AGENDA

IDAHO WATER RESOURCE BOARD

Board Meeting No. 13-26
WORK SESSION
Thursday, November 12, 2026
8:30 a.m. (MT) / 7:30 a.m. (PT)
Executive Session begins at 2:30 p.m. (MT) 1:30 p.m. (PT)

Water Center
Conference Rooms 602 B – D
322 E. Front Street
Boise
Livestream available at https://www.youtube.com/@iwrb

Brad Little
Governor

Jeff Raybould
Chairman
St. Anthony
At Large

Jo Ann Cole-Hansen
Vice Chair
Lewiston
At Large

Dean Stevenson
Secretary
Paul
District 3

Dale Van Stone
Hope
District 1

Albert Barker
Boise
District 2

Brian Olmstead
Twin Falls
At Large

Marcus Gibbs
Grace
District 4

Patrick McMahon
Sun Valley
At Large

1. Roll Call
2. Snake River Quagga Treatment Update
3. Idaho Water Law Database
4. Upper Snake River Basin Study Update *
5. American Rescue Plan Act Project Updates
6. Nampa Drain Recharge and Floodwater Storage Study
7. Eastern Snake Plain Aquifer Recharge Update
8. Administrative Rules Update *
9. Executive Session: Board will meet pursuant to Idaho Code § 74-206(1) subsection (d) to consider records that are exempt from disclosure as provided in chapter 1, title 74, Idaho Code Topic: Idaho National Laboratory AND Idaho Code § 74-206(1) subsection (f) to communicate with legal counsel regarding legal ramifications of and legal options for pending litigation or controversies not yet being litigated but imminently likely to be litigated. Topic: Water Right No. 63-34753, and Nos. 01-10734, and No. 01-10726. - Closed to the Public
10. Adjourn

The Board will break for lunch at approximately noon.

***** Action Item: A vote regarding this item may be made this meeting. Identifying an item as an action item on the agenda does not require a vote to be taken on the item. **Americans with Disabilities**: If you require special accommodations to attend, participate in, or understand the meeting, please make advance arrangements by contacting Department staff by email: milin.ream@idwr.idaho.gov or by phone at (208) 287-4800.

MEMO

To: Idaho Water Resource Board (Board)

From: Planning & Projects Bureau Staff

Date: November 12, 2026

Subject: Snake River Quagga Treatment Update

INFORMATIONAL ITEM

Idaho State Department of Agriculture (ISDA) Bureau Chief of Invasive Species, Noxious Weeds, and Range Programs, Nic Zurfluh, will provide the Board with an update on the Snake River Quagga mussel treatment efforts.

Attachments:

- *None*

MEMO

To: Idaho Water Resource Board (Board)

From: Planning & Projects Bureau Staff

Date: November 5, 2026

Subject: Idaho Water Law Database

INFORMATIONAL ITEM

A representative from the University of Idaho will provide the Board with an overview of the Idaho Water Law Database.

Attachments:

- *None*

MEMO

To: Idaho Water Resource Board (IWRB)

From: Planning & Projects Bureau Staff

Date: November 9, 2026

Subject: Upper Snake River Basin Study (USRBS) Status Update

REQUESTED ACTION: Consider a Funding Resolution to Authorize Spending for the Upper Snake River Basin Study

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Water users in the Upper Snake River Basin expressed interest in pursuing a Basin Study through the U.S. Bureau of Reclamation's (BOR) WaterSMART program. On September 12, 2025, BOR and Minidoka Irrigation District representatives presented the program to the IWRB. Following the presentation, the Board directed the Chair and staff to prepare and submit a Letter of Interest (LOI).

Timeline:

- **October 14, 2025**: LOI submitted
- **November 21, 2025**: LOI recommended for full proposal
- **January 16, 2026**: Stakeholder meeting held
- **February 13, 2026**: Proposal submitted
- **June 3, 2026**: Proposal selected for the development of a Plan of Study
- **August 5, 2026**: Date of publication of the Request for Qualifications (RFQ) for a Technical Consultant to assist the IWRB with the development of the Plan of Study
- **September 17, 2026**: RFQ submission deadline
- **October 28 – 30, 2026:** RFQ **i**nterviews held with selected consulting teams
- **November 16, 2026:** Tentative date to begin contract negotiations
- **December 2026 – May 2027:** IWRB and BOR, with support of the technical consultant, to prepare and complete the Plan of Study, including the Technical Sufficiency Review, Communication and Outreach Plan, and Memorandum of Agreement

Status:

Planning & Projects Staff have continued working with USBR Staff on the Plan of Study, Communications and Outreach Plan, and Technical Sufficiency Review Plan. The Request for Qualifications selection committee reviewed and selected potential firms to work with the IWRB through the duration of the Basin Study. Interviews were held with these technical consultants in late October, with contract negotiations scheduled to begin in the coming weeks.

Attachment(s):

- *Resolution to Authorize Spending for the Upper Snake River Basin Study*

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF THE UPPER SNAKE RIVER BASIN STUDY	RESOLUTION TO APPROVE FUNDING FOR UPPER SNAKE RIVER BASIN STUDY ACTIVITIES

WHEREAS, water users in the Upper Snake River Basin (Upper Snake) expressed interest in pursuing a Basin Study through the U.S. Bureau of Reclamation's (BOR) WaterSmart program to address water supply and management needs; and

WHEREAS, on September 12, 2025, representatives from BOR and the Minidoka Irrigation District discussed the program and presented a request that the Idaho Water Resource Board (IWRB) pursue a Basin Study in the Upper Snake (Basin Study) on behalf of the State and water users; and

WHEREAS, the IWRB submitted a Letter of Interest (LOI) to initiate the Basin Study to BOR's WaterSmart program on October 14, 2025; and

WHEREAS, on November 21, 2025, BOR approved the IWRB's LOI and invited submission of a full proposal, and the IWRB adopted Resolution No. 51-2025, committing $3,000,000 from the Water Management Account for the Basin Study; and

WHEREAS, the IWRB submitted a full proposal to the BOR WaterSmart program on February 13, 2026, in accordance with program deadlines; and

WHEREAS, on June 3, 2026, the IWRB was selected by BOR for development of a WaterSmart program Plan of Study; and

WHEREAS, implementation of the Basin Study will require a combination of technical consulting services, project management, stakeholder coordination and facilitation, technical analyses, and other activities necessary to develop and complete the Basin Study; and

NOW THEREFORE BE IT RESOLVED that the IWRB authorizes expenditure of up to $3,000,000 from the Water Management Account for activities associated with the development and implementation of the Basin Study.

NOW THEREFORE BE IT FURTHER RESOLVED that the IWRB authorizes its chairman or designee, to negotiate and execute the necessary agreements or contracts for the purpose of this resolution.

DATED this 12th day of November 2026.

_____

JEFF RAYBOULD, Chairman
Idaho Water Resource Board

ATTEST _____
DEAN STEVENSON, Secretary

MEMO

To: Idaho Water Resource Board

From: Planning & Projects Bureau Staff

Date: November 5, 2026

Subject: American Rescue Plan Act Project Update

INFORMATIONAL ITEM

IDWR Senior Water Resources Planner Neeley Miller will provide a presentation update on the American Rescue Plan Act Projects.

Attachments:

- *PowerPoint Presentation*



American Rescue Plan Act (ARPA) Project Updates

11/12/2026

1

Category	Project	STATUS	ARPA Funding
Major Infrastructure Projects	Anderson Ranch Dam Raise (est. completion by 2031)	On-going	$118,595,317
	Mountain Home Air Force Base Water Resilience Project	Complete	$31,391,384
	Idaho Power - American Falls Spillway Rehab (est. completion by 2032)	On-going	$12,486,758
	Boise Project Board of Control - New York Canal Lining (est. completion 2030)	On-going	$50,000,000
	LOID - Lower Clearwater Exchange Project (est. completion TBD)	On-going	$28,000,000

2

Category	Project	STATUS	ARPA Funding
Major ESPA Recharge Infrastructure Projects	Butte & Market Lake - Recharge Wells	Complete	$529,595
	Enterprize Canal Company - 55th Road	Complete	$1,699,990
	Enterprize Canal Company - Swan Highway Project	Complete	$1,865,285
	Minidoka Irrigation District - Goyne Sump Recharge Project	On-going	$430,931
	New Sweden Irrigation District - Head of the Basalt Recharge Site	Complete	$1,195,940
	Progressive Irrigation District - South Fork Hwy Project	Complete	$3,631,002
	Southwest Irrigation District - Big Sky & Murtaugh Injection Well	Complete	$173,795

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ARPA Funding:
$118,595,317

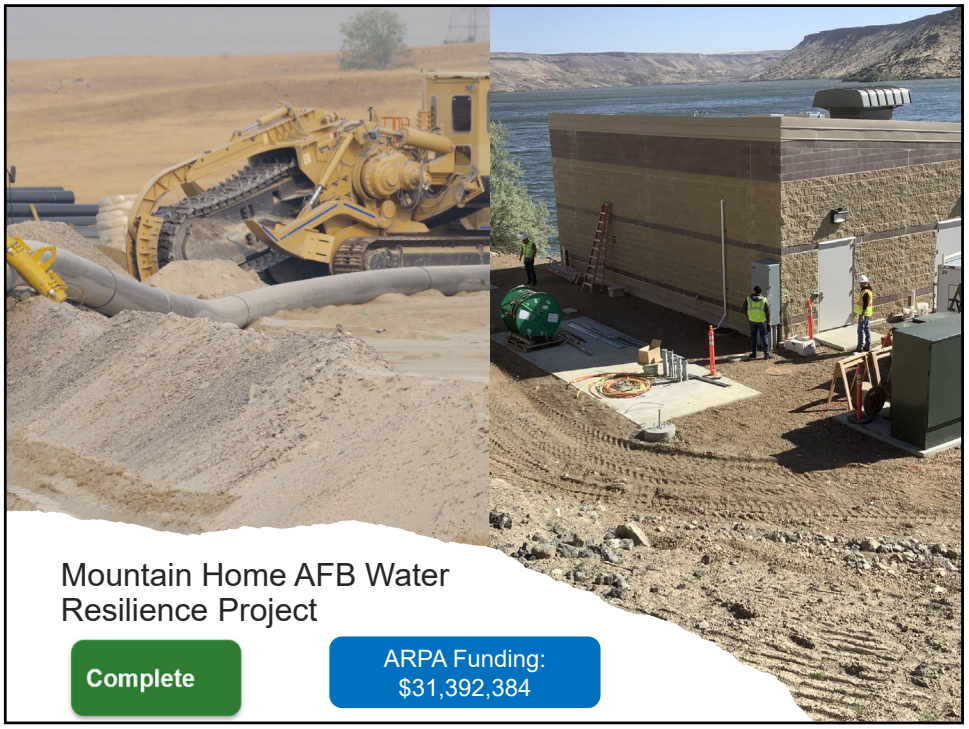
On-going



Anderson Dam Raise Project



5



Mountain Home AFB Water Resilience Project

Complete

ARPA Funding:
$31,392,384

6



Enterprize Canal Company - 55th Road Recharge Site

ARPA Funding: $1,699,990.29

Complete

7

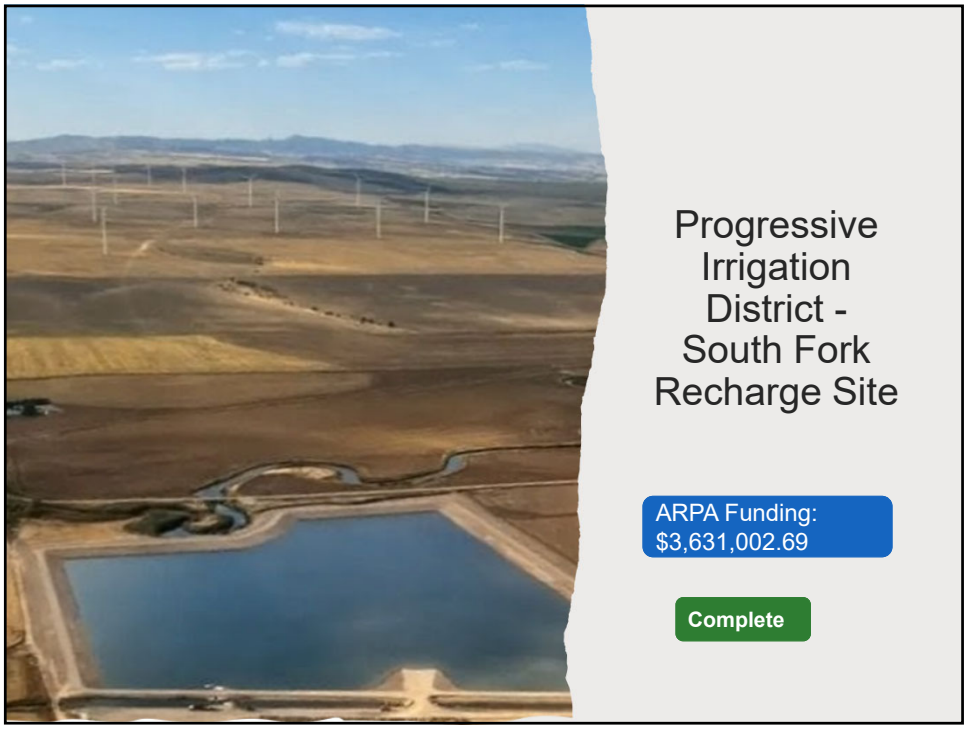


New Sweden Irrigation District - Head of the Basalt Recharge Site

ARPA Funding: $1,195,940.45

Complete

8



Progressive Irrigation District - South Fork Recharge Site

ARPA Funding: $3,631,002.69

Complete

9



Butte & Market Lake – Injection Wells/Recharge Site

Complete

ARPA Funding: $529,595.29

10



Complete

ARPA Funding: $1,865,285.73

Enterprize Canal Company Swan Highway Project

11



On-going

ARPA Funding: $430,931.27

Minidoka Irrigation District – Goyne Sump Recharge Site

12





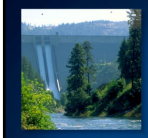
Southwest Irrigation District – Big Sky and Murtaugh Recharge Site

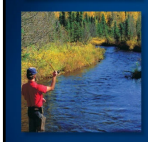
Complete

ARPA Funding: $173,795.00

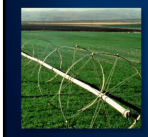
13

IDAHO Water Resource Board









Thank you. Questions?

Additional ARPA updates:

- Update on American Falls Spillway Project
- Update on New York Canal Lining
- Update on Lower Clearwater Exchange Project

14

MEMO

To: Idaho Water Resource Board

From: Neeley Miller, IDWR Senior Water Resource Planner

Date: November 5, 2026

Subject: Nampa Drain Recharge and Floodwater Storage Study

INFORMATIONAL ITEM

Representatives from the City of Nampa will provide a presentation on the Nampa Drain Recharge and Floodwater Storage Study.

Attachment(s):

- *Summary Report: Drain Recharge and Floodwater Study*



Summary Report

Drain Recharge and Floodwater Study

Revision 3

Nampa, Idaho

October 22, 2026

Drain Recharge and Floodwater Study

The City of Nampa is taking proactive steps to lead the sustainable management of water both within city limits and throughout the Treasure Valley, with goals of improving water efficiency and resiliency. The City of Nampa's Drain Recharge and Floodwater Storage Study evaluates conceptual opportunities for floodwater storage, recharge, and drain flow improvement in the Treasure Valley.

Proactive Regional Management

The study identifies collaborative water management solutions (potential projects) that could benefit multiple stakeholders while reducing the potential for future regulatory intervention. The City of Nampa realizes that addressing water supply challenges proactively gives water users throughout the Treasure Valley the best opportunity to avoid future conflicts in the face of emerging water supply challenges associated with growing municipal water demands, declining aquifer levels, and diminished Boise River return flows. To support this objective, the study was intended to foster regional discussion and collaboration among irrigation districts, municipalities, and other water users, and explore partnership and facility-sharing opportunities.

By identifying feasible storage, recharge, and operational strategies, and initiating coordination on these opportunities, the City of Nampa hopes to position itself to lead and support long-term water reliability while contributing to broader regional water management goals.

Evaluate Practical Water Supply Solutions

The study evaluates opportunities to leverage available Boise River natural flows, flood flows, and return flows to address water supply challenges. Additionally, the study prioritizes using existing infrastructure and publicly owned lands to identify high-value projects, identify and evaluate potential concepts that could support long-term water resiliency and regional water management goals, and develop associated concept designs.

Regional Coordination and Partnerships

The study also emphasizes stakeholder coordination and respect for existing water management infrastructure. The nature of regional water supply projects, such as those contemplated in this study, require multiple stakeholders for evaluation, implementation, and maintenance. The benefits from these projects will extend beyond the City of Nampa. For this study, concept evaluations involving canals, drains, laterals, reservoirs, and other conveyance facilities were only developed where property owners have provided consent for inclusion of their infrastructure. These discussions initiated coordination on several potential projects described in this report. Many potential opportunities depend on infrastructure, land, water rights, and operational decisions managed by multiple entities across the Treasure Valley. As a result, the study was designed not only to identify project concepts for Nampa, but also to evaluate opportunities for partnership, shared benefit, and coordinated regional water management.

This report incorporates studies of lands adjacent to irrigation facilities. However, no specific permissions have been granted to use irrigation facilities to convey water at the time of this report. Future agreements will need to be developed for any project that requires access, easement, or coordination with irrigation entities and their facilities.

IWRB Support

This study was funded through a grant provided by the Idaho Water Resource Board (IWRB). Completing this work required reliance on existing studies, publicly available data sets, stakeholder input, and previously published technical resources to evaluate opportunities and constraints. As many of these data sets were developed by the Idaho Department of Water Resources (IDWR) and IWRB, this study builds on the State of Idaho's ongoing efforts to address Treasure Valley water supply challenges.

Summary of Tasks

The study was completed in three phases. Task 1 evaluated available water supplies and identified potential opportunities for beneficial use of Boise River natural flows, tributary drain flows, and flood control releases. Task 2 identified and evaluated potential storage, recharge, and operational improvement sites. Finally, Task 3 advanced five concepts into appraisal-level conceptual designs and planning-level cost estimates.

Task 1: Water Supply Opportunities Evaluation

Task 1 evaluated potential surface water supplies, focusing on Boise River natural flows, tributary drain flows, and flood control releases. Analysis of IWRB's *Treasure Valley Managed Recharge Feasibility Study* found that flood control releases from the Boise River represent the largest source of available water for future projects. Although these releases are highly variable from year to year and generally occur during late winter and spring runoff periods, they can provide substantial volumes of water that would otherwise pass through the system unused. Historical analysis indicated that flood control releases occur roughly 7 out of every 10 years. The Boise River's 20-year median flood flow release volume is 160 KAF, which represents the primary opportunity for operational storage, groundwater recharge, and other beneficial uses. During flood release years, the volume of water can range from 12.5 KAF to almost 2,000 KAF.

Additionally, the analysis found that limited quantities of natural flow are available upstream of Middleton (between 10 and 100 cubic feet per second) during the non-irrigation season, while larger quantities are available farther downstream throughout much of the year. However, the practical use of these flows is constrained primarily by geography because these flows return to the river downstream of canals that service the Nampa area.

Tributary drains and return flow systems were evaluated as additional opportunities. While these systems generally do not provide sufficient volume to support large-scale storage projects, they may support localized operational improvements, flow regulation projects, water reuse efforts, and groundwater recharge opportunities. The evaluation also highlighted the importance of maintaining return flows that support downstream water rights and irrigation operations.

The findings established that flood control releases and selected natural flow opportunities may provide meaningful water management benefits when paired with suitable infrastructure and regional partnerships.

The Task 1 technical memo is included as Appendix A.

Task 2: Identification of Suitability of Potential Storage Sites

Task 2 focused on identifying and evaluating potential sites capable of supporting surface storage, groundwater recharge, and operational water management projects, using the water sources identified in Task 1. The evaluation considered existing infrastructure, land ownership, site accessibility, recharge potential, operational feasibility, and stakeholder interests to identify opportunities that could provide benefits to the City of Nampa and the broader Treasure Valley.

Stakeholder coordination was a critical component of Task 2. Discussions with various water agencies and local governmental entities helped refine project concepts, identify constraints, and evaluate opportunities for partnership. These discussions demonstrated that many of the most promising opportunities would require regional coordination and shared participation among multiple organizations.

A broad range of concepts were evaluated, including gravel pit storage, park ponds, upstream reservoirs, infiltration basins, managed aquifer recharge, drain flow regulation, and groundwater to surface water conversions to accomplish in-lieu recharge. Site screening incorporated IWRB's recharge suitability mapping, conveyance infrastructure and stakeholder input from the following entities:

- Water District 63
- Pioneer Irrigation District
- Nampa & Meridian Irrigation District
- Boise Project Board of Control
- Treasure Valley Public Works Directors
- Veolia Water
- Idaho Power
- City of Boise
- Ada County
- Canyon County Commissioners

The evaluation found that large-scale surface storage opportunities are limited. Gravel pits along the Boise River and tributary drains offer limited volume. Challenges associated with seepage, groundwater interaction, land acquisition, and cost significantly limit their practicality as long-term storage facilities. Similarly, concepts involving large upstream reservoirs and large pumping projects face substantial infrastructure, operational, and financial challenges.

Groundwater recharge emerged as one of the most promising opportunities. Several sites located adjacent to existing conveyance infrastructure were identified within suitable recharge areas (based on IWRB recharge suitability mapping). In particular, the City of Boise's Murgoitio and Pearl Jensen future park site properties were identified as possible locations for infiltration-based recharge due to their proximity to the New York Canal, favorable recharge potential, and compatibility with future park development. However, recharge opportunities are constrained by water availability and limited to a brief window of time during flood releases when canals are operating and have excess capacity. If water can be acquired outside of the floodwater season, much greater recharge benefits could be realized through longer operating periods.

The evaluation also identified localized opportunities to integrate water management features into municipal parks. Park ponds and recharge facilities may provide operational flexibility, groundwater recharge, habitat enhancement, and recreational amenities while supporting broader regional water management goals. Although individual projects are relatively small in scale, distributed implementation may provide cumulative benefits over time.

Operational improvements emerged as another important opportunity. Drain flow regulation concepts, particularly along Fifteenmile Creek, received strong stakeholder interest due to their potential to stabilize return flows, improve operational reliability, and support regional water management objectives.

In-lieu recharge was also identified as a potentially valuable strategy for reducing groundwater pumping by using available surface water to meet municipal irrigation demands that would otherwise be supplied by groundwater wells. By substituting surface water deliveries for groundwater pumping during periods when floodwater is available and can be delivered through existing irrigation infrastructure, the City of Nampa can leave water in the aquifer, effectively providing a recharge benefit without constructing dedicated recharge facilities. Like other recharge opportunities, in-lieu recharge is constrained by water availability.

The Task 2 technical memo is included as Appendix B.

Task 3: Conceptual Designs and Costs

Task 3 advanced five concepts into appraisal-level conceptual designs and planning-level cost evaluations. These concepts include Fifteenmile Creek Drain Flow Regulation, Lake Ethel Reestablishment at Lakeview Park, Murgoitio Park Site Regional Managed Aquifer Recharge, Pearl Jensen Park Site Managed Aquifer Recharge, and an In-Lieu Recharge operational strategy. Conceptual designs were developed to establish general form and function, identify infrastructure requirements, and evaluate planning-level implementation considerations. Concept drawings and Association for the Advancement of Cost Engineering (AACE) Class 5 cost estimates were prepared for each concept to provide an approximate range of costs for the concept project types. A summary of concepts and costs are presented in Table 1.

The study found that opportunities for large, regional-scale recharge and storage projects are limited by site availability, infrastructure constraints, operational complexity, and uncertainty regarding long-term feasibility. However, strategically located recharge facilities may provide meaningful groundwater replenishment benefits when coordinated with existing conveyance systems and regional partners. The study also demonstrated that smaller-scale projects integrated into public parks may provide multiple benefits, including groundwater recharge, drain flow regulation, habitat enhancement, and public amenities. While individual projects may provide modest hydraulic benefits, a distributed network of projects could collectively contribute to regional water management objectives.

The evaluation further identified in-lieu recharge as a potentially valuable operational strategy. By using available surface water during periods of flood control releases, municipalities may be able to reduce groundwater pumping demands without significant capital investment. Although implementation would require coordination among municipalities, irrigation districts, water users, and regulatory agencies, this approach represents one of the most cost-effective opportunities identified during the study.

The Task 3 technical memo is included as Appendix C.

Table 1. Summary of project concepts and costs.

