclosed is a Scoping Information Document describing the project proposal.

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Please help us identify important issues and concerns regarding the proposed action by providing your written comments by **October 31, 2024**. Written comments can be submitted electronically to sra-nepa-comments@usbr.gov, or mailed or hand-delivered to:

Ms. Amy Goodrich
Natural Resources Specialist
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, Idaho 83702

The primary contact for questions or comments for this analysis, accessibility needs, or other proposed project information is Ms. Goodrich at (208) 383-2250. Please direct any other concerns to Ms. Jessica Asbill-Case, Native American Affairs Advisor, by phone at (208) 383-2282 or by email at jasbillcase@usbr.gov. If you are deaf, hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

Sincerely,

BRYAN HORSBURGH
Digitally signed by BRYAN HORSBURGH
Date: 2024.09.26 12:50:27 -06'00'

Bryan Horsburgh
Area Manager

Enclosure

cc: Mr. Duane Masters Sr.
Environmental Director
Fort McDermitt Paiute-Shoshone Tribes
111 North Road
McDermitt, NV 89421

Ms. Justina Paradise
Vice-Chair
Fort McDermitt Paiute-Shoshone Tribes
111 North Road
McDermitt, NV 89421
(w/encl to each)

United States Department of the Interior
BUREAU OF RECLAMATION
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:
SRA-1208
2.1.4.17

VIA FEDERAL EXPRESS

Honorable Brian Mason
Chairman
Shoshone-Paiute Tribes
1036 Idaho State Highway 51
Owyhee, NV 89832

Subject: Request for Comments Regarding the Proposed Nampa Meridian Irrigation District Ridenbaugh Canal Headworks Modernization Project, Ada County, Idaho

Dear Chairman Mason:

The Nampa Meridian Irrigation District has been preliminary selected by the Bureau of Reclamation for a U.S. Department of the Interior Water Sustain and Manage America's Resources for Tomorrow (Water SMART) grant to modernize their headworks facility in the Boise River for the Ridenbaugh Canal. The purpose of this letter is to inform interested and affected Tribes of the proposal and to solicit comments pursuant to the National Environmental Policy Act of 1969. Enclosed is a Scoping Information Document describing the project proposal.

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Please help us identify important issues and concerns regarding the proposed action by providing your written comments by **October 31, 2024**. Written comments can be submitted electronically to sra-nepa-comments@usbr.gov, or mailed or hand-delivered to:

Ms. Amy Goodrich
Natural Resources Specialist
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, Idaho 83702

The primary contact for questions or comments for this analysis, accessibility needs, or other proposed project information is Ms. Goodrich at (208) 383-2250. Please direct any other concerns to

Ms. Jessica Asbill-Case, Native American Affairs Advisor, by phone at (208) 383-2282 or by email at jasbillcase@usbr.gov. If you are deaf, hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

Sincerely,

BRYAN HORSBURGH
Digitally signed by BRYAN HORSBURGH
Date: 2024.09.26 12:51:23 -06'00'

Bryan Horsburgh
Area Manager

Enclosure

cc: Ms. Marissa Snapp
Environmental Director
Shoshone-Paiute Tribes
1036 Idaho State Highway 51
Owyhee, NV 89832

Mr. Buster Gibson
Fish, Wildlife & Parks Director
Shoshone-Paiute Tribes
1036 Idaho State Highway 51
Owyhee, NV 89832

Ms. Nancy Egan
Interim Chief Executive Officer
Shoshone-Paiute Tribes
1036 Idaho State Highway 51
Owyhee, NV 89832

Mr. Pawan Upadhyay, PhD
Water Resources Director
Water Resources Department
Shoshone-Paiute Tribes
1036 Idaho State Highway 51
Owyhee, NV 89832

Ms. Shanina Hicks
Tribal Administrator
Shoshone-Paiute Tribes
1036 Idaho State Highway 51
Owyhee, NV 89832

Ms. Jade Robideaux
Cultural Director
Shoshone-Paiute Tribes
1036 Idaho State Highway 51
Owyhee County, NV 89832
(w/encl to each)

United States Department of the Interior
BUREAU OF RECLAMATION
Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

IN REPLY REFER TO:
SRA-1216
2.1.4.17

VIA FEDERAL EXPRESS

Honorable Jonathan Smith Sr.
Chairman
Confederated Tribes
of Warm Springs Reservation
1233 Veterans Street
Warm Springs, OR 97761

Subject: Request for Comments Regarding the Proposed Nampa Meridian Irrigation District Ridenbaugh Canal Headworks Modernization Project, Ada County, Idaho

Dear Chairman Smith Sr.:

The Nampa Meridian Irrigation District has been preliminary selected by the Bureau of Reclamation for a U.S. Department of the Interior Water Sustain and Manage America's Resources for Tomorrow (Water SMART) grant to modernize their headworks facility in the Boise River for the Ridenbaugh Canal. The purpose of this letter is to inform interested and affected Tribes of the proposal and to solicit comments pursuant to the National Environmental Policy Act of 1969. Enclosed is a Scoping Information Document describing the project proposal.

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Please help us identify important issues and concerns regarding the proposed action by providing your written comments by **October 31, 2024**. Written comments can be submitted electronically to sra-nepa-comments@usbr.gov, or mailed or hand-delivered to:

Ms. Amy Goodrich
Natural Resources Specialist
Bureau of Reclamation
Snake River Area Office
230 Collins Road
Boise, Idaho 83702

The primary contact for questions or comments for this analysis, accessibility needs, or other proposed project information is Ms. Goodrich at (208) 383-2250. Please direct any other concerns to

Ms. Jessica Asbill-Case, Native American Affairs Advisor, by phone at (208) 383-2282 or by email at jasbillcase@usbr.gov. If you are deaf, hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

Sincerely,

BRYAN HORSBURGH
Digitally signed by BRYAN HORSBURGH
Date: 2024.09.26 12:49:43 -06'00'

Bryan Horsburgh
Area Manager

Enclosure

cc: Mr. Bobby Brunoe
Tribal Historic Preservation Officer
and NAGPRA Coordinator
Confederated Tribes
of Warm Springs Reservation
1233 Veterans Street
Warm Springs, OR 97761

Mr. Mars Galloway
Cultural Resources Manager
Confederated Tribes
of Warm Springs Reservation
1233 Veterans Street
Warm Springs, OR 97761

Mr. Carlos Calica
Tribal Councilman
Confederated Tribes
of Warm Springs Reservation
1233 Veterans Street
Warm Springs, OR 97761

Ms. Sandra Danzuka
Office Administrator
Confederated Tribes
of Warm Springs Reservation
1233 Veterans Street
Warm Springs, OR 97761

Mr. Austin Smith Jr.
Natural Resources General Mgr.
Confederated Tribes
of Warm Springs Reservation
1233 Veterans Street
Warm Springs, OR 97761
(w/encl to each)

Appendix E

Clean Water Act Coordination: U.S. Army Corp of Engineers Exemption Letter

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
COEUR D'ALENE REGULATORY OFFICE
1910 NORTHWEST BOULEVARD, SUITE 210
COEUR D'ALENE, IDAHO 83814-2676

June 17, 2025

Regulatory Division

SUBJECT: NWW-2024-00182, Nampa and Meridian Irrigation District, Ridenbaugh Headworks, Boise River

Greg Curtis
Nampa and Meridian Irrigation District
1503 First Street South
Nampa, ID 83651

Dear Greg Curtis:

We have reviewed your Department of the Army (DA) Joint Application for Permit for the proposed project, Nampa and Meridian Irrigation District, Ridenbaugh Headworks, Boise River, on May 15, 2025. Your proposed project would involve a discharge in the Boise River normally regulated under Section 404 of the Clean Water Act (CWA). However, this activity is exempt, in accordance with 33 CFR 323.4(a)(3), copy enclosed. Therefore, a DA authorization is not required. An authorization may be required if you alter the method, scope, or location of your proposed work. Please contact us if you make changes to your project.

The project would be located at 3960 Eckert Rd., within Section 29 of Township 3 North, Range 3 East, near latitude 43.56490º N and longitude - 116.13182º W, in near Boise, Ada County, Idaho. Your request has been assigned File Number NWW-2024-00182.

The DA exerts regulatory jurisdiction over waters of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403). Section 404 of the Clean Water Act requires a DA permit be obtained prior to discharging dredged or fill material into waters of the U.S. Section 10 requires that a DA permit be obtained prior to building structures or conducting work in or affecting navigable waters of the U.S.

Please be advised that discharges of dredged or fill material under our jurisdiction may include those associated with mechanized land-clearing involving vegetation removal with equipment such as front-end loaders, backhoes, or bulldozers with sheer blades, rakes, or discs, windrowing of vegetation, land leveling, or other soil

disturbances in wetlands are activities which result in a discharge of dredged material that destroys or degrades a waters of the U.S.

Nothing in this letter shall be construed as excusing you from compliance with other Federal, state, or local statutes, ordinances or regulations which may affect this work.

If you have any questions or need additional information about this permit, you can contact me at (509) 780-7552, by mail at the address in the letterhead, or email at jason.k.achziger@usace.army.mil. For informational purposes, a copy of this letter is being sent to: Idaho Department of Water Resources and Idaho Department of Environmental Quality.

Sincerely,

Jason Achziger
Project Manager, Regulatory Division

Encls:
Section 323.4(a)(3): Discharges Not Requiring Permit

§ 323.4 Discharges not requiring permits.

(a) General. Except as specified in paragraphs (b) and (c) of this section, any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under section 404:

…

(3) Construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance (but not construction) of drainage ditches. Discharges associated with siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are included in this exemption.

…

(b) If any discharge of dredged or fill material resulting from the activities listed in paragraphs (a) (1) through (6) of this section contains any toxic pollutant listed under section 307 of the CWA such discharge shall be subject to any applicable toxic effluent standard or prohibition, and shall require a section 404 permit.

(c) Any discharge of dredged or fill material into waters of the United States incidental to any of the activities identified in paragraphs (a) (1) through (6) of this section must have a permit if it is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration. For example, a permit will be required for the conversion of a cypress swamp to some other use or the conversion of a wetland from silvicultural to agricultural use when there is a discharge of dredged or fill material into waters of the United States in conjunction with construction of dikes, drainage ditches or other works or structures used to effect such conversion. A conversion of a section 404 wetland to a non-wetland is a change in use of an area of waters of the United States. A discharge which elevates the bottom of waters of the United States without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the United States.

(d) Federal projects which qualify under the criteria contained in section 404(r) of the CWA are exempt from section 404 permit requirements, but may be subject to other State or Federal requirements.

IDAHO DEPARTMENT OF
WATER RESOURCES

322 E Front Street, Suite 648, Boise ID 83702 • PO Box 83720, Boise ID 83720-0098
Phone: 208-287-4800 • Fax: 208-287-6700 • Email: idwrinfo@idwr.idaho.gov • Website: idwr.idaho.gov

Governor Brad Little Director Mathew Weaver

June 20, 2025

Greg Curtis
Nampa Meridian Irrigation District
1503 First Street South
Nampa, ID 83651

RE: Joint Application for Permit No. S63-21221
Boise River – Canal Headworks Replacement

Mr. Curtis,

The Idaho Department of Water Resources (IDWR) has reviewed your attached Joint Application for Permits, received May 29, 2025, including diagrams. Project activities include the removal and replacement of the headworks structure for the Ridenbaugh Canal within the Boise River. Temporary cofferdams will be installed in two phases to construct the new headworks and remove existing structures. The new diversion structure will be installed upstream of the existing structure, and will be comprised of automated overpour gates on the west half of the structure and a fixed crest concrete weir on the east half of the structure. The new diversion structure will be armored with riprap upstream and downstream of the structure to prevent erosion. A concrete intake structure, sediment bypass gate, self-cleaning trash rack, and access ramp will also be constructed below the Ordinary High Water Mark as part of this project. The existing diversion structure, maintenance walkway, a portion of the sediment wall, headgate wingwalls, trash rack, and a portion of the east abutment will be removed. Your proposed project is located in Section 29, Township 03 North, Range 03 East, Ada County, Idaho. It has been determined that an IDWR Stream Channel Alteration Permit will not be required for this activity as provided for within Section 42-3806, Idaho Code.

This does not relieve you of the responsibility to obtain any other local, state or federal permits that may be required, such as those required under the Clean Water Act or local ordinances required to meet federal flood insurance guidelines.

Please contact Katie Gibble at (208) 287-4823 or katie.gibble@idwr.idaho.gov if you have any questions regarding this matter.

Sincerely,

Katie Gibble
Stream Channel Protection
Idaho Department of Water Resources

cc: Greg Allington, Adaptive Environmental Planning LLC, Eagle
Josh Wilson and Jessica Szelag, City of Boise, Boise
Dean Johnson, Idaho Department of Lands, Boise
Brandon Flack, Idaho Department of Fish & Game, Nampa
Meghan Cline and Lance Holloway, Department of Environmental Quality, Boise
Adam Bass, Boise River Outdoor Opportunities, Boise
US Army Corp of Engineers, Boise
Aaron Golart, Idaho Department of Water Resources, Boise

RECEIVED
May 15, 2025
DEPARTMENT OF WATER RESOURCES

JOINT APPLICATION FOR PERMITS

U.S. ARMY CORPS OF ENGINEERS - IDAHO DEPARTMENT OF WATER RESOURCES - IDAHO DEPARTMENT OF LANDS

Authorities: The Department of Army Corps of Engineers (Corps), Idaho Department of Water Resources (IDWR), and Idaho Department of Lands (IDL) established a joint process for activities impacting jurisdictional waterways that require review and/or approval of both the Corps and State of Idaho. Department of Army permits are required by Section 10 of the Rivers & Harbors Act of 1899 for any structure(s) or work in or affecting navigable waters of the United States and by Section 404 of the Clean Water Act for the discharge of dredged or fill materials into waters of the United States, including adjacent wetlands. State permits are required under the State of Idaho, Stream Protection Act (Title 42, Chapter 38, Idaho Code and Lake Protection Act (Section 58, Chapter 13 et seq., Idaho Code). In addition the information will be used to determine compliance with Section 401 of the Clean Water Act by the appropriate State, Tribal or Federal entity.

Joint Application: Information provided on this application will be used in evaluating the proposed activities. Disclosure of requested information is voluntary. Failure to supply the requested information may delay processing and issuance of the appropriate permit or authorization. **Applicant will need to send a completed application, along with one (1) set of legible, black and white (8½"x11"), reproducible drawings that illustrate the location and character of the proposed project / activities to both the Corps and the State of Idaho.**

See Instruction Guide for assistance with Application. Accurate submission of requested information can prevent delays in reviewing and permitting your application. Drawings including vicinity maps, plan-view and section-view drawings must be submitted on 8-1/2 x 11 papers.

Do not start work until you have received all required permits from both the Corps and the State of Idaho

FOR AGENCY USE ONLY			
USACE NWW-	Date Received:	☐ Incomplete Application Returned	Date Returned:
Idaho Department of Water Resources No. 63- 21221	Date Received: 05/15/2025	☐ Fee Received DATE:	Receipt No.:
Idaho Department of Lands No.	Date Received:	☐ Fee Received DATE:	Receipt No.:

INCOMPLETE APPLICANTS MAY NOT BE PROCESSED

1. **CONTACT INFORMATION - APPLICANT** Required:			2. **CONTACT INFORMATION - AGENT:**		
Name: Greg Curtis			Name: Greg Allington		
Company: Nampa and Meridian Irrigation District			Company: Adaptive Environmental Planning, LLC		
Mailing Address: 1503 First Street South			Mailing Address: 2976 East State Street, Ste 120 #431		
City: Nampa	State: ID	Zip Code: 83651	City: Eagle	State: ID	Zip Code: 83616
Phone Number *(include area code)*: 208-466-0663	E-mail: gcurtis@nmid.org		Phone Number *(include area code)*: 208-340-5721 (cell)	E-mail: greg@adaptiveenviro.com	

3. PROJECT NAME or TITLE: Ridenbaugh Canal Headworks Modernization			4. PROJECT STREET ADDRESS: 3960 Eckert Rd	
5. PROJECT COUNTY: Ada	6. PROJECT CITY: Boise		7. PROJECT ZIP CODE: 83716	8. NEAREST WATERWAY/WATERBODY: Boise River
9. TAX PARCEL ID#: See Suppl. Info Sheet	10. LATITUDE: 43.56490 LONGITUDE: -116.13182		11a. 1/4: 11b. 1/4: 11c. SECTION: 29	11d. TOWNSHIP: 3N 11e. RANGE: 3E
12a. ESTIMATED START DATE: Sep 1, 2025	12b. ESTIMATED END DATE: Jan 31, 2028		13a. IS PROJECT LOCATED WITHIN ESTABLISHED TRIBAL RESERVATION BOUNDARIES? ☒ NO ☐ YES Tribe:	
13b. IS PROJECT LOCATED IN LISTED ESA AREA? ☒ NO ☐ YES			13c. IS PROJECT LOCATED ON/NEAR HISTORICAL SITE? ☐ NO ☒ YES	

14. DIRECTIONS TO PROJECT SITE: Include vicinity map with legible crossroads, street numbers, names, landmarks.

From downtown Boise drive east on E Parkcenter Blvd. Turn right onto E Warm Springs Ave and drive 0.75 miles. Turn right onto S Millbrook Way and drive 0.2 miles. Turn right onto S Eckert Rd and drive 0.25 miles (over the Boise River). The site is on the left side of Eckert Rd.

15. PURPOSE and NEED: ☐ Commercial ☐ Industrial ☐ Public ☐ Private ☒ Other Irrigation District

Describe the reason or purpose of your project; include a brief description of the overall project. Continue to Block 16 to detail each work activity and overall project.

See Suppl. Info Sheet

16. DETAILED DESCRIPTION OF EACH ACTIVITY WITHIN OVERALL PROJECT. Specifically indicate portions that take place within waters of the United States, including wetlands: Include dimensions; equipment, construction, methods; erosion, sediment and turbidity controls; hydrological changes: general stream/surface water flows, estimated winter/summer flows; borrow sources, disposal locations etc.:

See Suppl. Info Sheet

17. DESCRIBE ALTERNATIVES CONSIDERED to AVOID or MEASURES TAKEN to MINIMIZE and/ or COMPENSATE for IMPACTS to WATERS of the UNITED STATES, INCLUDING WETLANDS: See Instruction Guide for specific details.

See Suppl. Info Sheet

18. PROPOSED MITIGATION STATEMENT or PLAN: If you believe a mitigation plan is not needed, provide a statement and your reasoning why a mitigation plan is NOT required. Or, attach a copy of your proposed mitigation plan.

