AGENDA

IDAHO WATER RESOURCE BOARD

Finance Committee Meeting No. 1-26
Thursday, January 22, 2026
3:00 p.m. (MT) / 2:00 p.m. (PT)

Water Center
Conference Rooms 602 B – D
322 E. Front Street
BOISE

Livestream available at https://www.youtube.com/@iwrb

1. Introductions and Attendance
2. FY26 Supplemental Flood Grant Awards*
3. Loan Program
   a. Magic Valley Ground Water District*
   b. Lost Valley Reservoir Enlargement Project*
4. Other Items
5. Adjourn

Committee Members: Chair Jo Ann Cole-Hansen, Jeff Raybould, Marc Gibbs, Dale Van Stone, and Dean Stevenson.

Aquifer Stabilization Committee Meeting No. 1-26
Upon Adjournment of Finance Comm. Meeting 1-26

Livestream available at https://www.youtube.com/@iwrb

1. Roll Call
2. ESPA Recharge Program Capacity Infrastructure*
   a. BGWD – Dubois/Riverside Site
   b. BMLCC canal improvements
   c. FMID – Wilford Canal land app
   d. SWID – Searle Well Project
3. Non-Action Items for Discussion
4. Adjourn

Committee Members: Chair Dean Stevenson, Jeff Raybould, Brian Olmstead, and Al Barker.

* Action Item: A vote regarding this item may be made at 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 Act**: If you require special accommodation to attend, participate in, or understand the meeting, please contact the Department no later than five days before the meeting. To request an accommodation, please send an email to Megan.Jenkins@idwr.idaho.gov or call (208) 287-4800.

Memorandum

Date: January 22, 2026
To: Aquifer Stabilization Committee
Re: ESPA Managed Recharge – Proposed Recharge Project Update

REQUIRED ACTION: The Idaho Water Resource Board (IWRB) Aquifer Stabilization Committee will consider recommending funding for the proposed recharge projects.

I. New Projects Summary

The IWRB has been actively developing managed recharge capacity throughout the Eastern Snake Plain Aquifer (ESPA) since the start of the full-scale program in 2014. The intent of the IWRB is to develop a program that can achieve the goals set by the Legislature and ensure the ESPA remains a sustainable water supply for Idaho. The current focus is on developing capacity in multiple geographic areas to provide both short- and long-term benefits to the aquifer and surface water flows. The IWRB has added approximately 2,300 cfs of recharge capacity across the ESPA over the past twelve years. 2,000 cfs of this capacity is in the Lower Valley and 300 cfs is in the Upper Valley above American Falls.

Several irrigation entities have submitted proposals to the IWRB for aquifer recharge projects. These projects will support the IWRB goal of recharging 350,000 acre-feet on an average annual basis. This memo provides a summary of these proposed projects.

Figure 1. Locations of New Proposed Recharge Projects.

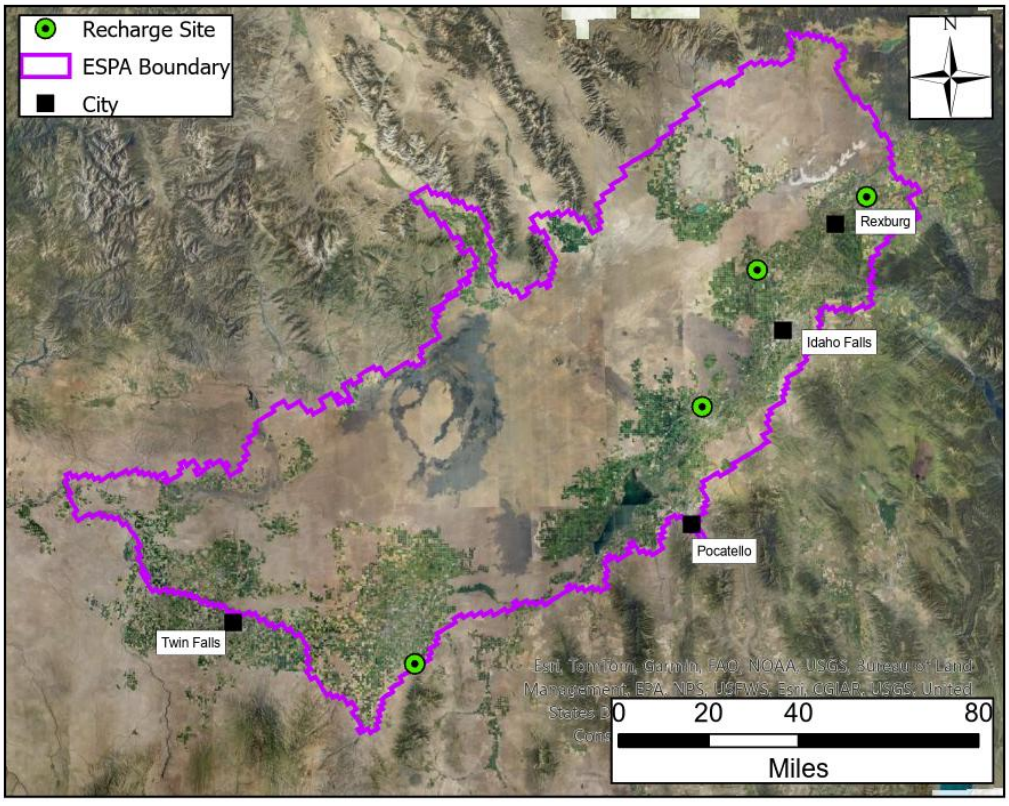


Table 1. Summary of New Proposed Recharge Projects

Proposed Recharge Project	Capital Cost	Estimated Cost Per Acre-Foot Recharged[1]	Estimated Recharge Capacity (cfs)	Type	5-Year Retention in Aquifer	50% Response Time (Months)[2]	Percent Return to Snake River
Bingham GWD – Dubois & Riverside Site	45-Acre Basin	$3,100,000	$30 (50 years)	30	17%	12-16	Shelley to Near Blackfoot 30% Near Blackfoot to Neeley 61%
Butte Market Lake – Canal Improvements	Canal	$1,600,000	$14 (20 years)	65	30%	9-10	Heise to Shelley 20% Shelley to Near Blackfoot 27% Near Blackfoot to Neeley 45%
Fremont Madison ID – Wilford Canal Pilot Project	93 acres Land App	$42,000	$22 (5 years)	47	20%	24	Ashton to Rexburg 68% Heise to Shelley 27% Shelley to Near Blackfoot 1% Near Blackfoot to Neeley 3%
Southwest ID – Searle Well	Well	$765,000	$34 (20 years)	22	88%	168 (14 years)	Shelley to Near Blackfoot 9% Near Blackfoot to Neeley 38% Devils Washbowl to Buhl 17% Buhl to Thousand Springs 13%

[1] Assumed 90 days of recharge available in 50% of the years. Used a conveyance fee of $7.50 / acre-foot.

[2] The time required for 50% of the recharged water to discharge to the Snake River

II. Site Characterization Summaries for the Proposed Projects

This section includes a memorandum written by the Idaho Department of Water Resources technical staff for each proposed recharge project, summarizing the project cost, its impact on the aquifer, its impact on the Snake River, site hydrogeology, and nearby potential sources of contamination.

Memorandum

Date: December 23, 2025
To: Idaho Water Resource Board
From: Kienholz, Mackenzie
Re: ESPA Managed Recharge – Bingham Groundwater District Dubois-Riverside Recharge Basin Proposal

REQUIRED ACTION: The Idaho Water Resource Board (IWRB) will consider funding the Bingham Groundwater District Dubois-Riverside Recharge Basin Proposal.

The Bingham Groundwater District submitted a proposal for the construction of a recharge basin. The development of this basin would support the IWRB goal of recharging 350,000 acre-feet on an average annual basis. The following memo provides a summary of the proposal and a staff review of the proposed recharge basin.

I. Project Proposal

The Bingham Groundwater District (BGWD) proposes the construction of a 45-acre managed recharge infiltration basin located northeast of Moreland at a cost of $3,065,000. The proposal includes the purchase of a 64-acre parcel for excavation of the basin, installation of a fence around the basin, construction of two telemetered headgates, construction of two monitor wells, and purchase of grass seed. The proposal also includes the purchase of 2.5 acres of an adjacent parcel to provide access to the recharge site. Both the 64-acre parcel and 2.5 acres for access are currently owned by SLT Properties, LLC, which has agreed to sell the land to the BGWD at its appraised value of $1,464,463 ($22,022/acre).

The subsurface geology of the site consists of approximately 1.8 feet of topsoil overlying gravel and sand, based on a December 2025 test pit at the proposed basin location. Excavation would be completed to a depth of 2.0 ft over 45 acres of the 64-acre parcel. The approximately 145,000 cubic yards of excavated material would be used to construct berms on the 19 acres surrounding the basin. The berms are proposed to be 4.5 feet high and 100 feet wide, except on the south and southeastern sides of the basin, where the berms would be 200 feet wide to increase the setback from domestic residences.

Two delivery systems would serve this site: the Dubois and Augustine Laterals. Water delivered through the Dubois Lateral is diverted from the Snake River via the main branch of People's Canal. The Dubois Lateral can currently convey approximately 40 cubic feet per second (cfs), most of which is used for irrigation during peak demand, which begins in mid-May. Cleaning and regrading approximately two miles of the lateral will result in an additional 20 cfs of conveyance capacity that could be dedicated to the recharge site.

Water delivered through the Augustine Lateral is diverted from the Snake River via the main branch of the Riverside Canal. The Augustine Lateral can currently convey approximately 20 cfs, most of which is used for irrigation during peak demand, which begins in mid-May. Cleaning and regrading of

approximately 2.5 miles of the lateral from the Riverside Canal main branch will result in an additional 10 cfs of conveyance capacity that could be dedicated to the recharge site.

The BGWD proposes to plant canary grass ("range grass") over the basin acreage after excavation, based on a request by a neighboring landowner. The grass would be irrigated with natural flow canal water when no recharge is occurring The grass would reduce dust and preserve incidental recharge. The $50,000 cost of seed is included in the project cost. Program staff note that depending on the period of recharge, a recharge event could kill the grass resulting in the need to re-seed. In years when recharge occurs, the BGWD proposes to offset the evapotranspiration by the range grasses by reducing the volume of recharge accomplished by 1.0 acre-feet per acre. The Blackfoot station on ET-IDWR indicates that range grasses in this area require approximately 0.3 acre-feet per acre of irrigation water per year.

There is an existing groundwater irrigation right (35-7360) partially appurtenant to this property. The BGWD intends to use this right to offset groundwater pumping or to convert the beneficial use to groundwater recharge.

The breakdown of requested funds is as follows:

Expense Category	Estimated Cost
Land Purchase (64 acres + 2.5 acres * $22,022 per acre)	$1,464,463
Excavation	$800,000
Two Diversion Structures (including meter & telemetry)	$50,000
Two Monitoring Wells	$70,000
Canal/Lateral Cleaning and Regrading (five miles)	$250,000
Fencing	$100,000
Grass Seed	$50,000
Contingency (10%)	$278,446
Total Basin Cost	**$3,065,000**

The 45-acre, 2-foot-deep basin is expected to recharge approximately 55 cfs, based on a stage–infiltration rate relationship developed from a single recharge event in a basin with similar alluvium. Prior to peak irrigation demand in mid-May, the two laterals are capable of delivering a combined 55 cfs will be able to be delivered to the site. After mid-May, the two laterals are capable of delivering a combined 30 cfs to the site.

To conservatively estimate recharge costs, a delivery rate of 30 cfs (59.5 acre-feet per day) was assumed for the entire recharge period. Under this assumption, the estimated cost of recharge is $30 per acre-foot. This value is based on the estimated total acre-feet of recharge over a 50-year period. Full calculation details are provided in the Appendix.

Upon completion of the site, the IWRB would have the first right of use for IWRB water rights, when in priority, for a period of 50 years.