PROJECT TYPE	EXAMPLE PROJECT	WATER BENEFIT	ADDITIONAL BENEFIT	COST
RIVERSIDE GRAVEL PITS FOR REGIONAL DRAIN FLOW REGULATION Drain flow regulation smooths out fluctuations in irrigation return flows throughout the day. Reducing these oscillations creates more consistent downstream flows, which can support more reliable water management and reduce stress on canal and drain systems. The water delivered through canals that divert drain flow is used by the City of Nampa and users throughout the region.	Fifteenmile Creek Drain Regulation Project Project footprint: 70 acres	**7,200 AC-FT**	**WATER QUALITY** Regulating basins can settle out sediment and sediment-bound phosphorus before returning to the river.	**$815,000** $500K - 1.5M **~$110/AC-FT**
PARK AMENITY PONDS FOR FLOW REGULATION Regulating ponds are incorporated into public parks to improve local canal and drain operations to benefit regional water users, including the City of Nampa. These features may also provide opportunities for groundwater recharge.	Lake Ethel Reestablishment at Lakeview Park Project footprint: 3.5 acres	**100 AC-FT**	**WATER QUALITY & PUBLIC AMENITY** Large ponds can serve as settling basins and provide beautification and recreation opportunities.	**$6,441,000** $3M - $12M Most of project cost associated with weir design. **~$64,410/AC-FT**
REGIONAL MANAGED AQUIFER RECHARGE Basins allow surface water to infiltrate into the groundwater system at sites with favorable conditions. Projects are typically located near conveyance infrastructure and are intended to support long-term groundwater replenishment.	Murgoitio Park Site Regional Managed Aquifer Recharge Project footprint: 20 acres	**1,800 AC-FT** Potential additional 10,800 ac-ft benefit, pending water availability.		**$14,463,000** $7M - $30M Most of project cost associated with excavation. **~$8,000/AC-FT**
PARK AMENITY PONDS FOR RECHARGE Small-scale recharge basins or wetlands are incorporated into park sites to provide local groundwater replenishment.	Pearl Jensen Park Site Managed Aquifer Recharge Project footprint: 4.3 acres	**300 AC-FT** Potential additional 1,800 ac-ft benefit, pending water availability.	**HABITAT & PUBLIC AMENITY** Small recharge basins may provide wetland habitat and can be incorporated into larger water features and park design.	**$2,013,000** $1M - $4M **~$6,700/AC-FT**
OPERATIONAL IMPROVEMENTS FOR IN-LIEU RECHARGE Replacing groundwater use with available surface water to meet irrigation or municipal demands leaves water in the aquifer and supports long-term groundwater sustainability.	City of Nampa Groundwater to Surface Water Conversion	**400 - 800 AC-FT** Water benefit varies with annual pumping volumes during April startup and water availability timing challenges.	**ENERGY SAVINGS** Financial savings from reduced energy use can offset costs of surface water acquisition and delivery.	**$47,000** $25K - $100K Cost varies with energy savings and irrigation agreements. **~$60-120/AC-FT**

AC-FT = acre-feet

Cost estimates do not include land acquisition

Conclusions and Next Steps

The study demonstrated the importance of regional collaboration. Many of the opportunities identified extend beyond the City of Nampa's jurisdiction and would require partnerships with irrigation districts, municipalities, state agencies, and other stakeholders. Meaningful opportunities exist to improve water resiliency; however, successful implementation of many of the project concepts depends on continued coordination among regional water users and infrastructure owners.

Continued collaboration is necessary to identify additional opportunities, refine project concepts, evaluate feasibility, and pursue implementation. Opportunities for large regional-scale projects appear limited, emphasizing the importance of identifying multiple complementary projects and operational strategies that can collectively contribute to regional water management objectives.

The concepts presented in this report are intended to support future planning efforts and comparative evaluation rather than final engineering design. Additional feasibility studies, geotechnical investigations, hydraulic analyses, operational coordination, and permitting review are required before advancing any concept toward implementation. Future efforts would benefit from focusing on advancing partnerships and continuing regional discussions regarding shared infrastructure and collaborative water management solutions.

Appendix A – Task 1 Technical Memo: Water Supply Opportunities

October 2, 2026

Memo

Date:	Wednesday, May 07, 2025
Project:	Drain Recharge and Floodwater Storage Study
To:	City of Nampa - Garrett Potts, PE; Jeff Barnes, PE; and Tom Points, PE
From:	HDR Engineering- Jason Mick, EIT; John Roldan, PE; Mike Schubert, PE
Subject:	Water Supply Opportunities

1 Introduction

This memorandum presents the findings and evaluations completed under Task 1: Water Supply Opportunities as part of the Drain Recharge and Floodwater Storage Study commissioned by the City of Nampa (City). The purpose of the study is to assess the potential for capturing and storing surface water, focusing on local drains and the Boise River, for direct use and/or aquifer recharge.

Task 1 specifically focuses on identifying and estimating the volume of water that may be available for these purposes. Emphasis is placed on evaluating unappropriated surface water sources along the lower Boise River and its drains. This work serves as a foundational step for evaluating resource management strategies that support long-term water sustainability in the region.

2 Objective

The objective of Task 1 is to identify and quantify potential water supplies available for capture and storage to support the City's water management goals and address emerging regional water challenges. Specifically, this task aims to answer the following question:

Which unappropriated surface water sources along the Boise River are available in sufficient volume and timing to support future direct use or groundwater recharge?

This objective includes estimating volumes from Boise River flows and tributary drain flows, identifying seasonal and interannual variability, and assessing the relative availability of supply based on water rights and system constraints.

3 Background

The City and the surrounding Treasure Valley region are supported by an extensive network of irrigation infrastructure, including canals and drains that manage irrigation deliveries and collect runoff. Within the vicinity of Nampa, Boise River tributaries such as Indian Creek, Mason Creek, and Fifteenmile Creek play a central role in the conveyance of surface water.

Broad-scale assessments such as the Idaho Water Resource Board's (IWRB) *Treasure Valley Managed Recharge Feasibility Study* (2020) provide valuable insight into regional water availability and potential managed recharge strategies. This information is foundational to assessing

opportunities within Nampa's jurisdiction and surrounding areas, focusing on flows from the Boise River to serve as supplemental water sources for recharge and/or direct use.

The IWRB study quantified available Boise River natural flow, defined as flow that exceeds in-priority diversion demands computed by the Water Rights Accounting (WRA) program administered by the Idaho Department of Water Resources (IDWR). The WRA program determines natural flow by accounting for measured river flows, diversions, reservoir content changes, and evaporation, to estimate the flow that would exist in the absence of storage and diversions. This modeled flow serves as the basis for distributing water to right-holders in priority order. When natural flow exceeds active diversion demands, the surplus is identified as "remaining natural flow" and is available to satisfy existing downstream water rights and for appropriation to new water rights, including potential storage and/or aquifer recharge. Conversely, when demand surpasses natural flow, all water is allocated to senior rights, and no supply remains for junior or new users. The WRA program output data was used in the IWRB study to determine the location-specific quantities of natural flow potentially available for new storage and/or recharge rights. The Boise River availability analysis from the IWRB study (Figure 1) revealed that downstream reaches consistently experienced year-round water availability, while upstream reaches were limited, with availability typically confined to winter and spring runoff periods and dropping to near zero in summer and early fall.

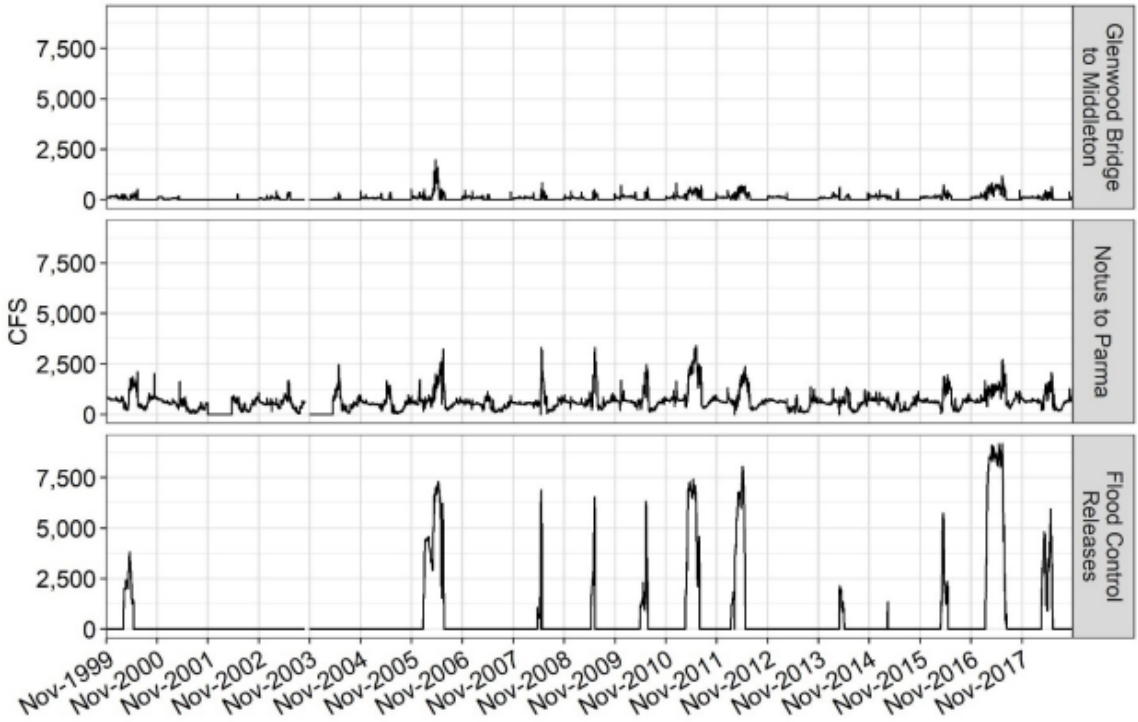


Figure 1. Boise Basin available flow hydrographs (IWRB 2020)

In addition to natural flow, the IWRB study separately evaluated the availability of flood control releases (Figure 1), which occur during winter and spring runoff periods when reservoir water is released to make space for additional inflows. Releases made prior to April 1 typically pass through the system unused, while releases after April 1 that exceed diversion demands similarly continue downstream unused. IDWR allows diversion of water during federal flood control operations, provided the water right is in priority. The IWRB study quantified flood control release availability as

flows in excess of winter maintenance flows and diversion demand during flood control operations. While flood control releases represent the largest flow rates of available water, they are variable year to year and largely confined to early- to mid-spring.

Water District 63 (WD63) manages water delivery in the Boise River Basin and could provide additional flow and delivery data. As part of this project, targeted outreach is being conducted with WD63 and other local water managers, including the Boise Project Board of Control, Nampa and Meridian Irrigation District, and Pioneer Irrigation District to verify findings, identify opportunities, and refine understanding of surface water availability for direct use and recharge.

4 Anticipated Uses

The City's primary focus is to identify opportunities within city boundaries; however, broader applications serving the greater Treasure Valley water community would also support the City's interests.

An opportunity under consideration is capturing and storing water to extend the City's irrigation season by 1 to 2 weeks, which would provide tangible benefits for the City's residents by increasing the resilience of the City's irrigation supply during late-season periods of high demand. Pursuing this opportunity would require partnerships with local irrigation districts and other water management agencies.

Another potential use involves stabilizing diurnal fluctuations in drain flows (Figure 2). By capturing excess water during peak flow periods, storing it, and releasing it during low-flow periods, storage operations could help smooth out daily flow variability within the drain systems. This would result in more consistent, higher-magnitude flows into the lower Boise River to support senior water right holders downstream of the City, which has been identified as an emerging regional water challenge.

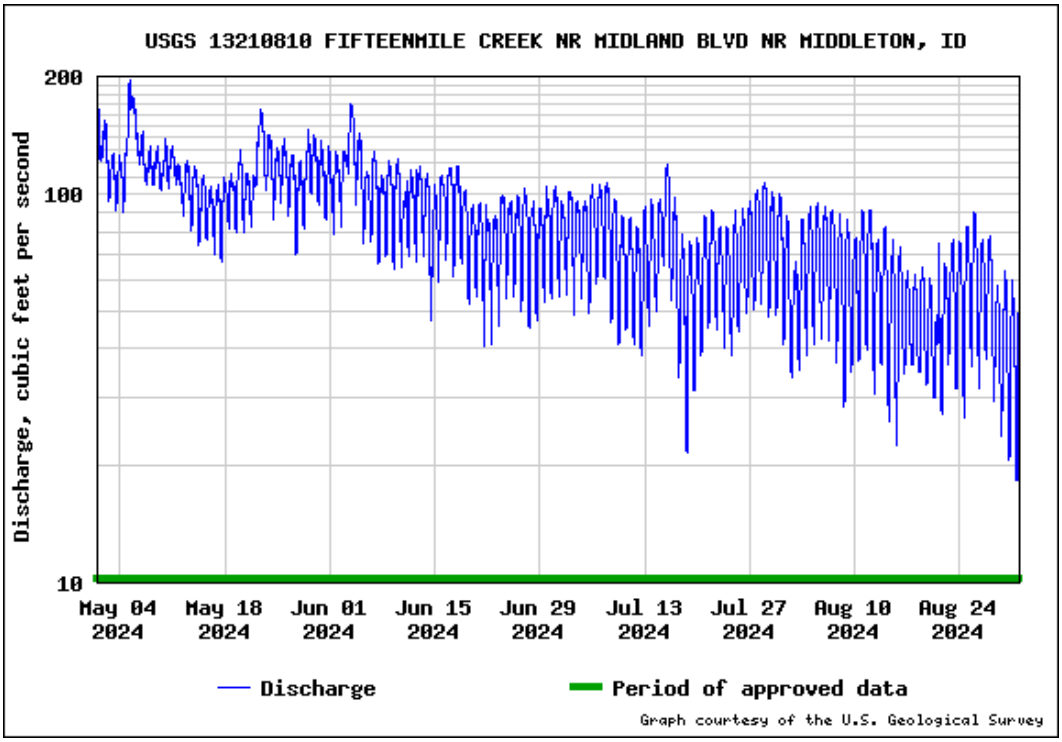


Figure 2. Daily oscillations of flow in Fifteenmile Creek, May 1 - August 31, 2024 (USGS)

Aquifer recharge represents an additional opportunity for beneficial use of surface water. By directing captured flood flows or surplus water into managed recharge facilities, the City could supplement groundwater supplies that support both municipal and irrigation demands over the long term, contributing to regional groundwater sustainability goals. Aquifer recharge can be accomplished through surface infiltration or injection through wells. Surface infiltration is typically most cost effective because water treatment is unnecessary, but it typically requires a significant land area. Injection through wells can be accomplished on relatively small sites but requires investment in water treatment to prevent well plugging or groundwater quality degradation. Recharge facilities must be located where recharge is beneficial for both water supply and local land use. The Treasure Valley Groundwater Flow Model, completed in 2023, can be used to evaluate the timing and magnitude of impacts of aquifer recharge on both groundwater levels and stream gains.

Finally, stored flood water may also be used to support non-potable municipal applications, such as park and landscape irrigation or industrial processes. This would provide a flexible supply option for meeting local water demands without drawing from potable water reserves.

The analysis of storage and recharge site locations (Task 2) will be a critical factor in determining which potential uses are most practical for the City and the broader Treasure Valley. For example, preliminary assessments of local storage availability suggest that capturing and storing water in riverside gravel pits specifically to extend the irrigation season is likely impractical due to limitations in available storage capacity. As the study advances into site-specific evaluations, these constraints will be further defined to guide the prioritization of feasible water use strategies.

5 Evaluation of Available Water

The IWRB study considered both natural flow and flood flow releases along the Boise River. Natural flow availability varies significantly by river reach, with increasing availability in downstream reaches. Natural flows remain limited in upstream reaches, with median flow values of 0 cubic feet per second (cfs), indicating that supply is highly variable and largely dependent on hydrologic conditions and system operations. The Boise River between Eagle Road and Middleton has limited quantities (10 to 100 cfs) of natural flow available from November through March, with available flows increasing downstream. Between Middleton and Parma, significant quantities (>100 cfs) of Boise River water are available much of the year, with available flows likewise increasing downstream.

Flood flow releases provide an additional high-magnitude, short-duration source of water during federal flood control operations. While these releases are highly variable from year to year and are largely confined to the spring season, they represent the largest volumes of available water in the basin. Flood control releases occurred in 14 out of the past 20 years (Table 1), with additional releases occurring in the 2025 water year. The median volume of flood flows during this recent 20-year period was approximately 158 thousand acre-feet (KAF) compared to the median of 160 KAF between 2000 and 2019 (Table 2). Median volume estimates include years with no flood control releases (i.e., null values), representing the median annual volume that can be expected across all years. When non-release years are excluded, the median increases to 486.5 KAF (Table 1), reflecting the median volume of water that can be expected specifically during years when flood releases occur.

Table 1. Flood Risk Management (FRM) water volume estimates, 2005-2024

Water Year	FRM	Est. Days of FRM	Est. FRM Volume [KAF]
2005	No	0	0
2006	Yes	155	1211
2007	No	0	0
2008	Yes	34	131
2009	Yes	47	185
2010	Yes	19	103
2011	Yes	113	862
2012	Yes	134	878
2013	No	0	0
2014	Yes	34	65
2015	No	0	0
2016	Yes	86	419
2017	Yes	143	1957
2018	Yes	94	554
2019	Yes	117	780
2020	No	0	0
2021	No	0	0
2022	Yes	6	12.5
2023	Yes	80	675
2024	Yes	66	295

FRM volumes for 2005-2015 were estimated using IDWR Diversion Data for the Boise River near Middleton, minus minimum flows and Bureau of Reclamation flow augmentation. FRM volumes for 2016-2024 were provided by the WD63 watermaster using data from the Army Corps of Engineers.

Table 2. Water Availability Summary, 2000-2019 (IWRB, 2020)

Water Source	Location	Rate (cfs)			Volume (Annual KAF)			Period of Availability
		Min	Median	Max	Min	Median	Max	
Natural flow	Lucky Peak to Glenwood Bridge	0	0	631	0	14	84	Sep–Apr
	Glenwood Bridge to Middleton	0	0	1,956	0	50	180	Sep–Apr
	Middleton to Caldwell	0	230	1,997	0	215	436	Jan–Dec
	Caldwell to Notus	0	379	2,429	0	294	558	Jan–Dec
	Notus to Parma	0	589	3,397	0	431	793	Jan–Dec
Flood flow releases	Lucky Peak to Parma	0	0	9,170	0	160	2,113	Mar–Jun

Recent consumptive water right permits, approved between 2020 and present, reduce the available flows shown in Table 2. These appropriations reflect ongoing growth in regional demand that must be considered when estimating water availability for new storage and recharge projects.

Natural flows in the lower reaches of the Boise River are a viable water supply option according to the IWRB study. However, on June 30, 2022, WD63 was unable to meet the demand of some senior water rights downstream of Caldwell due to low return flows from the drains. The water users diverting from downstream reaches of the Boise River hold senior-priority water rights that depend on return flows from tributary drains to supplement low river flows. Capturing drain flows upstream of these users would reduce the volume of water available to replenish these lower reaches, potentially injuring senior water rights. Such actions could result in contention among existing water right holders within the Treasure Valley, particularly where downstream users rely on these return flows to maintain their entitlements. Accordingly, any consideration of using drain flows and/or Boise River natural flows for storage or recharge will require careful evaluation of actual water availability and existing water rights. Assessment of downstream impacts and coordination with WD63, water rights administrators, and other stakeholders is essential before pursuing drain water as a supply option.

The headwaters of Indian Creek were identified as a potential source of available water because Indian Creek flows directly through Nampa. However, discussions with the City indicated that upper Indian Creek does not produce sufficient or reliable quantities of water to be considered a practical source for their needs. Given the limited yield and operational impracticalities, this source has been excluded from further consideration.

Pending water right applications on file with IDWR indicate large-scale planned projects are being considered within the Boise River Basin that could significantly impact future flood flow availability. Participating in these large-scale projects (e.g., Anderson Ranch Dam Raise, Cat Creek Energy & Water Project) could help support the City's water resource management goals.

Discussions with WD63 and other stakeholders will further inform this analysis, clarifying anticipated changes in water administration, diversion priorities, and operational constraints that may affect the timing and magnitude of flows available for diversion and storage. These findings will be incorporated into the final report.

6 Conclusion

Two categories of unappropriated surface water are available from the Boise River and tributary drains for future direct use and aquifer recharge uses: natural flow and flood control releases. Pending further discussions with WD63, drains and Boise River natural flows may be a viable option for increasing City water supply during limited periods of the year.

Natural flow is available in limited quantities upstream of Middleton during the non-irrigation season and in significant quantities downstream of Middleton for most of the year. Although quantities upstream of Middleton are limited, they are sufficient to support the City's non-irrigation season water demands. Downstream of Middleton, Boise River natural flows are sufficient most days of the year to offset Nampa daily groundwater pumping for both domestic and irrigation uses. The availability of these natural flows for direct use or aquifer recharge presents a water supply opportunity if municipal groundwater pumping is curtailed in the future.

Capture and use of flood control releases from the Boise River is a potential source of high-volume water supply to Nampa. These flows, which are generally available during late winter and spring, present a strategic opportunity to divert and store (or recharge) water during flood release years. While preliminary analysis suggests that storing this water specifically to extend the irrigation season is impractical, other beneficial uses remain under consideration. These include aquifer recharge, stabilizing drain flows, priming canal systems at the onset of the irrigation season, and supporting non-potable municipal uses, depending on the configuration and capacity of future storage facilities.

The findings of this task help identify potential source water availability and location, which will support ongoing efforts to evaluate the City's storage and water use options. Further discussion and coordination about water conveyance, storage, and use will be required to determine the most appropriate water supply source. Conversations with potential partners (such as irrigation districts, WD63, and others) should address operational considerations, conveyance agreements, water right constraints, and storage site suitability.

7 References

Idaho Water Resource Board (IWRB). 2020. *Treasure Valley Managed Recharge Feasibility Study.* Prepared by Brown and Caldwell. March 2020.

Appendix B – Task 2 Technical Memo: Identification and Suitability of Potential Storage Sites

October 2, 2026

Memo

Date:	Wednesday, April 08, 2026
Project:	Drain Recharge and Floodwater Storage Study
To:	Mr. Tom Points, PE
From:	Jason Mick, EIT; John Roldan, PE; Mike Schubert, PE
Subject:	Identification and Suitability of Potential Storage Sites

1 Introduction

This memorandum summarizes the work completed under Task 2: Identification and Suitability of Potential Storage Sites as part of the Drain Recharge and Floodwater Storage Study commissioned by the City of Nampa. Building on the findings of Task 1, which identified seasonal water availability primarily from Boise River flood releases and limited natural flows, this task focuses on identifying and evaluating potential locations for surface storage and groundwater recharge.

The evaluation considered both constructed and natural features across the Treasure Valley, with a preference for sites that support the City of Nampa's goals for local storage, regional coordination, and long-term water supply resilience. Sites were assessed for their suitability based on location, infrastructure connectivity, land ownership, hydrologic conditions, and feasibility for either surface storage or infiltration-based groundwater recharge.

2 Objective

The objective of Task 2 is to identify, screen, and evaluate potential sites for water storage and aquifer recharge that can capture seasonal surplus flows identified in Task 1. Specifically, this task seeks to answer the following question:

> *Which locations within or near the City of Nampa are best suited for the storage or groundwater infiltration of available floodwater, and how do these sites compare based on technical, logistical, and operational criteria?*

The evaluation considers a range of candidate sites, both favorable and unfavorable, to develop a broad understanding of opportunities and constraints. Storage options include both surface storage (e.g., mined gravel pits, municipal park ponds, upstream reservoirs) and groundwater recharge via infiltration at upgradient sites. The findings from this task will inform conceptual design and cost estimation efforts to be completed in Task 3.

3 Methodology

The identification and evaluation of potential storage and groundwater recharge sites in Task 2 builds directly on the findings of Task 1: Water Supply Opportunities, which assessed the seasonal availability, quantity, and location of surface water supplies across the Treasure Valley. Task 1

concluded that water releases during flood-control and water-regulation structures on the Boise River upstream of Nampa represent the most viable opportunities for new water supply development, with limited potential for reliable natural flow or drain water diversions. These findings inform both the spatial focus and the hydrologic constraints applied during site screening in Task 2.

The central objective of Task 2 is to evaluate sites for either surface water storage or infiltration-based recharge, where water is percolated through the soil surface into the aquifer system, rather than injected directly through wells. Recharge sites were identified using two primary characteristics:

- Hydraulic feasibility: The recharge potential of the site, determined by the Idaho Water Resource Board's (IWRB) *Treasure Valley Managed Recharge Feasibility Study* (2020) (Figure 1).
- Proximity to conveyance systems: The site's ability to receive water using existing infrastructure with permission from managing agencies.

These characteristics were used to qualitatively rank recharge site suitability, while surface storage opportunities were considered primarily based on volume potential and delivery feasibility. Throughout the evaluation, HDR facilitated meetings with the City of Nampa and other key stakeholders to discuss ownership and operational considerations prior to recommending sites for further study.