See Suppl. Info Sheet

19. TYPE and QUANTITY of MATERIAL(S) to be discharged below the ordinary high water mark and/or wetlands:

Dirt or Topsoil:	_____	cubic yards
Dredged Material:	_____	cubic yards
Clean Sand:	_____	cubic yards
Clay:	_____	cubic yards
Gravel, Rock, or Stone:	_____	cubic yards
Concrete:	_____	cubic yards
Other (describe): See Suppl. Info Sheet	_____	cubic yards
Other (describe): _____	_____	cubic yards

TOTAL: _____ cubic yards

20. TYPE and QUANTITY of impacts to waters of the United States, including wetlands:

Filling:	_____ acres	_____ sq ft.	_____	cubic yards
Backfill & Bedding:	_____ acres	_____ sq ft.	_____	cubic yards
Land Clearing:	_____ acres	_____ sq ft.	_____	cubic yards
Dredging:	_____ acres	_____ sq ft.	_____	cubic yards
Flooding:	_____ acres	_____ sq ft.	_____	cubic yards
Excavation:	_____ acres	_____ sq ft.	_____	cubic yards
Draining:	_____ acres	_____ sq ft.	_____	cubic yards
Other: See Suppl. Info Sheet	_____ acres	_____ sq ft.	_____	cubic yards

TOTALS: _____ acres _____ sq ft. _____ cubic yards

21. HAVE ANY WORK ACTIVITIES STARTED ON THIS PROJECT? ☒ NO ☐ YES If yes, describe ALL work that has occurred including dates.

22. LIST ALL PREVIOUSLY ISSUED PERMIT AUTHORIZATIONS:

IDWR Permit No. S63-21196 Geotechnical Borings
USACE NWP 6 & 33 (No Preconstruction Notification Required) NWW-2024-00182

23. ☐ YES, Alteration(s) are located on Public Trust Lands, Administered by Idaho Department of Lands

24. SIZE AND FLOW CAPACITY OF BRIDGE/CULVERT and DRAINAGE AREA SERVED: >100 Square Miles

25. IS PROJECT LOCATED IN A MAPPED FLOODWAY? ☐ NO ☒ YES If yes, contact the floodplain administrator in the local government jsrisdiction in which the project is located. A Floodplain Development permit and a No-rise Certification may be required.

26a WATER QUALITY CERTIFICATION: Pursuant to the Clean Water Act, anyone who wishes to discharge dredge or fill material into the waters of the United States, either on private or public property, must obtain a Section 401 Water Quality Certification (WQC) from the appropriate water quality certifying government entity.
See Instruction Guide for further clarification and all contact information.

The following information is requested by IDEQ and/or EPA concerning the proposed impacts to water quality and anti-degradation:

☐ NO ☒ YES Is applicant willing to assume that the affected waterbody is high quality?
☒ NO ☐ YES Does applicant have water quality data relevant to determining whether the affected waterbody is high quality or not?
☒ NO ☐ YES Is the applicant willing to collect the data needed to determine whether the affected waterbody is high quality or not?

26b. BEST MANAGEMENT PRACTICTES (BMP's): List the Best Management Practices and describe these practices that you will use to minimize impacts on water quality and anti-degradation of water quality. All feasible alternatives should be considered - treatment or otherwise. Select an alternative which will minimize degrading water quality

A Stormwater Pollution Prevention Plan (SWPPP) will be developed prior to the start of construction to comply with the Idaho Department of Environmental Quality Construction General Permit. Erosion and sediment Best Management Practices (BMPs) will be implemented to reduce turbid water and pollutants entering the Boise River from upland ground disturbance.

Dewatering of the construction area in the Boise River will be required to install the project in the dry. Turbid water would be discharged directly into the Ridenbaugh Canal and sediment would settle prior to being discharged back into the Boise River approximately 1.25 miles downstream in the canal through a side channel spillway. Clean water complying with water quality standards for the Boise River would be allowed to be discharged back into the Boise River either at the construction site or from the Ridenbaugh Canal.

Through the 401 Certification process, water quality certification will stipulate minimum management practices needed to prevent degradation.

27. LIST EACH IMPACT to stream, river, lake, reservoir, including shoreline: Attach site map with each impact location.

Activity	Name of Water Body	Intermittent Perennial	Description of Impact and Dimensions	Impact Length Linear Feet
See Suppl. Info Sheet				
			TOTAL STREAM IMPACTS (Linear Feet):	

28. LIST EACH WETLAND IMPACT include mechanized clearing, fill, excavation, flood, drainage, etc. Attach site map with each impact location.

Activity	Wetland Type: Emergent, Forested, Scrub/Shrub	Distance to Water Body (linear ft)	Description of Impact Purpose: road crossing, compound, culvert, etc.	Impact Length (acres, square ft linear ft
See Suppl. Info Sheet				
			TOTAL WETLAND IMPACTS (Square Feet):	

29. ADJACENT PROPERTY OWNERS NOTIFICATION REQUIREM: Provide contact information of ALL adjacent property owners below.

Name: To Be Provided Upon Request by USACE and/or IDWR Mailing Address: City: State: Zip Code: Phone Number *(include area code)*: E-mail:	Name: Mailing Address: City: State: Zip Code: Phone Number *(include area code)*: E-mail:
Name: Mailing Address: City: State: Zip Code: Phone Number *(include area code)*: E-mail:	Name: Mailing Address: City: State: Zip Code: Phone Number *(include area code)*: E-mail:
Name: Mailing Address: City: State: Zip Code: Phone Number *(include area code)*: E-mail:	Name: Mailing Address: 2 City: State: Zip Code: Phone Number *(include area code)*: E-mail:
Name: Mailing Address: City: State: Zip Code: Phone Number *(include area code)*: E-mail:	Name: Mailing Address: City: State: Zip Code: Phone Number *(include area code)*: E-mail:

30. SIGNATURES: STATEMENT OF AUTHORIAZATION / CERTIFICATION OF AGENT / ACCESS

Application is hereby made for permit, or permits, to authorize the work described in this application and all supporting documentation. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein; or am acting as the duly authorized agent of the applicant (Block 2). I hereby grant the agencies to which this application is made, the right to access/come upon the above-described location(s) to inspect the proposed and completed work/activities.

Signature of Applicant: _____ *Date:* 5-13-2025

Signature of Agent: Greg Allington *Date:* 05-12-2025

This application must be signed by the person who desires to undertake the proposed activity AND signed by a duly authorized agent (see Block 1, 2, 30). Further, 18 USC Section 1001 provides that: "*Whoever, in any manner within the jurisdiction of any department 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*".

RECEIVED
May 15, 2025
DEPARTMENT OF
WATER RESOURCES

Adaptive Environmental Planning

May 15, 2025

To: Idaho Department of Water Resources
Stream Channel Protection Program
(submitted electronically to: katie.gibble@idwr.idaho.gov)

Subject: **NMID Ridenbaugh Canal Headworks Modernization Project**
Re: **Stream Alteration Permit Exemption Request**

On behalf of Nampa & Meridian Irrigation District (NMID), please find enclosed the Joint Application for Permits (JAP) package for the Ridenbaugh Canal Headworks Modernization Project (Project). **NMID is requesting an exemption from the Idaho Department of Water Resources (IDWR) Stream Alteration Permit requirements.**

Included in the exemption request package are:
1. Signed JAP
2. JAP Supplemental Info Sheet
3. IDWR Stream Channel Alteration Exemption Analysis Memo
4. Photographs
5. Permit Design Drawings
6. Impact Maps
7. Engineering "No-Rise" Certification

A Waters of the U.S. and Wetland Delineation Report will be submitted in the coming weeks.

The U.S. Bureau of Reclamation (Reclamation) is the lead federal agency for this project. Reclamation is in the process of completing compliance with the National Environmental Policy Act (NEPA) and Section 7 of the Endangered Species Act. Reclamation has completed compliance with Section 106 of the National Historic Preservation Act. This information is not included in this package and can be furnished to IDWR upon request.

If you have any questions regarding this exemption request or require additional information, please contact me at greg@adaptiveenviro.com / 208-340-5721 with any questions. I look forward to working with you on this project.

Sincerely,

Greg Allington

Greg Allington / Adaptive Environmental Planning, LLC (Senior Biologist)
Authorized Agent

cc: Greg Curtis (Water Superintendent) – NMID
gcurtis@nmid.org / 208-466-0663

Mike Schubert, PE (Senior Water Resources Engineer) – HDR
michael.schubert@hdrinc.com / 208-387-7070 (Office) / 208-391-3133 (Cell)

RECEIVED
May 15, 2025
DEPARTMENT OF
WATER RESOURCES

Adaptive Environmental Planning

SUPPLEMENTAL INFO SHEET

May 15, 2025

Subject: **NMID Ridenbaugh Canal Headworks Modernization Project**
Re: **JAP Supplemental Info Sheet**

The information presented in this supplemental info sheet is intended to describe in further detail the NMID Ridenbaugh Canal Headworks Modernization Project (Project). This information did not fit into the space allocated in the Joint Application for Permits.

The information presented in this Supplemental Info Sheet is intended to support the NMID request for concurrence that the Project is exempt from USACE Section 404 of the Clean Water Act and IDWR Stream Channel Alteration permitting. Please refer to the Exemption Analysis memo describing how the Project is exempt according to each agencies regulations.

9. TAX PARCEL ID

- S0929315200 (City of Boise)
- S0929325607 (NMID)
- S0929325609 (NMID)
- S0929325620 (NMID)
- S0929325700 (City of Boise)
- S0929326100 (City of Boise)

15. PURPOSE AND NEED

The purpose of the proposed project is to modernize the Ridenbaugh Canal headworks facility. The proposed project is needed to continue the diversion of 550 cfs of water for irrigation use from the Boise River into the Ridenbaugh Canal, reduce operational safety hazards, and remedy structural deficiencies noted in the *Canal Headworks Facility Issues* section below.

Background

The Project is located in southeastern Boise, Ada County, Idaho along the Boise River immediately upstream of Eckert Road Bridge. The existing Ridenbaugh Canal headworks includes a diversion structure that spans the entire Boise River and connects into elevated/stabilized abutment structures on both the west side (left bank looking downstream) and east side (right bank looking downstream). It also includes a sediment wall and headgate at the canal intake. The original headworks were constructed in the 1930s and have remained relatively unchanged since the original construction.

The west side of the Boise River is located on NMID-owned property and contains the intake to the Ridenbaugh Canal comprised of a sediment wall, wing wall, trash rack, and intake gates. The east side of the Boise River is located on City of Boise Parks and Recreation property which consists of open land with a small stream/wetland complex running from south to north and enters the Boise River downstream of the headworks facility. Two conservation easements held by Trout

Unlimited/Land Trust of the Treasure Valley and Idaho Foundation for Parks and Lands exists for the stream/wetland complex which includes a swath of land from the stream to the right bank of the Boise River. The open land on the east side of the conservation easements is proposed for the future City of Boise Alta Harris Park. The Ridenbaugh diversion allows up to 550 cubic feet per second (cfs) of water to be conveyed from the Boise River into the Ridenbaugh Canal. During the irrigation season (April 1-October 31), the water surface elevation in the Boise River is raised to divert water into the Ridenbaugh Canal. This is currently accomplished by the NMID staff manually installing stop logs into piers on the diversion from a wooden walkway. The piers are located the entire stretch across the Boise River.

Canal Headworks Facility Issues

The existing headworks facility infrastructure is nearing the end of its intended useful life and its ongoing age-based deterioration presents increased maintenance needs and operational safety hazards. An evaluation of the existing headworks facility based on common engineering practice, completed by HDR in 2024, identified the following issues requiring correction:

- Concrete, metal, and wooden components of the diversion structure, sediment wall, and intake gate structure are displaying the effects of freeze/thaw cycles and general deterioration from over 90 years of operation.
- Seepage is occurring under the intake gates wing walls structure which places the integrity of the walls in question.
- Scour is occurring at the downstream edge of the diversion structure and around the right abutment which places the reliability of the diversion structure in question.
- The deteriorating condition of the headworks facility is causing continually increasing maintenance efforts and creates more dangerous working conditions for NMID staff.
- Manual installation and removal of the wooden stop logs is slow, imprecise, and dangerous.

16. DETAILED DESCRIPTION OF EACH ACTIVITY WITHIN OVERALL PROJECT

The Proposed Action was selected based on meeting the following criteria.

- Reduces safety hazards to the NMID staff operating the headworks facility.
- Reduces safety hazards to the public recreating in the vicinity of the headworks facility.
- Improves response time and debris management during flood flow releases and other upstream flow changes in the Boise River.
- Modernizes the headworks facility to reduce O&M efforts, and fuel consumption resulting from NMID staff traveling to manually adjust the diversion structure as water levels in the Boise River fluctuate.
- Improves management of the diversion structure pool to reduce operational water loss and improve functionality of water diversion into the Ridenbaugh Canal.

The Proposed Action will not modify the NMID existing surface water diversion rights, water surface elevations in the Boise River at this location, or intended use of irrigation water delivery into the Ridenbaugh Canal. The modernization of the project would consist of the following permanent and temporary construction actions at the headworks facility that will accommodate

reliable and continued diversion of water to the Ridenbaugh Canal, minimize safety risks to the NMID staff and the general public, and provide improved O&M access.

Permanent

Portions of the exiting Ridenbaugh Canal headworks would be demolished as described below.

- Remove the existing diversion structure piers and maintenance walkway flush to the top of the concrete sill. The concrete sill on the bottom of the river would remain in place to decrease disturbance to the riverbed and provide grade control to reduce the risk of impacts from scour immediately downstream from the new diversion structure. Rock and concrete debris at the existing diversion structure and along the west bank of the Boise River would be removed.
- Remove the sediment wall maintenance walkway and a portion of the sediment wall extending from the diversion structure upstream approximately 220 feet. The rest of the sediment wall would remain in place.
- Remove the wing walls rock exterior of the original headgates/radial gates and remove the trashrack.
- Remove a portion of the east side (right bank) abutment and other infrastructure.

The new headworks facility features would be installed as described below.

- Clear vegetation along the main river channel banks as needed to install the new headworks facility features.
- Install a new concrete diversion structure upstream of the existing diversion structure perpendicular to the channel flow. The new diversion would be located approximately 70 feet upstream of the east side of the old diversion and 185 feet upstream of the west side of the old diversion. The new diversion would be equipped with automated overpour gates on the west half and a fixed crest concrete weir on the east half. The diversion would be armored upstream and downstream to stabilize the riverbed. Armoring would consist of a 4-foot thick layer of angular riprap (12-inch diameter) covered by an 8-inch thick layer of river cobble (3-inch diameter).
- Install a concrete intake channel structure upstream from the entrance to the Ridenbaugh Canal. The structure would be equipped with stop log guides at the entrance followed by a sediment basin. A sediment bypass gate would be installed downstream of the sediment basin to discharge the natural sediment load that enters the intake back into the Boise River.
- Install a gravel access ramp on the west side of the Boise River to provide O&M equipment access into the sediment basin.
- Install an automated self-cleaning trash rack between the sediment basin and the entrance to the canal (to be installed by 2028). The trash rack will have at least 2-inch by 2-inch spacing which will prevent fish greater than 2 inches in width from entering the Ridenbaugh Canal. An interim trash rack will be installed with a spacing of 2 feet until the permanent trash rack is installed.
- Construct a headworks facility control building in the upland on the west side of the Boise River adjoining the intake channel. The control building would also be equipped with a supervisory control and data acquisition (SCADA) control system.

- Reroute the existing access route on the east side of the Boise River to the new diversion. This access route will be established in coordination with the proposed City of Boise Alta Harris Park and conservation easement holders. The existing access route would be abandoned in place.
- Plant native trees, shrubs, and herbaceous species along the Boise River in the temporarily disturbed areas, and stabilize the disturbed areas post-construction utilizing Best Management Practices (BMPs).

Temporary

The permanent access route on the east side will also be used for temporary construction access. No other construction access routes would be required, because access is already provided. Three staging areas are proposed to facilitate construction. Information on the staging areas is provided below.

- Staging Area 1 is open land located in the upland on the east side of the Boise River within City of Boise Parks and Recreation property. This area will be restored upon construction completion in coordination with the proposed City of Boise Alta Harris Park.
- Staging Area 2 is previously disturbed open land in the upland on NMID property. It is located on the west side of the Boise River, adjoining Eckert Road to the west and the Ridenbaugh Canal to the south. This area will be returned to conditions suitable for the NMID O&M activities for Ridenbaugh Canal upon construction completion.
- Staging Area 3 is previously disturbed open land in the upland on NMID property. It is located on the west side of the Boise River, adjoining E. Boise Avenue to the west and the New York Canal to the south. This area will be returned to conditions suitable for the NMID O&M activities for Ridenbaugh Canal upon construction completion.

In order to construct the Proposed Action in the dry, a temporary cofferdam and dewatering system would be installed in two phases as described in detail in the *Construction Sequencing* section.

Construction Sequencing

The Project would be installed over a two-year period with construction below the Boise River ordinary high water mark (hereinafter referred to as in-water work) taking place seasonally in two separate phases during low-water periods (generally October through April). The exact timing of in-water work would be dependent on water flows in the Boise River during the 2025-2026 and 2026-2027 seasonal work windows. Construction and staging in the upland areas would occur year-round.

The proposed construction sequence and schedule accounts for maintaining the NMID's ability to use their existing facilities to divert water into the Ridenbaugh Canal until construction completion. This avoids interruption of the NMID's irrigation water diversion. The sequence and schedule expected for the Project would occur in two phases as outlined below.

Phase 1

- September 2025: Clear vegetation as needed in the upland for the new access route from Eckert Road to the conservation easement. Mobilize and begin to construct temporary staging areas and access routes.

- October and November 2025: Clear vegetation as needed to install alternative measures. Close Ridenbaugh Canal intake gates and remove the existing diversion stop logs in the Boise River in October. When river flow drops below 1,500 cfs, install the temporary cofferdam to dewater the west side of the river and divert water to the east side of the river (refer to Figure 7). Turbid water would be discharged directly into the Ridenbaugh Canal and sediment would settle prior to being discharged back into the Boise River approximately 1.25 miles downstream in the canal through a side channel spillway. Clean water complying with water quality standards for the Boise River would be allowed to be discharged back into the Boise River either at the construction site or from the Ridenbaugh Canal.
- October 2025 – March 2026: Construct the diversion structure center pier and install the diversion automated crest structure/gates. Install the O&M access catwalks for the new diversion. Construct the intake channel structure and control building. Install the interim trash rack.
- March/April 2026: Remove temporary cofferdam.