II. MAR Site Summary

Est. Recharge Capacity:	55 cfs before irr. 30 cfs during irr.	Operator:	Bingham GWD
Basin Size:	45 acres	Delivery System:	Riverside Canal Co. (south) Dubois Lateral Assn. (north)
5-yr Retention:	17.3%	50% Response Time:	12-16 months
Depth to Water:	70 ft	Ownership:	Private

ESPAM 2.2 and ETRAN V3.4 were used to determine the 5-year retention, 50% response time, and percent return to the various reaches of the Snake River. The water recharged at this site would primarily return to two reaches of the Snake River: Near Blackfoot to Neeley reach (60.9%) and Shelley to Near Blackfoot reach (30.1%). The time required for 50% of the recharged water to be discharged to the Snake River is approximately 12-16 months.

III. Hydrogeology Summary

Table 1. Generalized Geology Below Site

Depth	Subsurface Geology
0-40 Feet Below Ground Surface	Alluvium (Sand & Gravel)
40-50 Feet Below Ground Surface	Clay
Beyond 50 Feet Below Ground Surface	Basalt

Subsurface geology, based on nearby well logs, generally consists of sand and gravel extending to approximately 25 to 50 feet below ground surface. Of the 15 well logs analyzed, 12 indicate the presence of a clay layer beneath the sand and gravel. The three wells without a clay layer in their lithologic logs are closest to the proposed site, located to the southeast and southwest of the site. Basalt with indications of fracturing is present beneath the sand, gravel, and clay.

The clay layer could result in localized perching of water recharged through the proposed basin. However, no instances of perching have been observed during incidental recharge from nearby canals. In addition, the water table is generally within the basalt, below the clay layer, indicating that incidental recharge in the area is reaching the regional aquifer without impediment from the clay layer.

IV. Site Vicinity

The closest domestic residence downgradient of the site is approximately 250 feet to the south of the berm boundary. There are also upgradient domestic residences approximately 55 feet to the east and

400 feet to the south. The primary land uses immediately surrounding the site are irrigated crops, land application of waste water, and an animal feedlot.

To obtain an approved groundwater monitoring plan from the Idaho Department of Environmental Quality (IDEQ) or to permit an injection well from the Idaho Department of Water Resources (IDWR) Underground Injection Well program (UIC) program, a review of facilities and potential areas of concern is typically required. A review of IDEQ's Source Water Assessment and Protection map showed the following potential sources of contamination within a 2-mile radius of the proposed site:

- Basic American Foods Water Reuse site and Underground Storage Tank (UST) directly north of the site
- Feedlot directly to the northwest
- Resource Conservation and Recovery Act (RCRA) site 0.9 miles to the west
- General Waste and UST site 1.1 miles to the west
- UST & RCRA site 1.3 miles to the west
- General Waste/RCRA site 1.8 miles to the west
- UST site 1.4 miles to the southwest
- UST site 1.5 miles to the southwest
- RCRA site 0.25 to the south
- UST site 0.3 miles to the south

The outer limits of Blackfoot are between one and two miles to the south and southeast of the site. In this area there are approximately:

- Three RCRA Sites
- Two Toxics Release Inventory sites
- Two underground storage tank locations
- Six Tier II (formerly CAMEO) sites – chemical facilities that store or use hazardous material

An additional water quality consideration for both IDEQ and the UIC Program is the locations of Public Water Systems (PWS) near the site. This site is within the 3-year time-of-travel zone of three PWS:

- Riverside Estates (PWS #6060059)
- Riverview Acres (PWS #6060062)
- Moreland Water and Sewer District (PWS #6060117)
- City of Blackfoot (PWS #6060007)

The following PWS have one or more source locations within two miles downgradient (southwest) of the site:

- Johnson Mobile Village (PWS #6060039)
- East Moreland Water Company (PWS #6060014)
- Moreland Water and Sewer District (PWS #6060117)
- JSD Water Company (PWS #6060037)
- Moreland Mercantile (PWS #6060116)
- JBS Country Market (PWS #6060022)
- LDS Moreland Church (PWS #6060047)
- Moreland School (PWS #6060048)
- Youngs Country Court (PWS #6060049)
- LDS Blackfoot Northwest Stake Center (PWS #6060010)

The following PWS have one or more source locations within two miles not downgradient of the site:

- Groveland Water and Sewer Dist. (PWS #6060095)
- LDS Groveland Church (PWS #6060027)
- Groveland Elementary School Dist. 55 (PWS #6060028)
- Blackfoot, City Of (PWS #6060007)
- Edwards Trailer Park (PWS #6060015)
- Pindale Lanes (PWS #6060052)
- Town and Country Mobile Home Park (PWS #6060085)
- Bingham Co Op (PWS #6060114)
- The Arthur Companies (PWS #6060113)
- Idle Wheels MHP Cat LLC (PWS #6060035)
- Sunset Subd. (PWS #6060082)

References

Idaho Department of Water Resources. “Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho - Blackfoot (AM/INL -- ACKI).” ET-IDWR,

https://et-idwr.idaho.gov/stcvrstats.py?station=2154&cover=47&stats=Deficit

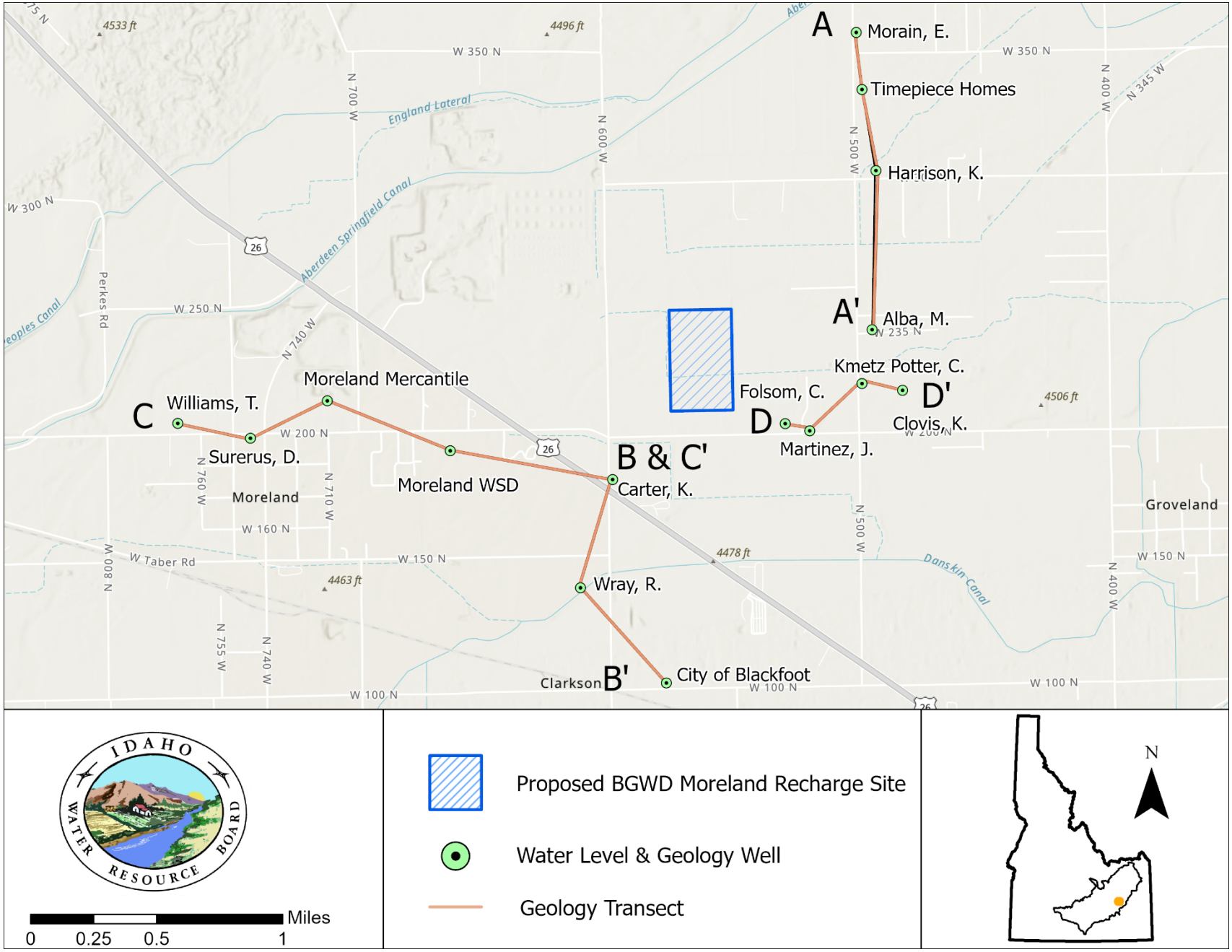


Figure 1. Locations of the proposed site and wells used for geologic cross-sections.

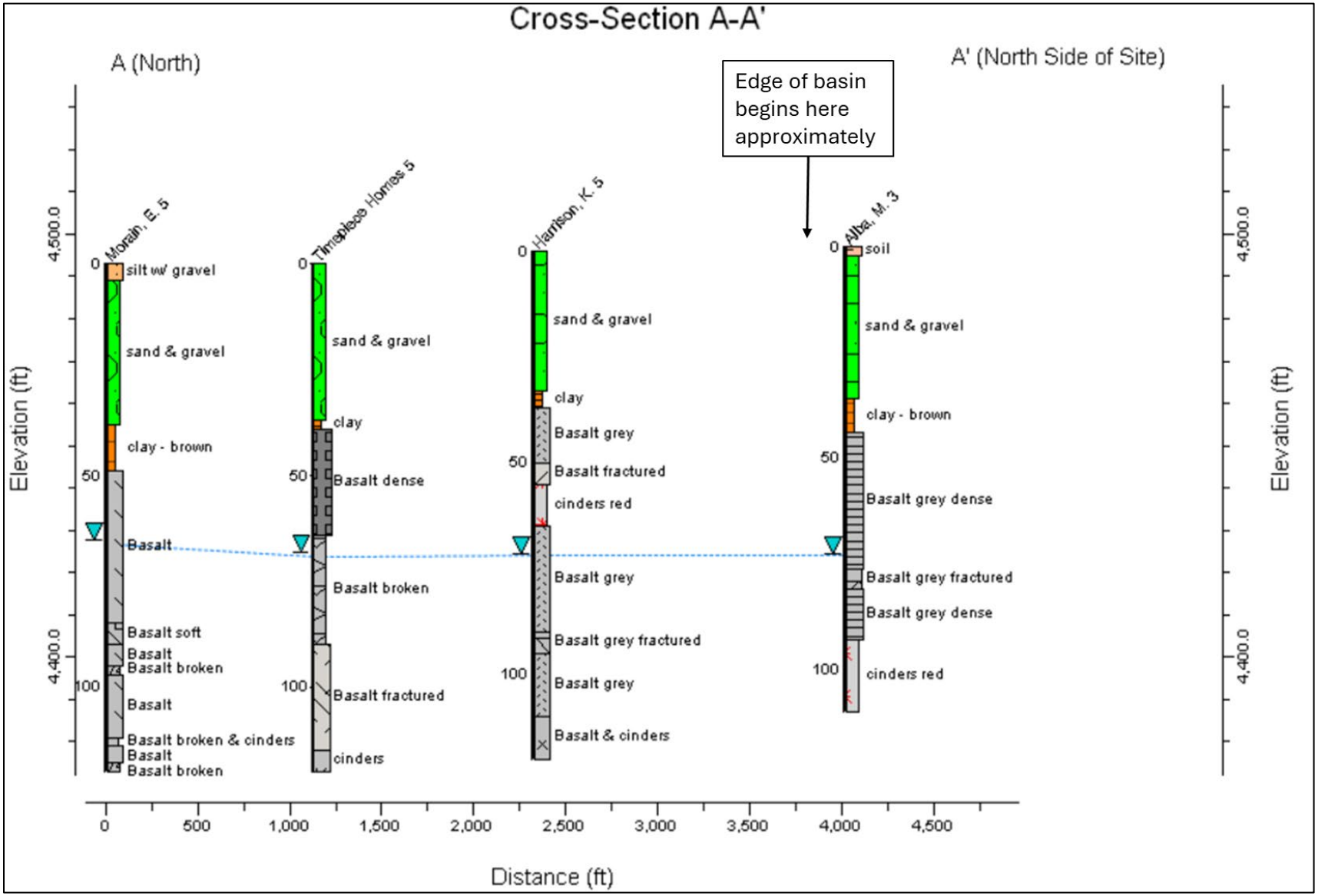


Figure 2. Geologic cross-section from the north to the site.