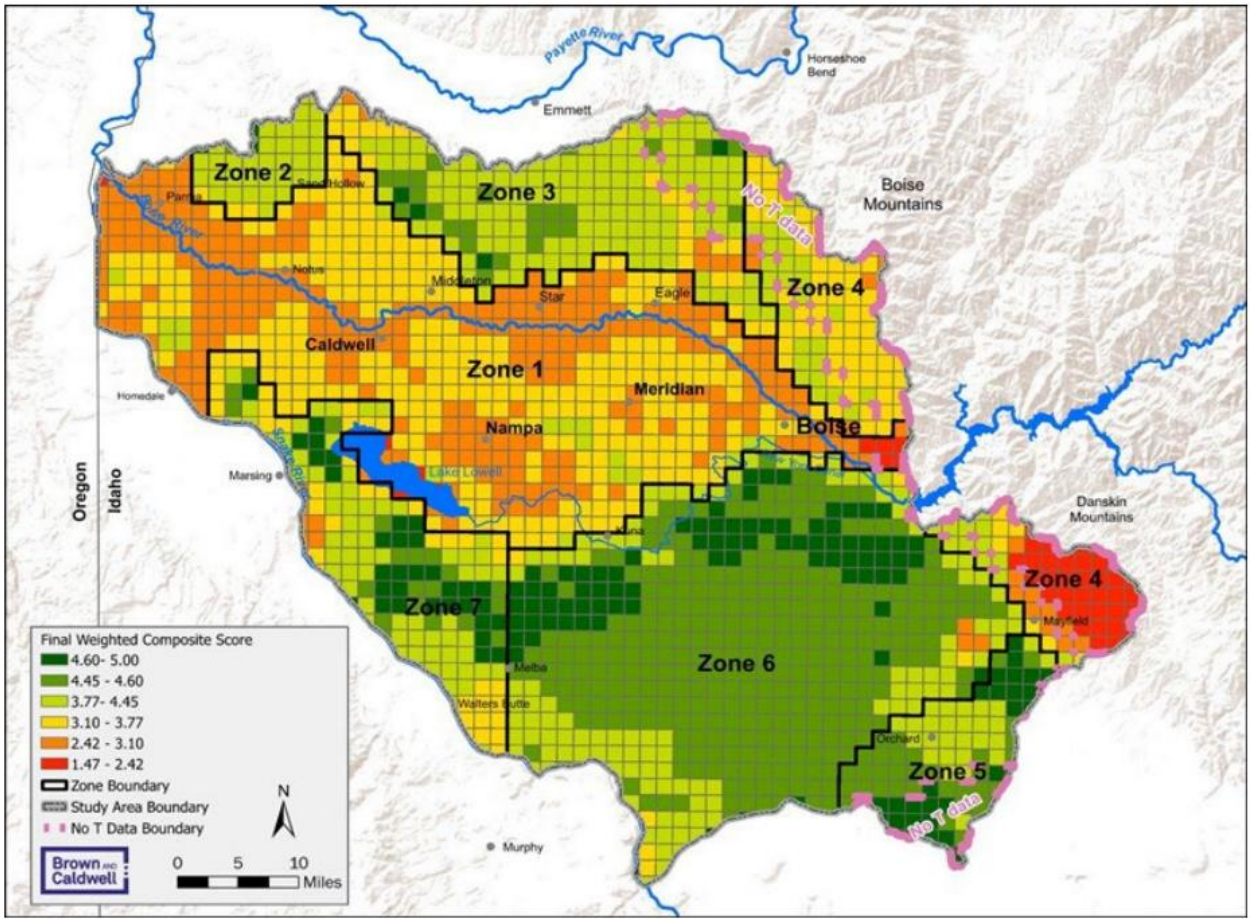


Figure 1. Treasure Valley groundwater recharge feasibility map (IWRB, 2020). Green represents areas with high recharge potential, while orange and red represent areas with low recharge potential.

The screening process of identified sites applied both geospatial analysis and stakeholder input. Candidate sites were initially identified based on proximity to conveyance features (e.g., Boise River, drains, canals), land use type (public vs. private), and feasibility for either surface storage or groundwater recharge.

4 Site Summary and Evaluation

This section summarizes the range of potential sites evaluated for either surface storage or groundwater recharge based on the methodology outlined in Section 3. Site identification was informed by the water availability findings of Task 1, stakeholder input, and geospatial analysis of conveyance infrastructure. While some locations were ultimately deemed impractical due to volumetric limitations, infrastructure constraints, or geotechnical challenges, all sites were included in the evaluation to document the breadth of opportunities that were considered.

Additionally, discussions about potential applications of captured floodwater revealed an emergent category that does not fit neatly within surface storage or groundwater recharge. These concepts are grouped under a separate section titled Operational Improvements.

4.1 Surface Storage

4.1.1 Riverside Gravel Pits

Gravel pits are a prominent feature along the Boise River corridor, with dozens of active and inactive sites located throughout the floodplain. These mined pits present an opportunity for potential surface water storage due to their large excavation volumes and proximity to existing waterways. However, the practicality of using gravel pits for large-scale seasonal storage is limited by both volumetric constraints, cost of lining the perimeter of mined pits with impervious materials (bentonite), and other geotechnical considerations. Unlined gravel pits were also considered, but would only provide short-term water storage potential since stored water would continually seep out of an unlined pit.

Based on the assumptions below, a preliminary order of magnitude assessment indicates that approximately 56 gravel pits would be required to extend the irrigation season by two weeks at a sustained flow of 300 cubic feet per second (cfs) diverted into the lined gravel pits.

- A typical gravel pit is assumed to have a surface area of approximately 30 acres.
- With an estimated 5 feet of active storage, each pit provides about 150 acre-feet of capacity.
- This storage volume equates to a yield of roughly 11 cfs sustained over one week.

This order-of-magnitude estimate illustrates the inherent challenge of relying solely on lined gravel pits for extended irrigation supply. Constructing, acquiring, and potentially lining this many pits would represent a costly endeavor, with the additional complexity of coordinating land acquisition and regulatory approvals for each site.

Lining gravel pit storage of surface water presents significant engineering challenges in the Treasure Valley. Local geologic conditions include a deep depth to bedrock, which complicates the installation of conventional keyed or anchored liners. Experience from other regions, such as Colorado's Front Range, demonstrates that lined gravel pit reservoirs are typically feasible where bedrock is encountered at 30-65 feet below ground surface, providing a firm anchor for slurry walls. In contrast, the unconsolidated alluvium of the Boise River valley would likely require a non-keyed, sloped liner,

which introduces stability concerns. During low-fill periods, buoyant forces from local groundwater could induce uplift or displacement of the liner, potentially damaging the lining system and compromise long-term reliability. These geotechnical risks add significant uncertainty and cost to any proposal for lined gravel pit storage.

Gravel pits are not confined to riverside settings; many are also located along drains. However, the same challenges observed at riverside gravel pits are expected to occur at drain-adjacent sites as well, particularly in the Nampa area where shallow groundwater conditions are prevalent.

Despite these limitations, gravel pits may still play a supporting role in localized flow management, particularly for drain flow regulation projects. This concept is explored further in section 4.3, Operational Improvements.

4.1.2 Park Ponds

Municipal parks and golf courses in Nampa present an opportunity for localized surface water storage and canal and drain flow regulation. The City currently maintains 27 public parks and two municipal golf courses, several of which are located along canals and agricultural drains. This proximity to existing water conveyance infrastructure positions these sites as candidates for small-scale short-term storage projects that can serve multiple operational and community purposes including improved wildlife habitat.

The primary concept for park-based storage aligns with the drain regulation approach described under section 4.3, Operational Improvements. Under this concept, park ponds would temporarily store excess drain flow during periods of peak water delivery and then release water during low-flow periods, smoothing out diurnal and short-term fluctuations in canal and drain systems. This type of flow attenuation can improve the reliability of irrigation deliveries to downstream users, reduce the risk of localized flooding or overtopping of drains, and provide supplemental water for the City of Nampa's operational needs. Additionally, park ponds offer the benefit of public amenities, providing recreation, habitat enhancement, and aesthetic improvements to urban green spaces.

Lakeview Park is of particular interest to the City, focusing on the re-establishment of Lake Ethel along Mason Creek. Historically, Lake Ethel served a dual purpose: it was a community recreation pond and also functioned as a drain regulator for the Nampa & Meridian Irrigation District (NMID). Restoring this feature would not only reconnect the community with a piece of its historical landscape but also revive its operational utility as a small regulation basin.

Additional parks with potential for surface storage and drain regulation include:

- **Huckleberry Dog Park:** Located along Stone Lateral near Phyllis Canal and Wilson Drain
- **Indian Creek Park:** Located along Indian Creek
- **Liberty Park:** Located along Coney Lateral
- **Lions Park:** Located along Phyllis Canal
- **McDonagh Park:** Located along Grimes Drain
- **Midway Park:** Located along Phyllis Canal and Jonah Drain
- **Osborne Park:** Located along Elijah Drain
- **Sunset Oaks Park:** Located along Grimes Drain
- **West Park:** Located along Phyllis Canal and Elijah Drain
- **Wilson Creek Park:** Located along Wilson Drain

Centennial Golf Course and **Ridgecrest Golf Course** also represent opportunities for surface water storage integration. These large, landscaped areas and existing water demands create the potential for dual-purpose water features, such as irrigation storage ponds or enlarged hazard ponds, which could support off-peak season water capture, groundwater recharge, and controlled release to nearby Phyllis Canal.

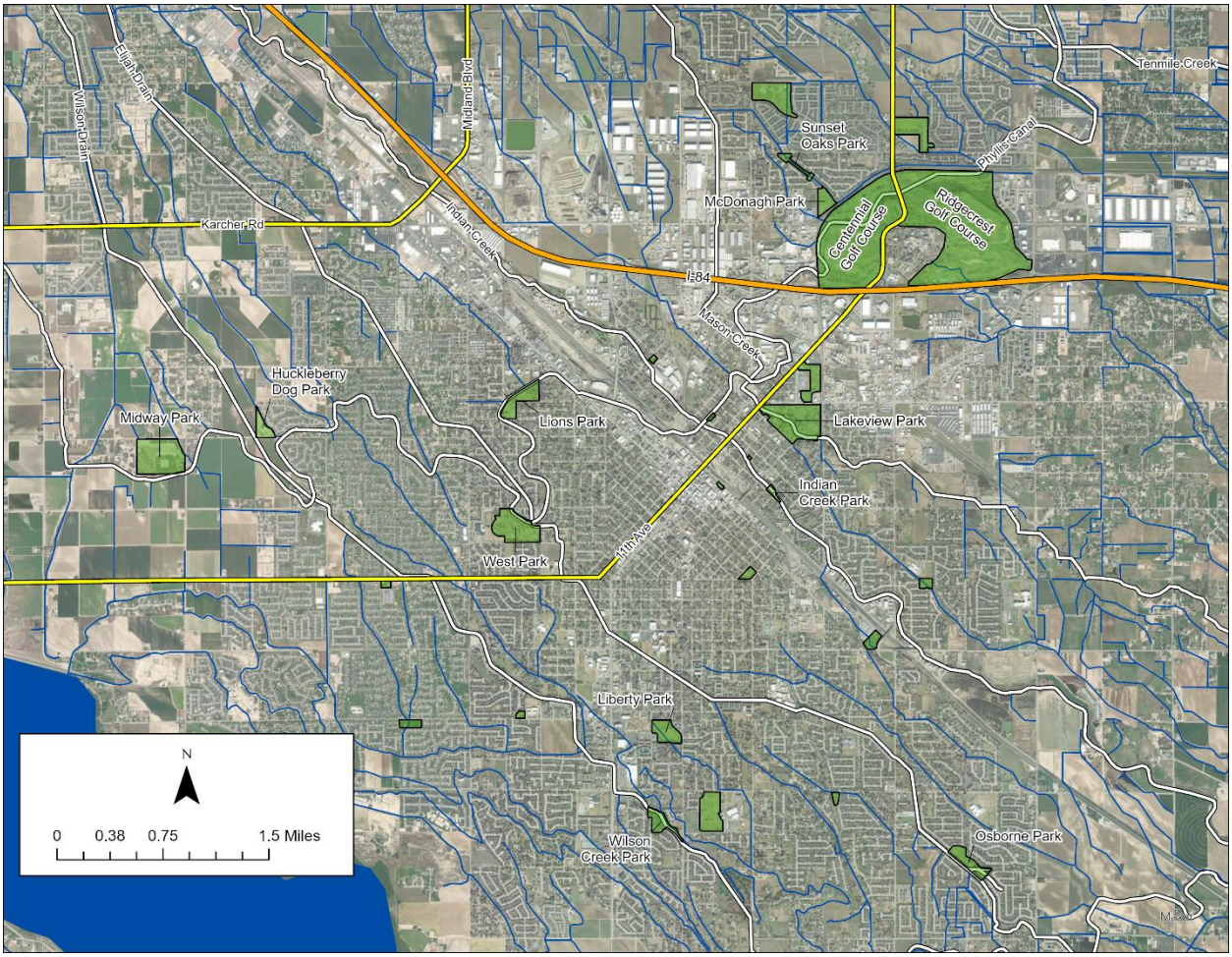


Figure 2. Parks and irrigation channels within the City of Nampa.

While park pond projects are limited in storage volume compared to larger reservoirs, they can provide highly localized operational benefits and incremental system improvements. These benefits include reducing canal fluctuations and supporting early-season priming/wetting of canals. From a cost perspective, park pond development may be more feasible than large-scale surface storage, particularly when public access and aesthetic enhancements are considered as co-benefits.

4.1.3 Upstream Reservoirs

Upstream reservoir projects have the potential to influence water availability for the City by providing additional storage capacity that could be used for direct delivery downstream. Two projects of note are the Anderson Ranch Dam Raise and the Cat Creek Energy Project, both located in Elmore County, Idaho.

The City has expressed interest in supporting the following projects:

Anderson Ranch Dam Raise is a proposed modification involving increasing the dam crest by six feet, which would increase the reservoir's total storage capacity by 29,000 acre-feet. The U.S. Bureau of Reclamation and the Idaho Water Resource Board (IWRB) executed a federal/non-federal cost-share contract on November 19, 2021, enabling final design work to proceed. This contract establishes the framework for shared funding of full construction. Once completed, the additional capacity could improve the basin's ability to store floodwater and increase supply reliability during dry years. The degree to which this additional storage could be allocated for City of Nampa uses would depend on contractual agreements and storage water rights allocations effectuated by the IWRB.

Cat Creek Energy Project is a large-scale water storage and renewable energy facility located on 22,300 acres of private ranchland. The concept incorporates off-stream pumped storage for hydropower, pairing the existing federally operated Anderson Ranch Reservoir on the South Fork Boise River with a newly constructed upper reservoir on private land. The project site is located approximately 25 miles north-northeast of Mountain Home, Idaho. As envisioned, the upper reservoir would be filled using pumped water from Anderson Ranch Reservoir during periods of surplus flow or low power demand, and water could be released to generate hydropower during high power demand periods. While the project is primarily contemplated for energy storage, its large-volume water storage component may provide opportunities for coordinated water supply benefits. Any potential use for municipal or irrigation purposes in the Treasure Valley would require negotiated agreements with the project owner and coordination with Reclamation regarding Anderson Ranch operations.

4.1.4 Master-Planned Communities

On May 19, 2025, the Nampa City Council approved the 350-acre East Canyon Master-Planned Community located along Fivemile Creek, between Can Ada Road and Franklin Boulevard. During a stakeholder coordination meeting, staff of the Pioneer Irrigation District (PID) identified this corridor as a potential location for regulating reservoir opportunities. The combination of planned development and creek alignment presents an opportunity to integrate drain flow regulation or storage features into the site design.

Further coordination between the City, PID, and the development team may help identify dual-purpose storage opportunities that support both urban design goals and regional water management needs.

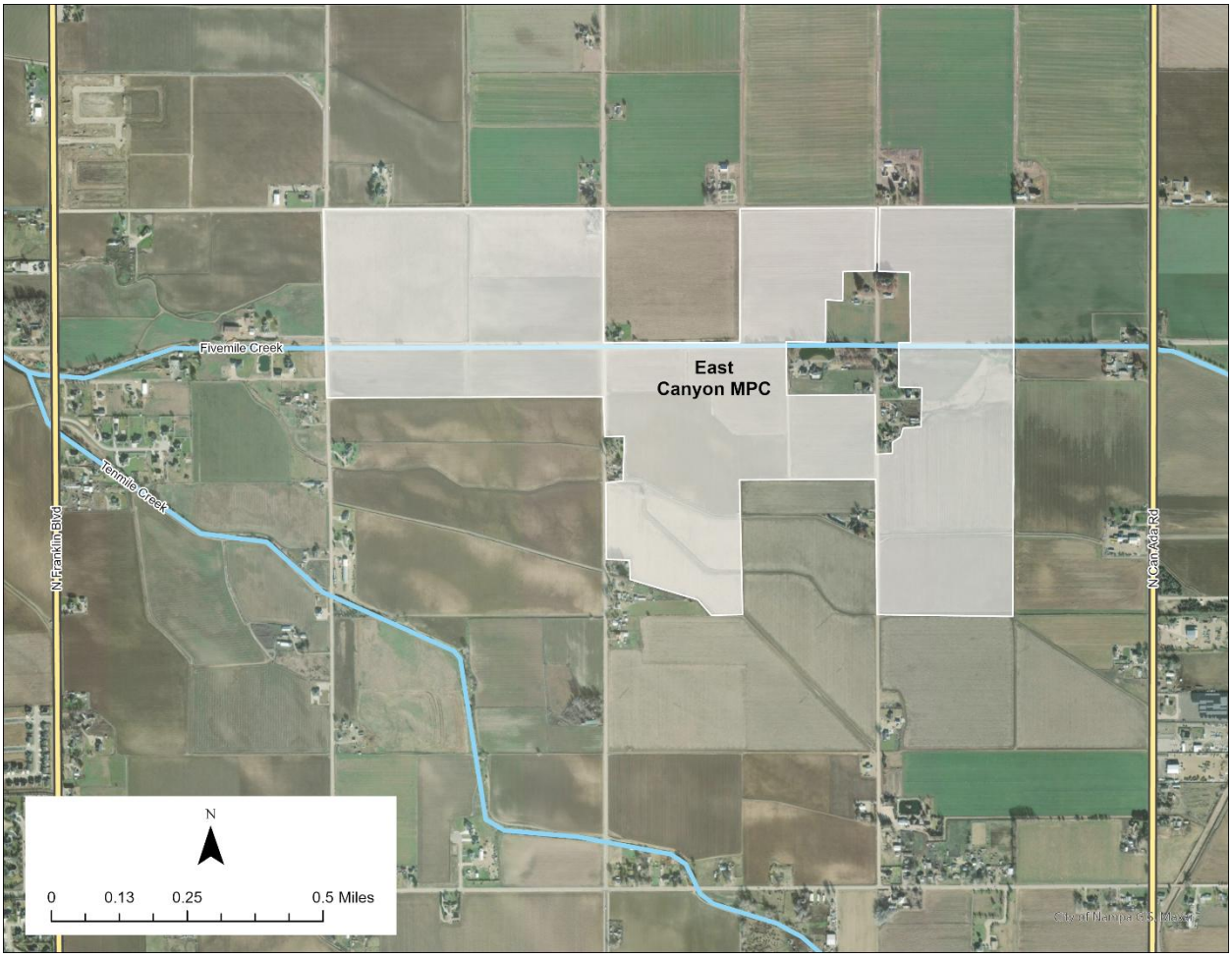


Figure 3. East Canyon Master-Planned Community, approved by City Council on May 19, 2025.

4.2 Groundwater Recharge

4.2.1 Injection Wells

Injection is a well-established method of groundwater recharge and aquifer storage, already being practiced by some water users in the Treasure Valley. Through this approach, treated water is conveyed directly into the aquifer via injection wells, providing a highly controlled means of replenishment. Injection offers the advantage of delivering water precisely where it is needed and at larger quantities than gravity-infiltrated recharge provides. However, this method is subject to stringent water quality standards, as all injected water must meet treatment requirements for the protection of groundwater resources. Because of these regulatory considerations, the City has opted not to pursue injection well development as part of this study, instead focusing on alternative recharge strategies.

4.2.2 Infiltration Basins

Groundwater recharge via infiltration basins represents a strategy for enhancing long-term water replenishment in the Nampa area. Unlike direct injection wells, which can be costly and require extensive permitting, infiltration basins allow surface water to percolate naturally into the underlying aquifer, leveraging the native soil and geologic conditions to provide treatment and storage. By recharging groundwater upgradient of Nampa, these facilities can provide hydraulic support to

existing wells, bolster the aquifer system, and help offset declining water levels caused by regional pumping. Infiltration also provides a form of distributed storage, which can supplement municipal and irrigation water needs without the evaporative losses associated with surface storage.

Additionally, infiltration-based recharge sites would improve wildlife habitat, particularly for waterfowl, and could be candidates for grants from Ducks Unlimited.

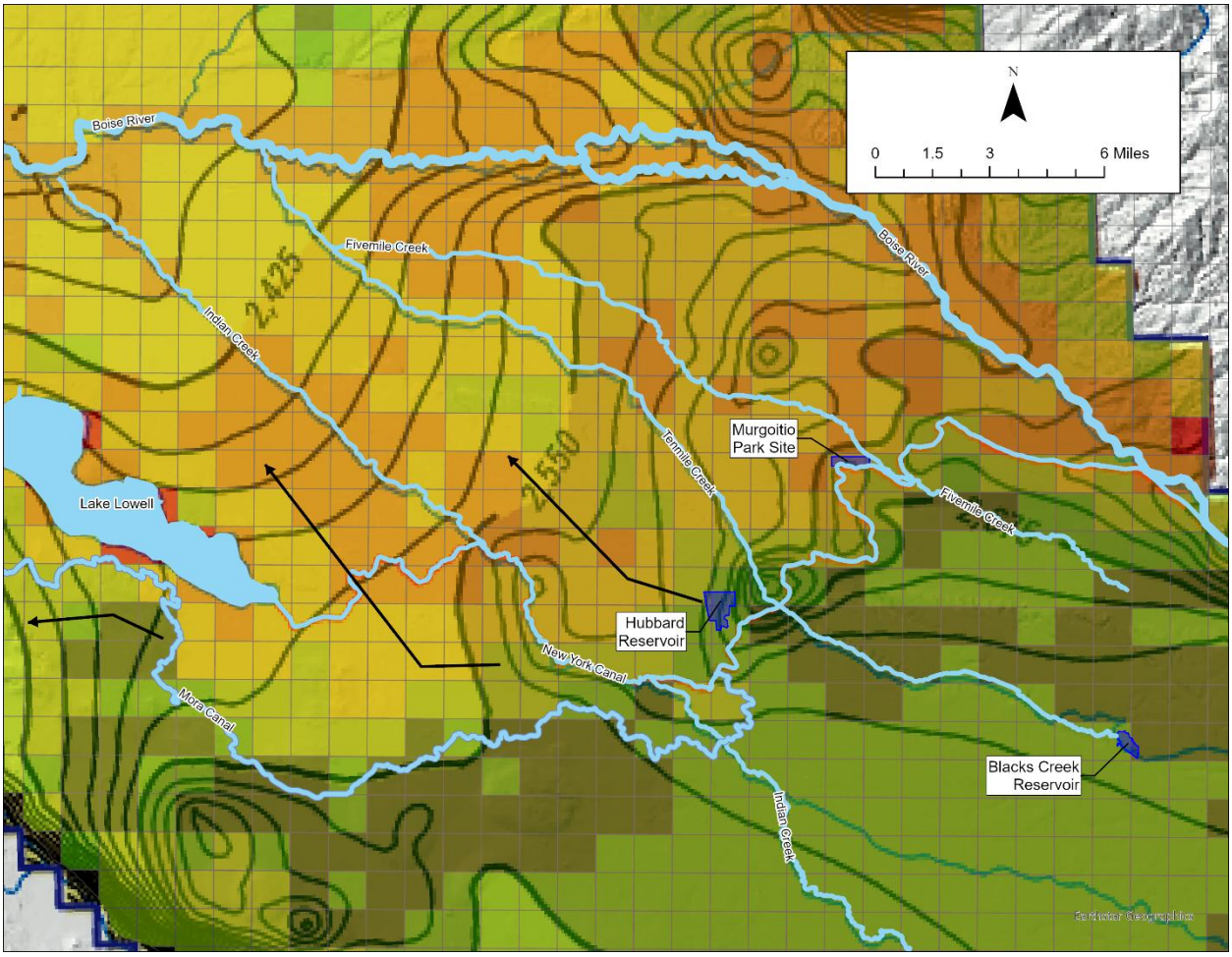


Figure 4. Potential recharge and recharge-support sites. Green represents areas of high recharge potential. Contours reflect groundwater gradient with arrows indicating direction of groundwater flow.

Hubbard Reservoir is a 4,000 acre-foot reservoir located in a prime location for infiltration-based groundwater recharge, according to the *Treasure Valley Managed Recharge Feasibility Study* (IWRB, 2020). The *Groundwater-Flow Model of the Treasure Valley, Southwestern Idaho, 1986-2015* (USGS, 2023) reveals that the reservoir occupies a hydraulically favorable upgradient position relative to the City of Nampa, and its proximity to existing conveyance infrastructure is advantageous.

Upstream Reservoirs along Boise River tributaries present a conceptual opportunity for supporting downstream recharge. In theory, stored water from these facilities could be released in a controlled manner to supplement infiltration at favorable downstream sites. One potential concept involves pumping water from the Boise River into tributary reservoirs, which could then release flows downstream for recharge or supply augmentation. While conceptually viable, this approach faces

significant obstacles: many tributary reservoirs, such as Blacks Creek and Indian Creek, do not reliably fill on an annual basis; long pipelines and high lifts would make pumping costly; and local geologic conditions, such as confining layers, limit aquifer connectivity. Additional challenges include limited operational flexibility and the regulatory and financial complexities of upgrading or repurposing existing facilities.

Using Blacks Creek Reservoir as a representative example for upstream reservoir-supported recharge, consideration of this site as a project concept would first require coordination and approval from the facility's owner, Pleasant Valley Irrigation District. Preliminary estimates suggest that water would need to be pumped from the Boise River at a lift of greater than 500 feet over a pipeline of approximately 8 miles. With a storage capacity of 3,600 acre-feet, Blacks Creek Reservoir is the largest tributary reservoir in the region of interest and is the closest to the Boise River. Comparable projects at other tributary reservoirs would generally face greater challenges, as they would offer less storage capacity while requiring longer pipelines and higher lifts.

Similar pumping projects at Micron and Veolia operate throughout the irrigation season, with water either put to immediate use or treated and injected for aquifer storage. In contrast, leveraging floodwater would be limited to a few weeks of high-volume pumping. Surface storage adds inefficiency due to evaporation losses, and conveying water from Blacks Creek Reservoir to Hubbard Reservoir would likely experience additional losses, as the upper reaches of Tenmile Creek are typically dry and located in a zone of high recharge potential. These constraints limit the practicality of this concept even before accounting for capital and operational costs.