Phase 2

- October 2026: Clear vegetation as needed. When river flow drops below 1,500 cfs, install the temporary cofferdam to dewater east side of the river and divert water to the west side of the river through the automated overpour gates openings when they are lowered (refer to Figure 8).
- October 2026 – March 2027: Construct the diversion structure fixed crest concrete weir and east bank abutment.
- April 2027: Complete all remaining work in the Boise River and remove cofferdam.
- March - May 2027: Restore vegetation as appropriate and applicable, stabilize site, and demobilize.
- May – January 2028: Restore temporary access areas on the City of Boise Parks and Recreation land.
- November 2027 - January 2028: Demolish the existing diversion structure piers. The new headworks will be installed and operational for one irrigation season prior to demolishing the existing diversion structure piers. Demolition is anticipated to take 1-2 months to complete within the work period pending flows in the Boise River.

If work in the river can be completed during the July through October timeframe without interruption of the NMID's diversion operations, Phase 2 construction could start in July allowing for earlier completion.

Long-Term Operations and Maintenance

A long-term O&M plan and standard operating procedures would be developed and finalized prior to the operation of the new headworks facility. It would specifically describe how the new headworks facility would be operated and maintained by the NMID. Due to implementation of automated equipment no longer requiring hand installation/removal of stop logs, typical O&M efforts for the life of the headworks facility are expected to be equal to or less than the efforts needed for the existing facility.

Typical O&M activities for the Proposed Action would occur on an as-needed basis to ensure proper functioning of the headworks facility. These O&M activities include, but are not limited to, the following items.

- Automated overpour gates in the up position to divert water into the Ridenbaugh Canal from April 1-October 31.
- Automated overpour gates in the down position lying flat on the riverbed to allow unobstructed downstream flow in the Boise River from November 1-March 31. The gates in the down position will allow fish passage upstream for 5 months of the year.
- Operation of the new overpour gates would be more efficient through automation to lower the water surface elevations and direct flows to the left side of the river.
- Removal of sediment/gravels and debris affecting operation of the headworks facility.
- Access route maintenance and repair.
- Vegetation maintenance and/or planting (including invasive species removal).

17. DESCRIBE ALTERNATIVES CONSIDERED TO AVOID OR MEASURES TAKEN TO MINIMIZE AND/OR COMPENSATE FOR IMPACTS TO WATERS OF THE UNITED STATES, INCLUDING WETLANDS

During the planning process, NMID looked at measures required to modernize the headworks facility while staying within their historical prescriptive operations and maintenance area in the Boise River. The Proposed Action reflects the planning process analysis to meet the purpose and need of the project.

Alternative Screening Criteria

An analysis was completed on seven alternatives to modernize the headworks facility. Six of these alternatives were eliminated from detailed study based on the criteria illustrated in Figure 1. Note, the cost of the project was not considered, and non-economic criteria were used for the analysis.

No.	Evaluation Criteria	Definition / Characteristics	Weighting
1	O&M Functionality and Effectiveness	Operations and maintenance requirements (time, cost) and overall effectiveness of the project (e.g., reduced/easier O&M, redundancy, reliability, adjustability, ability to conserve water, improved energy efficiency, ease of future repairs). Ability to operate the structure and equipment components during unforeseen events.	44%
2	Safety and Security	Level of safety for NMID operators, workers, and the general public around structure. Security of the structure itself and for workers during operations. Ability to lower river during flood events to reduce or prevent flooding of surrounding areas.	27%
3	Ability to accommodate future improvements	Design allows for future improvements to be incorporated relatively easily (e.g., flexibility/modularity of design).	12%
4	Constructability	Design can be constructed in a way that reduces risk to scope, schedule and budget. Ability to maintain operation of diversion during construction and handle unforeseen events.	9%
5	Stakeholder Support	Anticipated level of support and positive relationships with the general public, neighbors and project partnerships. Support of water users in NMID.	4%
6	Ease of Permitting Compliance	Level of permitting required (effort, time, cost) to acquire permits for the project (e.g., simplified project resulting in reduced permit requirements).	3%

Figure 1. Alternatives Criteria, Definitions, and Weighting

Figure 2 identifies the results of the analysis for the seven alternatives. The alternative with the highest score "Crest Gates and Ogee Weir with Curved Intake" was selected as the NMID preferred alternative and is the Proposed Action described in the JAP.

Alternative No.	Description	Score
4B	Crest Gates and Ogee Weir with Curved Intake	62
3B	Crest Gates and Ogee Weir	60
4A	Crest Gates, Center Pier, Catwalk with Curved Intake	51
2	Three Crest Gates and Three Stop Log Bays, with Curved Intake	43
1A	Crest Gates across River w/out Piers, Slotted Intake Wall	35
1B	Crest Gates across River w/out Piers, Slotted Intake Wall and Catwalk	27
3A	Crest Gates and Ogee Weir - Headgates Downstream	18

Figure 2. Summary of Ranked Alternatives

Avoidance and Minimization Measures

The Proposed Action is proposed to be exempt from USACE Section 404 of the Clean Water Act and IDWR Stream Channel Alteration permitting. However, NMID still completed an evaluation during development of Proposed Action to avoid and minimize impacts to USACE jurisdictional waters of the U.S. and wetlands to the greatest extent practicable.

During the alternatives development, design features and components were removed to avoid impacts to waters of the U.S. and wetlands. The following items were removed from the project alternatives during development to avoid impacts.

- Design Features in Upland: Features of the proposed headworks were located in the upland to the greatest extent practicable rather than in the Boise River. The intent was to limit construction in the Boise River from the intake channel on the left bank and abutment on the right bank.
- East Access Route: Only one new access route is proposed for construction on the east side instead of two.

During the alternatives development, design features and components were modified to minimize impacts to waters of the U.S. and wetlands. The following items were modified in the project alternatives during development to minimize impacts.

- East Access Route: The access route width was minimized while still allowing equipment to access the headworks. This effort reduced impacts to the wetlands in the side channel.

18. PROPOSED MITIGATION STATEMENT OR PLAN

There is no mitigation proposed for the Project.

There is no proposed change to Federal Emergency Management Agency (FEMA) Special Flood Hazard Areas (SFHA) as a result of the constructed Project. Hydrology modeling performed by HDR concluded that no net rise in water surface elevations of the Boise River would occur during flood events after installation of Proposed Action (see attached Engineering "No-Rise" Certification to the JAP package).

19, 20, 27, 28. IMPACTS TO WATERS OF THE U.S. AND WETLANDS

Table 1. Impacts and Excavation/Fill Activities in Waters of the U.S.

Project Feature	Water	Cover Class	Area (AC)	Exc. (CY)	Fill (CY)	Fill Type (CY)
Permanent Impact						
Intake Channel (channel, sediment basin, & trash rack)	Boise River	R3UB	0.228	1,870	2,590	Foundation Fill (320) Concrete (2,270)
Diversion Structure (gates & weir)	Boise River	R3UB	0.092	1,170	1,220	Foundation Fill (200) Concrete (660) Other Structural (360)
West Ramp	Boise River	R3UB	0.028	80	40	Gravel
Riprap	Boise River	R3UB	0.155	900	900	Riprap
Yard	Boise River	R3UB	0.023	0	300	Fill Dirt
East Bank River Excavation	Boise River	R3UB	0.021	90	0	--
Total Permanent	--	--	**0.547**	**4,110**	**5,050**	--
Temporary Impact						
Cofferdam Phase 1	Boise River	R3UB	0.786	--	--	Cofferdam
Cofferdam Phase 2	Boise River	R3UB	0.321	--	--	Cofferdam
Total Temporary	--	--	**1.107**	--	--	--

Table 2. Impacts and Excavation/Fill Activities in Wetlands

Project Feature	Wetland	Cover Class	Area (AC)	Exc. (CY)	Fill (CY)	Fill Type
Permanent Impact						
Access Route	Side Channel	PFO	0.011	30	30	Gravel
Access Route	Side Channel	PSS	0.023	60	60	Gravel
East Bank Riprap	Boise River	PSS	0.005	0	25	Riprap
East Bank River Excavation	Boise River	PSS	0.007	80	0	--
Total Permanent	--	--	**0.046**	**170**	**115**	--
Temporary Impact						
Access Route (veg clearing)	Side Channel	PFO	0.011	--	--	--
Access Route (veg clearing)	Side Channel	PSS	0.023	--	--	--
Total Temporary	--	--	**0.034**	--	--	--

RECEIVED
May 15, 2025
DEPARTMENT OF
WATER RESOURCES

Adaptive Environmental Planning

MEMORANDUM

May 15, 2025

To: Nampa and Meridian Irrigation District

CC: File

From: Greg Allington (Adaptive Environmental Planning, LLC), Mike Schubert (HDR), and John Roldan (HDR)

Subject: **NMID Ridenbaugh Canal Headworks Modernization Project**
Re: **IDWR Stream Channel Alteration Exemption Analysis**

1.0 Introduction

Adaptive Environmental Planning, LLC (AEP) has prepared this Idaho Department of Water Resources (IDWR) Stream Channel Alteration Exemption Memo (Memo) to describe why the Nampa & Meridian Irrigation District (NMID) Ridenbaugh Canal Headworks Modernization Project (Project) is not subject to regulation under IDAPA 37.03.07 Stream Channel Alteration Rules.

Please refer to the Joint Application for Permits Supplemental Info Sheet for a description of the Purpose and Need along with the Proposed Action.

2.0 IDWR Stream Channel Alteration Exemption Review

AEP has performed a review of the current Stream Channel Alteration Rules Exemptions (IDAPA 37.03.07.025) and determined that the following exemption applies to the Project:

> *"03. Cleaning, Maintenance, Construction or Repair Work. No permit is required of a water user or his agent to clean, maintain, construct, or repair any diversion structure, canal, ditch, or lateral or to remove any obstruction from a stream channel which is interfering with the delivery of any water under a valid existing water right or water right permit."*

Idaho Statute 42-3806 was also reviewed for applicability to this Project and AEP has determined that the following exemption applies to the Project:

> *"No permit shall be required by the state or any agency or political subdivision thereof, from a water user or his agent to clean, maintain, construct in, or repair any stream channel, diversion structure, canal, ditch, drain or lateral."*

2.1. Definitions

The following definitions are applicable to this Project under IDAPA 37.03.07.010:

- Alteration: To obstruct, diminish, destroy, alter, modify, relocate or change the natural existing shape of the channel or to change the direction of flow of water of any stream channel within or below the mean high water mark. It includes removal of material from the stream channel and emplacement of material or structures in or across the stream channel where the material or structure has the potential to affect flow in the channel as determined by the director.
    - The Ridenbaugh Canal modernization would be considered an alteration to the stream channel below the mean high water mark as compared to existing conditions.

- Stream Channel: A natural water course of perceptible extent with definite beds and banks which confines and conducts continuously flowing water.
    - The Ridenbaugh Canal headworks facility is located within and below the mean high water mark of the Boise River which is considered a stream channel by IDWR.

2.2. Exemption Applicability

Based on the exemptions and definitions presented in the previous sections, the Project would maintain, construct, and/or repair the existing diversion structure located in the Boise River. The permanent and temporary Proposed Actions do not require a permit from IDWR according to IDAPA 37.03.07.025 and Idaho Statute 42-3806 since there will be no change to existing water rights or water use.

IDWR does not have jurisdiction over wetlands in the side channel to the east of the Boise River by approximately 170 feet. Therefore, an analysis of the permanent and temporary Proposed Actions was not conducted on these side channel wetlands.

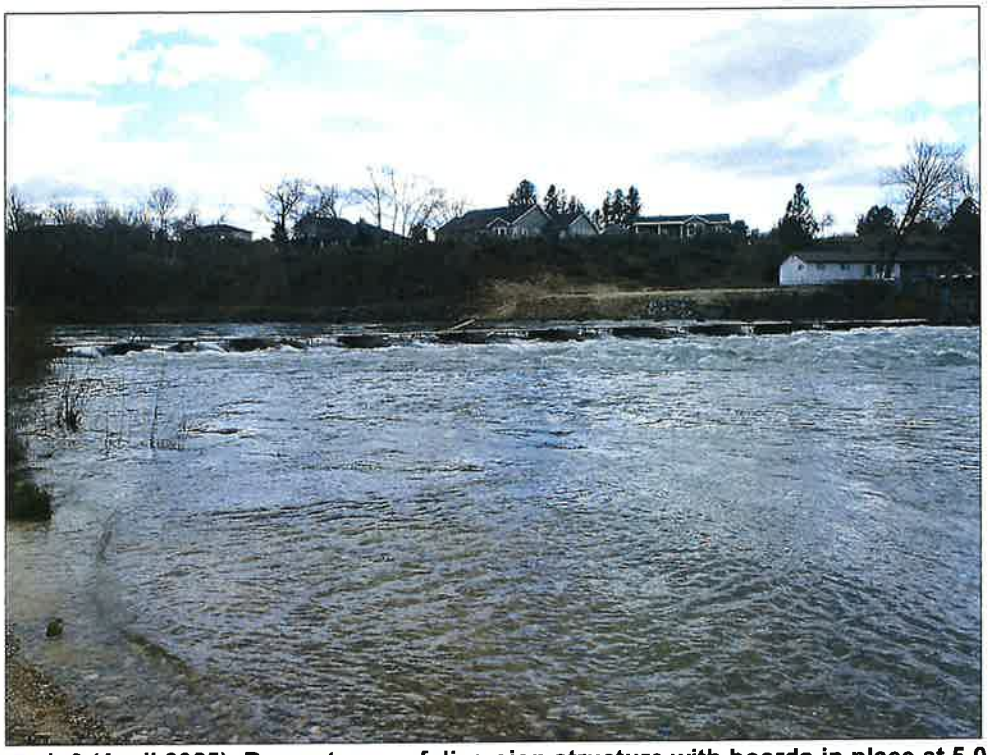
3.0 Conclusion

Based on reviews of the proposed action and existing conditions against the Stream Channel Alteration Rules Exemptions (IDAPA 37.03.07.025) and Idaho Statute 42-3806, it is AEP's interpretation that the modernization of the Ridenbaugh Canal headworks facility meets the exemption definition and the Project is not subject to regulation under IDAPA 37.03.07 Stream Channel Alteration Rules.

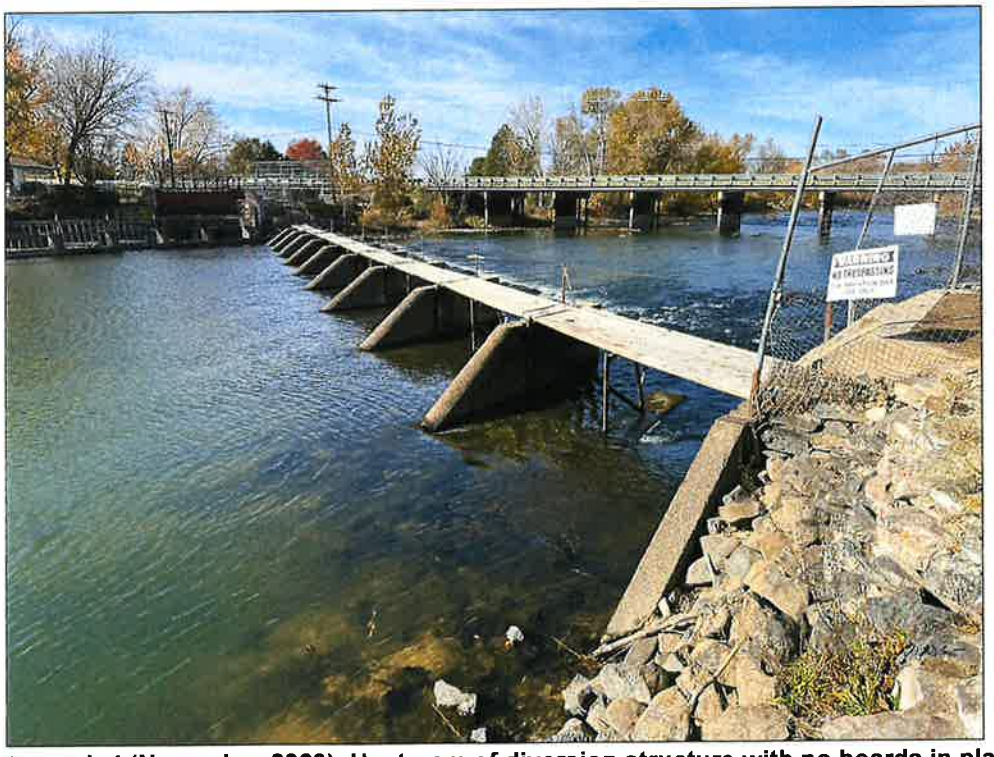
RECEIVED
May 15, 2025
DEPARTMENT OF
WATER RESOURCES

Photograph 1 (December 2023). Downstream of diversion structure with no boards in place.

Photograph 2 (June 2024). Downstream of diversion structure with boards in place.



Photograph 3 (April 2025). Downstream of diversion structure with boards in place at 5,000 cfs.



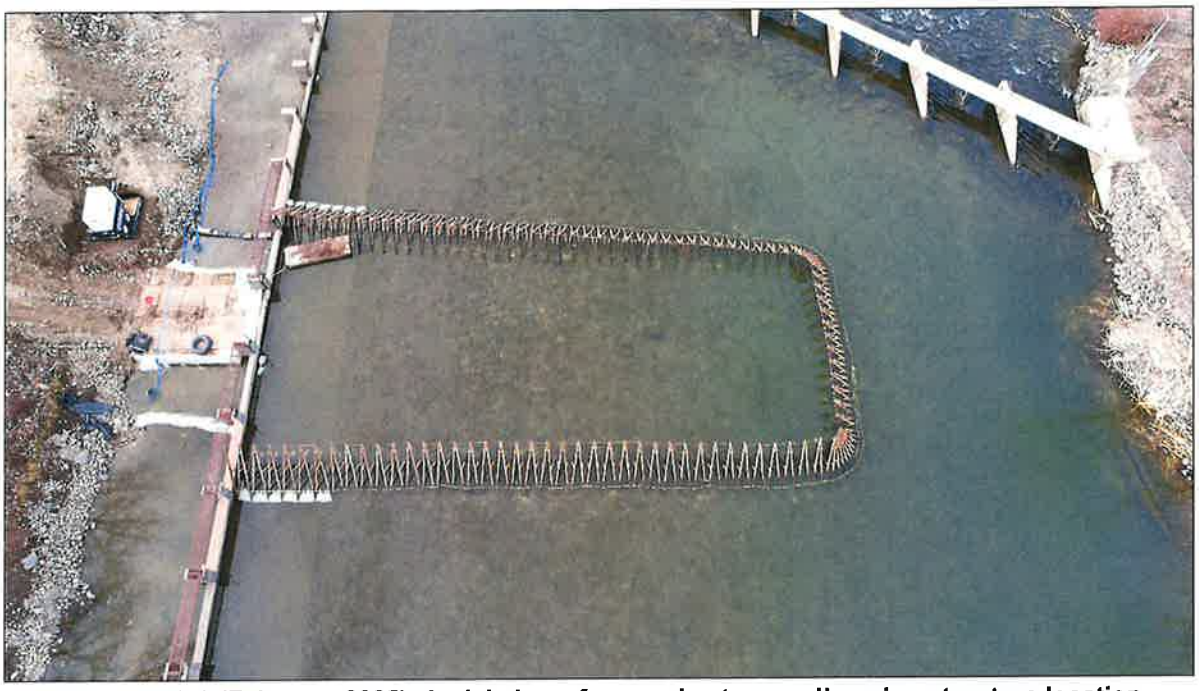
Photograph 4 (November 2023). Upstream of diversion structure with no boards in place.