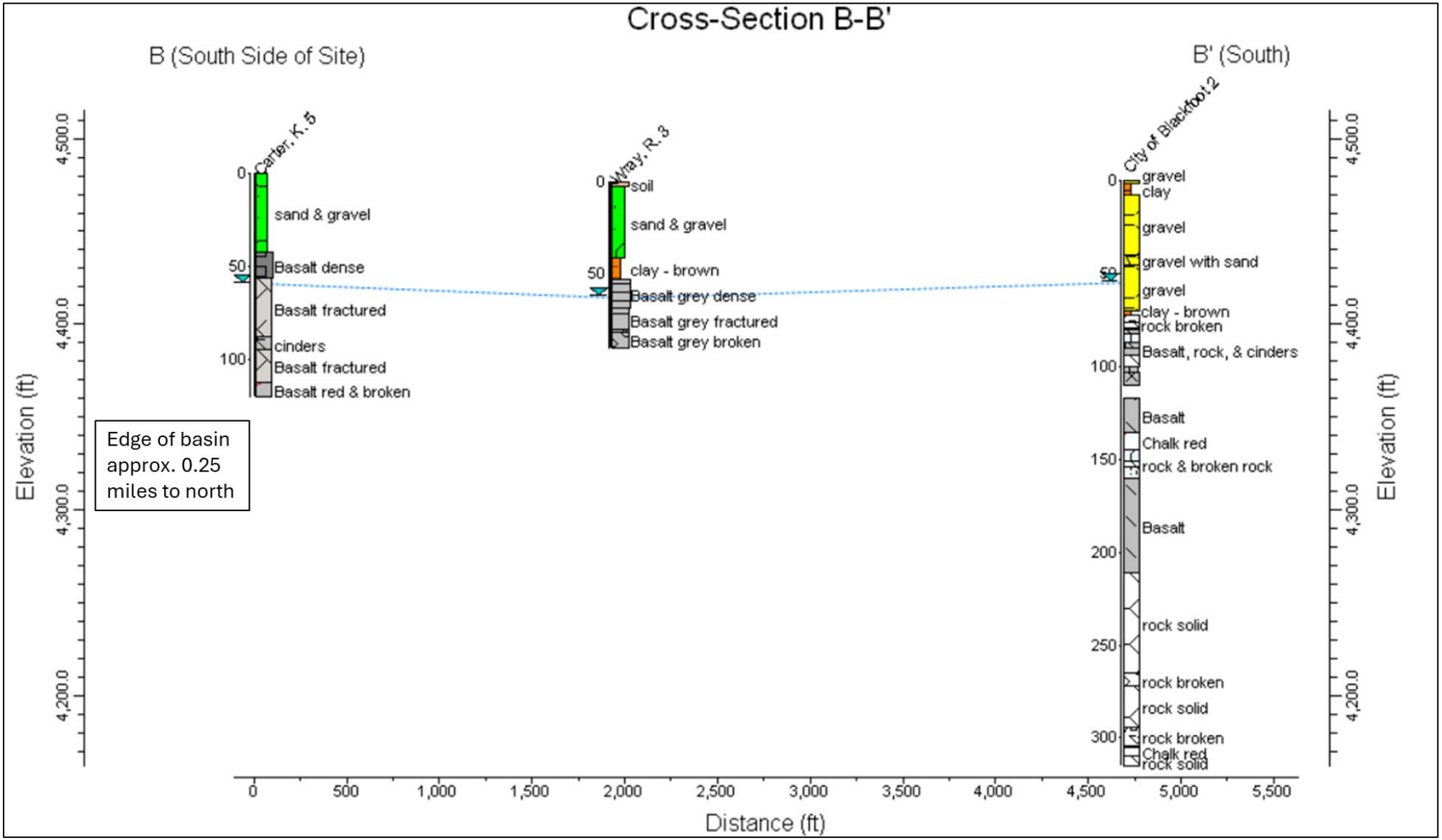


Figure 3. Geologic cross-section from the site to the south.

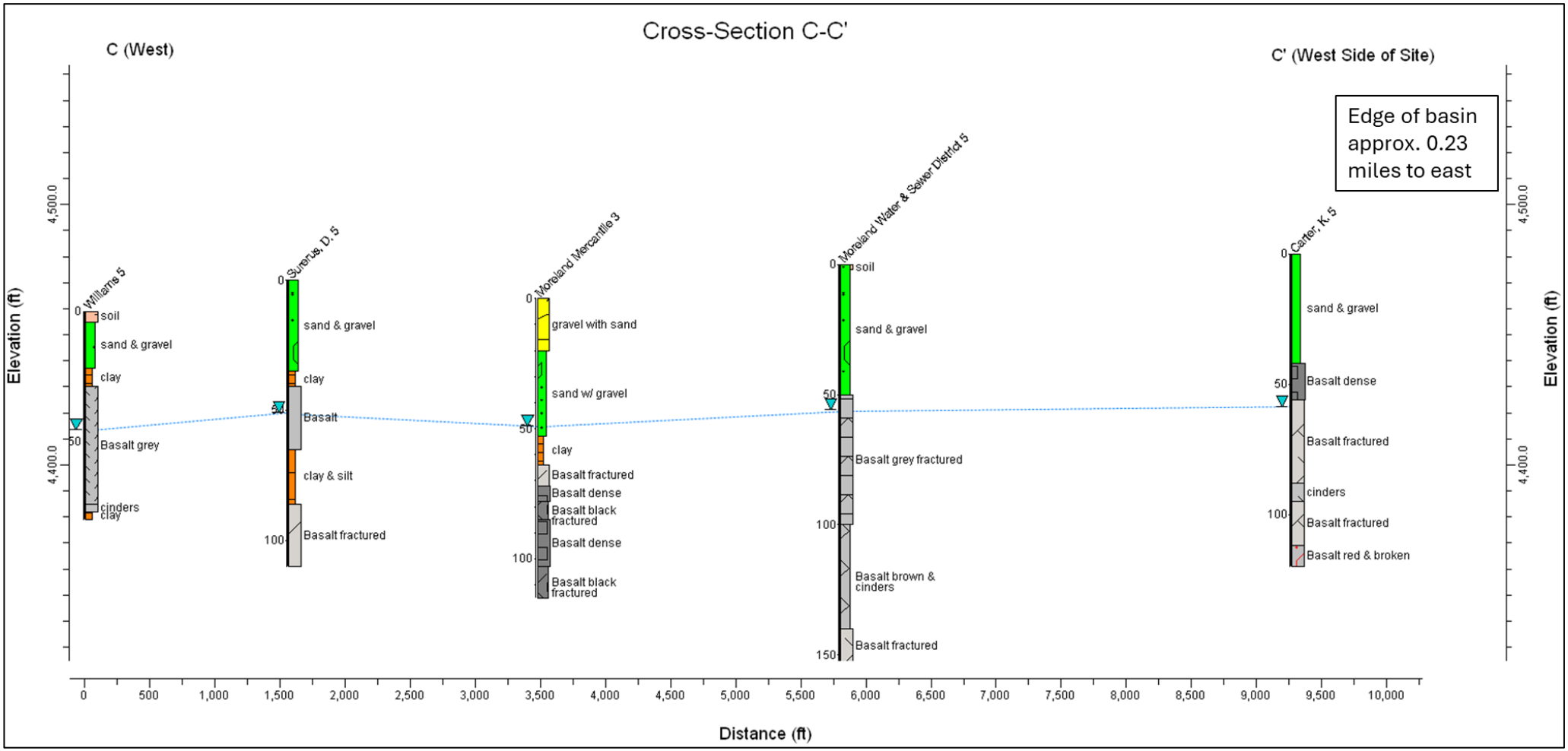


Figure 4. Geologic cross-section from the west to the site.

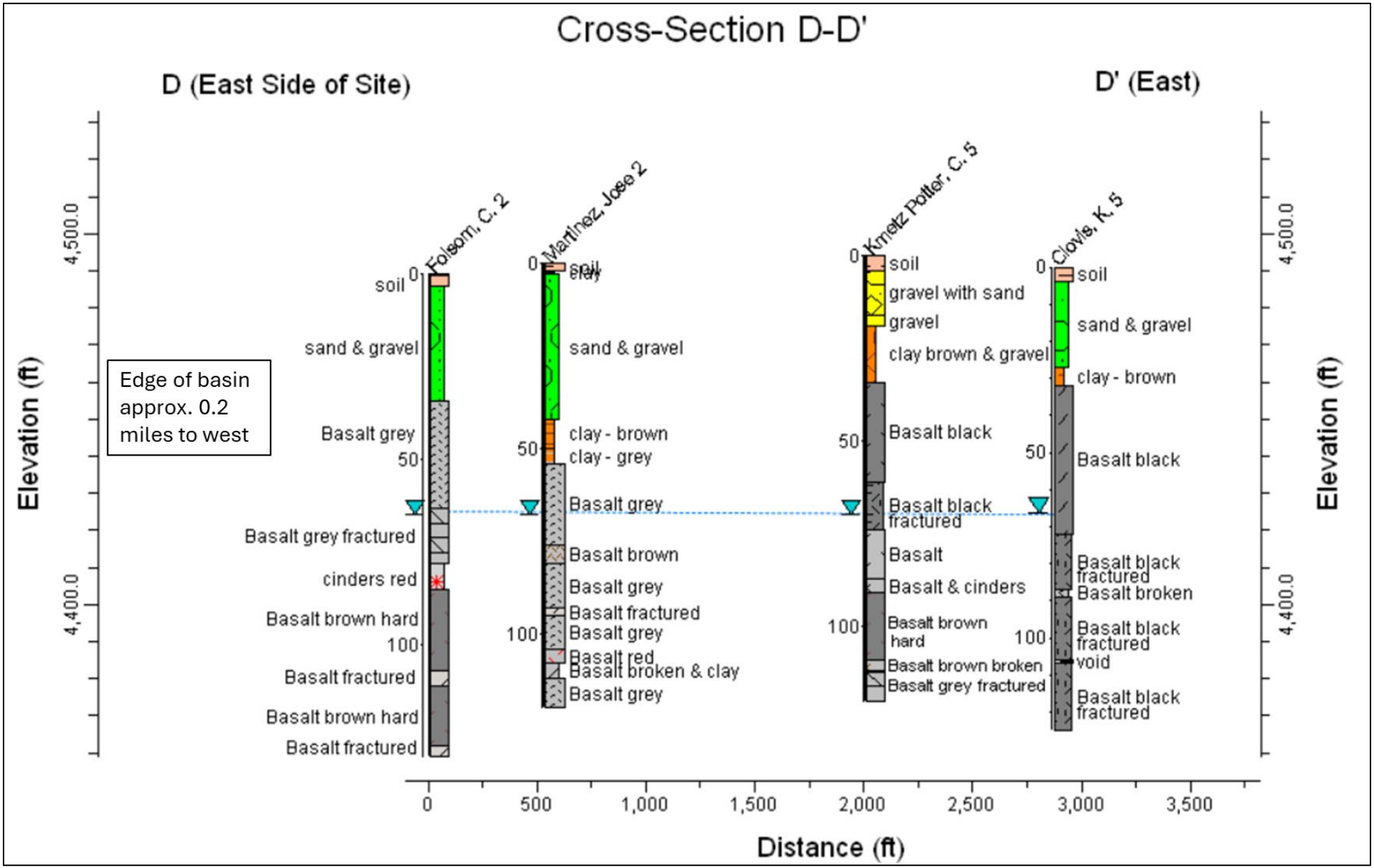


Figure 5. Geologic cross-section from the site to the east.