The Murgoitio Park site has also been identified as a potential location for an infiltration basin. Because this is a City of Boise property, any further consideration would first require direct discussions with the owner to determine their position. Preliminary conversations with the City of Nampa suggest a willingness to explore partnership opportunities with the many stakeholders. In addition, a feasibility study would likely be needed to evaluate the practicality of development at this location. If pursued, this site could provide localized recharge benefits, particularly if designed to integrate with the existing canal and drain network.

4.2.3 Flood-MAR

Flood-Managed Aquifer Recharge (Flood-MAR) is an emerging concept and refers to the intentional diversion of high-magnitude flood flows to select agricultural fields for the purpose of recharging aquifers and reducing downstream flood risk. The approach is designed to capitalize on unappropriated floodwater that would otherwise pass through the system unused, particularly during off-season periods when irrigation demand is low and conveyance capacity is available.

In the context of the City of Nampa and the greater Treasure Valley, Flood-MAR represents a strategic solution to regional water challenges. The capture and infiltration of flood control releases from the Boise River offers the potential to replenish groundwater and supplement municipal and irrigation supplies, supporting long-term water resiliency. Utilizing existing infrastructure, Flood-MAR implementation could be achieved with participation from local farmers.

According to the *On-Farm Recharge Methods Manual* published by the California Department of Water Resources (CADWR, 2023), crop type is an important consideration for Flood-MAR implementation, as different plants exhibit varying tolerance to temporary inundation. Perennial forages such as alfalfa are generally well-suited to recharge applications because they can

withstand periods of standing water during the dormant season with minimal impact on long-term productivity. Vineyards and orchards, particularly on coarser soils, can also benefit from managed flooding if timing avoids sensitive growth stages. In contrast, annual row crops and shallow-rooted species may be more vulnerable to waterlogging or delayed planting schedules, limiting their suitability for recharge efforts.

The effectiveness of Flood-MAR projects is closely tied to the underlying geology of a given site. In the Treasure Valley, the subsurface is composed of complex layers of interbedded sediments (i.e., sands, silts, clays, gravels) that do not always allow water to infiltrate evenly. Confining layers can create perched water tables, where infiltrated water accumulates above a less permeable horizon rather than reaching the deeper aquifer. Such conditions limit the capacity of recharge projects to deliver meaningful groundwater storage and, in some cases, may even lead to unintended issues like waterlogging of fields and flooding of nearby residential basements. For this reason, a thorough understanding of local geology is just as critical as crop selection when identifying suitable farms for managed aquifer recharge.

4.3 Operational Improvements

In addition to specific storage and recharge facilities, floodwater and surface water present opportunities for improvements in how irrigation and delivery systems are operated. Several opportunities for operational improvements were identified.

4.3.1 In-Lieu Recharge

At present, the City relies on groundwater pumping to meet early-season irrigation demands, which places immediate stress on the aquifer system. Recognizing this, the City is interested in exploring opportunities to utilize surface water in lieu of groundwater pumping wherever feasible.

In-lieu recharge provides an indirect means of aquifer replenishment by reducing groundwater pumping demands rather than physically injecting or infiltrating water into the subsurface. Under this approach, surface water is delivered to meet irrigation or municipal demands that would otherwise rely on groundwater sources. By substituting surface supplies for pumped groundwater, in-lieu recharge helps alleviate pressure on the aquifer and contributes to long-term stabilization of groundwater levels. This strategy can be particularly effective when implemented in coordination with irrigation districts or municipal providers, where large volumes of demand can be shifted from wells to surface diversions. Any surface storage or conveyance projects identified in this study may serve as potential sources of supply for in-lieu recharge, linking system improvements to broader aquifer management objectives.

4.3.2 Drain Flow Regulation

A potential application for riverside gravel pits is the reregulation of Fifteenmile Creek drain flows, where gravel pits near the mouth of the drain could serve as flow attenuation basins. In this concept, the pits would temporarily capture peak drain flows and release water during low-flow periods, effectively smoothing diurnal oscillations and improving the operational reliability of connected canals. This approach, which has been discussed with Water District 63, Pioneer Irrigation District, and Nampa & Meridian Irrigation District, would have the added benefit of providing supplemental water to the City of Nampa without requiring the immense scale of storage needed for seasonal irrigation extension. This concept is not limited to riverside gravel pits and may be feasible for any site where a pit or potential basin lies adjacent to a drain.

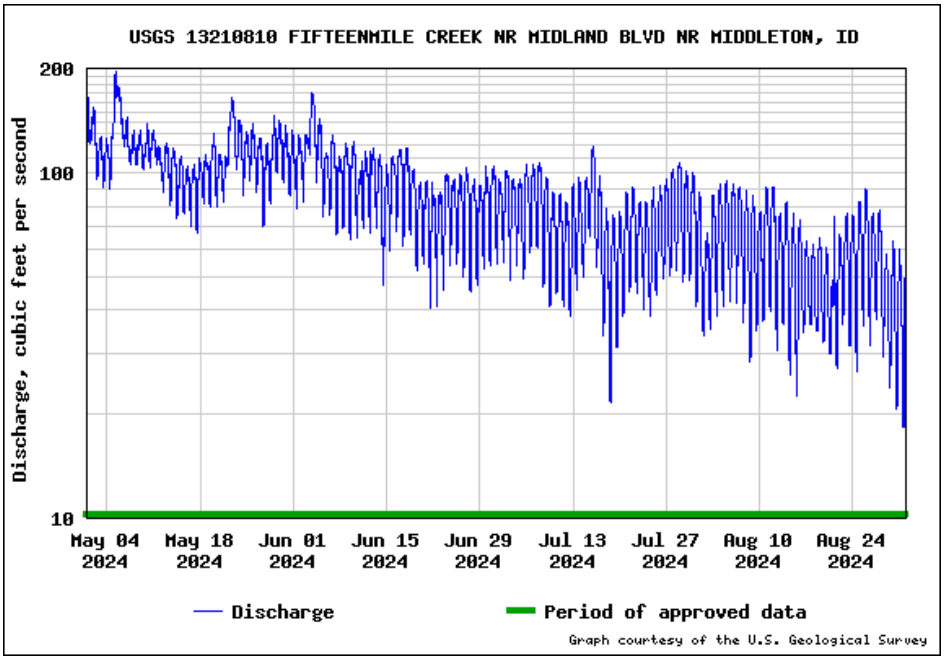


Figure 5. Fluctuation in drain flow at Fifteenmile Creek.

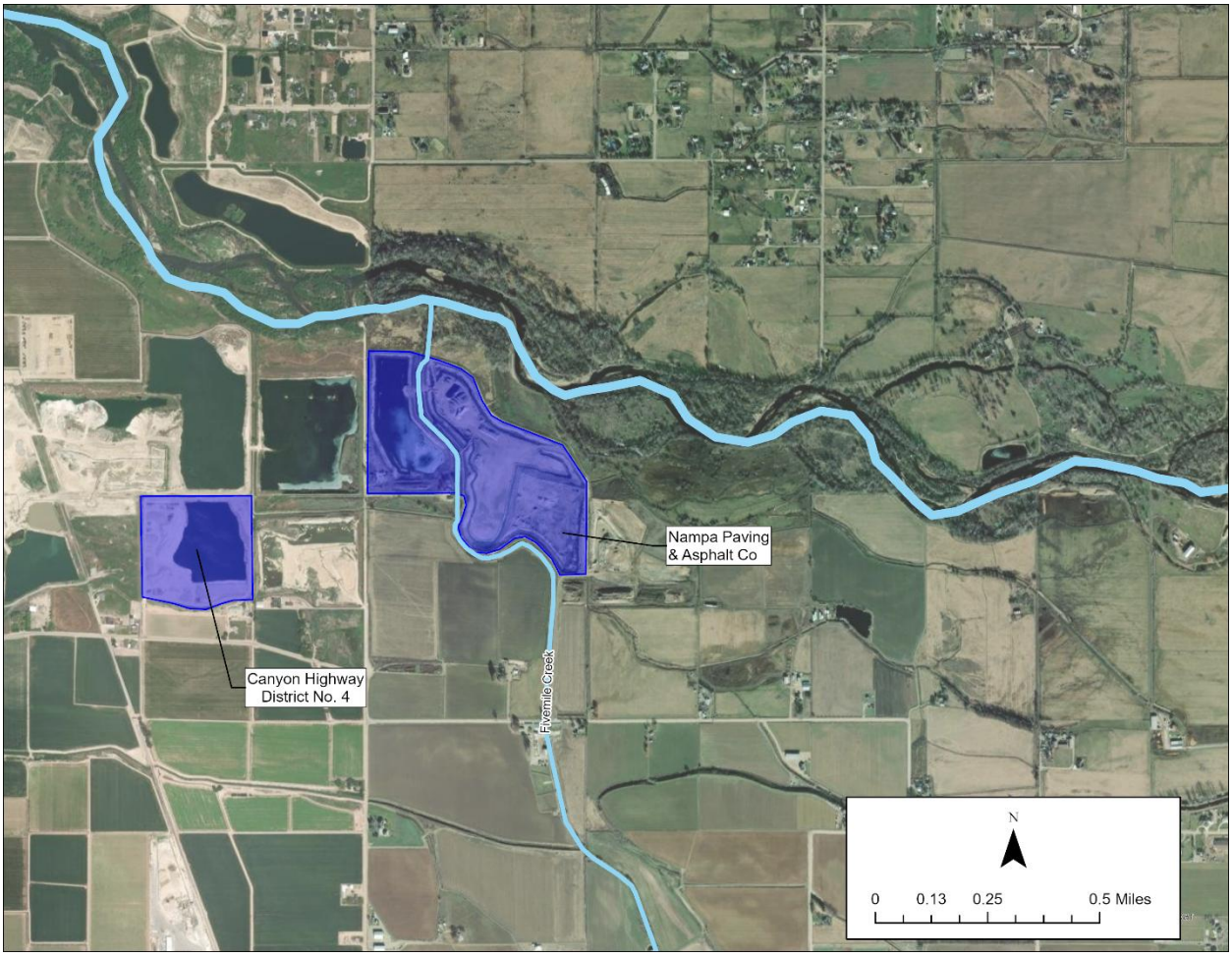


Figure 6. Location of gravel pits near the mouth of Fifteenmile Creek.

4.3.3 Spill Improvements

Conversations with NMID highlighted a critical challenge in managing spill flows from their canal system. Existing infrastructure provides limited capacity to release excess water back into receiving drains and creeks. These limitations constrain NMID's operational flexibility and can contribute to localized flooding or maintenance concerns when flows exceed channel capacity.

Partnership opportunities between the City and NMID could help address these constraints. Enhancing spill capacity would provide broader system benefits, including improved flood risk management, operational reliability, and potential water management synergies with City initiatives. In addition, collaboration on public outreach, regulatory coordination, and long-term maintenance strategies would strengthen both organizations' ability to manage shared resources effectively.

5 Stakeholder Input

As part of this study, project sites cannot be advanced for consideration without the consent of the owners of associated storage and delivery infrastructure. To meet this requirement, HDR facilitated meetings between the City of Nampa and key local water management agencies to present conceptual project ideas and solicit feedback.

Water District 63 expressed strong support for the concepts presented, with particular interest in pursuing the Fifteenmile Creek regulation project, recognizing its potential to stabilize drain flows and provide regional water management benefits. If Nampa develops a concept design for the Fifteenmile Creek regulation project, WD63 could potentially take the project to fruition.

During the stakeholder meeting with WD63, there was broad agreement that efforts to improve irrigation system startup should be a central focus moving forward. This does not necessarily require increased reliance on canal infrastructure, but rather calls for coordinated strategies to reduce operational stress during the early irrigation season.

Pioneer Irrigation District responded positively to discussions regarding drain water reuse and expressed willingness to collaborate with the City on potential regulating ponds along the Phyllis Canal. PID acknowledged that drain flow regulation projects could benefit both parties by reducing flow variability and enhancing water availability.

During the stakeholder meeting with PID, there was broad agreement that the City and PID can build off the success of the reuse program efforts by improving early season communication and coordination, potentially starting the irrigation season earlier by capturing flood releases, and collaboratively searching for opportunities to increase operational storage along the Phyllis Canal and Fifteenmile Creek.

Nampa & Meridian Irrigation District was neutral on projects utilizing the Ridenbaugh Canal. NMID also noted an interest in receiving City assistance with legal and permitting challenges related to drain maintenance, which could improve overall system operation and facilitate future project implementation.

Concepts should be reviewed with NMID staff, but will require Board of Director approval prior to design and implementation. NMID was very interested in obtaining the City's support in discussions with FEMA and Canyon County to streamline operation and maintenance on the drains. The City

noted similarities between a recent floodplain study along Indian Creek and the current issues experienced by NMID, offering support in exploring a similar pursuit along Mason Creek.

Boise Project Board of Control authorized analysis of their water delivery infrastructure (New York Canal) for the purposes of this study, following a presentation by Nampa's Public Works Director. During an earlier stakeholder meeting, BP expressed interest in the concept of groundwater recharge but stated they will not pursue any opportunities until legislation is in place that authorizes groundwater recharge rights in the Treasure Valley.

Ada County's County Engineer met with HDR to discuss the methods used for measuring and modeling the recharge at Hubbard Creek. The engineer indicated that Ada County is seeking partners for the project. Any details regarding a formal partnership will require meetings with Ada County and its commissioners.

Veolia Water is interested in mitigation opportunities as well as credits for groundwater recharge. They responded positively to pursuing partnership opportunities. In addition to groundwater recharge, Veolia may also be interested in a project to pump water from the Boise River into a tributary reservoir such as Blacks Creek.

City of Boise representatives expressed interest in collaborative development of the Murgoitio Park Site and Pearl Jensen Park Site. The representatives acknowledged the potential recharge value of these properties and would be interested in furthering these discussions if project concepts related to these properties prove viable.

Idaho Power commented that recharge or flow regulation projects may impact downstream power generation. The City reached out to Idaho Power to discuss interest in potential project partnerships rather than to seek permission to include any infrastructure in this study. Idaho Power acknowledged the future role of recharge in the Treasure Valley, but requested a clearer alignment of goals before advancing any discussion of project partnerships.

The **Canyon County Commissioners** lauded the City's efforts in pursuing regional water initiatives. No requests were made of the Commissioners at this meeting, although they expressed overall support for the Drain Recharge and Floodwater Storage Study.

Through these stakeholder discussions, the City has received preliminary approval and interest in collaboration from the primary entities whose infrastructure would be involved in future project development. Their feedback helped the City identify and refine project concepts, and ongoing coordination will be needed as project concepts are developed.

Permissions granted from irrigation districts apply only to the study of lands adjacent to irrigation facilities. No specific permissions have been granted to use irrigation facilities to convey water at the time of this report. Future agreements will need to be developed for any projects that require access, easement, or coordination with irrigation entities and their facilities.

6 Conclusions

Through the Task 2 site identification and evaluation process, the City of Nampa considered a broad range of potential opportunities for surface storage, groundwater recharge, and operational improvements. The analysis provided by HDR and input from regional water management

stakeholders helped the City assess both the technical feasibility and the relative benefit of each category of project.

Drain Flow Regulation Projects: The City noted the potential of projects that stabilize drain flows, particularly at Fifteenmile Creek. These efforts were recognized by stakeholders as providing immediate operational benefits with manageable scale.

Park Pond Enhancements: The City identified the re-establishment of Lake Ethel at Lakeview Park and integration of regulating ponds at other parks as opportunities to combine community amenities with water management benefits.

Infiltration-Based Recharge: The City has expressed interest in advancing discussions around the Murgoitio Park site. They are uninterested in pursuing anything upstream of Indian Creek, such as the Indian Creek Reservoir; however, they do not wish to immediately dismiss any high-capital projects such as pumping water from the Boise River into an upstream reservoir.

Regional Reservoir Projects: The City acknowledged upstream reservoir expansions such as Anderson Ranch and Cat Creek Energy as important regional initiatives that create opportunities for partnerships and coordination.

Operational Partnerships: The City expressed interest in pursuing collaborative projects with local irrigation districts and water managers, with particular attention to in-lieu recharge strategies and improvements to spill infrastructure.

7 References

Idaho Water Resource Board (IWRB). 2020. *Treasure Valley Managed Recharge Feasibility Study.* Prepared by Brown and Caldwell. March 2020.

U.S. Geological Survey (USGS). 2023. *Groundwater-Flow Model of the Treasure Valley, Southwestern Idaho, 1986-2015*. January 2023.

California Department of Water Resources (CADWR). 2023. *On-Farm Recharge Methods Manual.* Prepared by Sustainable Conservation. August 2023.

Appendix C – Task 3 Technical Memo: Conceptual Designs and Costs

October 2, 2026

Memo

Date: Thursday, June 04, 2026

Project: Drain Recharge and Floodwater Storage Study

To: Mr. Tom Points, PE

From: Jason Mick, EIT; John Roldan, PE; Mike Schubert, PE

Subject: Conceptual Designs and Costs

Executive Summary

This memorandum summarizes the work completed under Task 3: Conceptual Designs and Costs as part of the Drain Recharge and Floodwater Storage Study commissioned by the City of Nampa. Building on the findings of Task 1: Water Supply Opportunities and Task 2: Identification and Suitability of Potential Storage Sites, this task advanced five concepts into appraisal-level conceptual designs and planning-level cost evaluations (Table 1).

The following five concepts and associated project types evaluated under this task represent a range of approaches intended to improve water management flexibility, groundwater replenishment, and operational resiliency within the City of Nampa and the surrounding Treasure Valley region in Idaho.

1. Riverside Gravel Pits for Regional Drain Flow Regulation
   - Fifteenmile Creek Drain Regulation Project
2. Park Amenity Ponds for Flow Regulation
   - Lake Ethel Reestablishment at Lakeview Park
3. Regional Managed Aquifer Recharge
   - Murgoitio Park Site Regional Managed Aquifer Recharge
4. Park Amenity Ponds for Recharge
   - Pearl Jensen Park Site Managed Aquifer Recharge
5. Operational Improvements for In-Lieu Recharge
   - City of Nampa Groundwater to Surface Water Conversion

Conceptual designs developed for each concept establish general form and function, identify anticipated infrastructure requirements, and evaluate planning-level implementation considerations. The concepts evaluated under this task range from operational flow regulation and infiltration-based groundwater recharge to non-construction operational strategies intended to reduce groundwater pumping demands.

Figure 1 shows the locations of the first four project concepts. Because in-lieu recharge is an operational improvement, it does not occupy a specific location but rather would be implemented throughout the City of Nampa’s infrastructure.

Drawings for each conceptual project are provided in Attachment A. Planning-level opinions of probable construction costs, developed as Association for the Advancement of Cost Engineering (AACE) Class 5 conceptual estimates, are provided in Attachment B.

The estimated conceptual project costs developed under this task are:

- Fifteenmile Creek Drain Regulation Project: $815,000
- Lake Ethel Reestablishment at Lakeview Park: $6,441,000
- Murgoitio Park Site Regional Managed Aquifer Recharge: $14,463,000
- Pearl Jensen Park Site Managed Aquifer Recharge: $2,013,000
- In-Lieu Recharge: $47,000

The conceptual evaluations demonstrate that opportunities for large regional-scale projects are limited primarily by site availability. As the Treasure Valley develops, open land for projects with regional-scale impact becomes limited. Beyond land availability challenges, addressing infrastructure constraints and operational complexity will require regional coordination. Continued multi-stakeholder planning and cooperation will be necessary to identify additional suitable sites and advance future regional recharge opportunities. To purchase 40 acres of farmland in the Treasure Valley at the time of this report, the cost would average $200K per acre or $8M. To make these projects viable, the best approach may be to incorporate them into county/city parks, require developers to incorporate them as qualifying open space, obtain rights for use on state and federal land, or develop lease-to-own agreements with landowners interested in conservation projects.

Smaller-scale projects integrated into public parks may provide multiple complementary benefits. Where feasible, park ponds, regulating basins, and localized recharge features can support groundwater replenishment and drain flow regulation while also improving public amenities, habitat opportunities, and operational flexibility within local canal and drain systems. The cumulative effect of distributed projects may contribute meaningfully to regional water management objectives.

The concepts developed under this task are intended to support future planning discussions and comparative evaluation rather than final engineering design. Additional feasibility studies, geotechnical investigations, hydraulic analysis, operational coordination, and stakeholder engagement would be required prior to advancing any concept toward implementation.

Table 1. Summary of project concepts.

PROJECT TYPE	EXAMPLE PROJECT	WATER BENEFIT	ADDITIONAL BENEFIT	COST
RIVERSIDE GRAVEL PITS FOR REGIONAL DRAIN FLOW REGULATION Drain flow regulation smooths out fluctuations in irrigation return flows throughout the day. Reducing these oscillations creates more consistent downstream flows, which can support more reliable water management and reduce stress on canal and drain systems. The water delivered through canals that divert drain flow is used by the City of Nampa and users throughout the region.	Fifteenmile Creek Drain Regulation Project Project footprint: 70 acres	**7,200 AC-FT**	**WATER QUALITY** Regulating basins can settle out sediment and sediment-bound phosphorus before returning to the river.	**$815,000** $500K - 1.5M **~$110/AC-FT**
PARK AMENITY PONDS FOR FLOW REGULATION Regulating ponds are incorporated into public parks to improve local canal and drain operations to benefit regional water users including the City. These features may also provide opportunities for groundwater recharge.	Lake Ethel Reestablishment at Lakeview Park Project footprint: 3.5 acres	**100 AC-FT**	**WATER QUALITY & PUBLIC AMENITY** Large ponds can serve as settling basins and provide beautification and recreation opportunities.	**$6,441,000** $3M - $12M Most of project cost associated with weir design. **~$64,410/AC-FT**
REGIONAL MANAGED AQUIFER RECHARGE Basins allow surface water to infiltrate into the groundwater system at sites with favorable conditions. Projects are typically located near conveyance infrastructure and are intended to support long-term groundwater replenishment.	Murgoitio Park Site Regional Managed Aquifer Recharge Project footprint: 20 acres	**1,800 AC-FT** Potential additional 10,800 ac-ft benefit, pending water availability.		**$14,463,000** $7M - $30M Most of project cost associated with excavation. **~$8,000/AC-FT**
PARK AMENITY PONDS FOR RECHARGE Small-scale recharge basins or wetlands are incorporated into park sites to provide local groundwater replenishment.	Pearl Jensen Park Site Managed Aquifer Recharge Project footprint: 4.3 acres	**300 AC-FT** Potential additional 1,800 ac-ft benefit, pending water availability.	**HABITAT & PUBLIC AMENITY** Small recharge basins may provide wetland habitat and can be incorporated into larger water features and park design.	**$2,013,000** $1M - $4M **~$6,700/AC-FT**
OPERATIONAL IMPROVEMENTS FOR IN-LIEU RECHARGE Replacing groundwater use with available surface water to meet irrigation or municipal demands leaves water in the aquifer and supports long-term groundwater sustainability.	City of Nampa Groundwater to Surface Water Conversion	**400 - 800 AC-FT** Water benefit varies with annual pumping volumes during April startup and water availability timing challenges.	**ENERGY SAVINGS** Financial savings from reduced energy use can offset costs of surface water acquisition and delivery.	**$47,000** $25K - $100K Cost varies with energy savings and irrigation agreements. **~$60-120/AC-FT**

AC-FT = acre-feet

Cost estimates do not include land aquisition

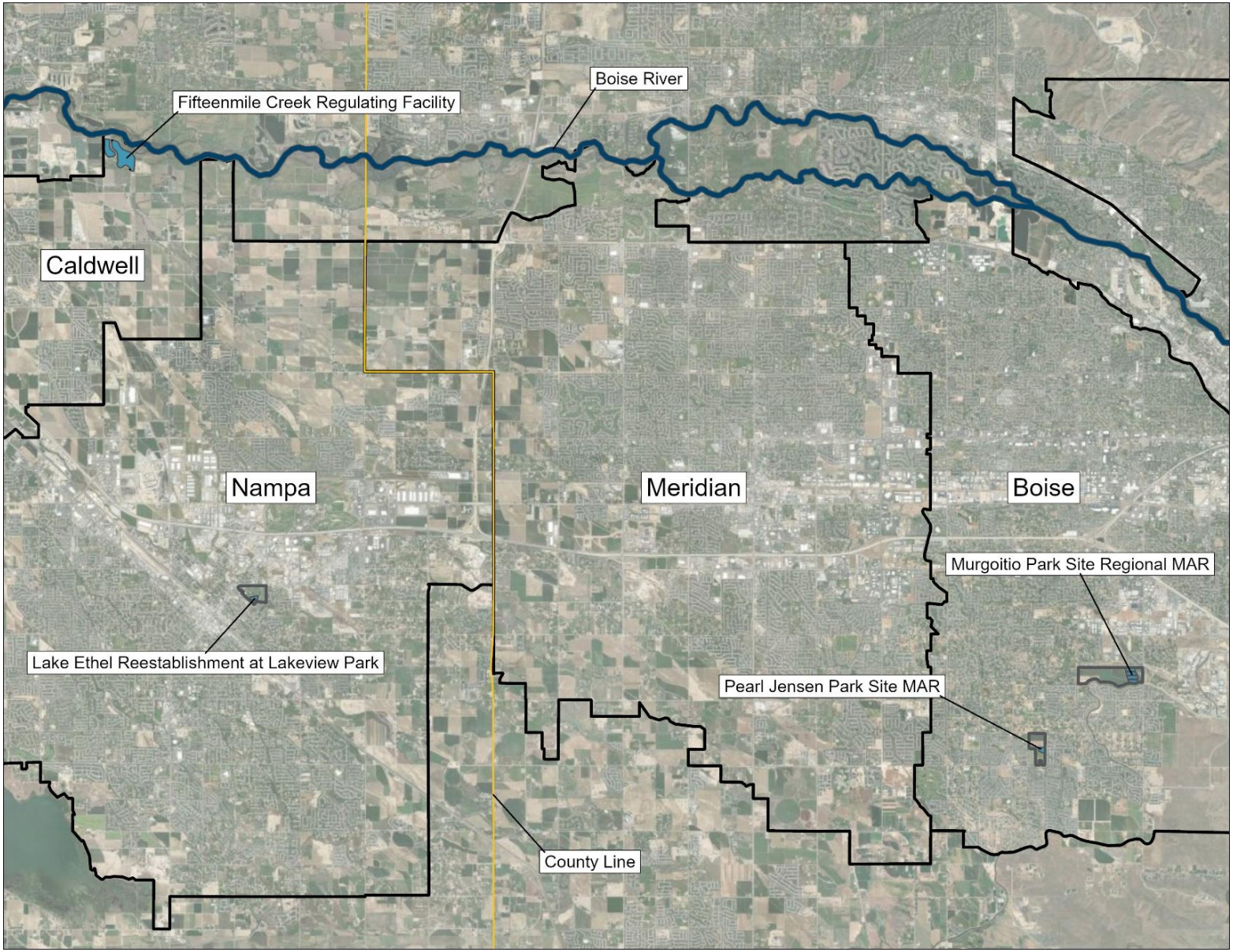


Figure 1. Locations of project concepts and city impact areas

1 Introduction and Objective

This memorandum summarizes the work completed under Task 3: Conceptual Designs and Costs as part of the Drain Recharge and Floodwater Storage Study completed for the City of Nampa. Building on the findings of Task 1, which identified seasonal water availability primarily from Boise River flood releases and limited natural flows, and Task 2, which identified and evaluated potential project categories for storage and recharge sites, this memo develops appraisal-level conceptual designs and conceptual opinions of probable construction costs (OPCCs) for selected project concepts representing different project categories.