Photograph 5 (June 2024). Downstream of diversion structure with boards in place.

Photograph 6 (January 2025). Upstream of diversion structure looking at trashrack with no boards in place.

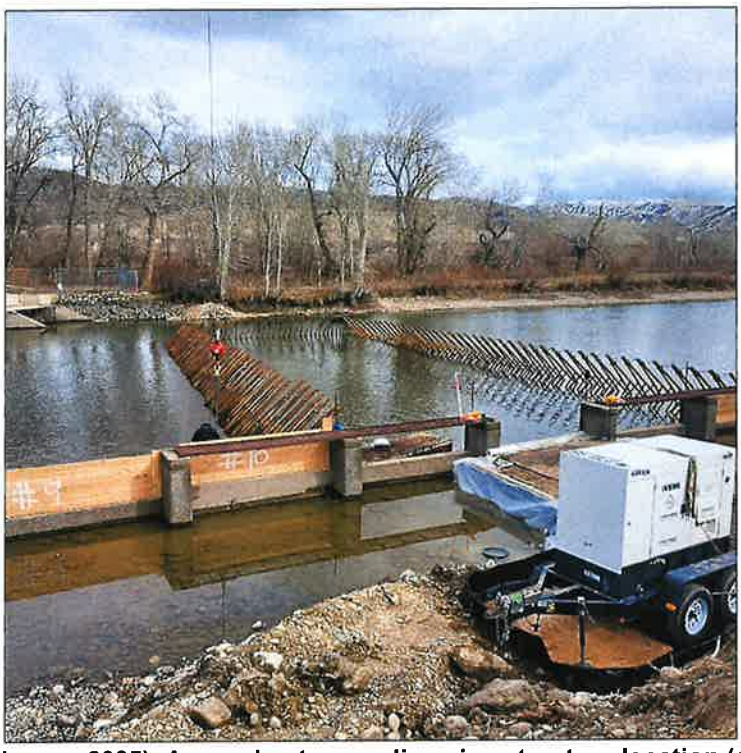
Photograph 7 (February 2025). Existing radial gates (to remain in place) and Geotech dewatering into Ridenbaugh Canal (similar to Proposed Action dewatering).

Photograph 8 (January 2025). Sediment wall with no boards in place at existing diversion structure.



Photograph 9 (February 2025). Aerial view of approximate new diversion structure location (cofferdam). Photo from Geotech exploration.

Photograph 10 (February 2025). Approximate new diversion structure location (cofferdam) looking upstream. Photo from Geotech exploration.



Photograph 11 (February 2025). Approximate new diversion structure location (cofferdam) looking east. Photo from Geotech exploration.

Photograph 12 (April 2025). East bank riprap location looking upstream at scrub-shrub wetland.

Photograph 13 (April 2025). East bank in new diversion location looking downstream.

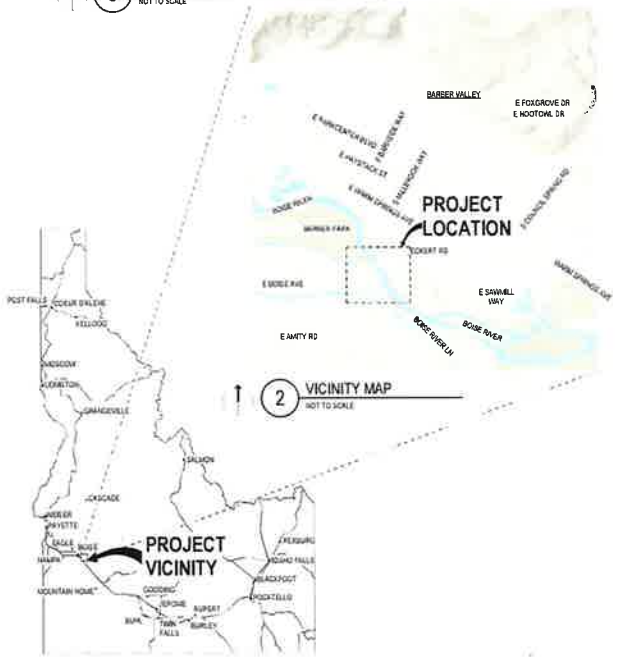
Photograph 14 (April 2025). East access road alignment looking east at forested wetland.

Photograph 15 (April 2025). East access road alignment looking at side channel.

Photograph 16 (April 2025). East access road alignment looking west at scrub-shrub wetland.

Photograph 17 (April 2025). East access road alignment looking northeast at upland in the future Alta Harris Park.

3 LOCATION MAP
NOT TO SCALE



2 VICINITY MAP
NOT TO SCALE

1 KEY MAP
NOT TO SCALE

PRELIMINARY - NOT FOR CONSTRUCTION

Contract Drawings For

RIDENBAUGH DIVERSION MODERNIZATION

NAMPA & MERIDIAN IRRIGATION DISTRICT

PERMIT DRAWINGS CFH25-00025
FLOODPLAIN PERMIT

Project No. 10383385

4108 S. ECKERT RD.
BOISE, ID 83716

Date: 04/17/25

CIVIL MAPPING SYMBOLOGY

- EMBANKMENT SLOPE (CUT)
- EMBANKMENT SLOPE (FILL)
- EMBANKMENT SLOPE RIGHT ARROW RIGHT
- EMBANKMENT SLOPE LEFT ARROW LEFT
- SPOT ELEVATION/POINT #
- SURVEY BENCHMARK
- SURVEY CONTROL POINT
- HORIZONTAL CONTROL POINT
- VERTICAL CONTROL POINT
- SECTION CORNER MONUMENT
- SECTION CORNER NO MONUMENT
- IDENTIFICATION AND APPROXIMATE LOCATION OF SOIL TEST HOLE
- TEST PIT
- SOIL BORING
- BUOY
- FLOW ARROW
- WATER LEVEL IN SECTION/PROFILE
- TIDE GAUGE
- EXISTING UTILITY POLE
- DOWNGUY
- EXTERIOR UTILITY JUNCTION BOX
- INTERSTATE HIGHWAY SYMBOL
- US HIGHWAY SYMBOL
- STATE HIGHWAY SYMBOL
- HAY BALE SILT CHECK
- TEMPORARY SEDIMENT TRAP
- PIEZOMETER
- RAIL SIGNAL
- RAIL SWITCH
- SIGN
- TRAFFIC ARM WITH CARD READER
- TRAFFIC ARM MECHANICAL SWING

- CLEANOUT
- CULVERT END SYMBOL (WITH CULVERT SHOWN BETWEEN SYMBOLS)
- FIRE HYDRANT
- FUEL OIL METER
- FUEL OIL MANHOLE
- FUEL OIL VAULT
- GREASE TRAP
- GRIT CHAMBER
- HEADWALL
- INDUSTRIAL WASTE WATER METER
- INDUSTRIAL WASTE WATER MANHOLE
- NATURAL GAS METER
- NATURAL GAS RECEIVER
- NATURAL GAS TRAP
- NATURAL GAS LINE VAULT
- MONITORING WELL
- POST INDICATOR VALVE
- PUMP STATION
- SANITARY MANHOLE
- SEPTIC TANK
- TANK BELOW GROUND
- TANK HORIZONTAL ABOVE GROUND
- TANK VERTICAL ABOVE GROUND

- STORM CATCH BASIN
- STORM ROUND CATCH BASIN
- STORM DRAINAGE MANHOLE
- WATER AIR VENT
- WATER BACKFLOW PREVENTER
- WATER BLOWOFF
- WATER METER
- WATER SHUTOFF
- WATER SOFTENER
- WATER VALVE VAULT
- VALVE

UTILITY/CIVIL LINE SYMBOLOGY

- PIPELINE
- LARGE PIPELINE
- UTILITY BENEATH STRUCTURE
- RAILROAD
- CENTERLINE
- BOTTOM OF DITCH
- PROPERTY LINE
- EASEMENT
- LIMITS OF CONSTRUCTION
- ROW
- EXISTING CONTOUR (MINOR)
- EXISTING CONTOUR (RELEVATION (MAJOR)
- EXISTING FENCE
- EXISTING VEGETATION/BRUSH LINE
- FENCE - BARB WIRE
- FENCE - CHAIN LINK
- FENCE - FIELD
- FENCE - OTHER
- FENCE - WOOD
- FENCE - WOVEN WIRE
- FLOOD LIMIT (25 YEAR)
- FLOOD LIMIT (50 YEAR)
- FLOOD LIMIT (100 YEAR)
- FLOOD LIMIT (500 YEAR)
- HIGHWAY GUARDRAIL
- LEVEE TOP
- LEVEE TOE
- NEW CONTOUR (MINOR)
- NEW CONTOUR (MAJOR)
- ROCK BERM
- SILT FENCE
- LIMITS OF DISTURBANCE
- TOE OF SLOPE
- TOP OF SLOPE

- FIBER OPTIC
- FUEL OIL
- NATURAL GAS
- INDUSTRIAL WASTE WATER
- SANITARY SEWER
- STORM SEWER
- DOMESTIC WATER
- DOMESTIC WATER NON-POTABLE

SURVEY LEGEND

- EXISTING TOP OF SLOPE
- EXISTING TOE OF SLOPE
- EXISTING FENCE
- EXISTING EASEMENT
- EXISTING WATER SURFACE ELEVATION
- EXISTING CULVERT
- APPROXIMATE PROPERTY LINES FROM ADA COUNTY GIS
- EXISTING PAVEMENT
- EXISTING GRAVEL

GENERAL NOTES

1. THIS IS A STANDARD CIVIL SYMBOLOGY SHEET. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

HDR

ISSUE	DATE	DESCRIPTION
04/17/25	TBD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. S. SCHWENDIG
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. M. BOWEN
MECHANICAL LEAD	L. P. FREDERICK
ELECTRICAL LEAD	D. G. CHIN
I&C LEAD	M. E. MORRIS
PROJECT NUMBER	10082083

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

NAMPA & MERIDIAN IRRIGATION DIST.

RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

CIVIL
LEGEND

4010, 3960 AND 3910 S ECKERT RD BOISE ID

0" 1" 2"

FILENAME 00G-005.dwg
SCALE AS NOTED

SHEET
00G-005

SCALE IN FEET

GENERAL NOTES

1. SURFACE CONTOURS ARE SHOWN AT 2' AND 10' INTERVALS.
2. LOCATIONS OF TREES ARE APPROXIMATE FROM SHAPEFILES.

KEYNOTES

1. REMOVE TREE. TRUNK DIAMETER CALLED OUT IN PLAN.
2. TREE REMOVAL BY OTHERS.
3. LEAVE ANY REMOVED TREES ONSITE FOR TROUT UNLIMITED TO USE AS BARRIERS.
4. REMOVE RIPRAP PRESERVE AND PROTECT FOR REUSE. STORE RIPRAP ON EAST BANK.

1 EAST BANK RIPRAP
NTS

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ISSUE	DATE	DESCRIPTION
	04/17/25	TBD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. B. SCHWISSAG
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. M. BOWEN
MECHANICAL LEAD	L. P. FREDERICK
ELECTRICAL LEAD	G. D. CHIN
I&C LEAD	W. E. MORRIS
PROJECT NUMBER	10183304

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

DEMOLITION
SITE DEMOLITION PLAN

4010, 3960 AND 3910 S ECKERT RD BOISE ID

0 1" 2"

FILENAME 01X-105.dwg
SCALE AS NOTED

SHEET 01X-105

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

HDR

ISSUE	DATE	DESCRIPTION
04/17/25	TBD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. BOLDIN
PRINCIPLE IN CHARGE	S. B. SCHWEGGING
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. W. BOWEN
MECHANICAL LEAD	A. P. FREDERICK
ELECTRICAL LEAD	G. D. CHN
I&C LEAD	M. E. MORRIS
PROJECT NUMBER	10383385

PERMIT DRAWINGS
CFH25-00025
- FLOODPLAIN PERMIT

NAMPA & MERIDIAN IRRIGATION DIST.

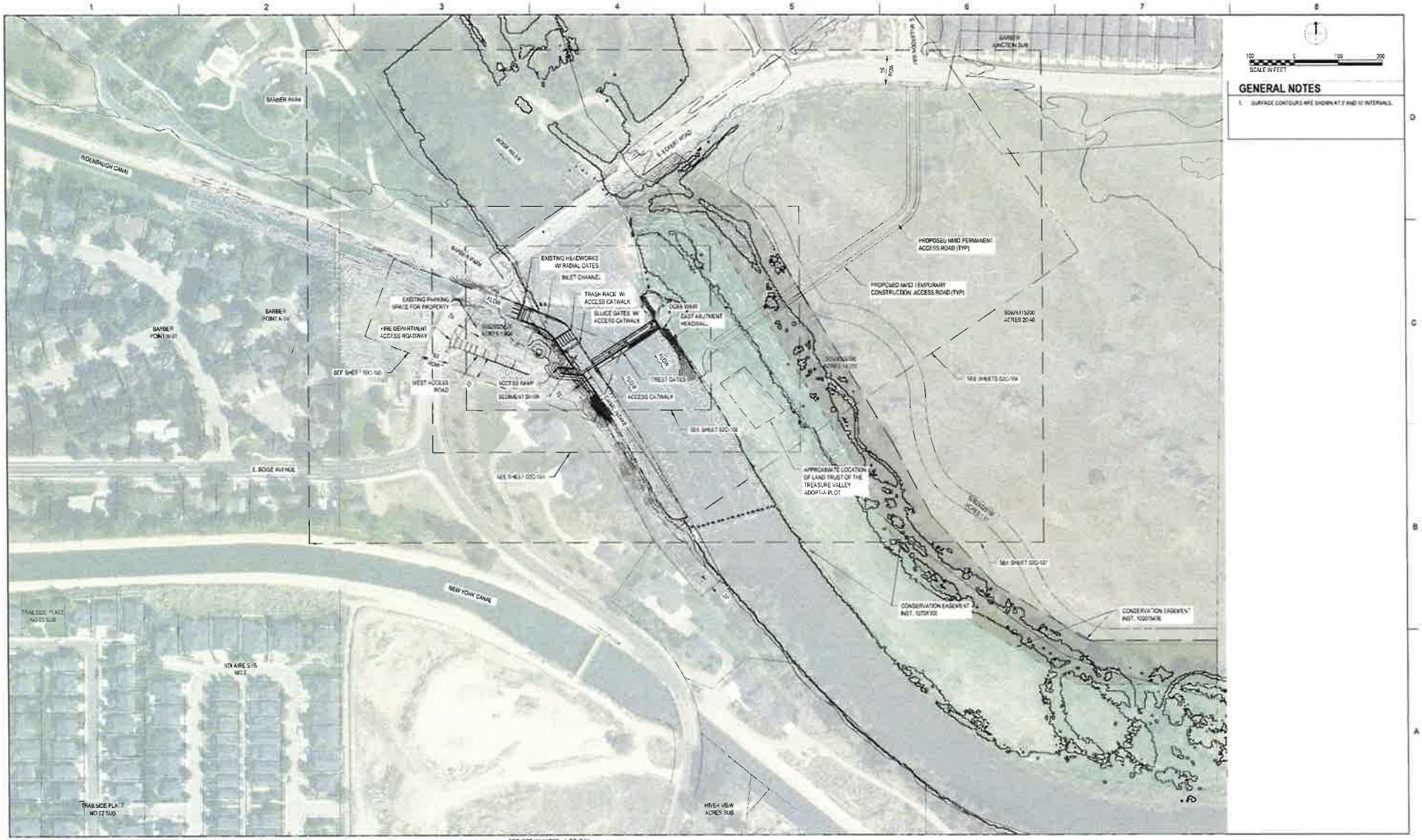
RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

CIVIL
EXISTING SITE PLAN,
CONSTRUCTION ACCESS, AND STAGING
4010, 3960 AND 3910 S ECKERT RD BOISE ID

0 1" 2"

FILENAME 02C-101.dwg
SCALE AS NOTED

SHEET
02C-101



PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ISSUE	DATE	DESCRIPTION
	04/17/25	TBD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. E. SCHOESSLING
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. W. BOWEN
MECHANICAL LEAD	L. P. FREDERICK
ELECTRICAL LEAD	S. T. CHIN
I&C LEAD	M. E. MORRIS
PROJECT NUMBER	10360363

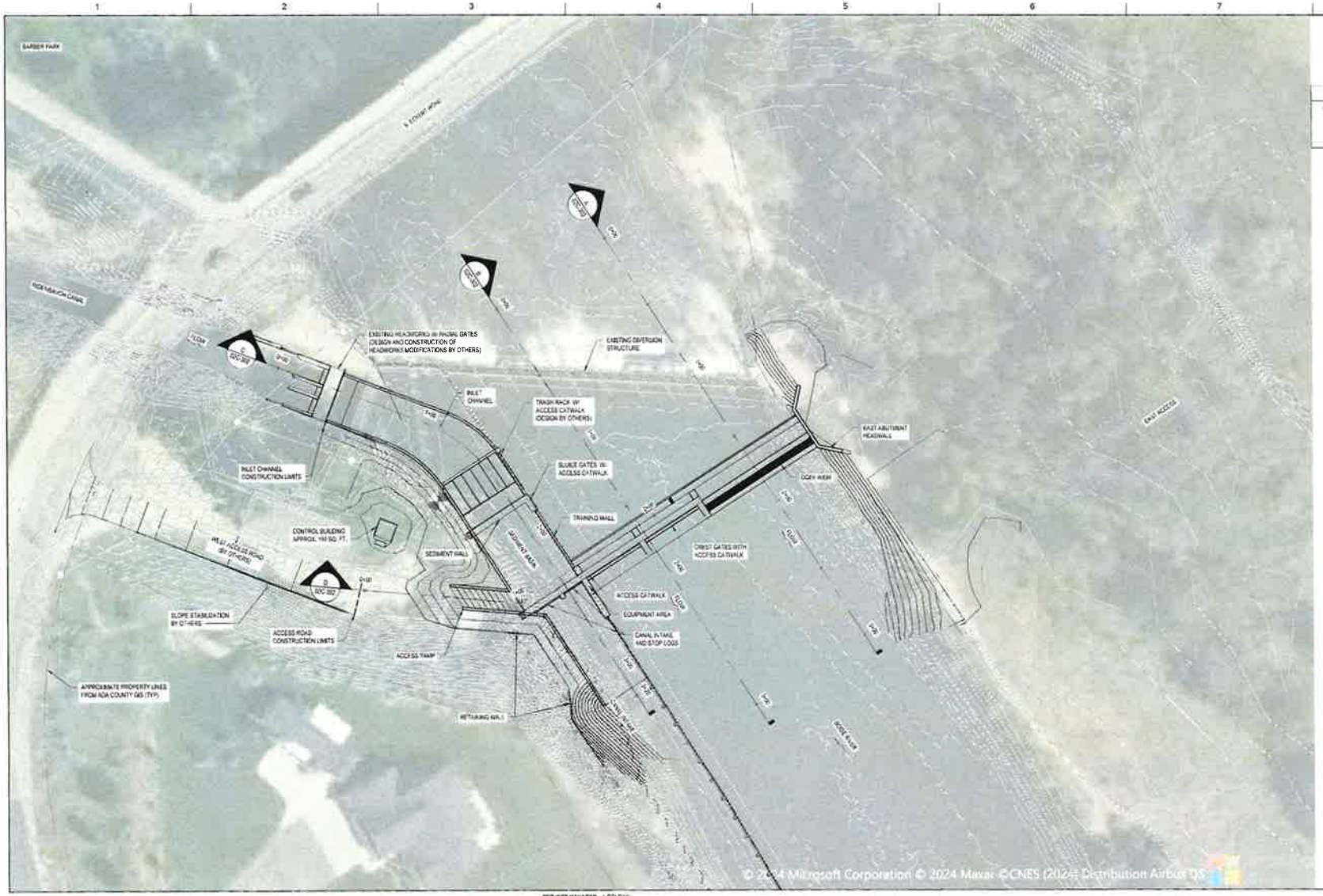
PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

CIVIL
OVERALL PROPOSED SITE PLAN
4010, 3960 AND 3910 S ECKERT RD BOISE ID

FILENAME 02C-102.dwg
SCALE AS NOTED

SHEET
02C-102



SCALE IN FEET

GENERAL NOTES

1. SURFACE CONTOURS ARE SHOWN AT 2 AND 10 INTERVALS.

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

HDR

ISSUE	DATE	DESCRIPTION
04/17/25	TBD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. S. SOMMERSAU
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. W. BOWEN
MECHANICAL LEAD	I. P. FREDERICK
ELECTRICAL LEAD	S. D. CHAI
WZ LEAD	M. E. MORRIS
PROJECT NUMBER	10362285

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

NAMPA & MERIDIAN IRRIGATION DIST.

RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

CIVIL
ENLARGED PROPOSED SITE PLAN
4010, 3960 AND 3910 S ECKERT RD BOISE ID

FILENAME: 02C-103.dwg
SCALE: AS NOTED

SHEET
02C-103

GENERAL NOTES

1. SURFACE CONTOURS ARE SHOWN AT 1' AND 5' INTERVALS.

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ISSUE	DATE	DESCRIPTION
04-1525	TBD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. B. SCHRIESHEIM
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. M. BOWEN
MECHANICAL LEAD	L. P. FREDERICK
ELECTRICAL LEAD	S. D. CHIN
I&C LEAD	M. E. MORRIS
PROJECT NUMBER	10346.005

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

NAMPA & MERIDIAN IRRIGATION DIST.

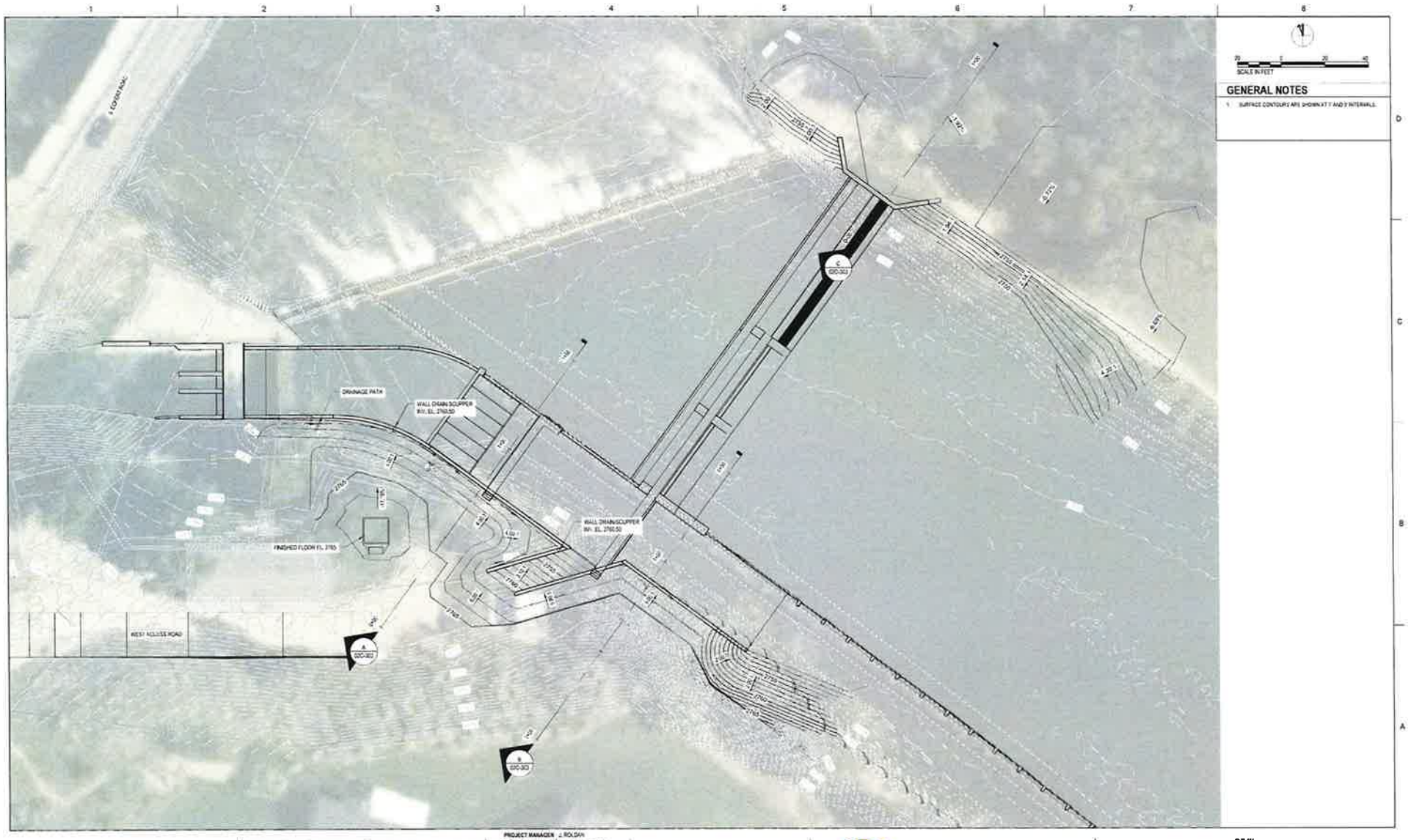
RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

CIVIL
EAST ACCESS ROAD PLAN

4010, 3960 AND 3910 S ECKERT RD BOISE ID

FILENAME: 02C-104-301.dwg
SCALE: AS NOTED

SHEET
02C-104



PRELIMINARY
NOT FOR
CONSTRUCTION OR
RECORDING

HDR

ISSUE	DATE	DESCRIPTION
3A1705	TBD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. S. SCHWEISSING
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. W. BOWEN
MECHANICAL LEAD	I. P. FREDERICK
ELECTRICAL LEAD	G. D. CHAI
I&C LEAD	M. E. MORRIS
PROJECT NUMBER	10385395

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

NAMPA & MERIDIAN IRRIGATION DIST.

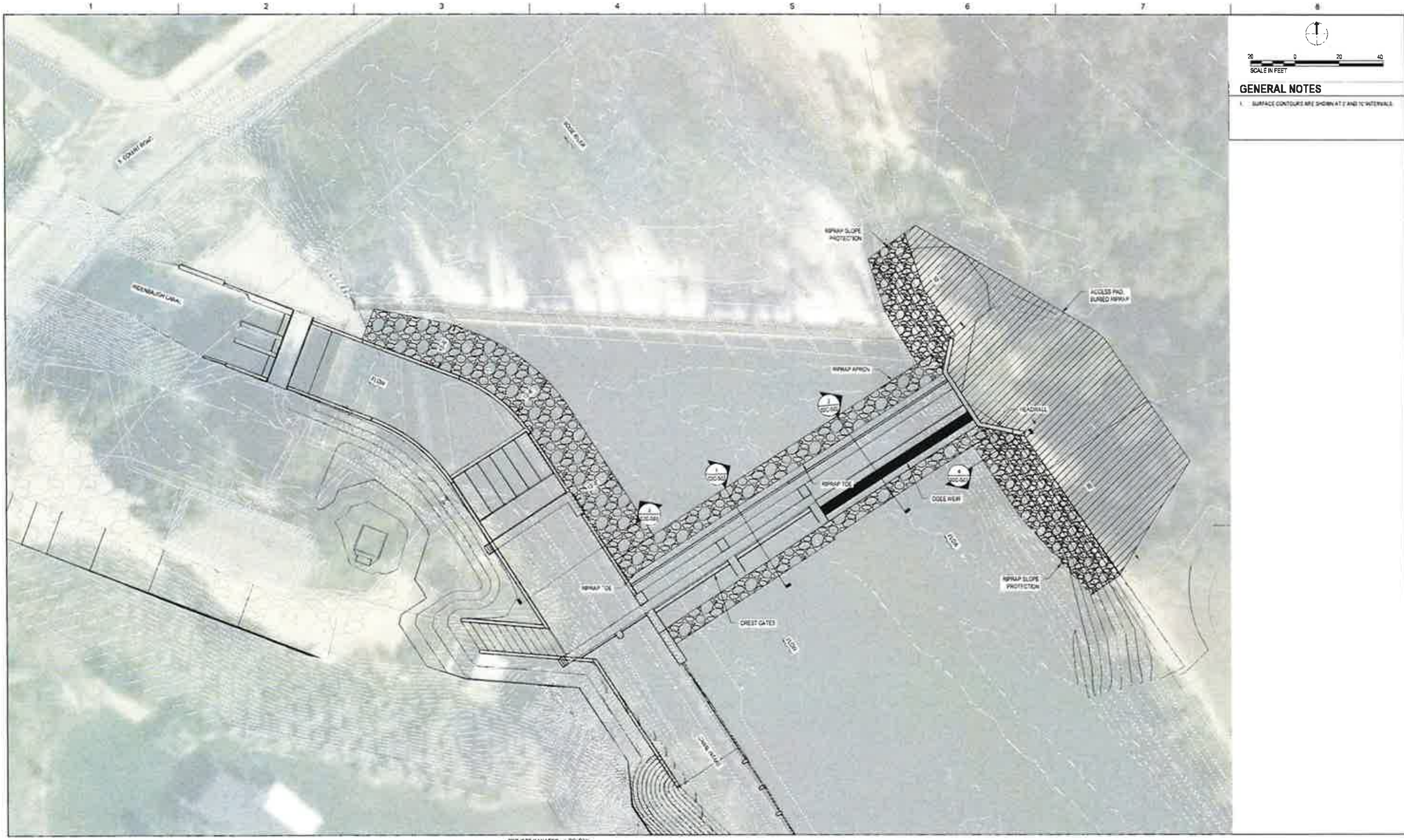
RIDENBAUGH DIVERSION
MODERNIZATION
NAMPA & MERIDIAN
IRRIGATION DISTRICT

CIVIL
GRADING PLAN

4010, 3960 AND 3910 S ECKERT RD BOISE ID

FILENAME 02C-105-303.dwg
SCALE AS NOTED

SHEET
02C-105



PRELIMINARY
NOT FOR
CONSTRUCTION OR
RECORDING

ISSUE	DATE	DESCRIPTION
04/17/25	TSD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. B. SCHWEISSING
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. M. BOWEN
MECHANICAL LEAD	L. P. FREDERICK
ELECTRICAL LEAD	G. D. CHIN
I&C LEAD	M. E. MORRIS
PROJECT NUMBER	[illegible]

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

CIVIL
SCOUR PROTECTION SITE PLAN

4010, 3960 AND 3910 S ECKERT RD BOISE ID

FILENAME 02C-106.dwg
SCALE AS NOTED

SHEET
02C-106

PRELIMINARY
NOT FOR
CONSTRUCTION OR
RECORDING

HDR

ISSUE	DATE	DESCRIPTION
04.17.25	TBD	ISSUED FOR PERMITTING

PROJECT MANAGER	A. ROLDAN
PRINCIPLE IN CHARGE	S. S. SCHWEISSING
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. M. BOUEK
MECHANICAL LEAD	L. P. FREDERICK
ELECTRICAL LEAD	G. G. CHIN
I&C LEAD	M. E. MORRIS
PROJECT NUMBER	10403351

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

NAMPA & MERIDIAN IRRIGATION DIST.

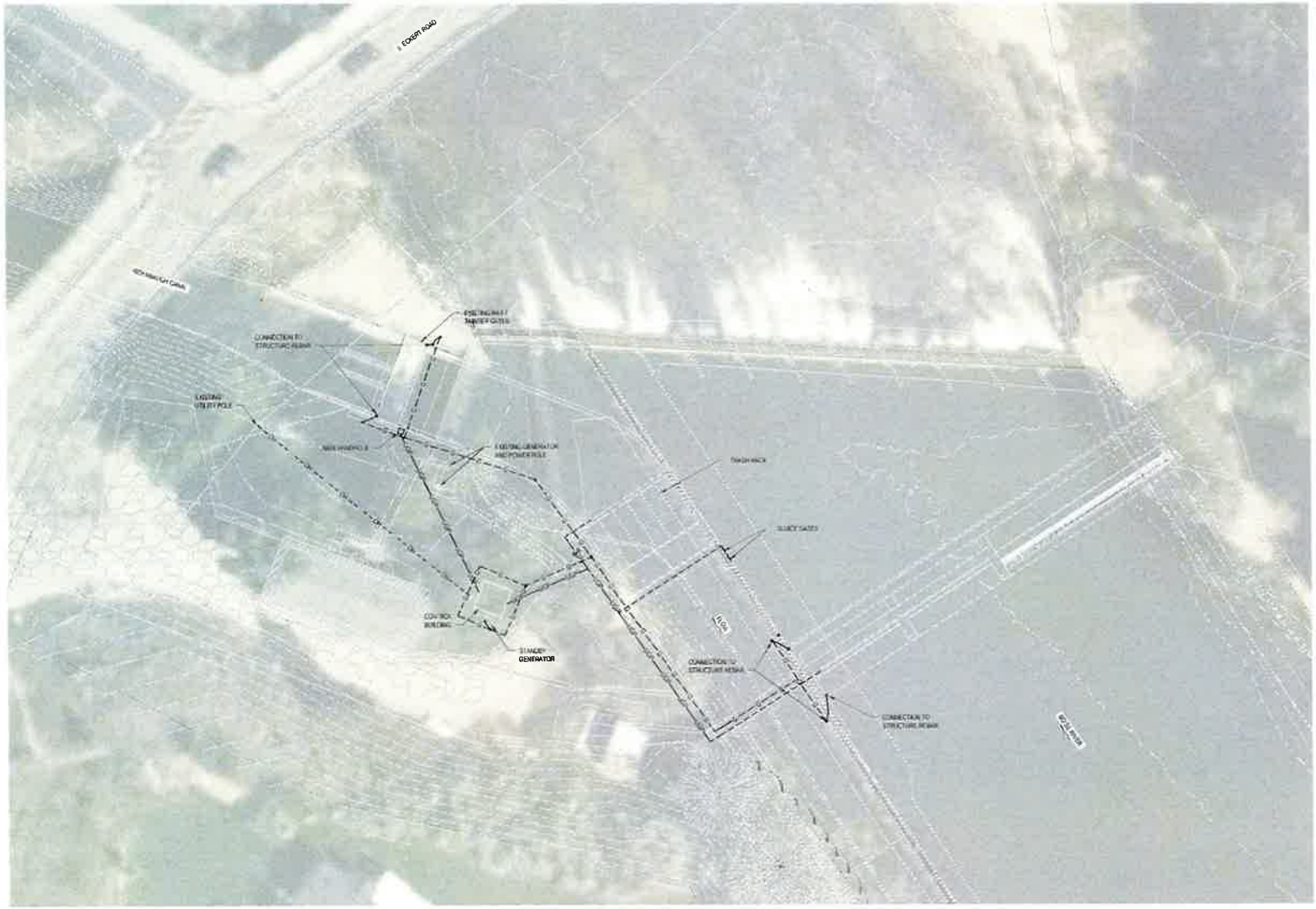
RIDENBAUGH DIVERSION
MODERNIZATION
NAMPA & MERIDIAN
IRRIGATION DISTRICT

CIVIL
EROSION AND SEDIMENT CONTROL PLAN

4010, 3960 AND 3910 S ECKERT RD BOISE ID

FILENAME: 02C-107.dwg
SCALE: AS NOTED

SHEET
02C-107



SCALE IN FEET

GENERAL NOTES

1. SURFACE CONTOURS ARE SHOWN AT 2 AND 10' INTERVALS.

LEGEND

- OH — OVERHEAD POWER
- G — GROUNDING
- POWER
- UGP — UNDERGROUND POWER

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

HDR

ISSUE	DATE	DESCRIPTION
04/17/25	TBD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. B. SCHWEISSING
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. M. BOWEN
MECHANICAL LEAD	L. P. FREDERICK
ELECTRICAL LEAD	G. D. CHIN
I&C LEAD	M. E. MORRIS
PROJECT NUMBER	10183369

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

NAMPA & MERIDIAN IRRIGATION DIST.

RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

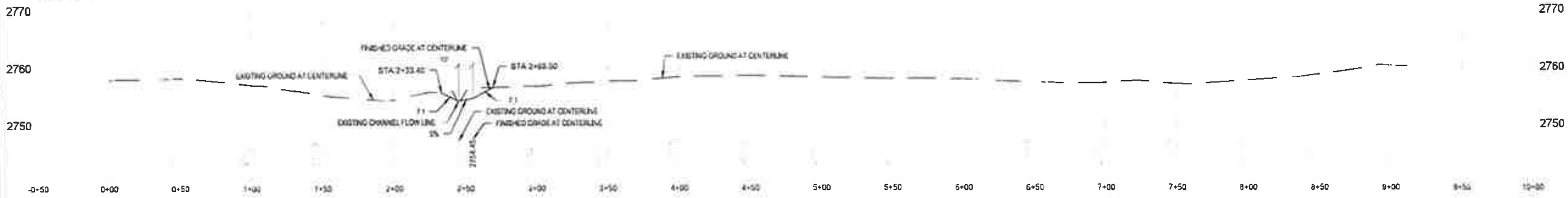
UTILITIES
OVERALL PROPOSED SITE PLAN
4010, 3960 AND 3910 S ECKERT RD BOISE ID

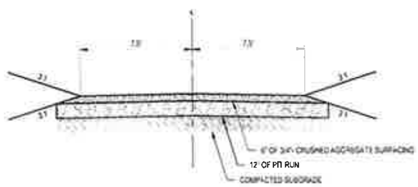
0 1" 2"

FILENAME	G2C-100.dwg
SCALE	AS NOTED

SHEET 01E-102

EAST ACCESS ROAD PROFILE
H SCALE: 1" = 40'
V SCALE: 1" = 10'





EAST ACCESS ROAD TYPICAL SECTION
NOT TO SCALE

PRELIMINARY NOT FOR CONSTRUCTION OR RECORDING

HDR

	TBD	ISSUED FOR PERMITTING
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. S. SCHWERSING
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. M. BOWEN
MECHANICAL LEAD	L. P. FREDERICK
ELECTRICAL LEAD	G. D. CHIN
I&C LEAD	M. E. MORRIS
PROJECT NUMBER	[illegible]

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

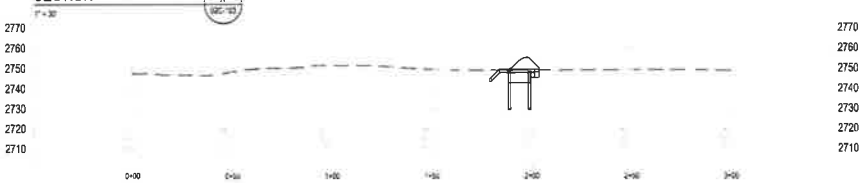
NAMPA & MERIDIAN IRRIGATION DIST.

RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

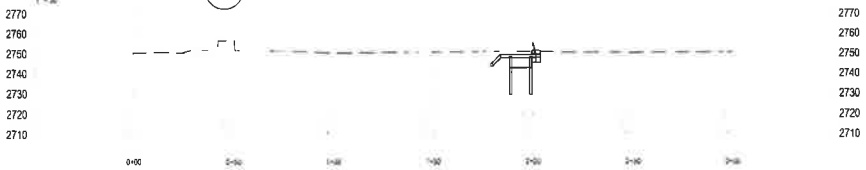
CIVIL
EAST ACCESS ROAD PROFILE AND SECTION
4010, 3960 AND 3910 S ECKERT RD BOISE ID

FILENAME 02C-104-301.dwg
SCALE AS NOTED
SHEET 02C-301

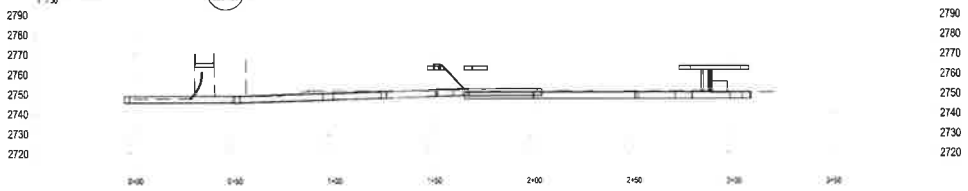
SECTION A
02C-103
1" = 30'



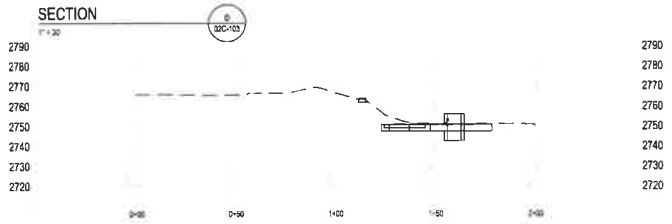
SECTION B
02C-103
1" = 30'



SECTION C
02C-103
1" = 30'



SECTION D
02C-103
1" = 30'



PRELIMINARY
NOT FOR
CONSTRUCTION OR
RECORDING

HDR

ISSUE	DATE	DESCRIPTION
04	TBD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. S. SCHWEISSAU
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. W. BOWEN
MECHANICAL LEAD	L. P. FREDERICK
ELECTRICAL LEAD	G. D. CHIN
I&C LEAD	M. E. MORRIS
PROJECT NUMBER	10063383

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

NAMPA & MERIDIAN IRRIGATION DIST.

RIDENBAUGH DIVERSION
MODERNIZATION
NAMPA & MERIDIAN
IRRIGATION DISTRICT

CIVIL
SECTIONS

4010, 3960 AND 3910 S ECKERT RD BOISE ID

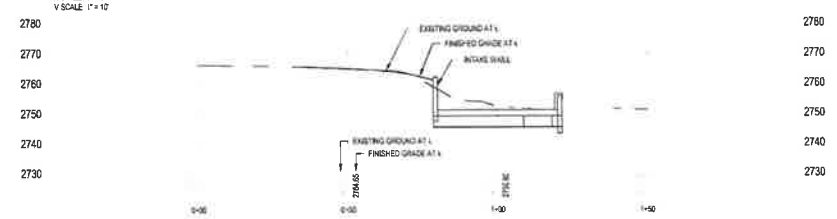
0" 1" 2"

FILENAME 02C-302.dwg
SCALE AS NOTED

SHEET
02C-302

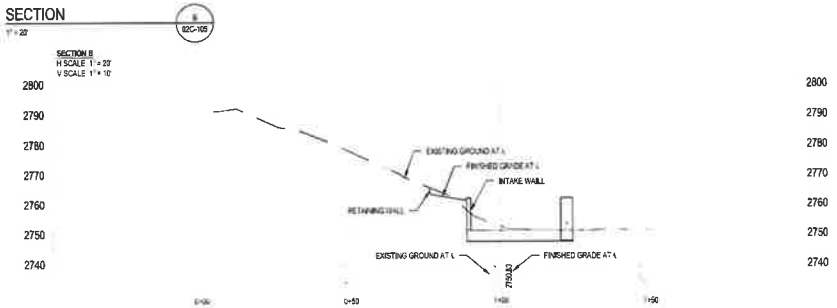
SECTION A

1" = 20'



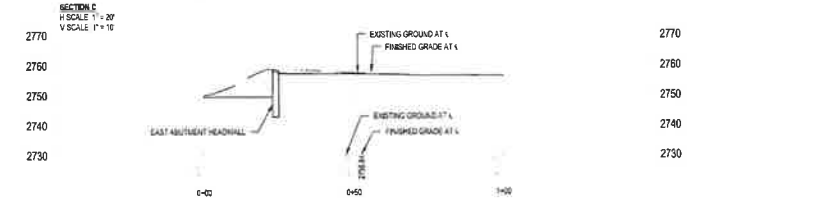
SECTION B

1" = 20'



SECTION C

1" = 20'



PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

ISSUE	DATE	DESCRIPTION
	04/17/25	TMD	ISSUED FOR PERMITTING

PROJECT MANAGER	J. ROLDAN
PRINCIPLE IN CHARGE	S. S. SCHWISSAU
CIVIL LEAD	J. L. OTTO
STRUCTURAL LEAD	T. W. BOWEN
MECHANICAL LEAD	I. P. FREDERICK
ELECTRICAL LEAD	G. D. CHIN
I&C LEAD	W. E. MORRIS
PROJECT NUMBER	10383305

PERMIT DRAWINGS
CFH25-00025
FLOODPLAIN PERMIT

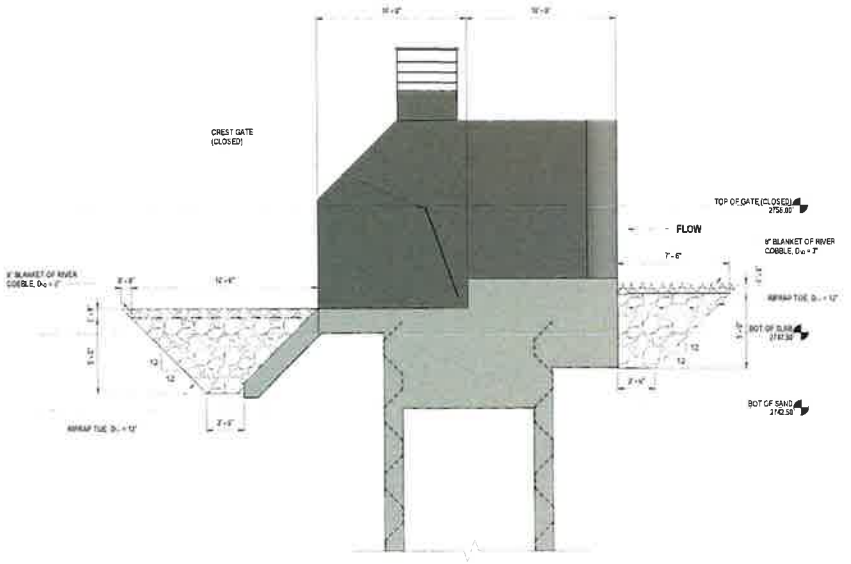
RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

CIVIL
GRADING SECTIONA

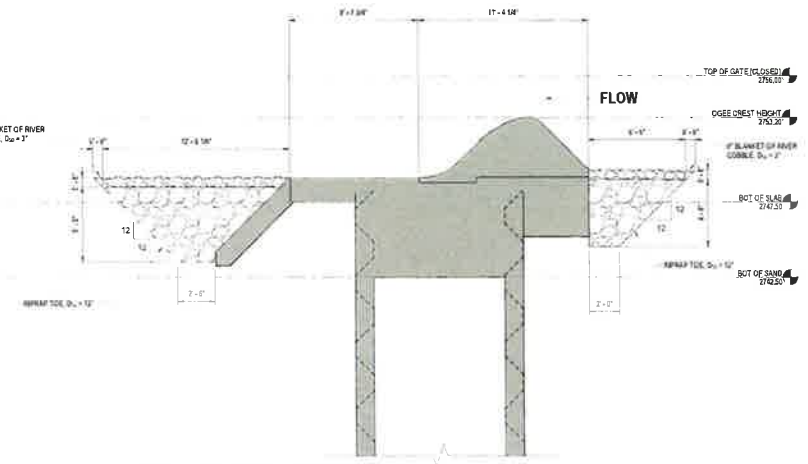
4010, 3960 AND 3910 S ECKERT RD BOISE ID

FILENAME: 02C-105-303.dwg
SCALE: AS NOTED

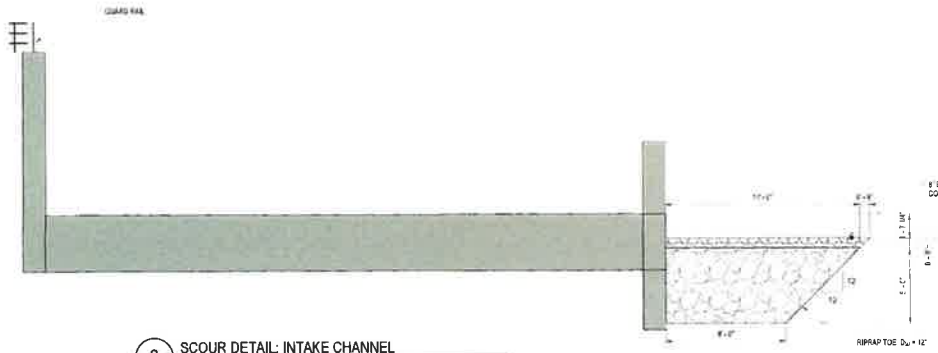
SHEET
02C-303



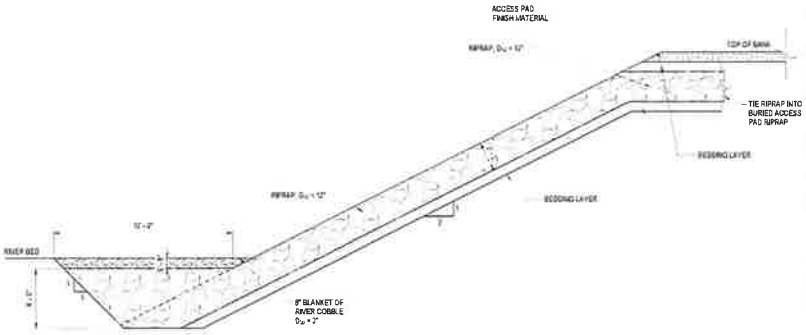
1 SCOUR DETAIL: GATE SECTION



2 SCOUR DETAIL: OGEE WEIR SECTION



3 SCOUR DETAIL: INTAKE CHANNEL



4 RIPRAP SLOPE PROTECTION DETAIL

PROJECT MANAGER	J. OTTO	
PRINCIPLE IN CHARGE	S. S. SCHWEILING	
CIVIL LEAD	J. L. OTTO	
STRUCTURAL LEAD	T. M. BOWEN	
MECHANICAL LEAD	J. P. FREDERICK	
ELECTRICAL LEAD	C. D. CHIN	
I&C LEAD	M. E. MORRIS	
PROJECT NUMBER	10033385	

MM/DD/YY	TBD	ISSUED FOR PERMITTING
ISSUE	DATE	DESCRIPTION

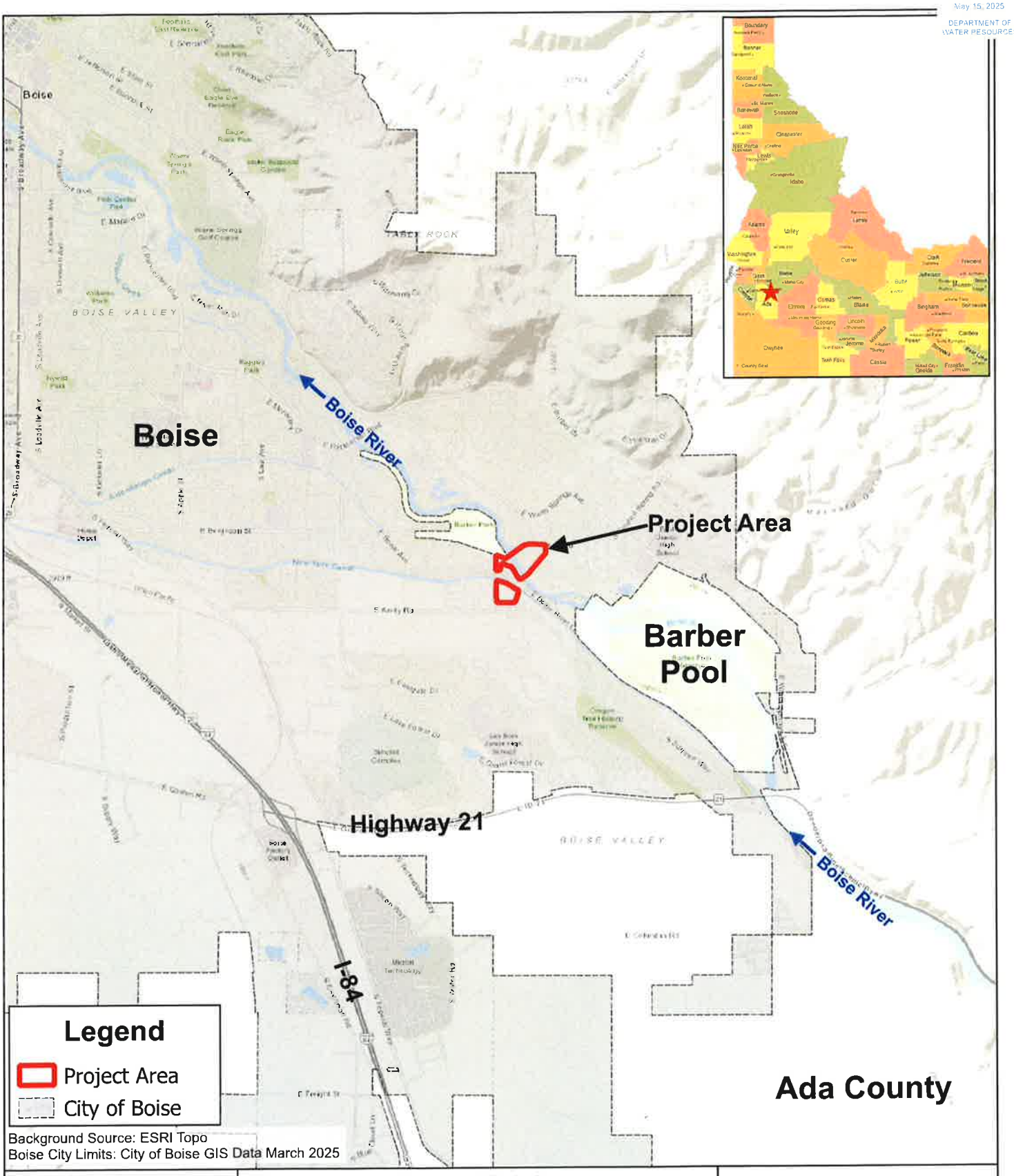
PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

RIDENBAUGH DIVERSION MODERNIZATION
NAMPA & MERIDIAN IRRIGATION DISTRICT

SCOUR PROTECTION DETAILS
4010, 3960, AND 3910 S ECKERT RD, BOISE, ID

FILENAME 10033385-06-0
SCALE 1/4" = 1'-0"

SHEET
02C-502



Legend

- Project Area
- City of Boise

Background Source: ESRI Topo
Boise City Limits: City of Boise GIS Data March 2025