V. Appendix

Cost per acre-foot (AF) of recharge calculation:

Volume Recharged = (Days/year * Acre-feet recharged / day) * 50 years

= (45 days /year * 59.5 acre-feet / day) * 50 years

= 133,886 acre-feet

Cost = Capital Development Costs + Conveyance Cost for 50 Years

= $3,065,000 + (133,886 acre-feet * $7.50 / acre-foot)

= $4,069,147

Cost Per AF = $\frac{\text{Cost}}{\text{Volume Recharged}}$

= $\frac{\$4,069,147}{133,886 \text{ acre-feet}}$

= $30 / acre-foot

Assumptions:

- 45 days of recharge each year
    - Recharge lasts approximately 90 days during flood control.
    - Flood control occurs in about 50% of the years.
- The time period is 50 years
    - This is the length of time IWRB will have the First Right of Refusal for this proposed site.
- The cost is the capital cost plus the conveyance costs.

Memorandum

Date: December 23, 2025
To: Idaho Water Resource Board
From: Kienholz, Mackenzie
Re: ESPA Managed Recharge – Butte & Market Lake Canal Co. Poitevin Ditch Improvements Proposal

REQUIRED ACTION: The Idaho Water Resource Board (IWRB) will consider funding the Butte & Market Lake Canal Co. Poitevin Ditch Proposal.

The Butte & Market Lake Canal Company submitted a proposal for infrastructure improvements to the main canal and Poitevin Ditch, which delivers water to three recharge wells. The improvements are to support the IWRB goal of recharging 350,000 acre-feet on an average annual basis. The following memo provides a summary of the proposal and a staff review of the proposed canal improvements.

I. Project Proposal

The Butte & Market Lake Canal Company (BMLCC) is requesting $1,586,000 for infrastructure improvements to their main canal and Poitevin Ditch, which deliver water to three existing IWRB-funded recharge wells. This request follows an engineering report identifying clearing and infrastructure improvements to address current delivery capacity restrictions within the canal system. The proposal also includes the construction of two additional monitoring wells for the recharge wells. The locations of the described improvements are shown in Figure 1.

The BMLCC proposes to remove vegetation debris from the banks and channels of the Poitevin Ditch and BMLCC main canal. This will reduce channel roughness and increase flow capacity.

The BMLCC proposes to install a traveling screen upstream of the recharge wells near the end of the lateral. The screen will remove debris from the ditch and place it on a concrete pad where it can be periodically removed by machinery. Currently, BMLCC removes debris from the canal by hand as often as each day. BMLCC also proposes to install a check structure in the main canal to increase the upstream head, which will increase the delivery capacity to the Poitevin Ditch and recharge wells. Low points on both the Poitevin Ditch and main canal are proposed to be raised to increase the carrying capacity and prevent overtopping. One low point on the main canal will require rock blasting. The proposal includes an enlargement of the culvert where the canal crosses the 400 North road, which is a choke point on the main canal at risk of flooding when deliveries to the recharge wells cease. This enlargement would reduce the likelihood of flooding and overtopping in the main canal when not delivering to the recharge wells and would increase the conveyance capacity to McCarty Ditch, a lateral that could be developed for recharge.

The existing recharge wells are located at the end of the Poitevin Ditch. BMLCC proposes to install telemetry at the diversion into the Poitevin Ditch and at the end of the ditch downstream of the injection wells to monitor water levels within the channel and prevent overtopping. BMLCC also proposes to drill two new monitor wells, one 400 ft downgradient (southwest) of the existing

monitor well and another between the recharge wells and the closest downgradient domestic well, which is approximately 7,000 feet from the recharge wells. These monitoring wells would help support fate and transport analysis related to recharge water quality, as well as provide additional monitoring between the recharge activities and the closest downgradient domestic well.

The total project cost also includes funding for project management for a consulting firm, an on-site engineer, and a project contingency. The breakdown of requested funds is as follows:

Expense Category	Estimated Cost
Poitevin Ditch & Main Canal Clearing	$90,000
Traveling Screen	$200,000
Check Structure	$25,000
Bank and Channel Raising	$410,000
Culvert Enlargement	$500,000
Poitevin Ditch Telemetry	$6,000
Two Monitoring Wells	$150,000
Project Management – Consultant & Engineer	$35,000
Contingency	$170,000
Total Project Cost	**$1,586,000**

Upon completion of the first well in 2020, the IWRB was granted the first right of refusal when IWRB water rights are in priority for a period of 20 years. With this proposal, the BMLCC would increase the period of the IWRB's first right of refusal for the wells to 50 years, and grant the IWRB the BMLCC's pre-season in-canal recharge, estimated to be 100 cfs, for 20 years.

The BMLCC is requesting a total of $1,586,000 for this proposal. Contracted costs for the previously constructed wells totaled $660,000, bringing the total development cost to $2,546,000. Based on this total investment, the estimated cost of recharging water at this site (including in-canal recharge) is $14 per acre-foot, inclusive of both previous funding and the amount requested in this proposal. This cost per acre-foot was calculated using the estimated recharge volume over a 50-year period (20 years for in-canal recharge). Detailed calculations are provided in the Appendix.

II. MAR Site Summary

Est. Recharge Capacity:	65-165 cfs	Operator:	Butte & Market Lake Canal Co.
Size:	N/A	Delivery System:	BMLCC Main Canal
5-yr Retention:	30.1%	50% Response Time:	9-10 months
Depth to Water:	255-265 ft	Ownership:	Private
Delivery System:	BMLCC Main Canal to Poitevin Ditch		

ESPAM 2.2 and ETRAN V3.4 were used to determine the 5-year retention, 50% response time, and percent return to the various reaches of the Snake River. The water recharged at this site would primarily return to three reaches of the Snake River: Near Blackfoot to Neeley reach (45%), Shelley to Near Blackfoot reach (26.8%), and Heise to Shelley (19.2%). The modeled time for 50% of the recharged water to be discharged to the Snake River is approximately 9-10 months.

III. Hydrology Summary

The three recharge wells are cased to approximately 158 feet below ground surface, then are open borehole for an additional 170 feet. Recharge occurs in the open borehole portion of each well. This recharge zone consists of basalts of varying competency with intermixed cinders. The recharge well drilled in 2020 has an 18" diameter and can recharge approximately 15 cubic feet per second (cfs). The two wells drilled in 2024 have 20" diameters and can accomplish 25 cfs each. The total recharge capacity for all three wells is 65 cfs. BMLCC has reported that 100 cfs of in-canal recharge can be achieved.

IV. Site Vicinity

The closest downgradient domestic residence is approximately 1.25 miles to the southwest of the recharge wells. The two proposed monitoring wells would be located between the recharge wells at the end of the Poitevin Ditch and this domestic residence. The primary land use immediately surrounding the recharge site is irrigated crops.

To obtain an approved groundwater monitoring plan from the Idaho Department of Environmental Quality (IDEQ) or to permit an injection well from the Idaho Department of Water Resources (IDWR) Underground Injection Well (UIC) program, a review of facilities and potential areas of concern is typically required. The Poitevin recharge wells have already been drilled and permitted, and this evaluation process was completed at that time. No additional permitting will be required for work described in this proposal.

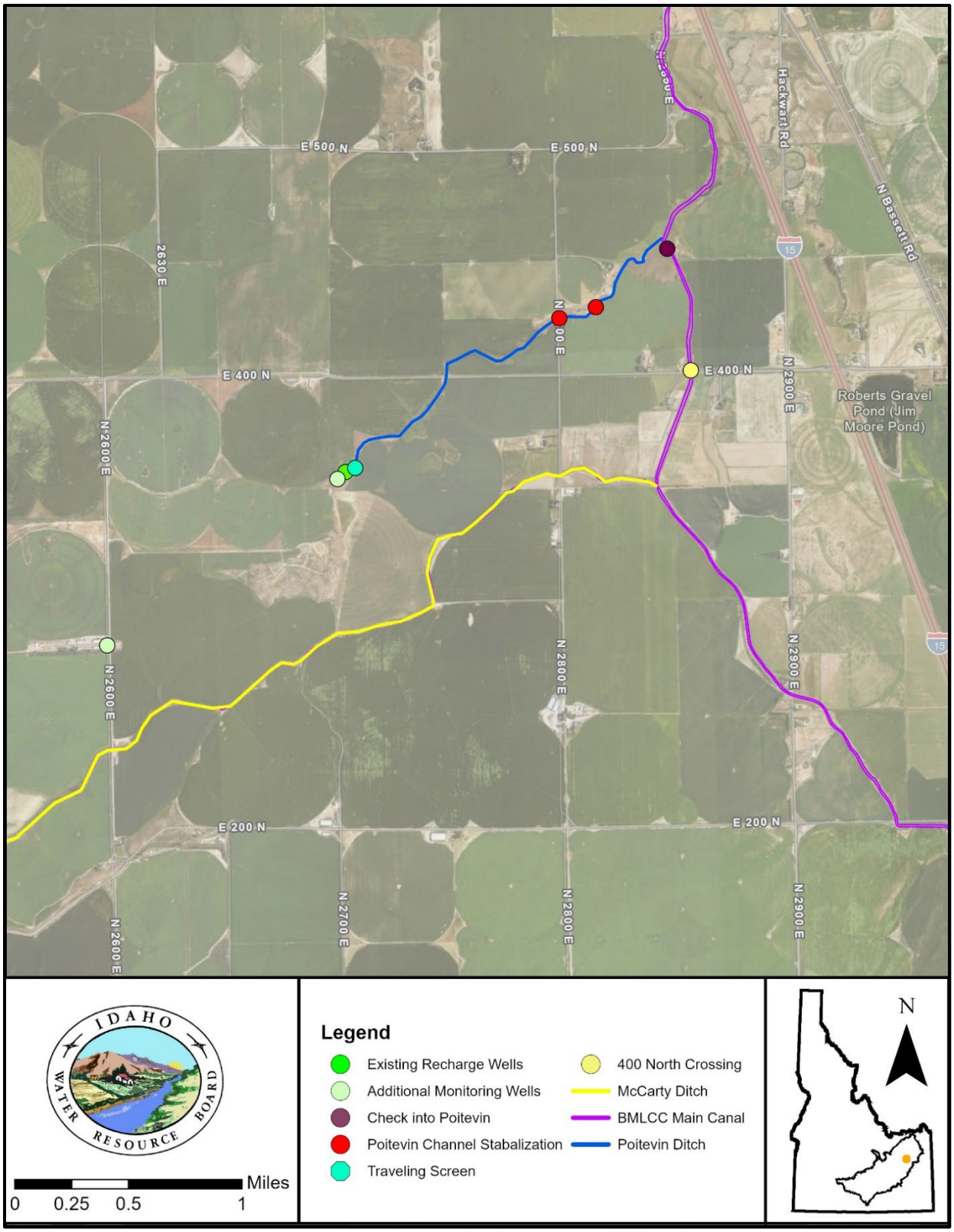


Figure 1. Map showing the main Butte & Market Lake canal, Poitevin Ditch, and locations of proposed improvements.