The evaluation considers several project categories and example projects that represent a range of surface storage, groundwater recharge, and operational concepts. The projects are intended to support the City of Nampa's goals for water supply resiliency, regional coordination, and improved management of available water resources. Conceptual designs were developed to illustrate the basic design and operations of the improvements required to divert, store, regulate, recharge, and deliver available water supplies. These conceptual designs also create the basis for approximating potential costs associated with each project category and the benefits from each concept.

2 Conceptual Designs

Based on the findings of Task 2: Identification and Suitability of Potential Storage Sites, five selected concepts and associated project categories were advanced for appraisal-level conceptual design and planning-level cost evaluation. These concepts represent a range of approaches for improving water supply resiliency, operational flexibility, and surface water management within the City of Nampa and the surrounding Treasure Valley region in Idaho:

- Riverside gravel pits for regional drain flow regulation
- Park amenity ponds for flow regulation
- Regional managed aquifer recharge basins
- Park amenity ponds for recharge
- Groundwater to surface water conversions (in-lieu recharge)

Conceptual designs were developed to illustrate the basic design and operation of each concept, including anticipated diversion, conveyance, storage, recharge, regulation, and operational components, where applicable. These are provided in Attachment A. Planning-level OPCCs were prepared for physical infrastructure concepts, and operational considerations were evaluated for each concept based on anticipated system operation and management requirements. Cost estimates developed under this task are intended to represent Class 5 conceptual estimates as defined by the Association for the Advancement of Cost Engineering (AACE). These are provided in Attachment B.

Design concepts were developed using available site information and limited site-specific investigation to support planning and comparative evaluation rather than final engineering design. Hydraulic modeling, groundwater modeling, geotechnical investigations, survey, and detailed design are all beyond the scope of this task. Additional site characterization, engineering analysis, stakeholder coordination, and permitting review would be required prior to advancing any concept into detailed design and implementation.

The following sections summarize the conceptual basis, anticipated infrastructure components, operational considerations, and planning-level cost assumptions for each selected concept.

2.1 Riverside Gravel Pits for Regional Drain Flow Regulation

2.1.1 Project Concept Description

Gravel pits are a prominent feature along the Boise River corridor, with dozens of active and inactive sites located throughout the floodplain. These mined pits present an opportunity for potential water management due to their large excavation volumes and proximity to existing waterways. The practicality of using gravel pits for large-scale seasonal storage is limited by both volumetric constraints and the cost of lining the perimeter of mined pits within this specific geologic setting. A potential application for riverside gravel pits is the reregulation of drain flows. Flow in the Boise River drains fluctuates due to diurnal changes in demands and return. Gravel pits near the mouth of the drains could serve to attenuate variations or fluctuations by diverting flow into the gravel pit during peaks and supplementing drain flow during troughs. This could reduce these fluctuations, making Boise River flows more stable, and therefore, increasing the amount of deliverable water. The water delivered through canals that divert drain flow is used by the City of Nampa and users throughout the region. The City understands that improving delivery potential of this water benefits all users by helping avoid shortage-related water conflicts.

2.1.2 Example Project: Fifteenmile Creek Drain Regulation Project

2.1.2.1 PROJECT NARRATIVE

The Fifteenmile Creek Drain Flow Regulation concept (Figure 2) is located near the mouth of Fifteenmile Creek where the drain enters the Boise River in Canyon County, Idaho. The conceptual project area is situated on the east side of Midland Boulevard, near the downstream extent of the channel, and incorporates existing adjacent gravel pits. The project is intended to regulate irrigation season drain flows by attenuating daily flow fluctuations and providing a more stable return flow to the Boise River system.

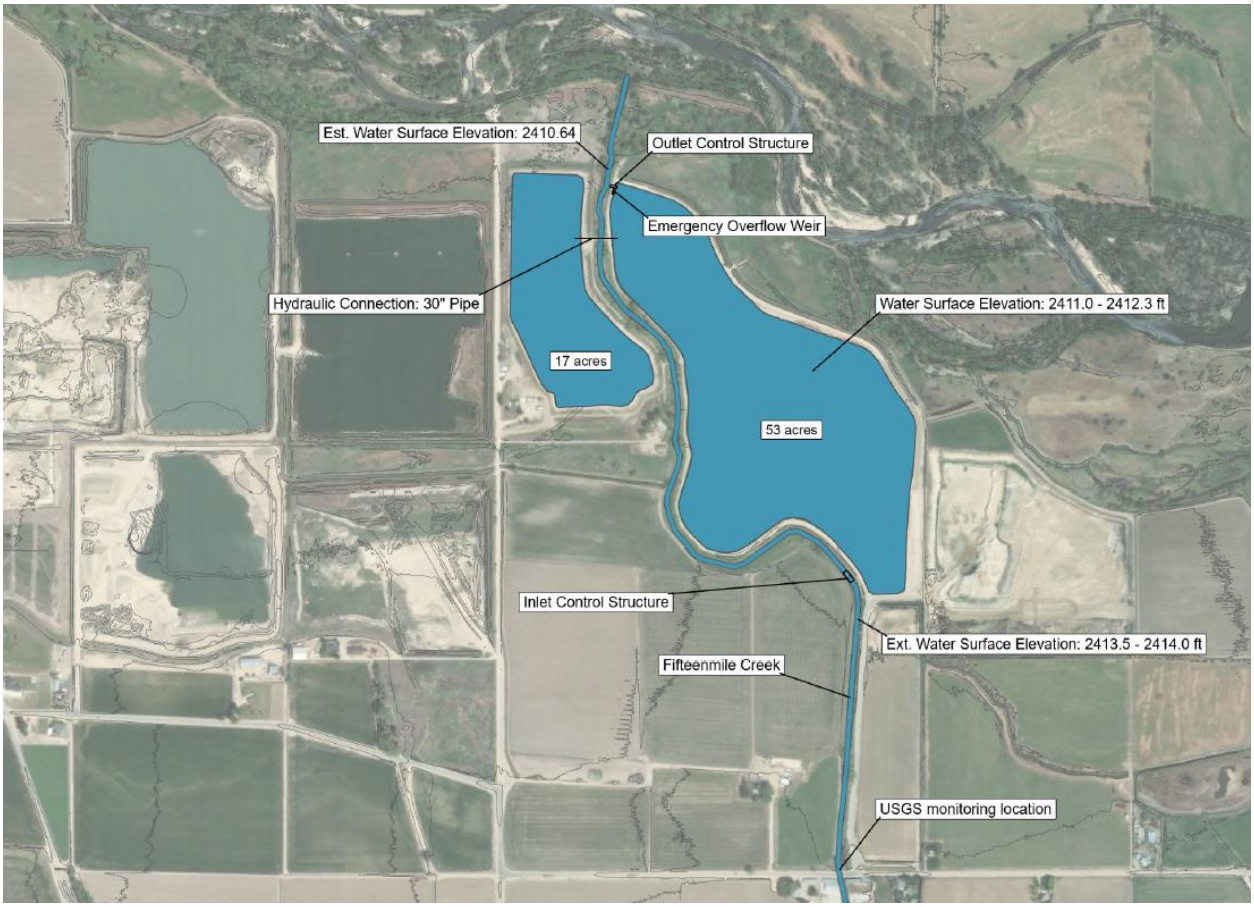


Figure 2. Layout of potential Fifteenmile Creek regulating facility

During the irrigation season, flows in Fifteenmile Creek fluctuate over the course of a day due to upstream irrigation operations, return flows, and delivery timing throughout the canal system. Flow measurements recorded at U.S. Geological Survey (USGS) gage 13210810 indicate that Fifteenmile Creek commonly fluctuates between approximately 50 cubic feet per second (cfs) and 100 cfs during the irrigation season (Figure 3).

These fluctuations create operational challenges for downstream water management. Rapid changes in drain flow contribute to inefficiencies in water management for downstream users. The fluctuation in return flow persists in the Boise River. Since only the trough of the fluctuation can be delivered reliably, the remaining water represents inefficient delivery. Stabilizing drain return flows could improve system reliability and support more consistent delivery conditions within the lower Boise River system. Additionally, attenuating peak drain flows may reduce operational stress on downstream conveyance infrastructure and improve coordination between irrigation entities and water managers. Improving flow conditions within Fifteenmile Creek can benefit many regional water users. This project has the potential to improve natural flow utilization by surface water users, such as the irrigation districts, some of whom deliver water to the City of Nampa. Additionally, this project can reduce the potential of water shortages downstream, which in turn reduces the likelihood of water-related conflicts that could involve the entire region.

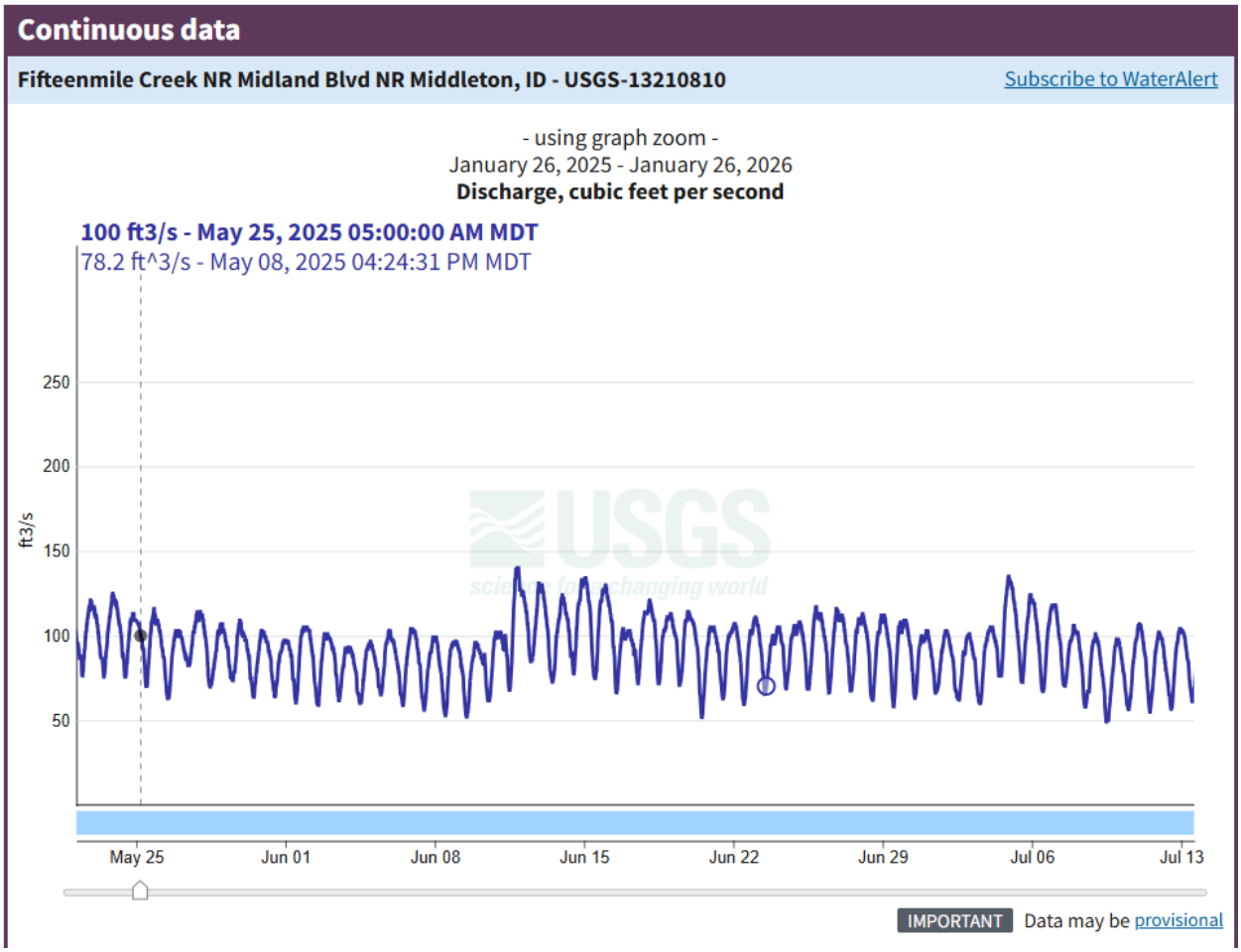


Figure 3. Gaged flows in Fifteenmile Creek fluctuate by roughly 50 acre-feet daily during irrigation season

The conceptual design uses existing gravel pits adjacent to Fifteenmile Creek as regulating storage basins. Under the proposed operational concept, a continuous flow consistent with the daily minimum flow would remain within the existing creek channel and continue downstream unimpeded. Flows exceeding the minimum would be diverted into the adjacent gravel pits for temporary regulation and attenuation. Regulation water would then be steadily added back into Fifteenmile Creek immediately upstream of its confluence with the Boise River at a continuous rate so that the return flow to the river more closely tracks with the daily mean flow.

The conceptual inlet structure consists of an automated gate designed to regulate the base 50-cfs flow through the existing channel. Adjacent to the flume gate, a labyrinth weir would spill excess flows into the gravel pit area. The existing gravel pits provide approximately 70 acres of surface area available for temporary regulation. Individual pit areas would be hydraulically connected using a 30-inch culvert installed beneath the existing creek channel.

The conceptual outlet structure consists of two automated gates that regulate the controlled release of stored water back into Fifteenmile Creek. In addition, an emergency overflow weir, similar to the to the inlet weir, would be incorporated to safely pass excess flows and prevent flooding of adjacent properties during emergency conditions.

The conceptual design uses existing gravel pit features to reduce excavation requirements and overall project footprint. However, the long-term operation of the regulating basins would depend on future evaluation of seepage losses, groundwater interaction, sedimentation, embankment stability, and operational maintenance requirements. Additional hydraulic analysis and geotechnical investigation would be required prior to advancement into detailed design.

This concept received positive feedback during stakeholder coordination conducted under Task 2. Water District 63 first developed the idea for the project concept and identified the potential for regional operational benefits associated with stabilized drain return flows. Pioneer Irrigation District and Nampa & Meridian Irrigation District also expressed support for concepts involving drain flow regulation and operational storage. Discussions with stakeholders indicated that the project could improve operational flexibility and support broader water management objectives within the Lower Boise River system.

Although this conceptual project is presented as part of the City of Nampa's Drain Recharge and Floodwater Storage Study, the ultimate ownership, operation, and implementation responsibilities for the project have not been determined. Because the project primarily functions as a regional drain regulation and operational management facility, future ownership or operational responsibility may ultimately reside with another participating entity or a collaborative partnership between agencies. Long-term operation, maintenance responsibilities, water management authority, and operational coordination would require further evaluation if the concept advances beyond the appraisal-level planning stage. The lands are currently privately held by Nampa Paving Company, so lease or purchase agreement for the land is also a consideration.

2.1.2.2 PROJECT BENEFITS

Flows in Fifteenmile Creek fluctuate by 40 to 50 cfs daily during irrigation season. If the fluctuations in the drain flow could be regulated to increase the minimum return flow by 20 cfs, the minimum flow downstream in the Boise River would increase similarly, thus increasing the amount of water that can be reliably delivered by as much. Over a 180-day irrigation season, this would increase the amount of deliverable water by up to 7,200 acre-feet.

In addition to the water supply management benefits, water quality could benefit from this type of project. Fifteenmile Creek carries significant sediment and phosphorus loads to the Boise River and may contribute to elevated temperatures. A regulation project like this could be designed to address water quality concerns. However, the design or costs of these elements has not been considered in this study.

2.1.2.3 PROJECT COSTS

The estimated OPCC for this project is $815,000, as shown in Attachment B-1. Itemized costs include earthwork and water control and conveyance structures. The OPCC is provided as an AACE Class 5 Accuracy (-50% to +100%).

2.2 Park Amenity Ponds for Flow Regulation

2.2.1 Project Concept Description

Municipal parks present an opportunity for localized canal and drain flow regulation. Park ponds could temporarily capture excess drain flows during periods of peak water delivery and then release water during low-flow periods, smoothing out short-term fluctuations in canal and drain systems. This

flow attenuation can improve the reliability of irrigation deliveries to downstream users, reduce the risk of localized flooding or overtopping of drains, and provide supplemental water for operational needs. Additionally, park ponds offer the benefit of public amenities, providing recreation, habitat enhancement, and aesthetic improvements to urban green spaces.

2.2.2 Example Project: Lake Ethel Reestablishment at Lakeview Park

2.2.2.1 PROJECT NARRATIVE

The Lake Ethel concept (Figure 4) is located within Lakeview Park in the City of Nampa. Lakeview Park is situated south of Garrity Boulevard between 11th Avenue and Sugar Avenue, with 16th Avenue running north-south through the park. The conceptual lake site is positioned within the south-central portion of the park on the west side of 16th Avenue and is intended to generally align with the historical location of Lake Ethel, which was a man-made lake constructed to store irrigation water from Mason Creek. Lakeview Park was developed around Lake Ethel, and the lake itself remained a public amenity until it was drained in the early 1920s.



Figure 4. Layout of potential Lake Ethel reestablishment

Historically, Lake Ethel functioned as both a recreational amenity and a regulating feature associated with Mason Creek. Discussions conducted during stakeholder coordination under Task 2 indicated that the site historically provided operational flexibility within the local irrigation system. Re-establishing Lake Ethel presents an opportunity to restore a historical water feature while also

providing limited operational benefits associated with local water management and drain flow coordination.

The concept is intended to improve operational flexibility within the Mason Creek system and may support future opportunities for drain flow recapture and coordinated water management between local irrigation entities. However, the relatively small footprint of the conceptual lake limits its ability to provide meaningful hydraulic attenuation or large-scale operational storage. The conceptual lake footprint occupies approximately 3.5 acres, and flows within Mason Creek often remain between 30 and 40 cfs during the irrigation season. As a result, the concept is not intended to function as a major regulating reservoir or to provide meaningful flow attenuation, but rather as a localized operational, water quality, and community amenity feature integrated into the broader drain system.

The conceptual design follows the existing topography and contours of Lakeview Park and is positioned to avoid impacts to existing park infrastructure, including playground facilities and park shelters. The concept includes excavating and grading to establish the lake footprint and associated shoreline. Riprap stabilization is incorporated along the lake perimeter to provide erosion protection and improve long-term stability.

A piano key weir is incorporated into the conceptual outlet structure to maximize stabilization of the lake water surface elevation. Piano key weirs are hydraulic control structures capable of maintaining relatively stable upstream water elevations across varying flow conditions. The structure was selected to minimize flood risk to neighboring properties during high-flow events. In addition to its hydraulic function, the piano key weir may also serve as a unique architectural and aesthetic feature within the park setting, as these structures have been recognized elsewhere for their distinctive appearance.

The conceptual design also includes a headgate structure that would allow operators to lower or fully drain the lake, if necessary, for maintenance activities, emergency operations, sediment removal, or other operational requirements.

Although the conceptual lake may provide incidental seepage to shallow groundwater, the site is not anticipated to provide groundwater recharge benefits. According to the Idaho Water Resources Board's *Treasure Valley Managed Recharge Feasibility Study* (2020), the Lakeview Park area is not situated within a high-priority recharge zone. Additional geotechnical investigation and groundwater evaluation would be required prior to advancing the concept into detailed design, particularly to evaluate geotechnical conditions and groundwater interaction.

The Lake Ethel concept received positive interest during stakeholder discussions conducted under Task 2. In addition to restoring a historical park feature, the concept may provide localized operational flexibility within Mason Creek and support broader drain management coordination efforts between irrigation entities. The concept also aligns with the City of Nampa's interest in integrating water management opportunities with public amenities, recreation, and community identity.

2.2.2.2 PROJECT BENEFITS

The project incorporates a piano key weir, which is a hydraulically efficient control structure. This minimizes the potential flooding impact associated with the project but also minimizes the regulation potential. Therefore, this project would combine weir and gated control to attenuate flow. However, if

the lake could reduce daily oscillations by 125 gallons per minute (0.28 cfs), that would provide a 100 acre-foot benefit over the irrigation season.

Redeveloping a lake in a public park provides opportunities for water quality improvement and wildlife habitat enhancement. Lake features promote sediment settling, providing water clarity and quality benefits within the connected canal and drain system. Lake and wetland features can support native plants and animals that provide additional filtering benefits. When integrated into a park setting, these features serve an environmentally beneficial purpose while also improving local aesthetic and recreational value.

Water-oriented park features are often valued as community focal points and may increase public use and engagement within the surrounding park. These features create opportunities for recreational fishing and wildlife viewing. Water features such as the weir can also augment the visual character of the park and enhance its social value.

2.2.2.3 PROJECT COSTS

The estimated OPCC for this project is $6,441,000, as shown in Attachment B-2. Itemized costs include earthwork and water control and conveyance structures. The OPCC is provided as an AACE Class 5 Accuracy (-50% to +100%).

Much of the cost is associated with construction of the piano key weir, which was selected to minimize potential flood risk. Selecting a less hydraulically efficient weir may meaningfully reduce the project's cost at the risk of increasing flood potential in the park and surrounding residential areas. This decision could be further evaluated and refined in design.

2.3 Regional Managed Aquifer Recharge Basins

2.3.1 Project Concept Description

Groundwater recharge via infiltration basins is a strategy for enhancing long-term regional water replenishment using available surface water and flood releases. Recharge basins allow surface water to percolate naturally into the underlying aquifer, leveraging the native soil and geologic conditions to replenish groundwater supplies. By recharging groundwater upgradient of municipalities, these facilities can provide hydraulic support to existing wells, bolster the aquifer system, and help offset declining water levels caused by regional pumping.

2.3.2 Example Project: Murgoitio Park Site Regional Managed Aquifer Recharge

2.3.2.1 PROJECT NARRATIVE

The Murgoitio Park Site Recharge Basin concept (Figure 5) is located on an approximately 160-acre undeveloped property owned by the City of Boise situated north of the New York Canal between Maple Grove Road and Cole Road in Ada County, Idaho. The site is currently undeveloped and has long been identified for future park development. Due to its proximity to the New York Canal and location within an area identified as favorable for groundwater recharge, the site was evaluated as a conceptual opportunity for infiltration-based managed aquifer recharge.