Adaptive Environmental Planning

Map 1: Vicinity

NMID Ridenbaugh Canal Headworks Modernization

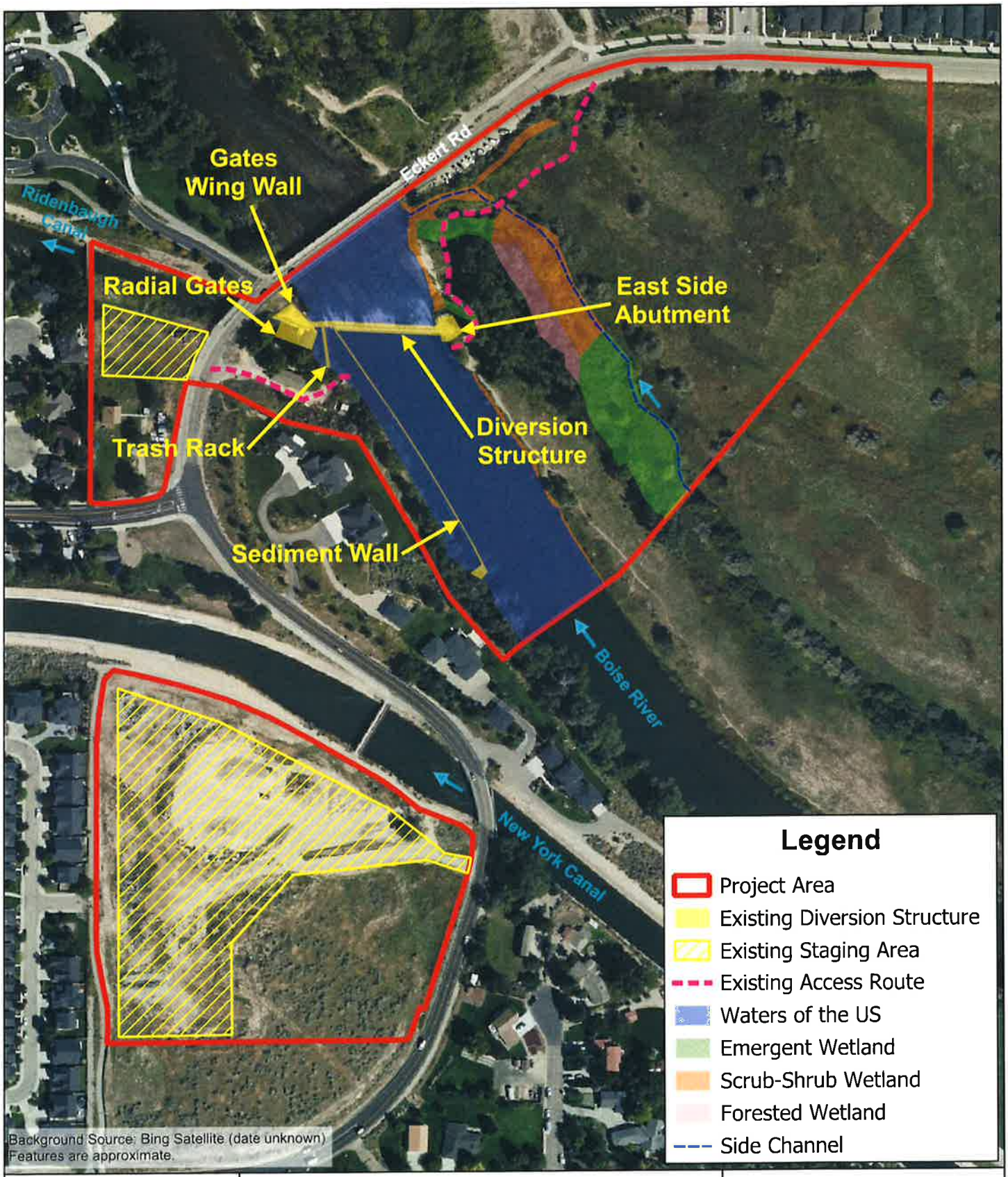
Boise, Idaho (Ada County)

JAP

N

0 0.5 1 mi

Date Prepared: 04/21/2025



Adaptive Environmental Planning

Map 2: Existing Conditions

NMID Ridenbaugh Canal Headworks Modernization

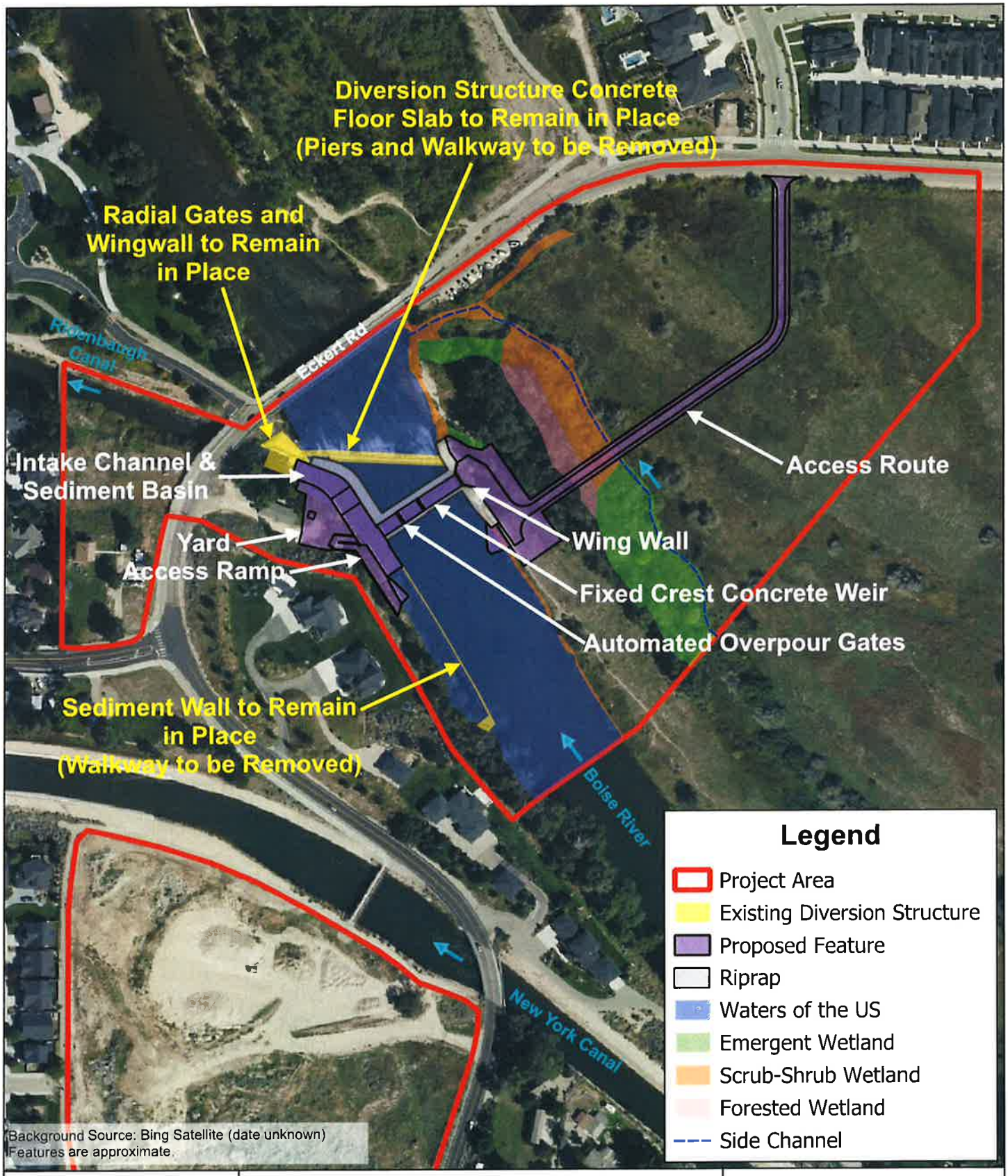
Boise, Idaho (Ada County)

JAP

N

0 125 250 ft

Date Prepared: 04/21/2025



Adaptive Environmental Planning

Map 3: Permanent

NMID Ridenbaugh Canal Headworks Modernization

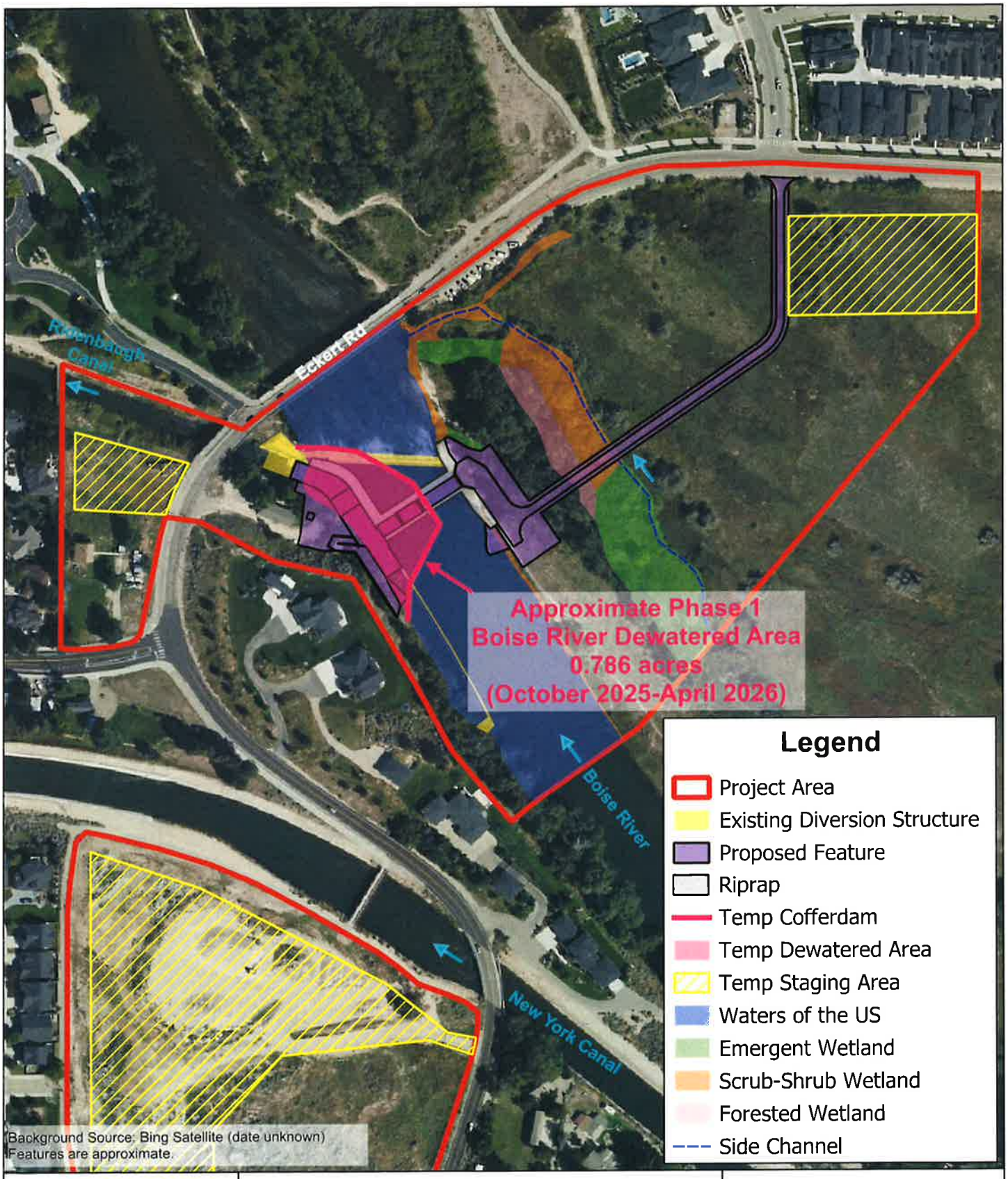
Boise, Idaho (Ada County)

JAP

N

0 125 250 ft

Date Prepared: 04/21/2025



Adaptive Environmental Planning

Map 4: Temporary Phase 1

NMID Ridenbaugh Canal Headworks Modernization

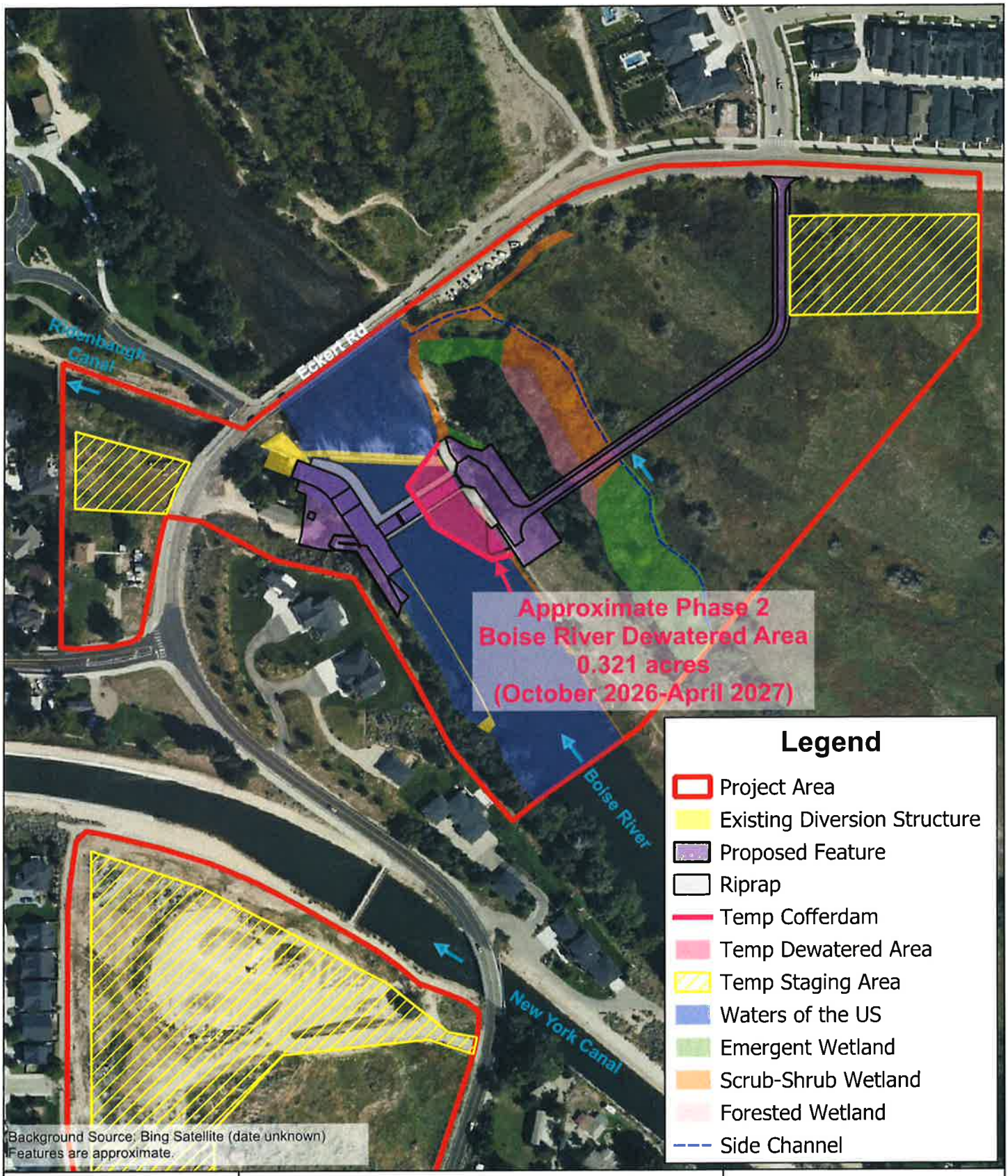
Boise, Idaho (Ada County)

JAP

N

0 125 250 ft

Date Prepared: 04/21/2025



Adaptive Environmental Planning

Map 5: Temporary Phase 2

NMID Ridenbaugh Canal Headworks Modernization

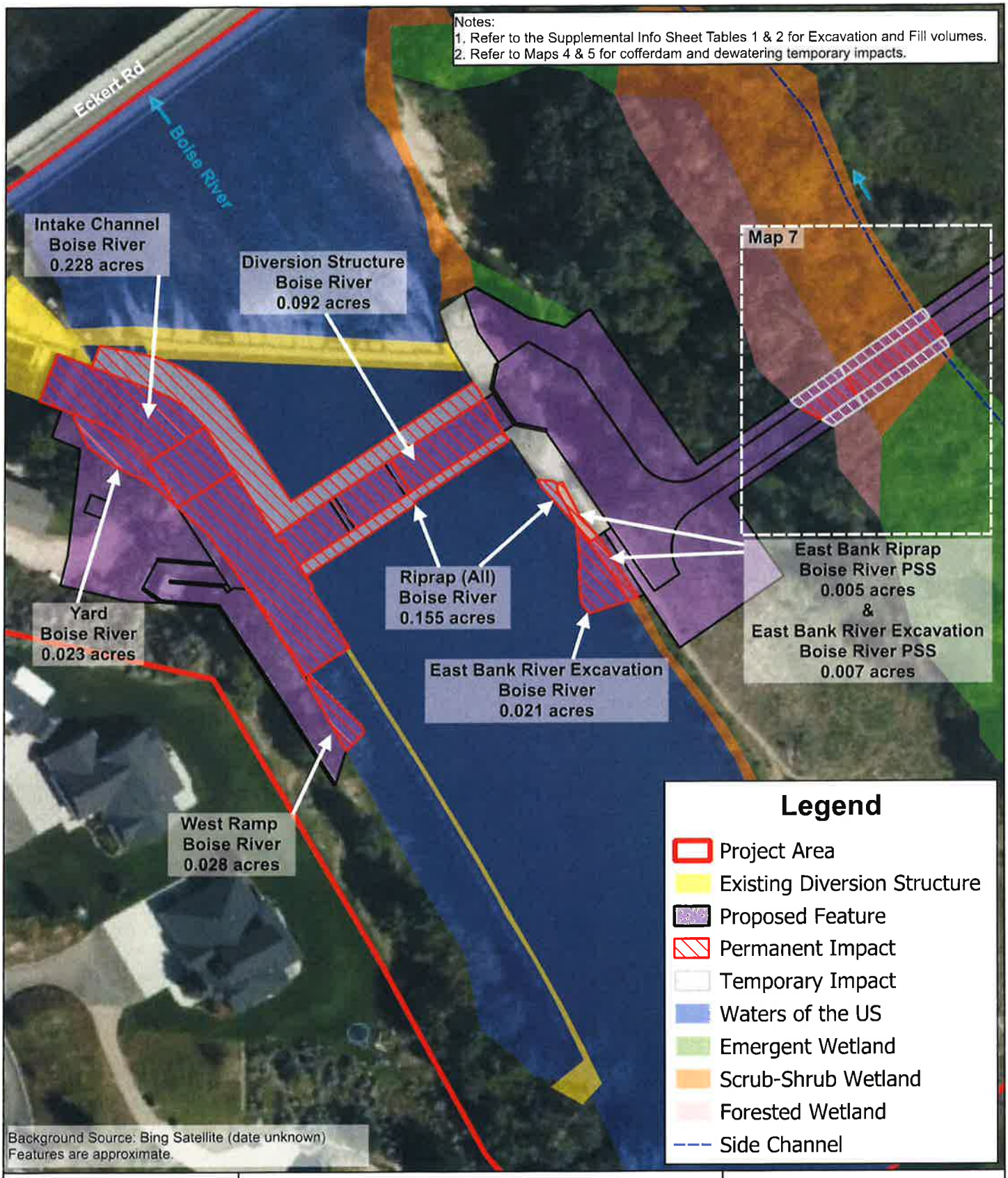
Boise, Idaho (Ada County)