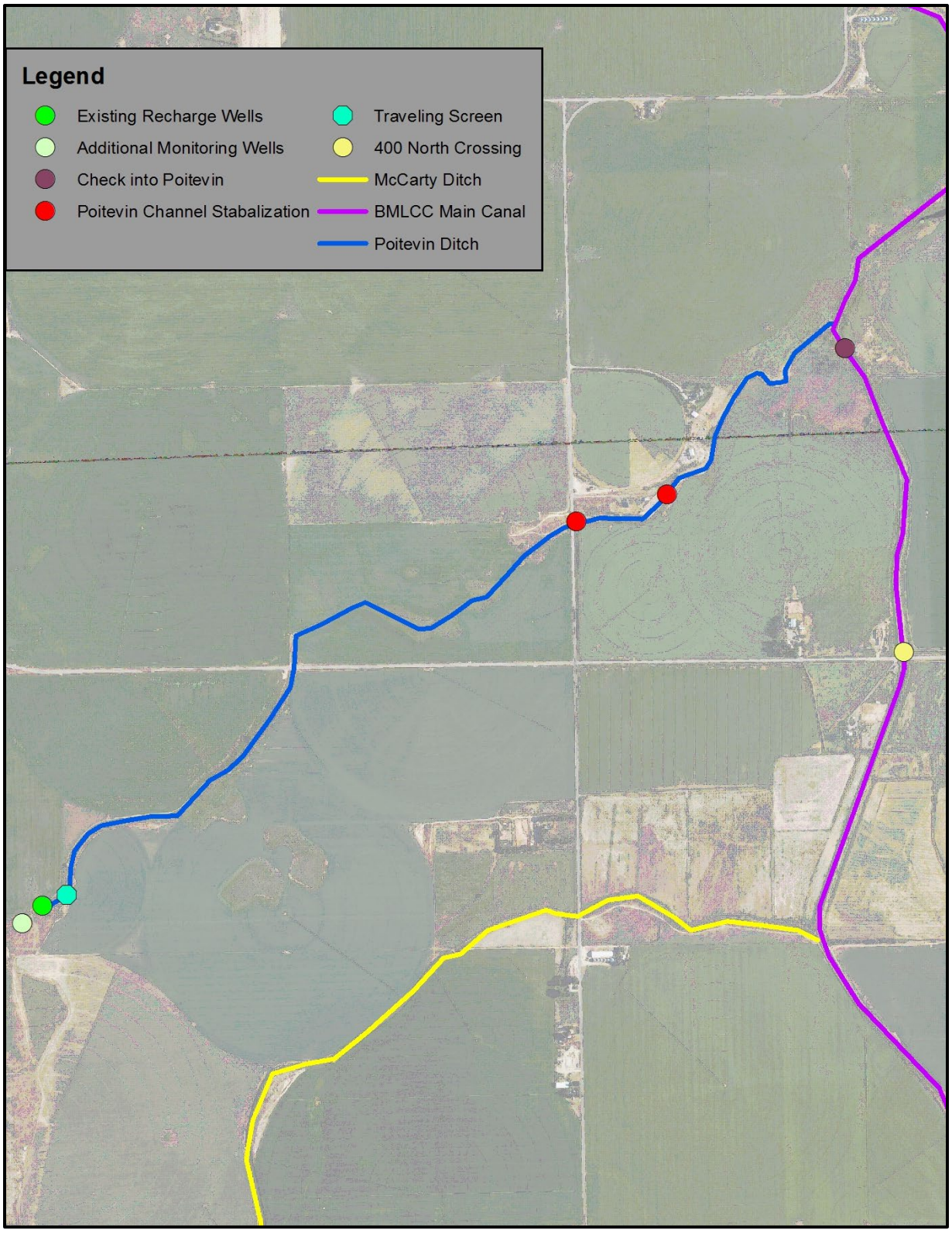


Figure 2. Closer view of the locations of proposed improvements on the Main Canal and Poitevin Ditch.

V. Appendix

Cost per acre-foot (AF) of recharge calculation:

Recharge Wells (65 cfs for 50 years):

Volume Recharged = (Days/year * Acre-feet recharged / day) * 50 years

= (45 days /year * 128.9 acre-feet / day) * 50 years

= 290,087 acre-feet

In-canal Recharge (100 cfs for 20 years):

Volume Recharged = (Days/year * Acre-feet recharged / day) * 20 years

= (13 days /year * 198.4 acre-feet / day) * 20 years

= 51,571 acre-feet

Total Volume Recharged = 341,658 acre-feet

Cost = Capital Development Costs + Conveyance Cost for 50 Years

= $660,000 + $1,586,000 + (341,658 acre-feet * $7.50 / acre-foot)

= $4,808,435

$$\text{Cost Per AF} = \frac{\text{Cost}}{\text{Volume Recharged}}$$

$$= \frac{\$4{,}808{,}435}{341{,}658 \text{ acre-feet}}$$

= $14 / acre-foot

Assumptions:

- 45 days of recharge each year for recharge wells
    - Recharge lasts approximately 90 days during flood control.

    - Flood control occurs in about 50% of the years.
- 13 days of recharge each year for in-canal
    - BMLCC can run in-canal recharge from April 1-26 during flood control.
    - Flood control occurs in about 50% of the years.

- The time period is 50 years for recharge wells and 20 years for in-canal recharge
    - This is the length of time IWRB will have a First Right of Refusal for this site.

- The cost is the capital cost plus the conveyance costs.
    - $660,000 has previously been contracted by the IWRB for these recharge wells and is included in the calculations.

ESPA Recharge Project Review

Date: December 30, 2025
To: Idaho Water Resource Board
From: Matt Anders and Mackenzie Kienholz
Re: ESPA Managed Recharge – Wilford Canal Agricultural Field Recharge Pilot Project

REQUIRED ACTION: The Idaho Water Resource Board (IWRB) will consider funding the Wilford Canal Agricultural Field Recharge Pilot Project.

The Wilford Canal Company submitted a proposal for a pilot project to conduct recharge using continuous flood irrigation on an agricultural field for the duration of the availability of the IWRB natural flow recharge right. The goal of this pilot project is to determine the feasibility of this method to support the IWRB goal of recharging 350,000 acre-feet on an average annual basis. The following memo provides a summary of the proposal and a staff review of the proposed recharge using existing agricultural infrastructure.

I. Project Proposal

The Wilford Canal is part of the Fremont-Madison Irrigation District canal system. Wilford Canal Company proposes to utilize existing flood irrigation infrastructure serving a 93-acre field near the head of its canal to conduct aquifer recharge. The recharge site's proximity to the canal's diversion point from the Snake River will allow recharge deliveries to begin as early in the season as snow conditions permit. The 93-acre field is estimated to have a recharge capacity of 46.5 cfs, or 1 acre-foot per acre per day, assuming results similar to those of a conceptual project conducted by the Harrison Canal Company near Ucon, Idaho, in 2025.

The field has a large headgate capable of delivering 46.5 cfs. The topsoil depth across the field is estimated to be approximately one foot, based on disk harrowing that exposes cobbles at the surface, intermixed with topsoil. Water is delivered to the east side of the field, and the land slopes downward to the west. The field is surrounded by natural berms to the north and south, and the road grades to the east and west.

Wilford Canal Company is proposing three locations to measure deliveries to the field:

- A rated section at the river diversion to allow the IWRB to measure the diversion from the river in the event the IWRB would like to verify WD01's measurements. Water is diverted from the Teton River via the Wilford Canal. Water District 01 (WD01) measures this diversion using a weir. This weir can sometimes become flooded, but WD01 has a method for calculating the diversion when the weir is flooded.

- A rated section on the South Branch of the Wilford Canal just after the split from the main branch. Upstream of the field application recharge site, the South Branch of the Wilford Canal splits from the main branch. The proposed recharge is the first diversion off the main branch of the Wilford Canal.

- A rated section on the main branch downstream of the diversions to the field application recharge site.

The recharge diversion rate will be calculated by subtracting the discharge of the South Branch of the Wilford Canal and the discharge of the Main Branch below the recharge site from the Wilford Canal diversion from the Teton River. Each rating location requires a stilling well and a transducer. Weekly discharge measurements will be made during recharge at each location, which will take approximately six hours per week. Fremont-Madison Irrigation District will install stilling wells and transducers and conduct weekly discharge measurements. These costs are shown in Table 1.

Table 1. Proposal Expenses

Expense Category	Estimated Cost
Measuring Device Installation & Weekly Discharge Measurements During Recharge Operations	$42,000
Total Cost	**$42,000**

In addition to the standard $7.50 per acre-foot conveyance fee, the Wilford Canal Company is proposing a $10 per acre-foot recharge performance fee for reimbursing the property owner for the use of the land and existing flood irrigation infrastructure. Combined with the measuring device costs listed in Table 1, the average cost is estimated to be $20 per acre-foot recharged (see Appendix).

II. MAR Site Summary

The Wilcox Canal Recharge Site is located in Bonneville County in Township 07 North, Range 41 East, Section 20, SE of the SW Quarter-Quarter Section.

Est. Recharge Capacity:	46.5 cfs	50% Response Time:	24 Months (ESPAM 2.2)
Size (ac):	93 acres	Delivery System:	Fremont-Madison ID
5-yr Retention:	20% (ESPAM 2.2)	Canal:	Wilford Canal
Depth to Water:	125 feet	Ownership:	Private

ESPAM 2.2 and ETRAN V3.4 were used to determine the 5-year retention, 50% response time, and percent return to the various reaches of the Snake River. The water recharged at this site would

primarily return to the following reaches of the Snake River: Ashton to Rexburg (68%), Heise to Shelley (27%), Shelley to Near Blackfoot reach (1%), and Near Blackfoot to Neeley reach (3%). The time required for 50% of the recharged water to be discharged to the Snake River is 24 months.

III. Hydrogeology Summary

Figure 1 shows the locations of well drilling logs, a North-South cross-section line (Figure 2), and a West-East cross-section line (Figure 3). There is approximately 50 feet of alluvium overlying basalt in each well, with wells to the north showing slightly thicker alluvial layers (100 feet). The water table is generally located in the basalt, approximately 125 feet below the land surface. Several of the well logs near the site indicate fractures within the basalt layers. At the location of this field, it is inferred from Figures 2 and 3 that no clay unit exists between the land surface and the basalt.

Table 2. Generalized Geology Below Site

Depth	Subsurface Geology
0-10 ft	Soil – Well Drained (USDA, 1981)
10-50 ft.	Sand & Gravel Alluvium
50-250 ft.	Basalt w/ Clay & Alluvial Interbeds

IV. Site Vicinity

To obtain an approved groundwater monitoring plan from the Idaho Department of Environmental Quality (IDEQ) or to permit an injection well from the Idaho Department of Water Resources (IDWR) Underground Injection Well (UIC) program, a review of facilities and potential areas of concern is typically required. A review of IDEQ's Source Water Assessment and Protection map shows the following potential contaminants within a 2-mile radius of the proposed recharge basin:

- Several sewage drain fields, including two within 1 mile north of the site
- A remediation site approximately 0.3 miles to the southeast
- A gravel pit approximately 0.75 miles to the southeast and 3 additional gravel pits within 2 miles of the site
- A Resource Conservation and Recovery Act (RCRA) site approximately 1 mile to the east
- Multiple agricultural runoff deep injection wells within 1-2 miles to the west
- City of Ucon is between 1 and 2 miles south of the site and includes:
  - Four RCRA sites
  - Six closed feedlots and one open
  - One toxic release inventory site
  - Three storm runoff shallow injection wells

An additional water quality consideration for both IDEQ and the UIC Program is the locations of Public Water Systems (PWS) near the site. This site is within the 3-year time of travel zone of the Andco Management PWS (PWS #7100194).