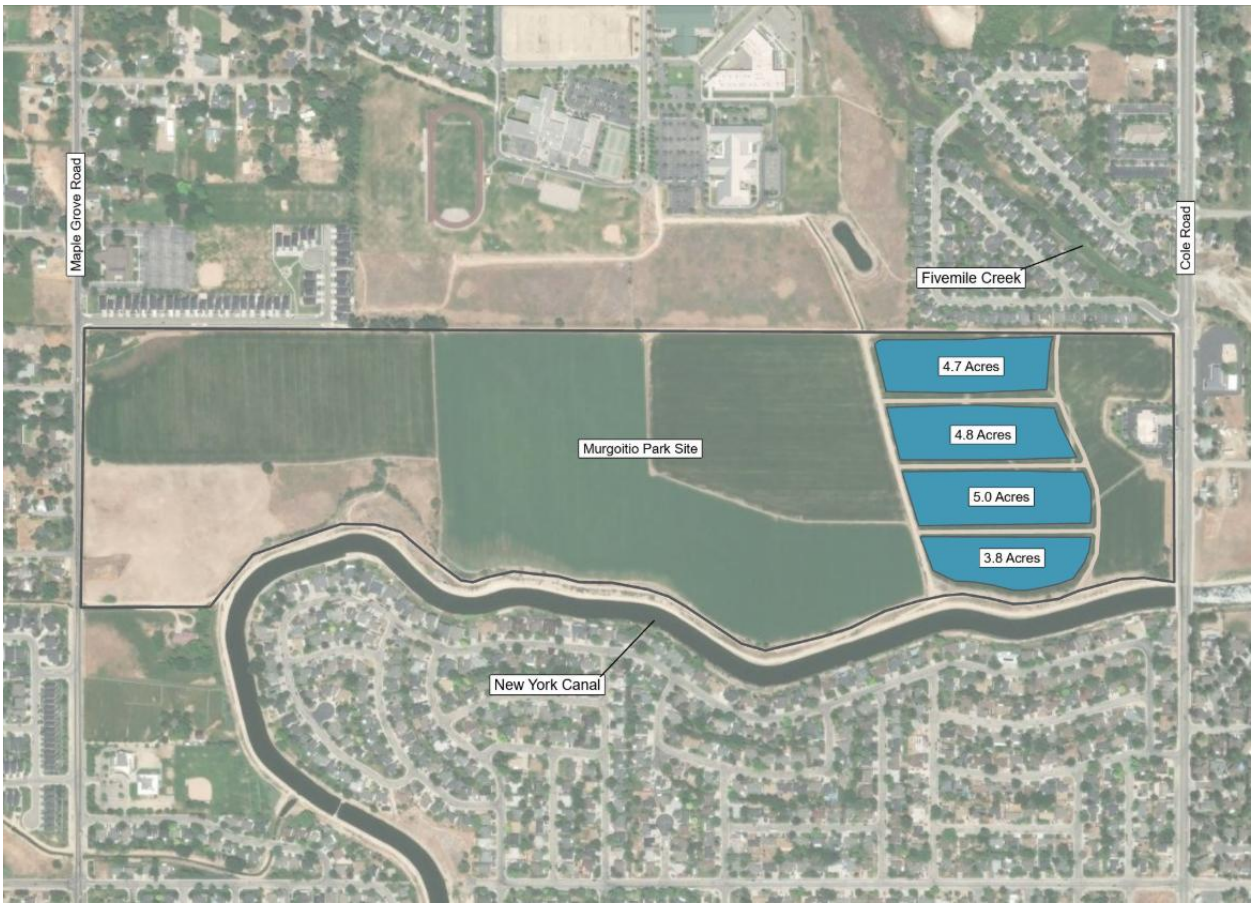


Figure 5. Layout of potential Murgoitio Park site recharge basins

The conceptual design incorporates four infiltration basins arranged in a tiered configuration that follows the natural slope of the property, descending from south to north. Water would be diverted from the adjacent New York Canal through an existing headgate and diversion structure at the site. The diverted water would enter the southernmost infiltration basin, with each basin designed to overflow into the adjacent downstream basin as water surface elevations rise. This cascading configuration was selected to distribute recharge flows across multiple infiltration areas while maintaining operational flexibility and minimizing concentrated overflow conditions.

The northernmost basin incorporates an emergency overflow pipe designed to discharge to nearby Fivemile Creek in the event that infiltration capacity is exceeded. This emergency overflow feature is intended to reduce flood risk to adjacent properties during high-flow or emergency conditions.

Each infiltration basin occupies a footprint between approximately 4 and 5 acres. The basins are intended to remain dry except during recharge operations and are not intended to be permanent water features. Unlike the Lake Ethel concept discussed previously, the Murgoitio basins are intended primarily as functional recharge infrastructure and have not considered recreational or aesthetic benefits while in operation.

The conceptual design was developed assuming a target recharge flow rate of approximately 30 cfs. This target flow rate was selected based on operational analysis of nearby Hubbard Reservoir facilities and assumptions regarding available diversion capacity and recharge operations. However,

the concept could be scaled or modified to accommodate alternate target infiltration rates depending on future operational objectives, water availability, or additional site analysis.

Site suitability for infiltration was evaluated using several available data sources, including the *Treasure Valley Managed Recharge Feasibility Study*, well drillers' reports, and U.S. Department of Agriculture (USDA) Web Soil Survey mapping. These resources were used to identify portions of the site exhibiting relatively free-draining soils and favorable recharge characteristics. Although these preliminary evaluations suggest the site may be favorable for infiltration-based recharge, more detailed geotechnical investigation and hydrogeologic characterization would be required prior to advancing the project beyond the conceptual planning phase. Additional study would be necessary to evaluate infiltration capacity and groundwater mounding potential.

Most of the anticipated construction costs associated with the Murgoitio concept are related to excavating and grading activities necessary to establish the infiltration basin geometry and overflow features. However, because the site is relatively large and undeveloped, excavated material could potentially be stored and redistributed on site, reducing the need for off-site hauling and lowering overall project costs.

The site's location adjacent to the New York Canal and within a favorable recharge zone presents a conceptual opportunity for regional groundwater recharge and collaborative water management efforts. Additional coordination with the City of Boise and other stakeholders would be required prior to advancing the concept into detailed feasibility evaluation or design.

2.3.2.2 PROJECT BENEFITS

The Murgoitio Park Site recharge basins were designed with an infiltration rate of 30 cfs. Assuming 30 days of floodwater capture during flood release years, the site could provide 1,800 acre-feet of recharge benefit. If water could be acquired over a 180-day irrigation season, the site could provide an additional 10,800 acre-feet of recharge benefit. This results in a total benefit of 12,600 acre-feet.

The estimated recharge volumes assume an infiltration rate of 3.2 feet per day or 1.6 inches per hour, corresponding to soil types identified in the site's USDA Web Soil Survey and infiltration rates presented in the Minnesota Stormwater Manual. For verification, this infiltration rate was compared to recharge in the nearby Hubbard Reservoir, measured at approximately 2-3 feet per day. Hubbard Reservoir achieves this infiltration rate without any site improvements, whereas the Murgoitio concept includes excavation to free-draining soils.

The current concept design occupies a 20-acre footprint of the 160-acre property. Upscaling the project design could facilitate additional recharge if water is available.

2.3.2.3 PROJECT COSTS

The estimated OPCC for this project is $14,463,000, as shown in Attachment B-3. Itemized costs include earthwork and water control and conveyance structures. The OPCC is provided as an AACE Class 5 Accuracy (-50% to +100%).

Much of the cost is associated with excavating the infiltration basins. This project has the potential to be scaled to meet a different infiltration rate, which may meaningfully impact the project cost.

2.4 Park Amenity Ponds for Recharge

2.4.1 Project Concept Description

Small-scale recharge basins provide localized opportunities for groundwater replenishment using available surface water and flood releases. These projects are intended to capture unappropriated flows that would otherwise pass through the system unused, particularly during periods of low irrigation demand when conveyance capacity is available. The capture and infiltration of flood control releases from the Boise River offers the potential to replenish groundwater and supplement municipal and irrigation supplies, supporting long-term water resiliency.

2.4.2 Example Project: Pearl Jensen Park Site Managed Aquifer Recharge

2.4.2.1 PROJECT NARRATIVE

The Pearl Jensen Park Site Recharge Basin concept (Figure 6) is located on an approximately 60-acre undeveloped property owned by the City of Boise in Ada County, Idaho. The site is situated north of Lake Hazel Road between Five Mile Road and Maple Grove Road and has been identified for future park development. Similar to the Murgoitio Park concept, the property is located within an area identified as having high groundwater recharge potential according to the *Treasure Valley Managed Recharge Feasibility Study*.



Figure 6. Layout of potential Pearl Jensen Park site recharge basin

Water delivery to the site would occur through an existing headgate located at the Wood Lateral in the northeast corner of the property. The Wood Lateral is supplied directly by the New York Canal and provides an existing conveyance opportunity for delivering water to the site during recharge operations.

Eightmile Creek bisects the property from east to west and currently captures local drain flows through the site. A small, ponded wetland area exists near the western portion of the property where Eightmile Creek exits the site. Existing drainage patterns were considered during development of the conceptual recharge basin layout.

The conceptual design incorporates a single infiltration basin occupying approximately 3 acres within the central portion of the property immediately north of Eightmile Creek. This location was selected following review of available well drillers' reports and USDA Web Soil Survey mapping to identify areas exhibiting favorable infiltration characteristics. The infiltration basin was conceptually designed assuming an infiltration rate of approximately 5 cfs. Excess flows exceeding the assumed infiltration capacity would discharge into Eightmile Creek through an overflow structure.

Although the conceptual design evaluated under this task includes only a single infiltration basin, the site may provide opportunities for future expansion into a broader connected water feature network. Preliminary review of site soils indicates that portions of the northern property exhibit relatively poorly draining conditions. These conditions may be favorable for development of year-round wetted ponds or wetland features if future park development plans seek to incorporate permanent water amenities in conjunction with recharge infrastructure.

As with the regional managed aquifer recharge basins concept, additional geotechnical investigation and hydrogeologic characterization would be required prior to advancing the park amenity ponds for recharge concept beyond the conceptual planning phase. Further study would be necessary to evaluate infiltration capacity and groundwater response.

2.4.2.2 PROJECT BENEFITS

The Pearl Jensen Park Site recharge basin was designed with an infiltration rate of 5 cfs. Assuming 30 days of floodwater capture during flood release years, the site could provide 300 acre-feet of recharge benefit. If water could be acquired over a 180-day irrigation season, the site could provide an additional 1,800 acre-feet of recharge benefit. This results in a total benefit of 2,100 acre-feet.

The estimated recharge volumes assume an infiltration rate of 3.2 feet per day or 1.6 inches per hour, corresponding to soil types identified in the site's USDA Web Soil Survey and infiltration rates presented in the Minnesota Stormwater Manual. For verification, this infiltration rate was compared to recharge in the nearby Hubbard Reservoir, measured at approximately 2-3 feet per day.

This project also provides opportunities for water quality improvement and wildlife habitat enhancement. Incorporating additional pond features in areas of the site with poor draining soil could promote sediment settling, providing water clarity and quality benefits within the connected canal and drain system. Pond and wetland features can support native plants and animals that provide additional filtering benefits.

2.4.2.3 PROJECT COSTS

The estimated OPCC for this project is $2,013,000, as shown in Attachment B-4. Itemized costs include earthwork and water control and conveyance structures. The OPCC is provided as an AACE Class 5 Accuracy (-50% to +100%).

2.5 Operational Improvements for In-Lieu Recharge

2.5.1 Project Concept Description

In-lieu recharge provides an indirect means of aquifer replenishment by reducing groundwater pumping demands rather than physically injecting or infiltrating water into the subsurface. Under this approach, surface water is delivered to meet irrigation or municipal demands that would otherwise rely on groundwater sources. By substituting surface supplies for pumped groundwater, in-lieu recharge helps alleviate pressure on the aquifer and contributes to long-term stabilization of groundwater levels. This strategy can be particularly effective when implemented in coordination with irrigation districts or municipal providers, where large volumes of demand can be shifted from wells to surface diversions.

2.5.2 Example Project: City of Nampa Groundwater to Surface Water Conversion

2.5.2.1 PROJECT NARRATIVE

The City of Nampa could accomplish in-lieu recharge through small-scale modifications to its existing irrigation operations. Under this approach, available surface water would be delivered to meet City of Nampa irrigation demands that would otherwise be supplied by groundwater pumping. By substituting surface water for pumped groundwater during periods when surface water is available (for example, when flood control releases are being made), the City of Nampa can reduce short-term pumping demands and allow groundwater to remain in the aquifer. This provides an indirect recharge benefit by reducing groundwater withdrawals rather than physically infiltrating water through a basin or injection well.

The City of Nampa provided supervisory control and data acquisition system (SCADA) data for groundwater pumping for the past 5 years. Reported April pumping volumes are provided in Table 2.

Table 2. City of Nampa's groundwater pumping volumes for the month of April, 2021-2025.

Year	Total acre-feet of groundwater pumped in April
2021	1,376
2022	338
2023	371
2024	977
2025	1,153
Average	**843**

Flood releases were available during 4 of the last 5 years evaluated, indicating that surface water may be available during the early irrigation season in many years when the City of Nampa is otherwise relying on groundwater pumping. If flood releases or other available surface water supplies can be delivered through existing irrigation infrastructure during this period, the City of Nampa may be able to offset a portion of its April groundwater pumping demand. In addition to reducing pumping costs, this would support groundwater conservation by leaving water in storage within the aquifer.

This concept would require coordination with local irrigation entities to evaluate early-season system startup, delivery capacity, and operational constraints. During stakeholder coordination conducted under Task 2, Pioneer Irrigation District expressed willingness to collaborate with the City of Nampa on opportunities related to early-season operations and improved coordination. This operational partnership could provide a pathway for evaluating whether available surface water can be delivered earlier in the irrigation season to reduce City of Nampa groundwater pumping. Pioneer Irrigation District suggested that increased deliveries or earlier start dates could increase the cost of algaecide by $10,000-$15,000 biweekly. Covering these costs, as well as additional operating and maintenance costs, would require negotiation between the City of Nampa and irrigation districts before a final cost estimate can be produced.

Because in-lieu recharge does not require construction of a dedicated storage or infiltration facility, the concept may be more immediately scalable than the physical infrastructure concepts evaluated in this task. However, implementation would depend on water rights, irrigation district operations, conveyance capacity, timing of available surface water, and agreements between participating agencies. Further operational analysis would be required to determine how much of the City of Nampa's April pumping demand could be offset in a given year.

Using the rental pool or other available surface water supplies, the City of Nampa may be able to offset a larger portion of its groundwater pumping demand beyond the month of April. Between the months of April and October, the City of Nampa's 5-year average pumping volume is 10,600 acre-feet of water, averaging 1,500 acre-feet per month. This volume of water would likely require infrastructure improvements on the irrigation district's facilities.

2.5.2.2 PROJECT BENEFITS

The City of Nampa's groundwater pumping system includes 42 wells. Based on the 5-year average April pumping volume, this equates to a pumping volume of 20 acre-feet per well. Assuming a pumping water level of 75 feet with an additional 175 feet (75 psi) discharge pressure, the total dynamic head is 250 feet. With a 60% system efficiency and a rate of $0.076 per kilowatt-hour, the estimated cost of pumping groundwater is $32 per acre-foot. This cost translates to $650 per well for the month of April, or an April total cost of $27,000.

Expanding this concept to cover the entire pumping season yields an estimated cost of $8,100 per well, or $340,000 per season. However, this option would likely require infrastructure improvements on the irrigation district's facilities.

Depending on water availability and negotiated operational fees, surface water may be acquired at a comparable price to the estimated pumping costs.

2.5.2.3 PROJECT COSTS

The estimated opinion of probable cost to offset groundwater pumping for the month of April is $47,000, as shown in Attachment B-4. This cost is provided as an AACE Class 5 Accuracy (-50% to +100%).

The cost does not include savings that could be incurred through reduced pumping operations.

3 Conclusions

Task 3 advanced five concepts identified during Task 2 into appraisal-level conceptual designs and planning-level cost evaluations. These concepts represent a range of approaches for improving water management, groundwater replenishment, and operational resiliency within the City of Nampa and the surrounding Treasure Valley region.

The conceptual evaluations demonstrate that opportunities for large regional-scale projects are limited primarily by site availability. As the Treasure Valley develops, open land for projects with regional-scale impact is limited. Beyond land availability challenges, addressing infrastructure constraints and operational complexity will require regional coordination. Continued multi-stakeholder planning and cooperation will be necessary to identify additional suitable sites and advance future regional recharge opportunities.

The in-lieu recharge concept demonstrated that operational approaches may provide meaningful value without requiring major capital infrastructure investment. Using available surface water during flood control operations and periods of excess flow could reduce municipal groundwater pumping demands and associated operational costs. Although implementation would require coordination between municipalities and irrigation districts, the concept represents a relatively low-capital opportunity with potential long-term benefits.

The conceptual evaluations also identified that smaller-scale projects integrated into public parks may provide multiple complementary benefits. Where feasible, park ponds, regulating basins, and localized recharge features can support groundwater replenishment and drain flow regulation while also improving public amenities, habitat opportunities, and operational flexibility within local canal and drain systems. The cumulative effect of distributed projects may contribute meaningfully to regional water management objectives.

The concepts developed under this task are intended to support future planning discussions and comparative evaluation rather than final engineering design. Additional feasibility studies, geotechnical investigations, hydraulic analysis, operational coordination, and stakeholder engagement would be required prior to advancing any concept toward implementation.

Appendix A – Concept Design Drawings

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Appendix A-1 – Fifteenmile Creek Drain Regulation Project

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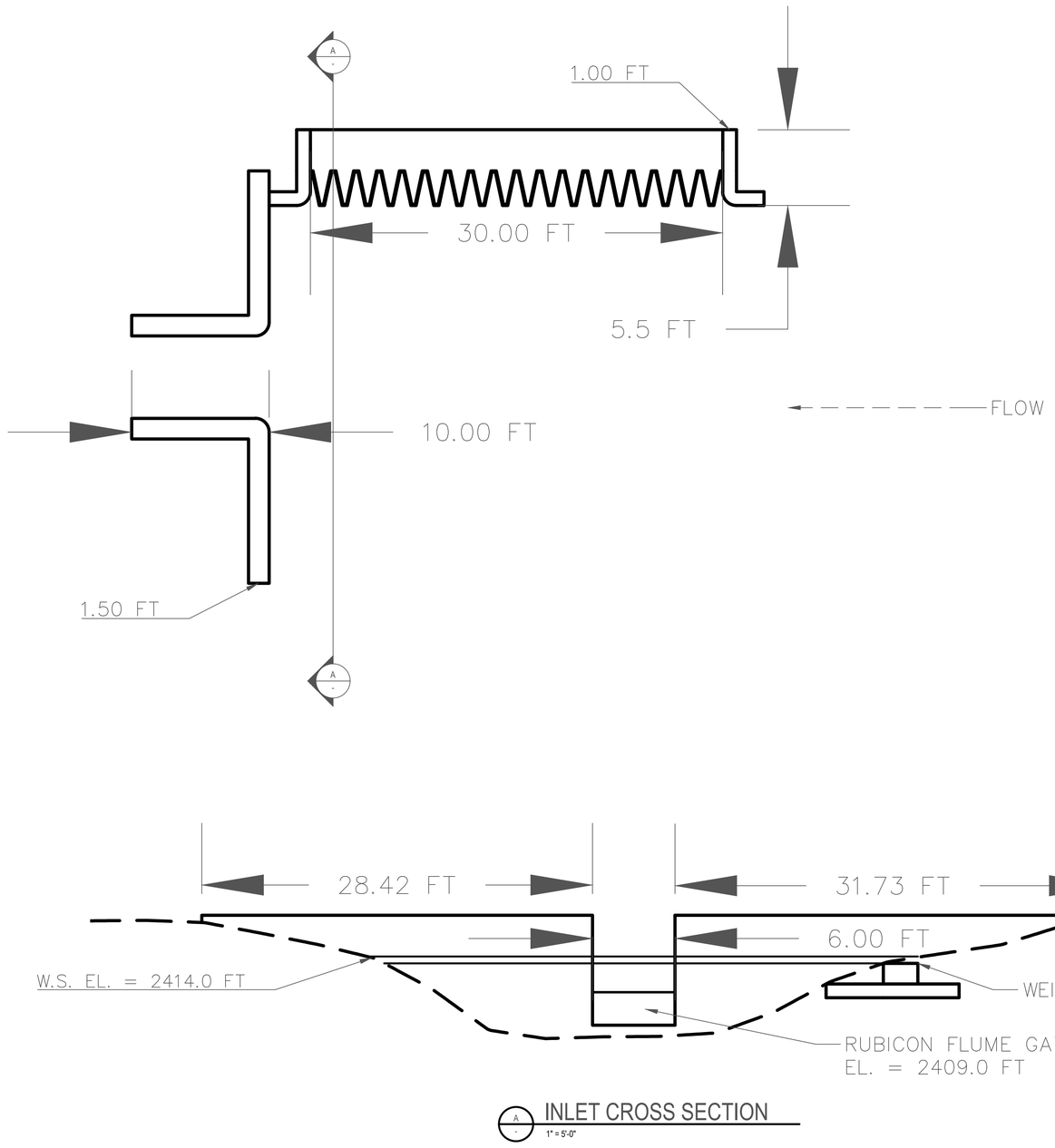
GENERAL NOTES

1. DRAWINGS SHOWN ARE PRELIMINARY AND ARE NOT INTENDED FOR CONSTRUCTION PURPOSES.
2. A GEOTECHNICAL SITE INVESTIGATION IS RECOMMENDED PRIOR TO FURTHER CONTRUCTION AND DESIGN.
3. SURVEY WAS LIMITED AT THE TIME OF PRELIMINARY DESIGN. ADDITIONAL SURVEY WILL BE REQUIRED FOR FULL FUTURE DESIGN.

KEY NOTES

1. EST. W.S. EL. RANGE: 2413.5 - 2414.0 FT
2. INLET CONTROL STRUCTURE
3. INLET WEIR CREST EL. = 2413.5 FT
4. W.S. EL. RANGE: 2411.0 - 2412.3 FT
5. EMERGENCY OUTLET WEIR CREST EL. = 2413.0 FT
6. OUTLET CONTROL STRUCTURE
7. EST. W.S. EL. = 2410.64 FT

0 250 500 1,000 1,500 2,000
Feet



A - INLET CROSS SECTION
1" = 5'-0"

INLET STRUCTURE

GENERAL NOTES

1. NOTE 1
2. NOTE 2

KEYNOTES (##)

1. KEYNOTE 1
2. KEYNOTE 2

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CHECKED BY	
PROJECT NUMBER	10424783

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CITY OF NAMPA
FLOODWATER CONCEPT
NAMPA, IDAHO

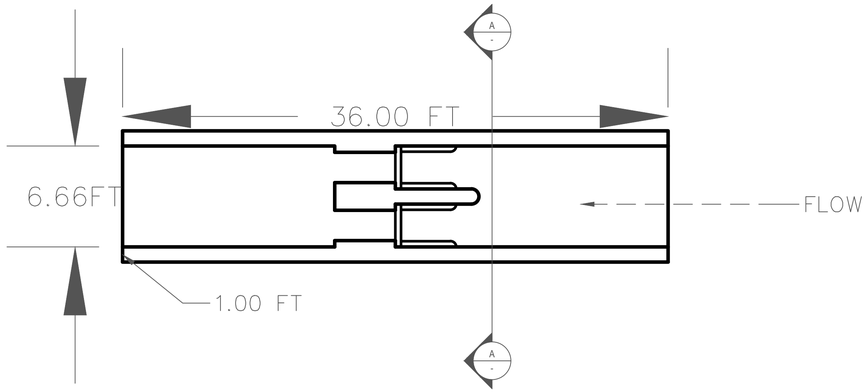
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2. NOTE 2

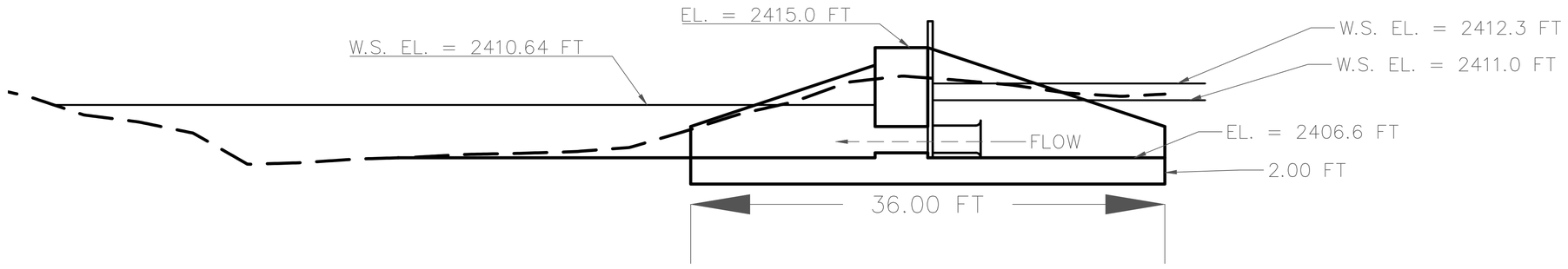
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1. KEYNOTE 1
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A OUTLET STRUCTURE
1" = 5'-0"



OUTLET STRUCTURE

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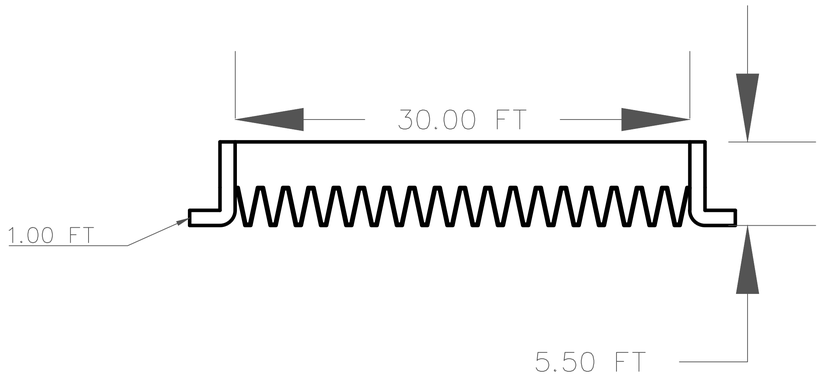
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FLOODWATER CONCEPT
NAMPA, IDAHO

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GENERAL NOTES

1. NOTE 1
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KEYNOTES (##)

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Appendix A-2 – Lake Ethel Reestablishment at Lakeview Park

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2. A GEOTECHNICAL SITE INVESTIGATION IS RECOMMENDED PRIOR TO FURTHER CONTRUCTION AND DESIGN.
3. SURVEY WAS LIMITED AT THE TIME OF PRELIMINARY DESIGN. ADDITIONAL SURVEY WILL BE REQUIRED FOR FULL FUTURE DESIGN.