JAP

N

0 125 250 ft

Date Prepared: 04/21/2025



Adaptive Environmental Planning

Map 6: Impacts

NMID Ridenbaugh Canal Headworks Modernization

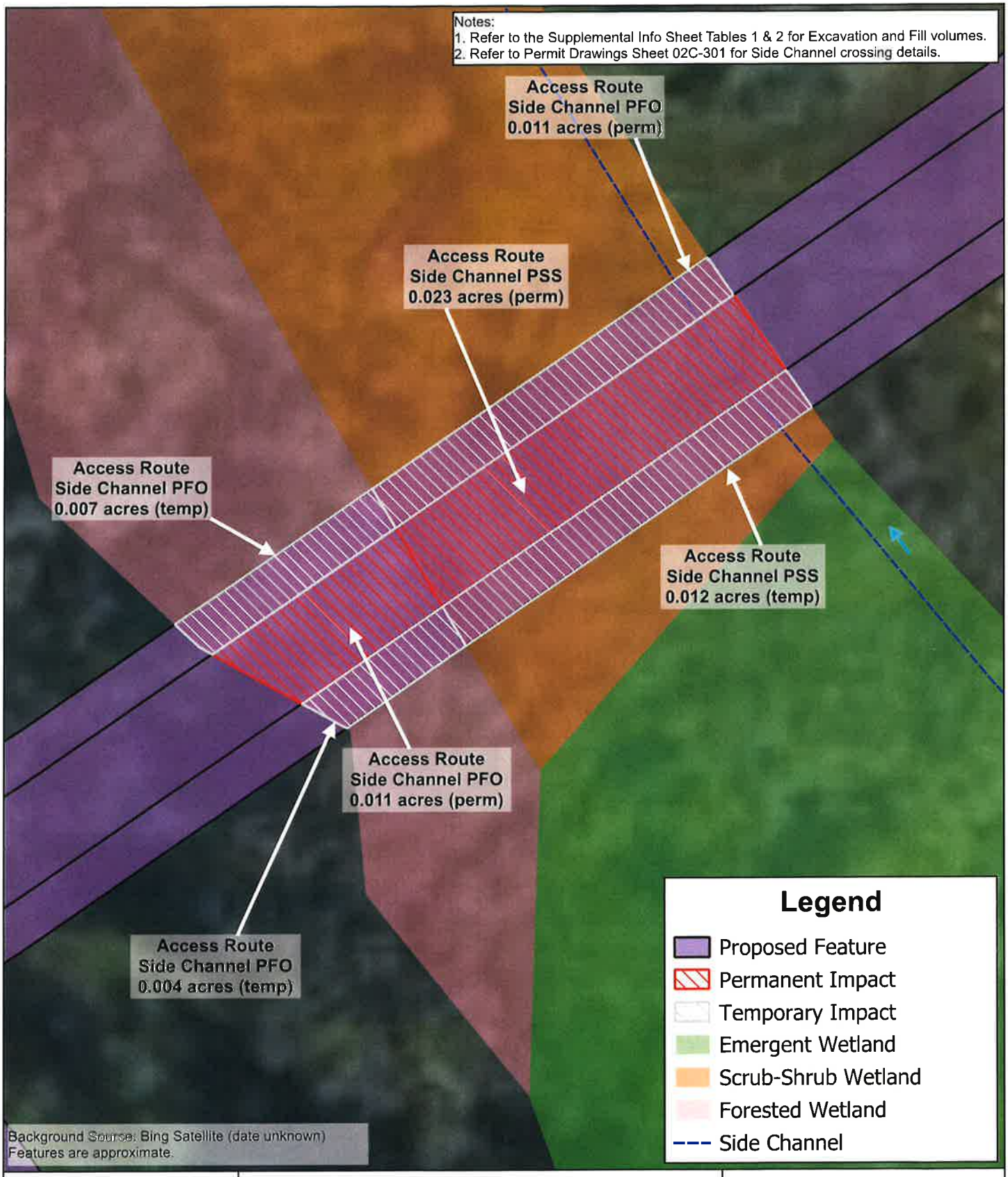
Boise, Idaho (Ada County)

JAP

N

0 50 100 ft

Date Prepared: 04/21/2025



Adaptive Environmental Planning

Map 7: Access Route Impacts

NMID Ridenbaugh Canal Headworks Modernization

Boise, Idaho (Ada County)

JAP

N

0 10 20 ft

Date Prepared: 04/21/2025

RECEIVED
May 15, 2025
DEPARTMENT OF
WATER RESOURCES

ENGINEERING "NO-RISE" CERTIFICATION

This is to certify that I am a duly qualified engineer licensed to practice in the State of Idaho.

It is to further certify that the attached technical data supports the fact that proposed Ridenbaugh Canal Headworks Modernization (*Name of Development*) will not impact the 100-year flood elevations, floodway elevations and floodway widths on Boise River (*Name of Stream*) at published sections in the Flood Insurance Study for City of Boise (*Name of Community*), dated June 19, 2020 and will not impact the 100-year flood elevations, floodway elevations, and floodway widths at unpublished cross-sections in the vicinity of the proposed development.

Attached are the following documents that support my findings:

No-Rise Analysis Memo

Hydraulic Model Results

(Date) 4/2/2025

(Signature) Julia Lindgren

(Title) Water Resources Engineer

412 E. Parkcenter Blvd., Suite 100

Boise, Idaho 83706
(Address)

(Seal)

PROFESSIONAL ENGINEER LICENSED 23035 4/2/2025 STATE OF IDAHO JULIA LINDGREN

June 16, 2025

NMID Ridenbaugh Canal Headworks Modernization JAP

Response to IDWR Questions sent June 12, 2025 (by Katie Gibble)

IDWR QUESTION: The proposal describes the flows below which the temporary cofferdam would be installed in the Fall (1500 cfs), but the proposal doesn't specify the flows by which the coffer dam would be removed in March/April as flows rise. Will this also be 1500 cfs?

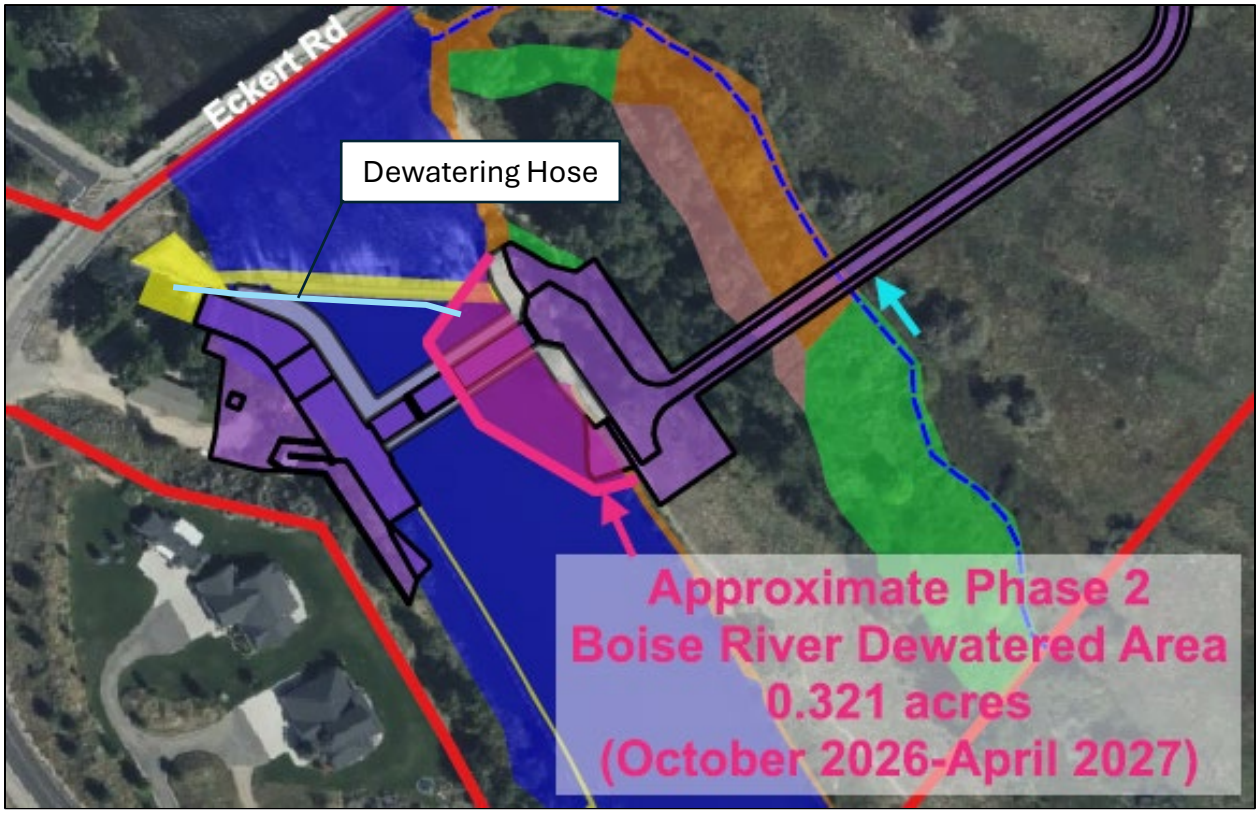
- *NMID RESPONSE: Yes, the cofferdam will be removed once flows in the Boise River increase to 1500 cfs.*

IDWR QUESTION: The dewatering plan for Phase 1 involves diverting water into the Ridenbaugh Canal to settle prior to being discharged into the Boise River. The water would be discharged back into the Boise River ~1.25 miles down the canal through a spillway – where exactly is that spillway along the canal and where exactly does it discharge into the Boise River (can you provide lat/longs or a flow path line?)

- *NMID RESPONSE: Please see figure below.*

IDWR QUESTION: During Phase 2, would dewatered water be pumped from the east side of the river into the Ridenbaugh Canal to settle like in Phase 1? If not, where will water be pumped and how will it be settled prior to being pumped back into the Boise River?

- *NMID RESPONSE: Turbid water not meeting Idaho water quality standards for the Boise River will be pumped to the Ridenbaugh Canal for both Phase 1 and 2. For Phase 2, a water hose will be placed on the bottom of the Boise River (upstream of the existing diversion structure) and be discharged over the radial gates into the Ridenbaugh Canal. Please see figure below for an approximate location.*



IDWR QUESTION: Will a temporary cofferdam be installed around the existing diversion structure piers for their demolition (end of Phase 2)?

- *NMID RESPONSE: Sandbags (supersacks) and plastic sheathing will be installed upstream of several piers at a time to allow for removal in the dry.*

IDWR QUESTION: The end of the phasing section notes that work may occur July-October; am I correct in assuming that this would not result in NMID diverting more than 550 cfs? And if that's correct, am I correct in assuming that the proposed structure will be able to pass the remaining flow of the Boise River through the automated crest structure/gates during this time, while the east side is still dewatered and under construction?

- *NMID RESPONSE: NMID will not divert more than 550 cfs into the Ridenbaugh Canal. Yes, the remaining water in the Boise River will pass through the constructed west side.*

IDWR QUESTION: I'm not familiar with the short segment between Barber Dam and the Ridenbaugh headworks so apologies for my ignorance on this one – is it anticipated that any warning signs along this segment of river will be needed warning of the downstream construction? I know the headworks isn't passable in its current state, but wonder if the construction would warrant any warning signage for floaters?

- *NMID RESPONSE: Yes warning signs about the diversion structure and portage will be posted on NMID property on the left bank looking downstream. Portage will continue to be in the same location on the right bank of the river (City of Boise property).*

Appendix F

Other Coordination

From:	Flack,Brandon
To:	Greg Allington; Butts,Art
Cc:	Lorri Gray; Schubert, Michael
Subject:	Re: Ridenbaugh Canal Fish Spawning Areas in Boise River
Date:	Monday, January 27, 2025 3:42:30 PM
Attachments:	image001.png

Hi Greg,

I spoke with our fisheries biologist for the Boise River and he speculates that there may be some river substrate that could be suitable for spawning in that area but we don't have any data to say for sure. We do not have any documented fish spawning in that area.

Brandon Flack
Regional Technical Assistance Manager
Idaho Dept. of Fish and Game
Southwest Region
15950 N. Gate Blvd.
Nampa, ID 83687
Ph: (208) 854-8947

From: Greg Allington <greg@adaptiveenviro.com>
Sent: Monday, January 27, 2025 1:44 PM
To: Butts,Art <art.butts@idfg.idaho.gov>; Flack,Brandon <brandon.flack@idfg.idaho.gov>
Cc: Lorri Gray <LGray@nmid.org>; Schubert, Michael <michael.schubert@hdrinc.com>
Subject: Ridenbaugh Canal Fish Spawning Areas in Boise River

Hi Art and Brandon. Thanks for the discussion last week on the project. As part of the permit preparation, we are identifying any special fish areas in the Boise River that could be impacted. Are there any documented fish spawning areas in this stretch of the Boise River that we need to note in our documents? Any info is appreciated.

Greg Allington | Senior Biologist
Adaptive Environmental Planning, LLC
2976 East State Street, Ste 120 #431, Eagle, Idaho 83616
208-340-5721 | greg@adaptiveenviro.com | www.adaptiveenviro.com

Ridenbaugh Diversion Modernization – IDFG Comments Discussion Meeting Minutes
(Re: Idaho Code 36-906)
Bureau of Reclamation Snake River Area Office
December 10, 2024 – 3-4 pm

Attendees

Bureau of Reclamation	Amy Goodrich, Dmitri Vidergar, Rich Jackson, Todd Anderson, Jessica Peters, Rochelle Ochoa
IDFG	Art Butts, Brandon Flack, Tom Bassista, Chase Cusack
NMID	Greg Curtis, Lorri Gray, Mike Schubert, Greg Allington, Dan Steenson (on Teams)

- Brief background and NEPA status summary – Amy Goodrich
  - Project is a WaterSMART grant selectee
  - 30-day public scoping period has ended 31 Oct 2024
  - Many of the substantive comments received were focused on the issues of floater passage/portage and fish passage

- **Greg Curtis** added the following background:

  - The District has title transfer from USBR in 2000 and usually is self-funded but in the case of this project has sought external (Federal) funding, which has triggered NEPA requirements (also partially funded by IWRB)
  - The diversion structure often takes the brunt of river fluctuations at Barber Dam. NMID is in Nampa so when issues arise that cannot be corrected remotely there is a travel delay to get to site – a more reliable design would help to stabilize river condition in the vicinity.
  - Grant money is the only way to achieve funding of what was originally conceived of as a $9 million project. Now $18 million due to rising construction industry costs/inflation.
  - Goals included coming up with design that was better for the river and would have less impact.
  - Not uncommon to have crews clean trash rack/screen four times daily currently; new design would have improved automated trash rack screen which will provide much tighter “screening” (2” spacing of trash rack bars) than what currently is provided by the existing weed rack (8” spacing).
  - The current design is at 30% and the District is ready to sign a contract with contractors to move forward. IDFG comments re: fish screening were unanticipated.

- New design would already substantially decrease entrainment because of smaller screen openings and reduce algae and detritus in the canal which would result in less disturbance and chemical treatment in the canal throughout the summer.
- Speculation that new design could also create hydraulic conditions that would additionally keep fish from entering
- The District always uses best management practices when dewatering the system. It is NMID's belief that entrained fish are either exiting via spillway at Ten Mile Creek or Indian Creek – the system has a natural sluice design to flow backwards both ways.
- System is only checked up (diverting water) 6 months of the year, at 550 cfs max. Typically water up the first full week of April and shut off first full week of October.
- NMID has great concern re: additional cost of now incorporating any additional screening measures
- Engineering calculations indicate that this location can't accommodate any screening <2" without encountering head issues/needing to check up river elevation higher, or jeopardizing ability to provide required flow to water users.

- **DISCUSSION:**

  - ID statute requires both appropriate fishway to accommodate seasonal movements of fish, and fish screen "or other suitable device" to prevent fish from entering canal.
  - Impetus for IDFG's comment is Idaho law, and that scoping documents didn't address fishway and screening requirements.
  - IDFG acknowledges the importance of ag water delivery and the agency's goal is not to be obstructionist, but to represent the sportsmen of ID and ensure NMID is aware of the existing law and to assist NMID in identifying ways to avoid/minimize fisheries impacts
  - IDFG's standpoint is that the Boise River has many fish passage issues as building and developing on river continues. This project has provided a rare opportunity to provide agency comment as NMID is redesigning an irrigation structure.
  - Potentially, the way this diversion is operated (allowing fish passage half the year when not diverting) could be interpreted to allow seasonal movements – this is not an IDFG declaration but would be a matter for legal interpretation.
  - IDFG's role is not to necessarily approve/disapprove any specific project, but to provide technical assistance, e.g., in determining if 2" spacing is sufficient to fulfill the screening requirement.
  - Need exists to identify the target of the screening requirement – is it only to keep adult sportfish out of the canals?

- No other example on the Boise River were brought forward to compare and determine what screen size is adequate
- In the absence of specific relevant data, IDFG's professional opinions will need to guide whether current design/operations sufficiently address the legal requirements
- NMID projects that fish screens (smaller than 2 inch) would cost $3-4 million to install and would require a lot of maintenance.
- As to the question of whether the trash rack as currently designed be considered "fish screen device" as required by Idaho Statute, IDFG cannot officially give "thumbs up" on the screening component of this project at this time. It will require further discussion/review.
- Reclamation needs to address IDFG comment in the Environmental Assessment that's being prepared. It is understood by all attendees that the current design won't screen out all fish, and this should be discussed in the environmental document.

- **Determinations:**
  - Fish passage – General agreement reached that passage is sufficiently provided because the gates are lowered when not in use (6 mos/year)
  - Fish screening – Legal review (independently by IDFG, Reclamation, NMID) is needed to determine if the 2-inch trash rack in current design meets the requirement in statute

- **Action Items**
  - IDFG requests involvement at system dewatering to observe quantity of fish/crayfish/debris present in the system, and assist determining the need for fish salvage.
  - NMID will continue to involve IDFG (POC: Brandon Flack) in ongoing discussions re: design sufficiency, construction dewatering/timing for cofferdams, and to identify opportunities to collaborate to gather further data on entrainment.
  - NMID is seeking irrigation facility exemptions to 404 permit stream channel alteration.
  - FEMA modeling required. NMID is working with City of Boise.
  - NMID has a scheduled meeting on 22 Jan 2025 to talk through separate conservation easement issue(s)
  - IDFG suggests NMID reach out to IDFG fish screen building in Salmon to seek info
  - EA finalization expected in July 2025

*Meeting adjourned at 4:55 pm