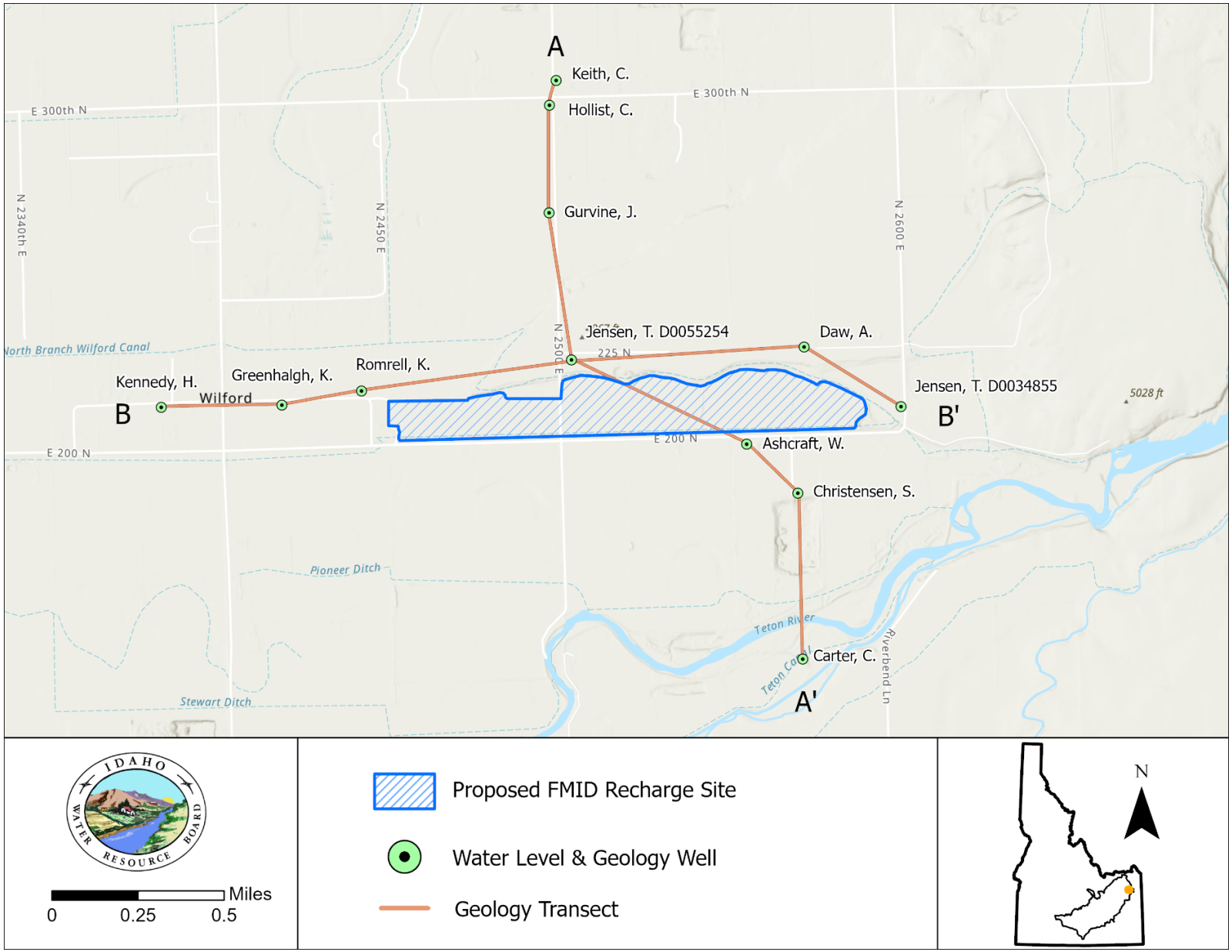


Figure 1. Locations of the proposed site and wells used for geology cross-sections.

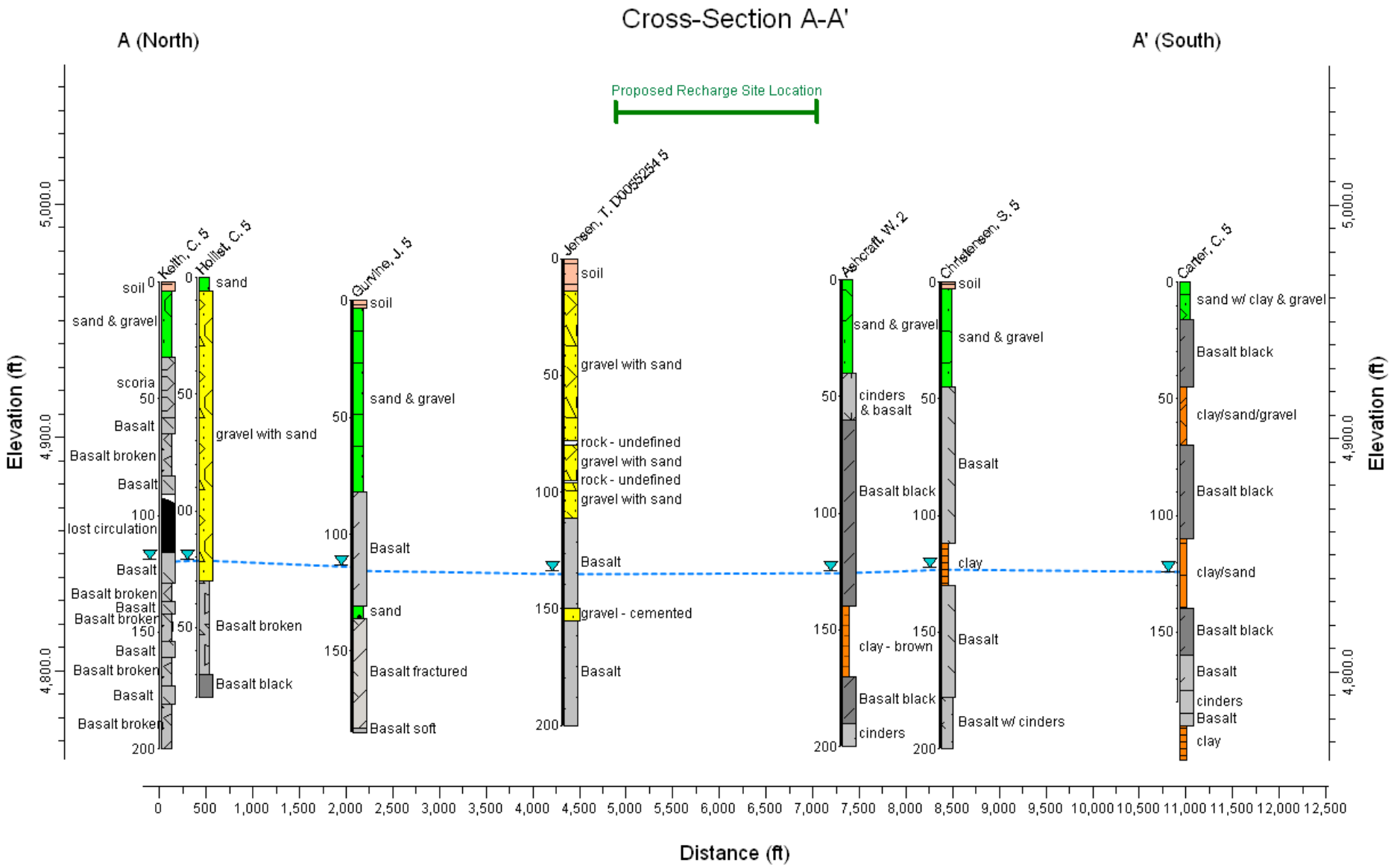


Figure 2. Geology cross-section from north to south.

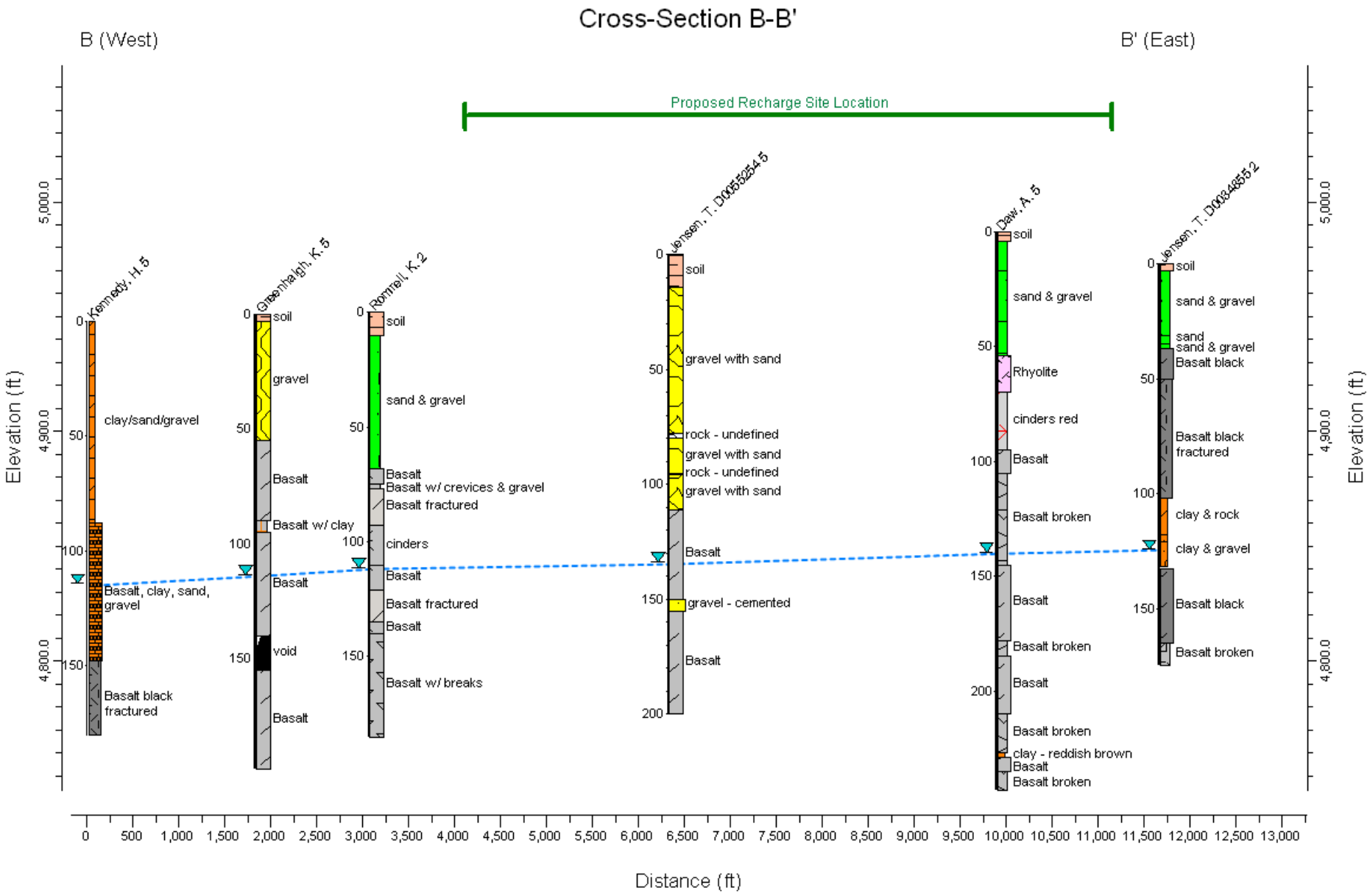


Figure 3. Geology cross-section from west to east.

I. Appendix

Volume Recharged = (Days / year * Acre-feet recharged / day) * 5 years

= (45 days / year * 93 acre-feet / day) * 5 years

= 20,925 acre-feet

Cost = Capital Development Costs + Recharge Performance Cost for 5 Years + Conveyance Cost for 5 Years

= $42,000 + (20,925 acre-feet * $10 / acre-foot) + (20,925 acre-feet * $7.50 / acre-foot)

= $42,000 + $408,188 + $156,938

= $408,188

Cost Per AF = $\frac{\text{Cost}}{\text{Volume Recharged}}$.

= $\frac{\$408,188}{20,925 \text{ acre-feet}}$.

= $20 / acre-foot

Assumptions:

- 45 days of recharge each year
    - Recharge lasts approximately 90 days during flood control.
    - Flood control occurs in about 50% of the years.
- The time period is 5 years
    - This is the length of the pilot project.
- The cost is the capital cost plus the conveyance costs plus the recharge performance costs.

Memorandum

Date: December 30, 2025
To: Idaho Water Resource Board
From: Neal Farmer
Re: ESPA Managed Recharge – Searle Recharge Well

REQUIRED ACTION: The Idaho Water Resource Board (IWRB) will consider funding Southwest Irrigation District's Proposal.