KEY NOTES

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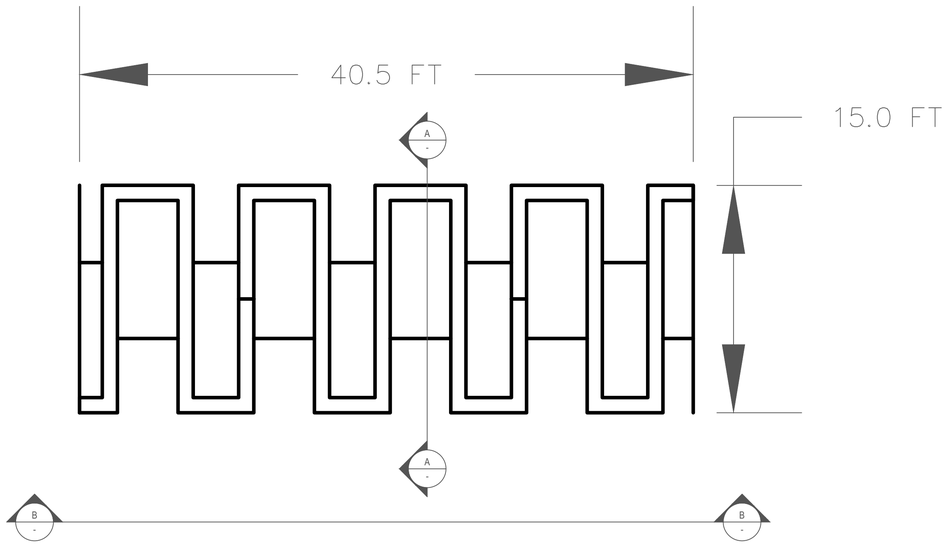
LAKE ETHEL CONCEPT DESIGN
DRAIN RECHARGE & FLOODWATER STORAGE STUDY

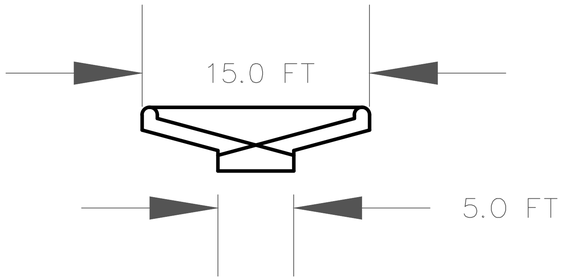
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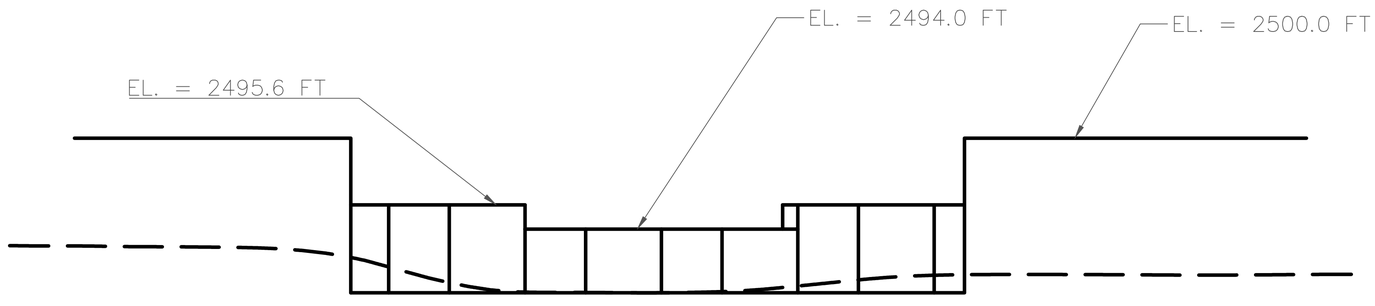
KEYNOTES (##)

1. KEYNOTE 1
2. KEYNOTE 2





A - PIANO KEY CROSS SECTION
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B - PIANO KEY WEIR PROFILE
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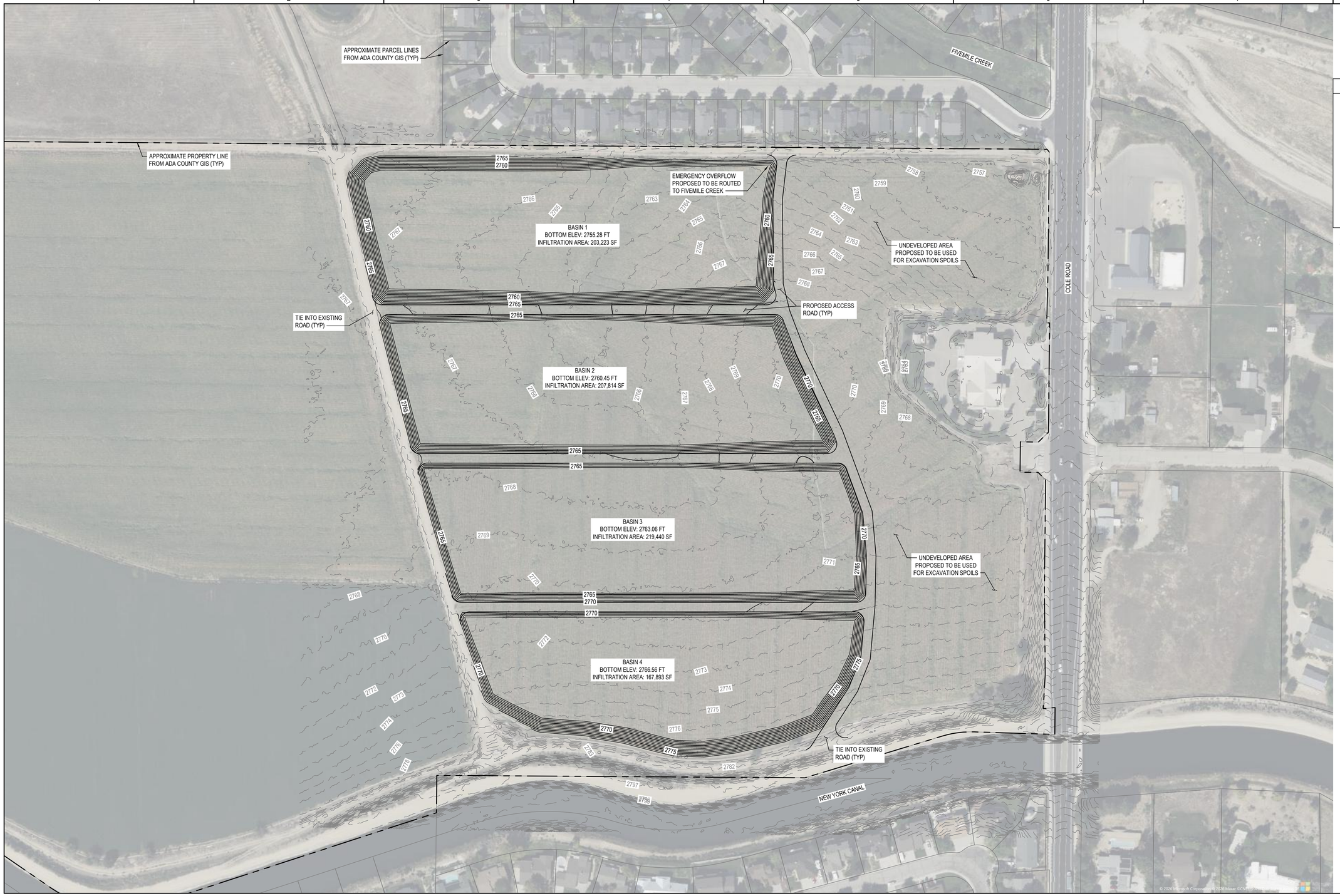
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Appendix A-3 – Murgoitio Park Site Regional Managed Aquifer Recharge

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GENERAL NOTES

1. AERIAL IMAGERY IS APPROXIMATE FROM CAD.
2. SURFACE CONTOURS ARE SHOWN AT 1' AND 5' INTERVALS.
3. EXISTING SURFACE WAS CREATED FROM ONLINE USGS LIDAR DATA.
4. BASIN SIDE SLOPES ARE 3:1.
5. BASINS ARE LAID OUT AND SIZED PER INFORMATION FROM NRCS USDA WEB SOIL SURVEY.
6. THIS PLAN IS CONCEPTUAL AND IS NOT TO BE USED FOR CONSTRUCTION. ALL INFORMATION SHOWN HEREIN IS SUBJECT TO CHANGE WITH FURTHER DESIGN AND DATA COLLECTION.

RECHARGE BASIN NOTES

DESIGN DIVERSION FLOW: 30 CFS

DESIGN INFILTRATION RATE: 1.63 IN/HR

TOTAL PROVIDED INFILTRATION AREA: 798,370 SQ FT

FLOW CAPACITY: 30.12 CFS

APPROXIMATE EARTHWORK VOLUME: 250,240 CU YD (CUT)

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BOISE, ID 83706
(208) 387-7000

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	J. ROLDAN
DESIGNED BY	D. BRANDS
DRAWN BY	D. BRANDS
PROJECT NUMBER	10424783

PRELIMINARY NOT FOR CONSTRUCTION OR RECORDING

MURGOITIO GW RECHARGE CONCEPTUAL DESIGN

CONCEPT SITE AND GRADING PLAN

FILE NAME: GRADING.DWG
SCALE: AS SHOWN
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EX-1

Appendix A-4 – Pearl Jensen Park Site Managed Aquifer Recharge

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SCALE IN FEET

GENERAL NOTES

1. AERIAL IMAGERY IS APPROXIMATE FROM CAD.
2. SURFACE CONTOURS ARE SHOWN AT 1' AND 5' INTERVALS.
3. EXISTING SURFACE WAS CREATED FROM ONLINE USGS LIDAR DATA.
4. BASIN SIDE SLOPES ARE 3:1.
5. BASINS ARE LAID OUT AND SIZED PER INFORMATION FROM NRCS USDA WEB SOIL SURVEY.
6. THIS PLAN IS CONCEPTUAL AND IS NOT TO BE USED FOR CONSTRUCTION. ALL INFORMATION SHOWN HEREIN IS SUBJECT TO CHANGE WITH FURTHER DESIGN AND DATA COLLECTION.

RECHARGE BASIN NOTES

DESIGN DIVERSION FLOW: 5 CFS

DESIGN INFILTRATION RATE: 1.63 IN/HR

TOTAL PROVIDED INFILTRATION AREA: 126,950 SQ FT

FLOW CAPACITY: 4.79 CFS

APPROXIMATE EARTHWORK VOLUME: 33,870 CU YD (CUT)

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PROJECT MANAGER	J. ROLDAN
DESIGNED BY	D. BRANDS
DRAWN BY	D. BRANDS
PROJECT NUMBER	10424783

PRELIMINARY NOT FOR CONSTRUCTION OR RECORDING

PEARL JENSEN GW RECHARGE CONCEPTUAL DESIGN

CONCEPT SITE AND GRADING PLAN

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Appendix B – Concept Design Cost Estimates

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Appendix B-1 – Fifteenmile Creek Drain Regulation Project

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ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS

AACE Level 5 Accuracy Range (-50% to +100%)

FIFTEENMILE CREEK DRAINFLOW REGULATION CONCEPT

CITY OF NAMPA

MARK-UPS:		Percentage
	MOBILIZATION	5%
	I&C	2%
	PROCESS MECHANICAL	3%
	DESIGN CONTINGENCY	25%
	MARKET VOLATILITY	0%
	CONTRACTOR BONDS, GENERAL COND., INS., PROFIT & OVERHEAD	25%

ITEM NO.	DESCRIPTION	QTY	UNIT	Budget UNIT $		TOTAL	NOTES
1.0	**CIVIL**				**Subtotal:**	**$ 262,350**	
1.1	EXCAVATION	550	CY	$90		$ 49,500	INCLUDES MODERATE HAUL (1-5 MILES OFFSITE)
1.2	CONCRETE	115	CY	$650		$ 74,750	INCLUDES REINFORCING STEEL
1.3	FILL MATERIAL (PIT RUN/COMMON BORROW)	150	CY	$30		$ 4,500	INCLUDES IMPORT COST
1.4	FILL MATERIAL PLACEMENT, CONDITION, COMPACTION	150	CY	$40		$ 6,000	
1.5	1" STEEL PLATE	1	LS	$20,000		$ 20,000	110' x 2.5'
1.6	30" PIPE	350	LF	$300		$ 105,000	30" STORM SEWER PIPE - CLASS IV REINFORCED CONCRETE
1.7	BEDDING MATERIAL (3/4-INCH MINUS CRUSHED AGGREGATE)	20	CY	$90		$ 1,800	INCLUDES IMPORT COST
1.8	BEDDING MATERIAL PLACEMENT, COMPACTION	20	CY	$40		$ 800	
2.0	**MECHANICAL**				**Subtotal:**	**$ 227,980**	
2.1	FLUME GATE	1	EA	$60,990		$ 60,990	RUBICON FGB-1675-2186
2.2	SLIP METER GATE	2	EA	$25,250		$ 50,500	RUBICON SMB-750-2400-C
2.3	GATE INSTALLATION	1	LS	$ 111,490		$ 111,490	
3.0	**ELECTRICAL**						
3.1	ELECTRICAL MODIFICATIONS	1	LS	$5,000		$ 5,000	POWER TO RUBICON GATES

A	**SUBTOTAL**					**$ 490,300**	
B	*MOBILIZATION*	(% of A)				$ 24,500	
C	*I&C*	(% of)				$ 1,200	
D	*PROCESS MECHANICAL*	(% of)				$ 5,200	
E	**SUBTOTAL**					**$ 521,200**	
F	*Design Contingency*	(% of E)				$ 130,300	Range 5-30%
G	**SUBTOTAL**					**$ 651,500**	
H	*MARKET VOLATILITY*	(% of G)				$ -	
I	**SUBTOTAL**					**$ 652,000**	
F	*CONTRACTOR BONDS, GENERAL COND., INS., PROFIT & OVERHEAD*	(% of I)				$ 163,000	
K	**SUBTOTAL**					**$ 815,000**	
G	**TOTAL BASE ESTIMATED COST - 2025 DOLLARS**					**$ 815,000**	

AACE Class 5 Accuracy Range (-50%/+100%):

LOW:	**$408,000**
HIGH:	**$1,630,000**

Appendix B-2 – Lake Ethel Reestablishment at Lakeview Park

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ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS

AACE Level 5 Accuracy Range (-50% to +100%)

LAKEVIEW PARK CONCEPT

CITY OF NAMPA

MARK-UPS:		Percentage
	MOBILIZATION	5%
	I&C	2%
	PROCESS MECHANICAL	3%
	DESIGN CONTINGENCY	25%
	MARKET VOLATILITY	0%
	CONTRACTOR BONDS, GENERAL COND., INS., PROFIT & OVERHEAD	25%

ITEM NO.	DESCRIPTION	QTY	UNIT	Budget UNIT $		TOTAL	NOTES
1.0	**CIVIL**				**Subtotal:**	**$ 3,905,400**	
1.1	EXCAVATION	12,000	CY	$90		$ 1,080,000	ASSUMES 2-FT AVERAGE CUT DEPTH IN LAKE, INCLUDES MODERATE HAUL (1-5 MILES OFFSITE)
1.2	CONCRETE	4,000	CY	$650		$ 2,600,000	INCLUDES REINFORCING STEEL
1.3	RIPRAP	1,400	CY	$130		$ 182,000	ASSUMES 12" D50, 10-FT WIDTH RING AROUND LAKE PERIMETER
1.4	RIPRAP BEDDING MATERIAL	700	CY	$60		$ 42,000	ASSUMES 1-FT THICKNESS
1.5	RIPRAP FABRIC	700	SY	$2		$ 1,400	MIRAFI 140N
2.0	**MECHANICAL**				**Subtotal:**	**$ 20,000**	
2.1	HEADGATE	1	EA	$20,000		$ 20,000	30", CAST IRON, MANUAL OPERATION, ALL PARTS AND INSTALLATION

A	**SUBTOTAL**					**$ 3,925,400**	
B	*MOBILIZATION*	(% of A)				$ 196,300	
C	*I&C*	(% of)				$ 400	
D	*PROCESS MECHANICAL*	(% of)				$ 600	
E	**SUBTOTAL**					**$ 4,122,700**	
F	*Design Contingency*	(% of E)				$ 1,030,700	Range 5-30%
G	**SUBTOTAL**					**$ 5,153,400**	
H	*MARKET VOLATILITY*	(% of G)				$ -	
I	**SUBTOTAL**					**$ 5,153,000**	
F	*CONTRACTOR BONDS, GENERAL COND., INS., PROFIT & OVERHEAD*	(% of I)				$ 1,288,000	
K	**SUBTOTAL**					**$ 6,441,000**	
G	**TOTAL BASE ESTIMATED COST - 2025 DOLLARS**					**$ 6,441,000**	

AACE Class 5 Accuracy Range (-50%/+100%):

LOW: **$3,221,000**

HIGH: **$12,882,000**

Appendix B-3 – Murgoitio Park Site Regional Managed Aquifer Recharge

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

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS

AACE Level 5 Accuracy Range (-50% to +100%)

MURGOITIO RECHARGE BASIN CONCEPT

CITY OF NAMPA

MARK-UPS:		Percentage
	MOBILIZATION	3%
	I&C	2%
	PROCESS MECHANICAL	3%
	DESIGN CONTINGENCY	25%
	MARKET VOLATILITY	0%
	CONTRACTOR BONDS, GENERAL COND., INS., PROFIT & OVERHEAD	25%

ITEM NO.	DESCRIPTION	QTY	UNIT	Budget UNIT $		TOTAL	NOTES
1.0	**CIVIL**				**Subtotal:**	**$ 8,896,050**	
1.1	EXCAVATION	250,200	CY	$35		$ 8,757,000	ASSUMES MATERIAL RETAINED ONSITE
1.2	CONCRETE	20	CY	$650		$ 13,000	INCLUDES REINFORCING STEEL
1.3	FILL MATERIAL PLACEMENT, CONDITION, COMPACTION	70	CY	$40		$ 2,800	ASSUMES BACKFILL USING EXCAVATED MATERIAL
1.4	30" PIPE	400	LF	$300		$ 120,000	30" STORM SEWER PIPE - CLASS IV REINFORCED CONCRETE
1.5	BEDDING MATERIAL (3/4-INCH MINUS CRUSHED AGGREGATE	25	CY	$90		$ 2,250	INCLUDES IMPORT COST
1.6	BEDDING MATERIAL PLACEMENT, COMPACTION	25	CY	$40		$ 1,000	
2.0	**MECHANICAL**				**Subtotal:**	**$ 87,000**	
2.1	SLUICE GATE	1	EA	$65,000		$ 65,000	48" SLUICE GATE AND ACTUATOR
2.2	BARREL SCREEN	1	EA	$20,000		$ 20,000	3' DIAMETER, EMERGENCY OVERFLOW SPILL
3.0	**ELECTRICAL**						
3.2						$ -	

A	**SUBTOTAL**					**$ 8,983,100**	
B	*MOBILIZATION*	(% of A)				$ 269,500	
C	*I&C*	(% of)				$ 1,300	
D	*PROCESS MECHANICAL*	(% of)				$ 2,000	
E	**SUBTOTAL**					**$ 9,255,900**	
F	*Design Contingency*	(% of E)				$ 2,314,000	Range 5-30%
G	**SUBTOTAL**					**$ 11,569,900**	
H	*MARKET VOLATILITY*	(% of G)				$ -	
I	**SUBTOTAL**					**$ 11,570,000**	
F	*CONTRACTOR BONDS, GENERAL COND., INS., PROFIT & OVERHEAD*	(% of I)				$ 2,893,000	
K	**SUBTOTAL**					**$ 14,463,000**	
G	**TOTAL BASE ESTIMATED COST - 2025 DOLLARS**					**$ 14,463,000**	

AACE Class 5 Accuracy Range (-50%/+100%):

LOW:	**$7,232,000**
HIGH:	**$28,926,000**

Appendix B-4 – Pearl Jensen Park Site Managed Aquifer Recharge

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

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS

AACE Level 5 Accuracy Range (-50% to +100%)

PEARL JENSEN RECHARGE BASIN CONCEPT

CITY OF NAMPA

MARK-UPS:		Percentage
	MOBILIZATION	5%
	I&C	2%
	PROCESS MECHANICAL	3%
	DESIGN CONTINGENCY	25%
	MARKET VOLATILITY	0%
	CONTRACTOR BONDS, GENERAL COND., INS., PROFIT & OVERHEAD	25%

ITEM NO.	DESCRIPTION	QTY	UNIT	Budget UNIT $		TOTAL	NOTES
1.0	**CIVIL**				**Subtotal:**	**$ 1,205,390**	
1.1	EXCAVATION	34,000	CY	$35		$ 1,190,000	ASSUMES MATERIAL RETAINED ONSITE
1.2	CONCRETE	0	CY	$650		$ -	INCLUDES REINFORCING STEEL
1.3	FILL MATERIAL PLACEMENT, CONDITION, COMPACTION	0	CY	$40		$ -	ASSUMES BACKFILL USING EXCAVATED MATERIAL
1.4	30" PIPE	50	LF	$300		$ 15,000	30" STORM SEWER PIPE - CLASS IV REINFORCED CONCRETE
1.5	BEDDING MATERIAL (3/4-INCH MINUS CRUSHED AGGREGATE	3	CY	$90		$ 270	INCLUDES IMPORT COST
1.6	BEDDING MATERIAL PLACEMENT, COMPACTION	3	CY	$40		$ 120	
2.0	**MECHANICAL**				**Subtotal:**	**$ 20,000**	
2.1	BARREL SCREEN	1	EA	$20,000		$ 20,000	3' DIAMETER, EMERGENCY OVERFLOW SPILL

A	**SUBTOTAL**					**$ 1,225,400**	
B	*MOBILIZATION*	(% of A)				$ 61,300	
C	*I&C*	(% of)				$ 400	
D	*PROCESS MECHANICAL*	(% of)				$ 600	
E	**SUBTOTAL**					**$ 1,287,700**	
F	*Design Contingency*	(% of E)				$ 321,900	Range 5-30%
G	**SUBTOTAL**					**$ 1,609,600**	
H	*MARKET VOLATILITY*	(% of G)				$ -	
I	**SUBTOTAL**					**$ 1,610,000**	
F	*CONTRACTOR BONDS, GENERAL COND., INS., PROFIT & OVERHEAD*	(% of I)				$ 403,000	
K	**SUBTOTAL**					**$ 2,013,000**	
G	**TOTAL BASE ESTIMATED COST - 2025 DOLLARS**					**$ 2,013,000**	

AACE Class 5 Accuracy Range (-50%/+100%):

LOW:	**$1,007,000**
HIGH:	**$4,026,000**

Appendix B-5 – City of Nampa Groundwater to Surface Water Conversion

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

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS

AACE Level 5 Accuracy Range (-50% to +100%)

IN-LIEU RECHARGE CONCEPT

CITY OF NAMPA

ITEM NO.	DESCRIPTION	QTY	UNIT	Budget UNIT $		TOTAL	NOTES
1.1	ALGAECIDE	2	BIWEEKLY	$15,000		$ 30,000	
1.2	O&M	843	AF	$20		$ 16,860	

A	**SUBTOTAL**					**$ 46,900**	
G	**TOTAL BASE ESTIMATED COST - 2025 DOLLARS**					**$ 46,900**	

AACE Class 5 Accuracy Range (-50%/+100%):

LOW:	**$23,000**
HIGH:	**$94,000**

Appendix C – Water Benefit Calculations

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

Project: Fifteenmile Creek

Infrastructure Benefit

Increase minimum return flow by **20 cfs**	20 cfs	×	1.9835 *eq.1*	=	40 AF/day
for **180 day** irrigation season	40 AF/day	×	180 days	=	7,200 AF

Project: Lakeview Park

Infrastructure Benefit

Reduce flow oscillation by **125 gpm**	125 gpm	×	0.0044 *eq.2*	=	0.55 AF/day
for **180 day** irrigation season	0.55 AF/day	×	180 days	=	99 AF

Project: Murgoito Park Site

Infrastructure Benefit

Groundwater infiltraition rate of **30 cfs**	30 cfs	×	1.9835 *eq.1*	=	60 AF/day
for **30 day** floodwater capture	60 AF/day	×	30 days	=	1,800 AF
additional **180 day** irrigation season	60 AF/day	×	180 days	=	10,800 AF

Project: Pearl Jensen Park Site

Infrastructure Benefit

Groundwater infiltraition rate of **5 cfs**	5 cfs	×	1.9835 *eq.1*	=	10 AF/day
for **30 day** floodwater capture	10 AF/day	×	30 days	=	300 AF
additional **180 day** irrigation season	10 AF/day	×	180 days	=	1,800 AF

Project: In-Lieu Recharge

Potential Pumping Operation Offset (*from City SCADA data, 2021-2025*)

Mimimum pumping volume for April	110,004,900 gal	×	3.06843E-06 AF/gal	=	338 AF
Maximum pumping volume for April	448,573,400 gal	×	3.06843E-06 AF/gal	=	1,376 AF
Mean pumping volume for April	274,743,820 gal	×	3.06843E-06 AF/gal	=	843 AF

Equation 1: cubic feet per second (cfs) to acre-feet per day (AF/day) conversion	1 cfs	×	2.29568E-05 AF/cf	=	2.29568E-05 AF/s
	2.29568E-05 AF/s	×	86,400 s/day	=	1.9835 AF/day

Equation 2: gallons per minute (gpm) to acre-feet per day (AF/day) conversion	1 gpm	×	3.06843E-06 AF/gal	=	3.06843E-06 AF/min
	3.06843E-06 AF/min	×	1,440 min/day	=	0.0044 AF/day

MEMO

To: Idaho Water Resource Board

From: Planning & Projects Bureau Staff

Date: November 5, 2026

Subject: Eastern Snake Plain Aquifer Recharge Update

INFORMATIONAL ITEM

IDWR Planning and Projects Supervisor Matt Anders will provide a presentation on the Eastern Snake Plan Aquifer Recharge.

Attachments:

- *PowerPoint Presentation*



Managed Aquifer Recharge Program Update

Matt Anders
Planning and Projects Section Supervisor

November 12, 2026

1

IDAHO Water Resource Board

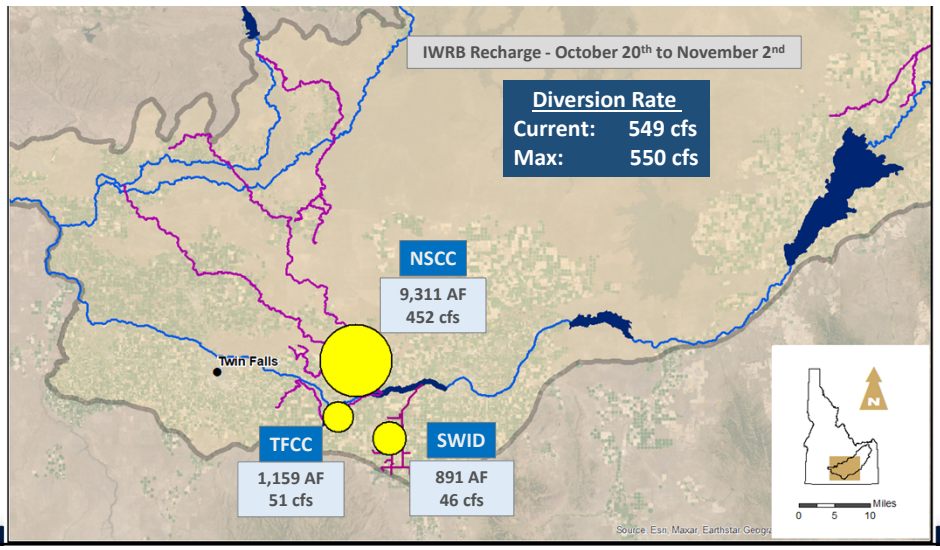
2026-2027 Recharge Update

2

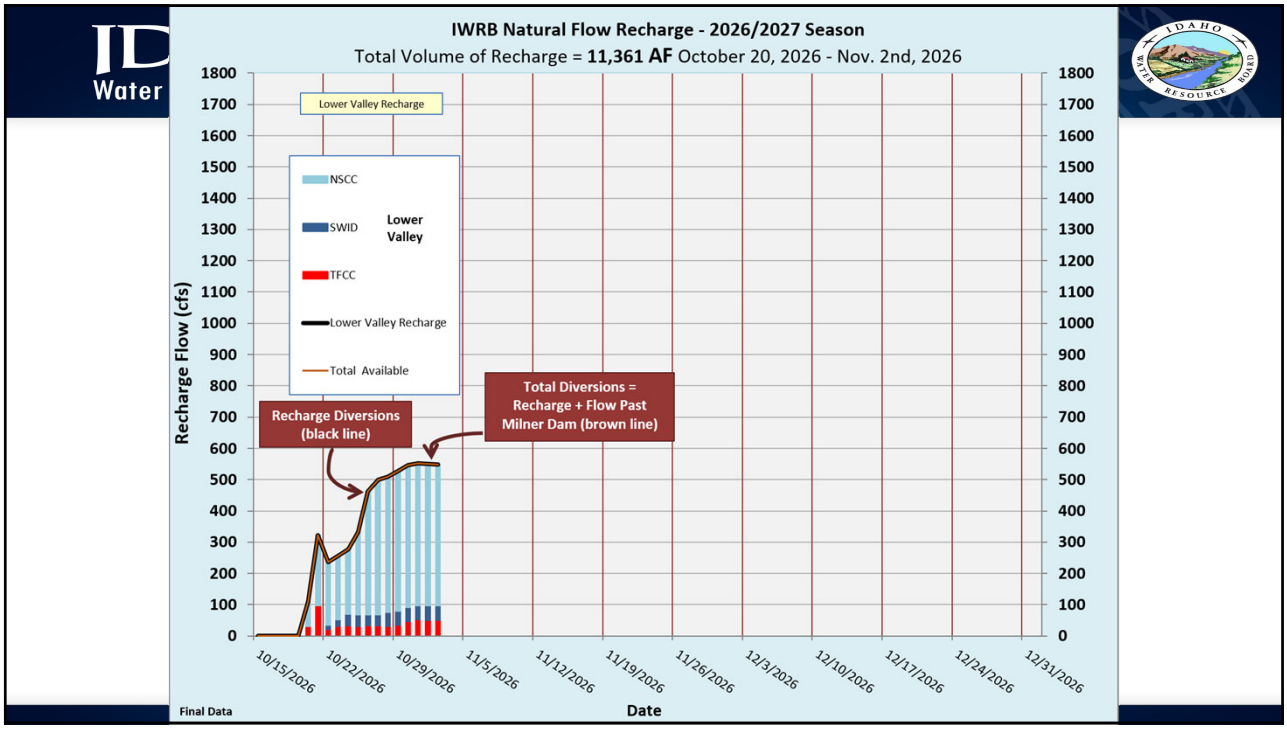
Total Natural Flow Water Recharged Winter 2026-2027
11,361 AF

All Values Provisional

Updated on 11/2/2026

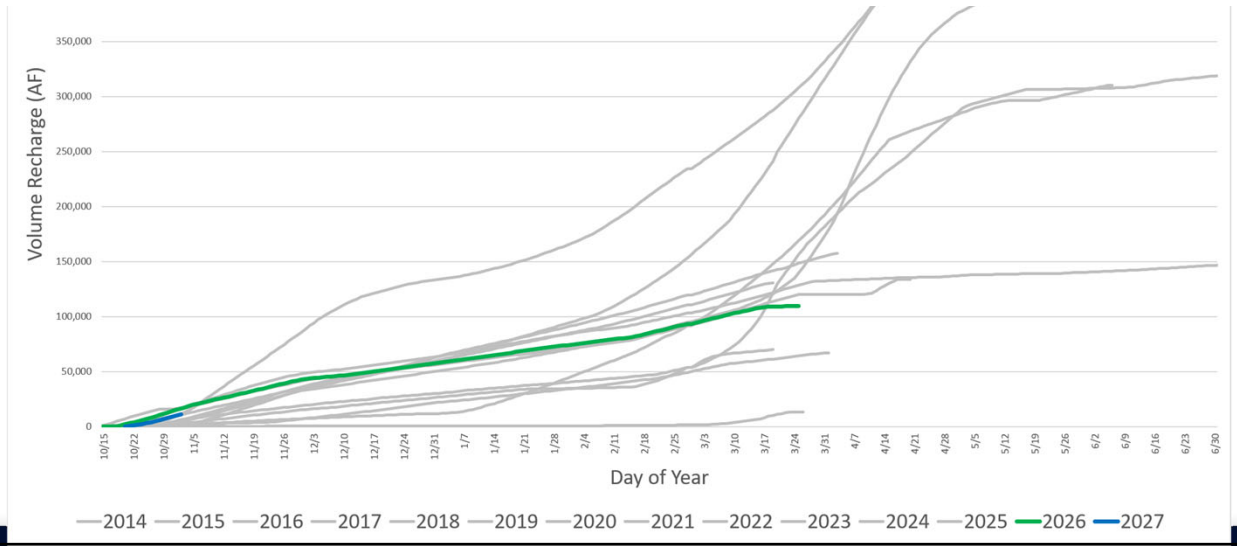


3



4

IDAHO Water Resource Board



5

IDAHO Water Resource Board

Milner Non-Divert Agreement

6

IDAHO Water Resource Board

IWRB-IPCo Milner Non-Divert Agreement

- Agreement Ends in 2030
- 15-Year Rolling Recharge Average starting in 2016 = 245,514 AF

Recharge Average Per Year (AF)	IWRB Portion of Available Water	Time Period
≤250,000	100%	Entire Season
>250,000 and <350,000	50%*	December 1 – February 15
≥350,000	40%*	December 1 – March 1
>355,000 For 3 consecutive years	40%*	November 1 – April 1

* Or 200 cfs, whichever is greater

7

IDAHO Water Resource Board



8

MEMO

To: Idaho Water Resource Board

From: Megan Jenkins, IDWR Rules Review Officer

Date: November 9, 2026

Subject: Administrative Rules Update

REQUESTED ACTION: Board Consider Approval of Resolution to Adopt Pending Rule IDAPA 37.01.01, Rules of Procedure Pursuant to Idaho Code § 42-1734(19)

This presentation is an update on the Idaho Department of Water Resources' 2026-2027 Administrative Rulemaking and an overview of the upcoming 2027-2028 rulemaking.

2026-2027 Administrative Rulemaking – IDAPA 37.01.01

Pursuant to Idaho Code § 67-5292, IDWR reviewed its Rules of Procedure, IDAPA 37.01.01, to consider amendments promoting fairness and efficiency and preventing bias in contested case proceedings before the Department and the Idaho Water Resource Board.

On September 18, 2026, the Board adopted the Proposed Rule and authorized its publication in the October 7, 2026, Idaho Administrative Bulletin. The next and final step before legislative review is adoption and publication of the Pending Rule.

A draft resolution is presented for the Board's consideration and requests a vote to adopt the Pending Rule and Legislative Report for Periodic Review of Administrative Rules for publication in the January 6, 2027, Idaho Administrative Bulletin.

Attachments:

- *Draft Pending Rule Notice and Legislative Report for Periodic Review of Administrative Rules*
- *Draft Resolution to Adopt and Publish the Pending Rule and Legislative Report*
- *IDAPA 37.01.01 Proposed Rule, as published in the October 7, 2026, Idaho Administrative Bulletin*

- DRAFT -
Pending Notice
With or Without Changes to Proposed Rule Text & Legislative Report for Periodic Review of Administrative Rules

IDAPA 37 – THE IDAHO DEPARTMENT OF WATER RESOURCES

37.01.01 - RULES OF PROCEDURE OF THE IDAHO DEPARTMENT OF WATER RESOURCES AND THE IDAHO WATER RESOURCE BOARD

DOCKET NO. 37-0101-2601

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE & LEGISLATIVE REPORT FOR PERIODIC REVIEW OF ADMINISTRATIVE RULES

EFFECTIVE DATE: This rule has been adopted by the agency and is now pending review by the 2027 Idaho State Legislature and must be approved by concurrent resolution of the Legislature to go into effect, in accordance with Idaho Code Section 67-5224(2)(c). Should the pending rule be approved, it will become final and effective on July 1 following the First Regular Session of the Sixty-ninth Idaho Legislature, unless the concurrent resolution states a different effective date.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that this agency has adopted a pending rule. The action is authorized pursuant to Section(s) 42-203A, 42-204, 42-211, 42-222, 42-304, 42-1701A, 42-1766, and 42-3805.

Further, in compliance with Idaho Code Section 67-5292 notice is hereby given that this agency reviewed this chapter to determine whether the substantive content contained in this chapter is still necessary and determined that it is still necessary and amended the rule chapter through the rulemaking process to ensure all components remained necessary moving forward.

DESCRIPTIVE SUMMARY: The following is a statement in nontechnical language explaining: (A) the scope of the rule chapter and rulemaking; (B) the history and background of the rule chapter; (C) why the substantive content in the rule chapter is still necessary and must be maintained in administrative code; and (D) costs for publishing and maintaining the administrative rule in the Idaho administrative code and bulletin:

A. Scope of Rule Chapter and Rulemaking

The Department's Rules of Procedure IDAPA 37.01.01, govern contested case proceedings before the Idaho Department of Water Resources ("Department") and the Idaho Water Resource Board ("Board"). In accordance with Section 67-5292, Idaho Code, the Department reviewed the IDAPA 37.01.01 Rules of Procedure, to explore updating the chapter to include provisions intended to promote fairness and efficiency and to prevent bias in contested case proceedings before the agency.

The scope of this rulemaking was limited to determining whether the content of the rule chapter is necessary, incorporating language to improve fairness and efficiency, prevent bias, and address grammatical errors in the existing rules that were identified after the rules were last revised.

B. History & Background

The Idaho Administrative Procedure Act (APA), enacted in 1965 and codified in Title 67, Chapter 52, Idaho Code, establishes the framework for how state agencies interact with the public. In the early 1990s, the Legislature comprehensively revised the APA to promote consistency, transparency, and practicality in agency procedures. The revised APA took effect on July 1, 1993, and required agencies either to adopt the Attorney General's procedural rules or promulgate their own rules under statutory authority.

Pursuant to Idaho Code § 67-5206, the Idaho Department of Water Resources has maintained its own procedural rules

since the revised APA became effective. IDAPA 37.01.01 stems from these APA reforms and the Department's statutory authority to promulgate and maintain rules governing its administrative proceedings.

C. Statement of Need

This rule chapter establishes the process for conducting contested case proceedings before the Department the Board, including informal settlement conferences, prehearing conferences, discovery, evidence, administrative hearings, and agency decisions. This rulemaking addresses the need for clearer procedural guidance by clarifying expectations for hearing officer conduct through reference to a code of conduct, establishing boundaries for communications between hearing officers and Department staff and legal counsel, and clarifying venue requirements for Department hearings.

The substantive content of IDAPA 37.01.01 should remain in rule because it governs the procedural administration of contested cases before the Department and the Board and may require timely revision through the rulemaking process to address changes in procedural law or administrative practice. Moving these provisions to statute would reduce flexibility and require legislative action to enact routine procedural adjustments.

Negotiated rulemaking occurred in 2021, and the Legislature adopted revisions in 2022. Because water users, consultants, and attorneys rely on these procedures, updates should occur infrequently and only when significant changes in procedural law or administrative practice warrant revision.

D. Costs

Costs of publishing the administrative chapter in the Idaho Administrative Code per year: ($56 per page x 22 pages) = **$1,232 per year.**

Costs of publishing these changes in the Idaho Administrative Bulletin: The bulletin publication costs for the changes in this rulemaking have been ($61 per page x 9 pages) = **$549**. In the future, publication costs will vary depending on whether there are rulemakings. The costs to publish in the bulletin is $61 per page.

There are no changes to the pending rule, and the Board adopted the pending rule as it was originally proposed, on November 12th, 2026. The complete text of the proposed rule was published in the October 7th Idaho Administrative Bulletin, Vol. 26-10, pages 325 - 327.

FEE SUMMARY: The following is a description of the fee or charge imposed or increased in this rulemaking: N/A.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state General Fund greater than ten thousand dollars ($10,000) during the fiscal year: N/A.

ASSISTANCE WITH TECHNICAL QUESTIONS: For assistance with technical questions concerning this pending rule, contact Megan Jenkins at Megan.Jenkins@idwr.idaho.gov.

DATED this XX day of November, 2026.

Megan Jenkins, Rules Review Officer
Idaho Department of Water Resources
322 E. Front Street
PO Box 83720 Boise, ID 83720-0098
Phone: (208) 287-4800

BEFORE THE IDAHO WATER RESOURCE BOARD

IN THE MATTER OF THE BOARD'S 2026 NEGOTIATED RULEMAKING OF IDAPA 37.01.01 RULES OF PROCEDURE	RESOLUTION TO PUBLISH THE PENDING RULES IN THE JANUARY 2027 IDAHO ADMINISTRATIVE BULLETIN

WHEREAS, the Idaho Water Resource Board ("Board") and the Idaho Department of Water Resources ("Department") have statutory authority and oversight responsibilities for IDAPA 37.01.01, Rules of Procedure of the Board and Department; and

WHEREAS, Idaho Code § 67-5292 requires legislative review all administrative rules on a staggered, periodic schedule beginning in 2026; and

WHEREAS, the Legislature asked the Department to review IDAPA 37.01.01 and prepare a regulatory analysis per the criteria set forth in Idaho Code § 67-5292; and

WHEREAS, the Department completed the regulatory analysis and determined that the rules in IDAPA 37.01.01 remain necessary and that amendments to the rule language would improve fairness and efficiency and reduce the potential for bias in contested cases before the Board and Department; and

WHEREAS, the Department conducted negotiated rulemaking meetings on July 8 and August 12, 2026, and received no public comment during or after those public meetings; and

WHEREAS, on September 18, 2026, the Board reviewed and adopted the proposed amendments to IDAPA 37.01.01; and

WHEREAS, the Department published the proposed rule in the October 7th Administrative Bulletin and received no public comment on the proposed rule; and

WHEREAS, the Board must adopt the pending rule before the Department may publish it in the January 6, 2027, Administrative Bulletin and submit it for legislative review under Idaho Code § 67-5292 and Idaho Code § 42-1734(19); and

NOW, THEREFORE BE IT RESOLVED that the Board adopts the pending rules for IDAPA 37.01.01, authorizes publication of the pending rules in the January 6th Administrative Bulletin, and requests that the Legislature and the Idaho Office of Administrative Rules adopt the pending rules.

DATED this 12th day of November 2026.

_____
JEFF RAYBOULD, Chairman
Idaho Water Resource Board

ATTEST _____
DEAN STEVENSON, Secretary

IDAPA 37 – IDAHO DEPARTMENT OF WATER RESOURCES

37.01.01 – RULES OF PROCEDURE OF THE IDAHO DEPARTMENT OF WATER RESOURCES AND THE WATER RESOURCE BOARD

DOCKET NO. 37-0101-2601

NOTICE OF RULEMAKING – PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking procedures. The action is authorized pursuant to Sections 42-203A, 42-204, 42-211, 42-222, 42-304, 42-1701A, 42-1766, and 42-3805.

PUBLIC HEARING SCHEDULE: Public hearing(s) concerning this rulemaking will be scheduled if requested in writing by twenty-five (25) persons, a political subdivision, or an agency, not later than October 21, 2026.

The hearing site(s) will be accessible to persons with disabilities. Requests for accommodation must be made not later than five (5) days prior to the hearing, to the agency address below.

DESCRIPTIVE SUMMARY: The following is a nontechnical explanation of the substance and purpose of the proposed rulemaking:

In accordance with Section 67-5292, Idaho Code, the Department of Water Resources is reviewing its Rules of Procedure, IDAPA 37.01.01, to explore updating this chapter to include provisions intended to promote fairness and efficiency and to prevent bias in contested case proceedings before the agency. The Rules of Procedure establish the standards and requirements for parties to participate in contested case proceedings before the Idaho Department of Water Resource or the Idaho Water Resource Board. In general, the Rules of Procedure address topics related to contested cases such as pleadings, motions, discovery, witnesses, hearings, orders, and appeals. The scope of this rulemaking will be limited to determining whether the content of the rule chapter is necessary, incorporating language to improve fairness and efficiency, and to prevent bias in contested case proceedings before the agency.

FEE SUMMARY: The following is a specific description of the fee or charge imposed or increased: N/A.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year resulting from this rulemaking: N/A.

NEGOTIATED RULEMAKING: Pursuant to Section 67-5220(1), Idaho Code, negotiated rulemaking was conducted. The Notice of Intent to Promulgate Rules - Negotiated Rulemaking was published in the June 3, 2026, Idaho Administrative Bulletin, Volume 26-6, pages 42-43.

INCORPORATION BY REFERENCE: Pursuant to Section 67-5229(2)(a), Idaho Code, the following is a brief synopsis of why the materials cited are being incorporated by reference into this rule: N/A.

ASSISTANCE ON TECHNICAL QUESTIONS, SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning the proposed rule, contact Megan Jenkins at Megan.Jenkins@idwr.idaho.gov, (208) 287-4800.

Anyone may submit written comments regarding this proposed rulemaking by mail to the address listed below or by email to rulesinfo@idwr.idaho.gov. All written comments must be directed to the undersigned and must be delivered on or before October 28, 2026.

DATED this 28th day of August, 2026.

Megan Jenkins, Rules Review Officer
Idaho Department of Water Resources
322 E. Front Street
PO Box 83720 Boise, ID 83720-0098
Phone: (208) 287-4800

THE FOLLOWING IS THE PROPOSED TEXT OF DOCKET NO. 37-0101-2601
(Only Those Sections With Amendments Are Shown.)

37.01.01 – RULES OF PROCEDURE OF THE IDAHO DEPARTMENT OF WATER RESOURCES AND THE WATER RESOURCE BOARD

205. STANDARDS OF CONDUCT.

01. Participant Standards. All persons participating in or attending a contested case proceeding before the agency must conduct themselves in an ethical, courteous, and respectful manner during all phases of the proceeding. The presiding officer may exclude a person from a proceeding who in manner or appearance is disruptive or disrespectful. Disruptive conduct or appearance that is serious in nature may be cause for dismissal of the disrupting party from the proceeding. ~~(3-18-22)~~( )

02. Presiding Officer Standards. Presiding officers must maintain neutrality, independence, and freedom from outside influence. The agency head shall establish a presiding officer code of conduct that, among other things, provides for independent and unbiased decision-making by presiding officers both as perceived and in fact. Failure of a presiding officer to comply with the code of conduct or applicable rules of procedure may result in corrective action. ( )

(BREAK IN CONTINUITY OF SECTIONS)

414. EX PARTE COMMUNICATIONS.

Unless required for the disposition of a matter specifically authorized by statute to be done ex parte, upon commencement of formal proceedings under Rule 100 the following restrictions apply: ( )

01. Presiding Officer Communications.~~a~~ The presiding officer ~~serving in a contested case~~, the agency head, and any attorney allowed to provide counsel to the presiding officer shall not communicate, directly or indirectly, regarding any substantive issue in the contested case with any party, agency staff, government official, or member of the general public, except upon notice and opportunity for all parties to participate in the communication. The presiding officer may communicate ~~ex parte with a party concerning~~ strictly about procedural or scheduling matters ~~(e.g., scheduling)~~ with any party, agency staff, government official, or member of the general public, provided no substantive issue is discussed. ~~Communications with a presiding officer regarding non-substantive issues from members of the general public not associated with any party are not required to be reported by this rule~~ This rule does not prohibit the presiding officer from requesting and receiving agency staff reports or memoranda as provided in Rule 602, provided all requirements of Rule 602 are followed. ( )

02. Party Communications. A party to a contested case ~~before the agency~~ shall not communicate directly or indirectly with the presiding officer or the agency head regarding any substantive issue in the contested case, except upon notice and opportunity for all parties to participate in the communication. Written communications from a party showing service upon all other parties are not ex parte communications. ( )

03. Prohibited Communications.~~When a presiding officer becomes aware of a communication regarding any substantive issue from a party or representative of a party or a member of the general public during a contested case,~~ If a prohibited communication occurs, the presiding officer shall place a copy or written summary of the communication in the case file, ~~for the case and order the party providing the communication to serve a copy of the communication or written summary upon all parties of record~~ serve it upon all parties of record, and provide an opportunity for parties to respond. Repeated violations of this rule are cause for the presiding officer to dismiss an action or to dismiss a party from a contested case. ~~Written communications from a party showing service upon all~~

~~other parties are not ex parte communications.~~ ~~(3-18-22)~~( )

415. PRESIDING OFFICER LEGAL COUNSEL.
The presiding officer may be assisted by legal counsel provided by the Idaho Office of Attorney General. The role of such legal counsel is limited to providing legal assistance to the presiding officer in connection with the contested case. An attorney providing legal assistance to the presiding officer shall not consult with or represent any agency employee or contractor in connection with the contested case, examine witnesses, present oral argument, or provide to the presiding officer any factual information that is not in the agency record created under section 67-5249, Idaho Code. ( )

415~~5~~6. -- 509. (RESERVED)

(BREAK IN CONTINUITY OF SECTIONS)

551. VENUE, FACILITIES ~~AT OR~~ FOR HEARING, AND A.D.A. REQUIREMENTS.

01. Venue. In general, in-person hearings should be held in the county where the subject matter of the contested case arises, unless the parties agree to hold the hearing in a different location. Hearings may be conducted in Department offices. The presiding officer has the discretion to select a venue for hearing that ensures a fair, efficient, and economical determination of the issues presented in the contested case. ( )

02. Facilities and A.D.A. Requirements. All hearings must be held in facilities meeting the accessibility requirements of the Americans with Disabilities Act, and all notices of hearing must inform the parties that the hearing will be conducted in facilities meeting the accessibility requirements of the Americans with Disabilities Act. All notices of hearing must inform the parties and other persons notified that if they require assistance of the kind that the agency is required to provide under the Americans with Disabilities Act in order to participate in or understand the hearing, the agency will supply that assistance upon request a reasonable number of days before the hearing. The notice of hearing shall explicitly state the number of days before the hearing that the assistance request must be made. ~~(3-18-22)~~( )

MEMO

To: Idaho Water Resource Board (Board)

From: Planning & Projects Bureau Staff

Date: November 6, 2026

Subject: Executive Session

REQUESTED ACTION: Board will move to Executive Session pursuant to Idaho Code § 74-206(1) subsection (d) to consider records that are exempt from disclosure as provided in chapter 1, title 74, Idaho Code Topic: Idaho National Laboratory AND Idaho Code § 74-206(1) subsection (f) to communicate with legal counsel regarding legal ramifications of and legal options for pending litigation or controversies not yet being litigated but imminently likely to be litigated. Topic Water Right No. 63-34753, and Nos. 01-10734, and 01-10726. - Closed to the Public

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