The Southwest Irrigation District (SWID) submitted a proposal for a pump station and pipeline for a recharge well. The development of this recharge basin is to support the IWRB goal of recharging 350,000 acre-feet on an average annual basis. The following memo provides a summary of the proposal and a staff review of the proposed recharge complex.

I. Project Proposal

Southwest Irrigation District (SWID) is proposing to install a new dedicated pump station on the 'J-Canal' (Minidoka Irrigation District) with two pipelines to two injection wells. This will connect two preexisting permitted injection wells to a new canal pump station and pipeline dedicated to these wells. The injection wells have been in use for 3 to 10 years. This will disconnect the injection wells from the existing irrigation pipeline and pump station, allowing recharge water to be delivered to the wells at the maximum rate for longer periods of time. The existing delivery capacity to these injection wells is 6 cubic feet per second (cfs). The increase in delivery capacity will be 16 cfs.

The injection well's Underground Injection Control permit numbers are 45W074001 and 45W086003. These wells have been operated at approximately 10 cfs each. There are years of water quality sampling results for these wells and nearby domestic wells are required in the permit. It is important to note that SWID does not want to connect a 3rd injection well (45W086001) to this system, even though it is located between the two proposed wells. SWID expressed concerns about using this 3rd well due to its proximity to a new irrigation pumping well and a domestic well. The average cost is estimated to be $18 per acre-foot recharged. (see Appendix).

Expense Category	Estimated Cost
Pump Station	$311,608
Pipe & Installation	$350,315
Power Line	61,389
Project Management	$5,000
Contingency (5%)	$35,000
Total Project Cost	**$763,312**

II. MAR Site Summary

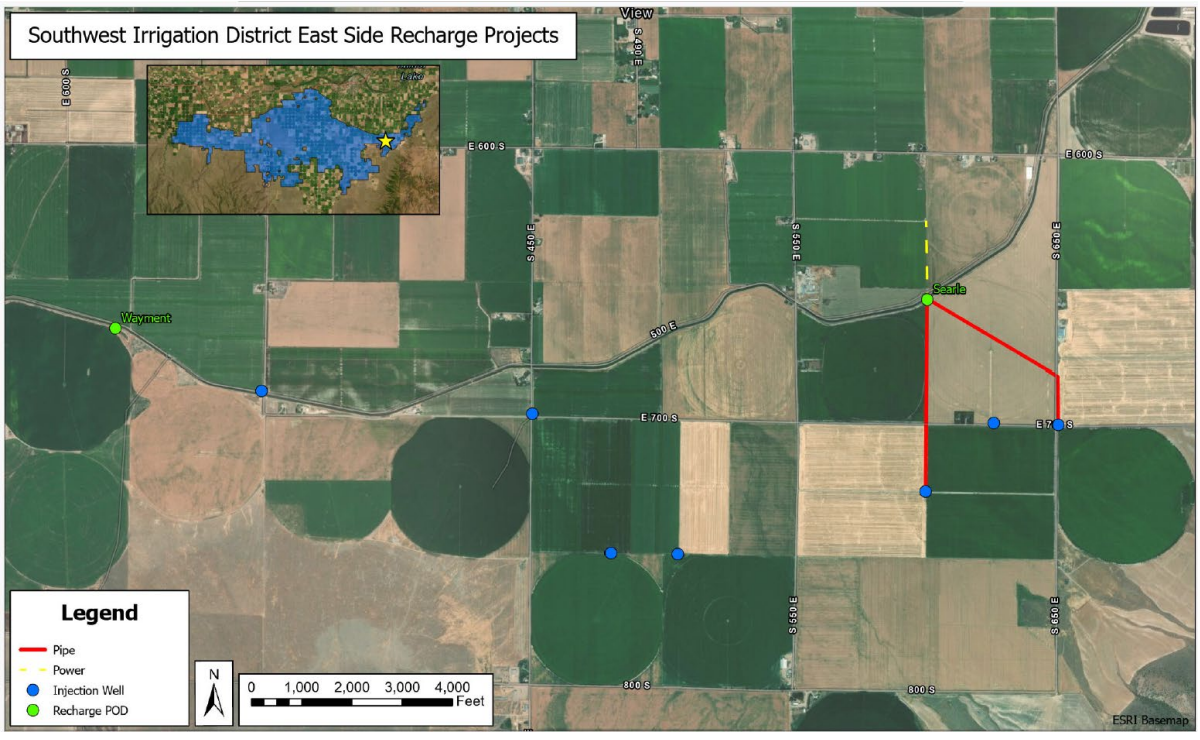
Location: Cassia County, Township 11 South, Range 24 East, Section 29, SE corner. IDTM coordinates 2526657 meters and 1248520 meters.

Est. Recharge Capacity:	16 cfs	Operator:	Southwest Irr. Dist.
Size (ac):	N/A	Delivery System:	J-Canal (Burley Irr. Dist.)
5-yr Retention:	88%	50% Response Time:	14 years
Depth to Water:	350 feet	Ownership:	Private

ESPAM 2.2 and ETRAN V3.4 were used to determine the 5-year retention, 50% response time, and percent return to the various reaches of the Snake River. The water recharged at this site would primarily return to the following reaches of the Snake River: Shelley to Near Blackfoot reach (9%), Near Blackfoot to Neeley reach (38%), Devils Washbowl to Buhl 17%, and Buhl to Thousand Springs 13%. The time required for 50% of the recharged water to be discharged to the Snake River is 168 months (14 years).

The hydrogeology for this project has already been evaluated and approved through the injection well permits and the historical operation of the wells.

Figure 1. Location Map of the SWID Project



III. Appendix

Volume Recharged = (Days / year * Acre-feet recharged / day) * 20 years

= (45 days / year * 32 acre-feet / day) * 50 years

= 72,656 acre-feet

Cost = Capital Development Costs + Conveyance Cost for 20 Years

= $763,312 + (72,656 acre-feet * $7.50 / acre-foot)

= $1,308,229

Cost Per AF = $\frac{\text{Cost}}{\text{Volume Recharged}}$.

= $\frac{\$1,308,229}{72,656 \text{ acre-feet}}$.

= $18 / acre-foot

Assumptions:

- This is for flood control capacity.
    - The delivery system is the Burley Irrigation District, which diverts water above the Minidoka dam. This is a diversion of the IWRB water right during flood control.
    - The existing capacity is 6 cfs and the new capacity is 16.28 cfs

- 45 days of recharge each year
    - Recharge lasts approximately 90 days during flood control.
    - Flood control occurs in about 50% of the years.

- The time period is 50 years
    - This is the length of time IWRB has the First Right of Refusal for sites it develops.

- The cost is the capital cost plus the conveyance costs.

IDAHO
Water Resource Board

Managed Aquifer Recharge Program Projects

Cooper Fritz & Matt Anders
Water Planning and Projects Section

January 22, 2026

Summary of New Proposed Recharge Projects

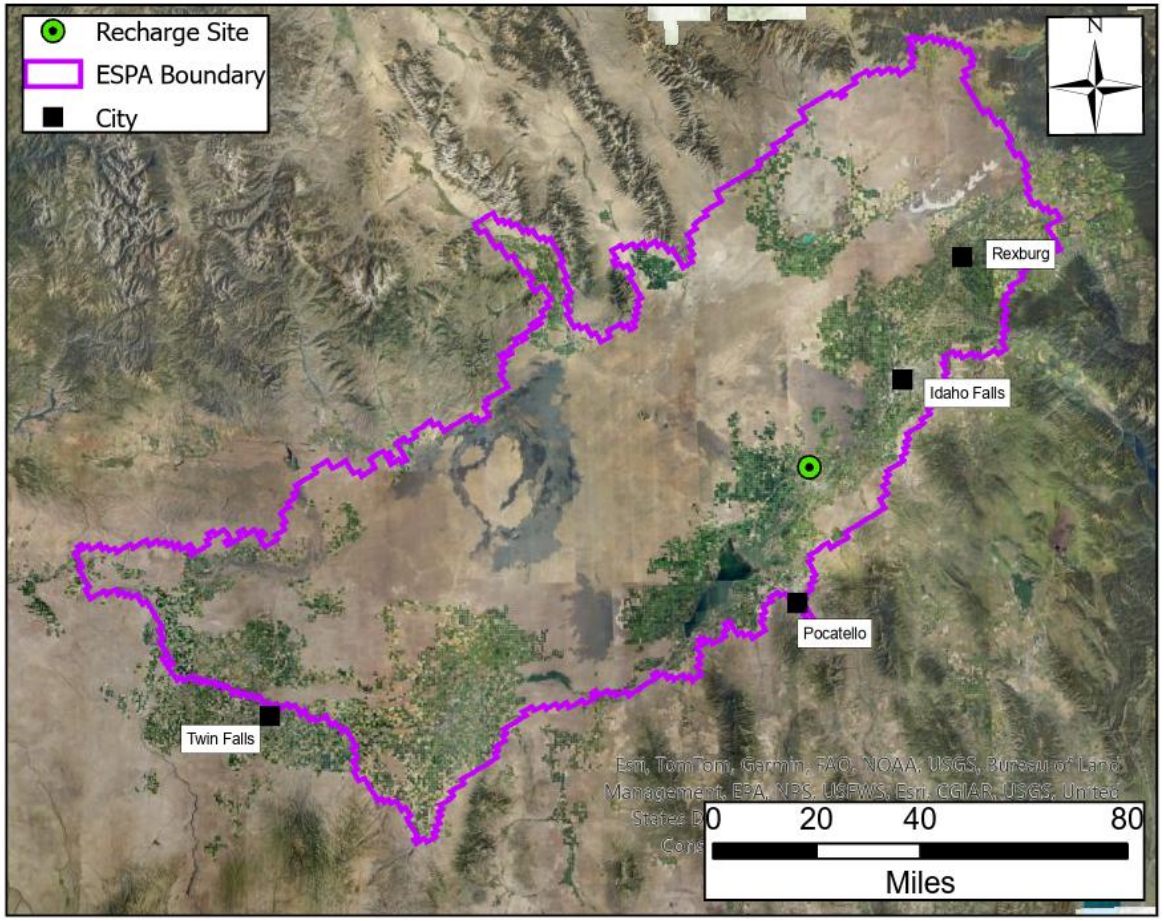
Proposed Recharge Project	Type	Capital Cost	Estimated Cost Per Acre-Foot Recharged[1]	Estimated Recharge Capacity (cfs)	5-Year Retention in Aquifer	50% Response Time (Months)[2]	Percent Return to Snake River
Bingham GWD – Dubois & Riverside Site	45-Acre Basin	$3,100,000	$30 (50 years)	30	17%	12-16	Shelley to Near Blackfoot 30% Near Blackfoot to Neeley 61%
Butte Market Lake – Canal Improvements	Canal	$1,600,000	$14 (20 years)	65	30%	9-10	Heise to Shelley 20% Shelley to Near Blackfoot 27% Near Blackfoot to Neeley 45%
Fremont Madison ID – Wilford Canal Pilot Project	93 acres Land App	$42,000	$22 (5 years)	47	20%	24	Ashton to Rexburg 68% Heise to Shelley 27% Shelley to Near Blackfoot 1% Near Blackfoot to Neeley 3%
Southwest ID – Searle Well	Well	$765,000	$18 (50 years)	22	88%	168 (14 years)	Shelley to Near Blackfoot 9% Near Blackfoot to Neeley 38% Devils Washbowl to Buhl 17% Buhl to Thousand Springs 13%

[1] Assumed 90 days of recharge available in 50% of the years. Used a conveyance fee of $7.50 / acre-foot.

[2] The time required for 50% of the recharged water to discharge to the Snake River

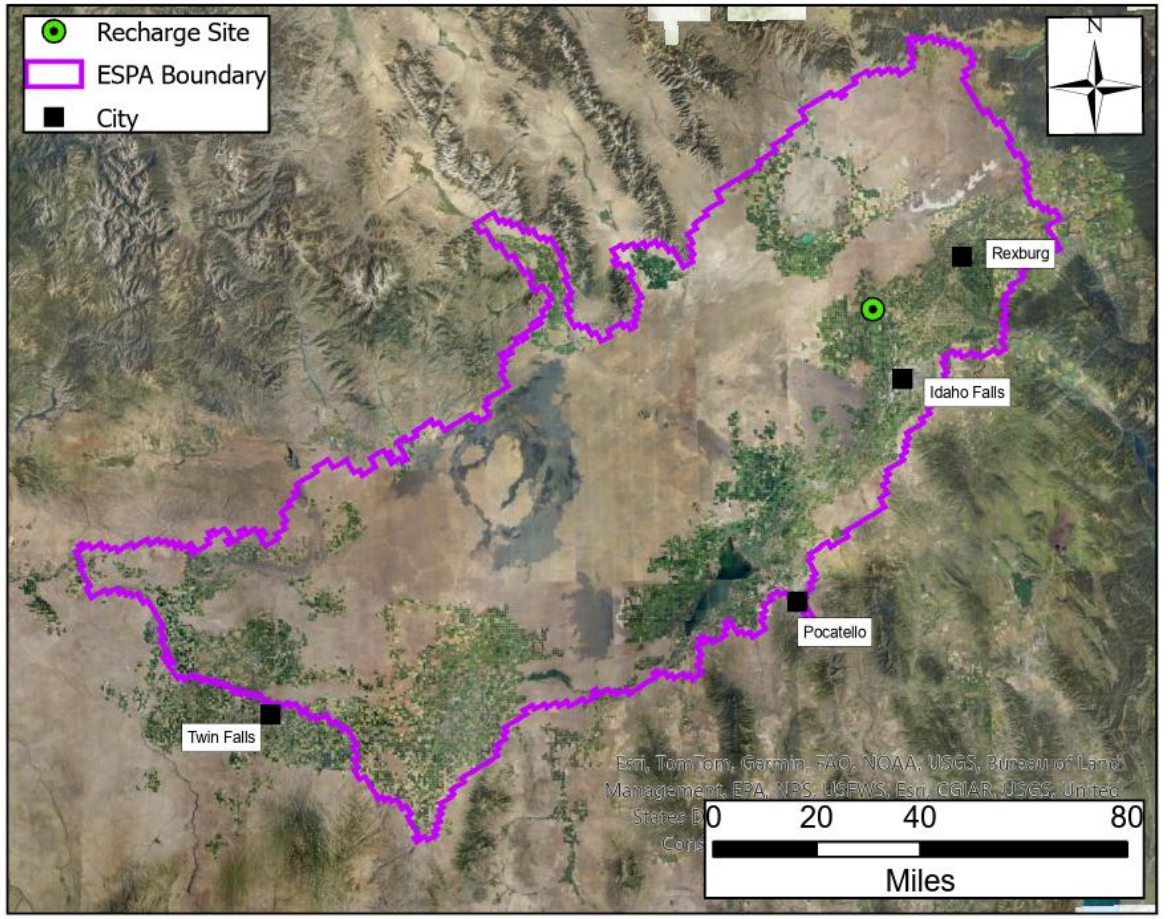
Bingham GWD – Dubois & Riverside Site

• Type	45-acre Basin
• Cost	$3,100,000
• Estimated Capacity	30 cfs
• 50-Year Estimated Cost	$30 / AF
• 5-Year Retention	17%
• 50% Response	12-16 months
• Return to Snake River	
• Shelley to Near Blackfoot	30%
• Near Blackfoot to Neeley	61%



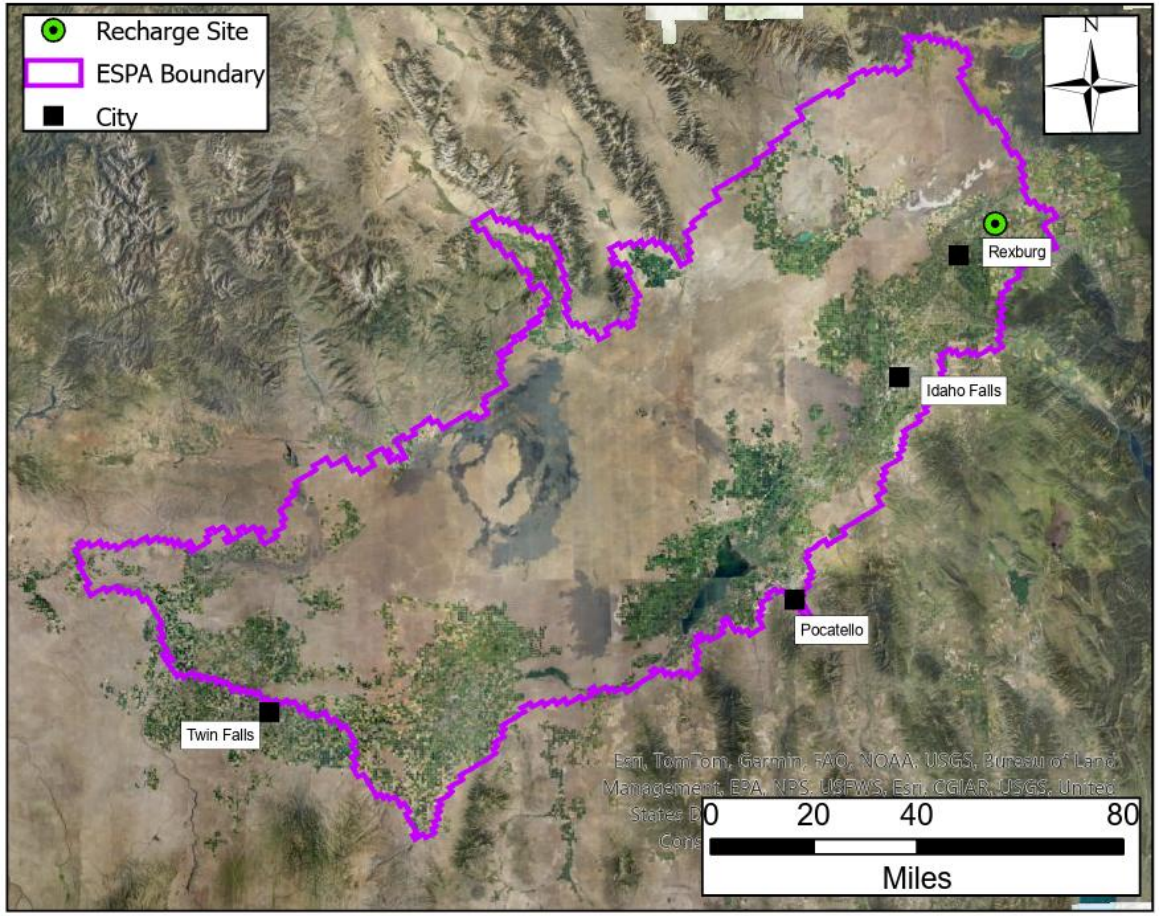
Butte Market Lake – Canal Improvements

- Type — Canal
- Cost — $1,600,000
- Estimated Capacity — 65 cfs
- 20-Year Estimated Cost — $14 / AF
- 5-Year Retention — 30%
- 50% Response — 9-10 months
- Return to Snake River
  - Heise to Shelley — 20%
  - Shelley to Near Blackfoot — 27%
  - Near Blackfoot to Neeley — 45%



Fremont-Madison ID – Wilford Canal Pilot Project

- Type — 93-acre Land Application Site
- Cost — $42,000
- Estimated Capacity — 47 cfs
- 5-Year Estimated Cost — $22 / AF
- 5-Year Retention — 20%
- 50% Response — 24 months
- Return to Snake River
  - Ashton to Rexburg — 68%
  - Heise to Shelley — 27%
  - Shelley to Near Blackfoot — 1%
  - Near Blackfoot to Neeley — 3%

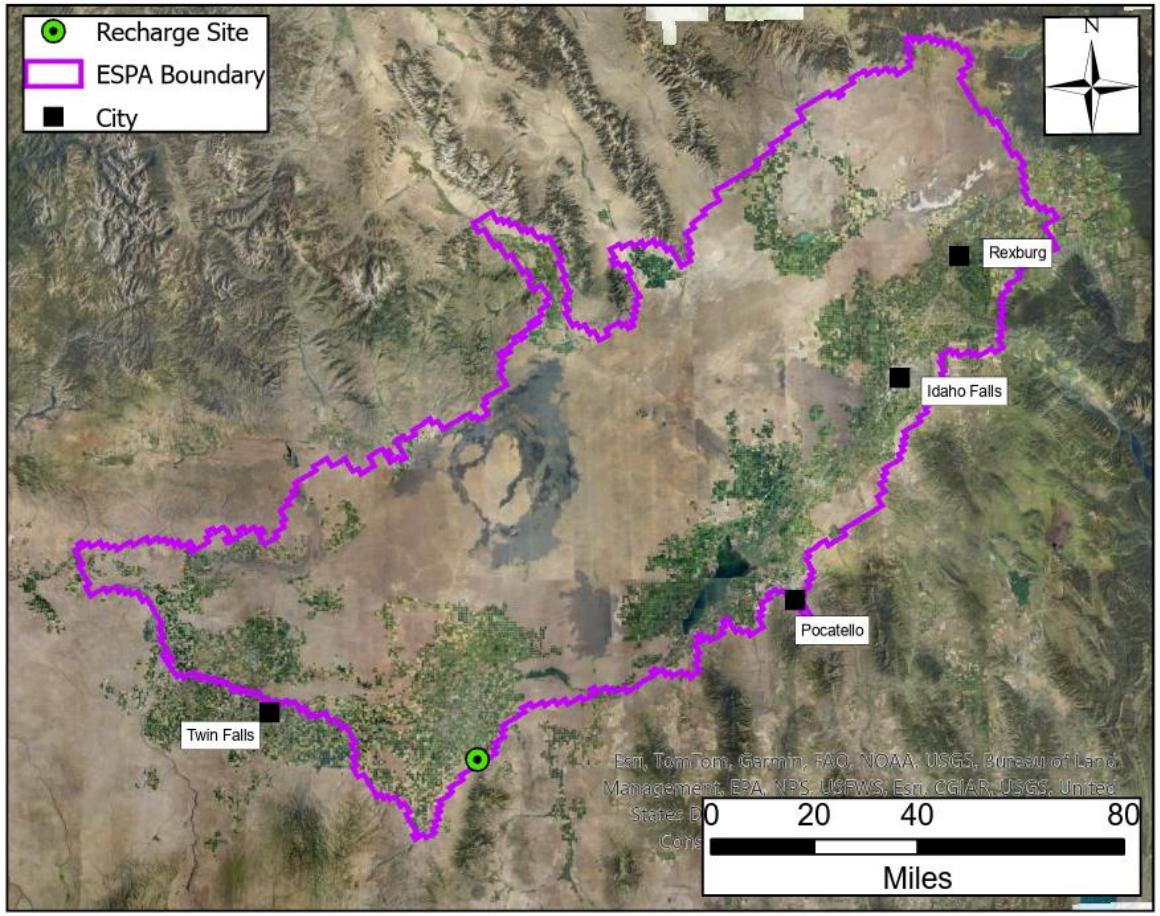


Fremont-Madison ID – Wilford Canal Pilot Project

- Proposed payment structure
    - $7.50 per acre-foot for canal conveyance
    - $10 per acre-foot of water recharged

Southwest Irrigation District – Searle Well

- Type — Well
- Cost — $763,312
- Estimated Capacity — 22 cfs
- 20-Year Estimated Cost — $34 / AF
- 5-Year Retention — 88%
- 50% Response — 14 years
- Return to Snake River
  - Shelley to Near Blackfoot — 9%
  - Near Blackfoot to Neeley — 38%
  - Devils Washbowl to Buhl — 17%
  - Buhl to Thousand Springs — 13%



Questions?