AGENDA

IDAHO WATER RESOURCE BOARD

Finance Committee Meeting No. 6-23
Wednesday, June 14, 2023
10:00 a.m. (MT) / 9:00 a.m. (PT)

Water Center
Conference Rooms 602 C&D / Online Zoom Meeting
322 E. Front St.
BOISE

Board Members & the Public may participate via Zoom
Click here to join our Zoom Meeting
Dial in Option: 1(253) 215-8782
Meeting ID: 864 4916 3978 Passcode: 261060

1. Introductions and Attendance
2. Raft River Pipeline Project
3. Lost Valley Reservoir Enlargement Project
4. Mackay Dam Repair Project
5. Elmore County/Mountain Home Plateau Aquifer Water Supply Project
6. Other Items
7. Adjourn

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

* 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
The meeting will be held in person and online. If you require special accommodations to attend, participate in, or understand the meeting, please make advance arrangements by contacting Department staff by email jennifer.strange@idwr.idaho.gov or by phone at (208) 287-4800.

RAFT RIVER WATERSHED PROJECT

Regional Water Sustainability List

Project Overview and Needs

ARDURRA

- Project Background
- Raft River Basin
- Funding Review
- Raft River Irrigation District
- Project Status Update
- Support Needed

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PROJECT BACKGROUND

Raft River Watershed Project

RAFT RIVER WATERSHED PROJECT

- Raft River Flood District
  - *Raft River Recharge Group LLC*
  - *Raft River Electric*
- Raft River Groundwater District
- Raft River Irrigation District (in formation)

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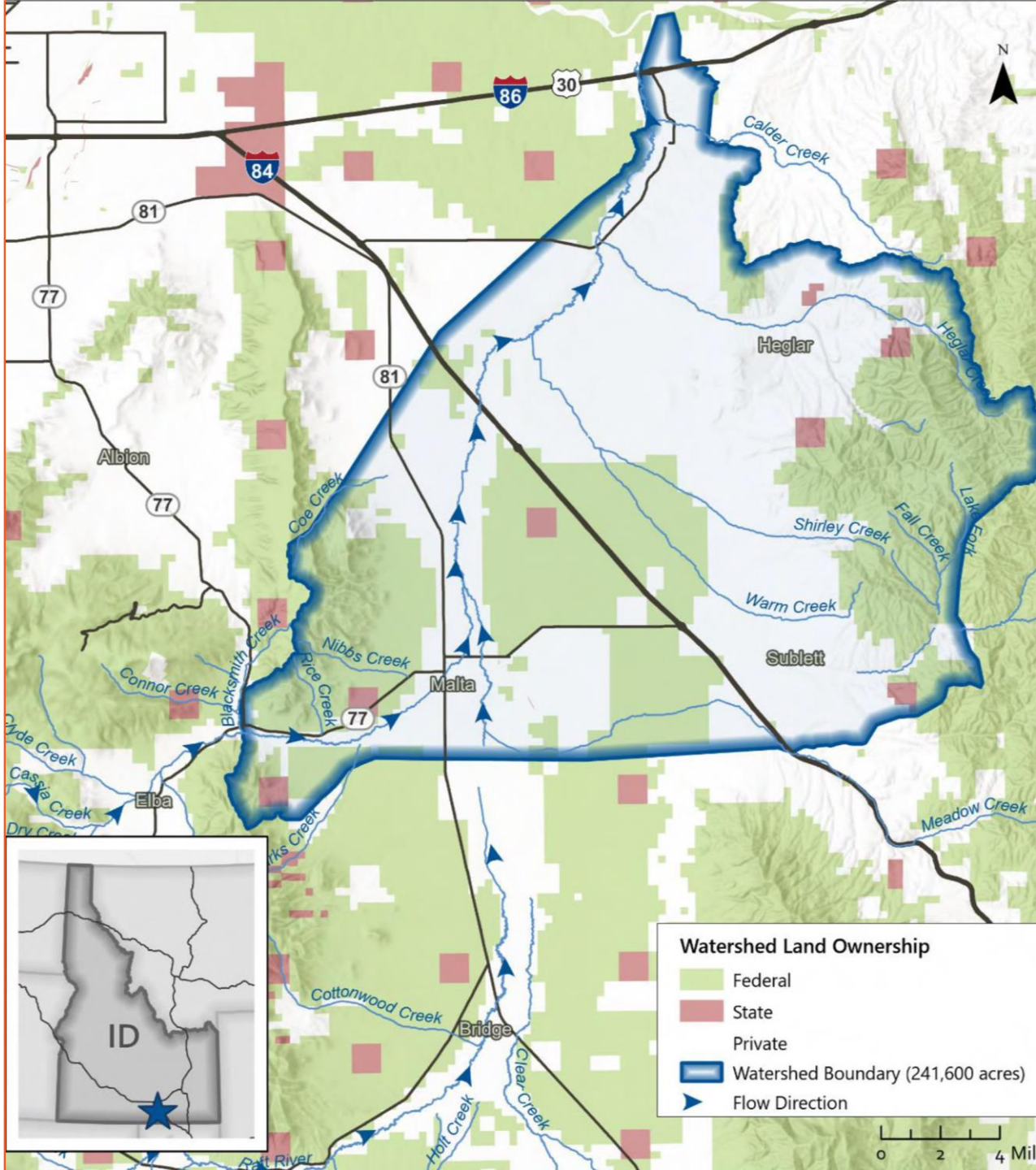
RAFT RIVER WATERSHED

The proposed project will rehabilitate a portion of the Raft River basin that will be designated as the Raft River Watershed



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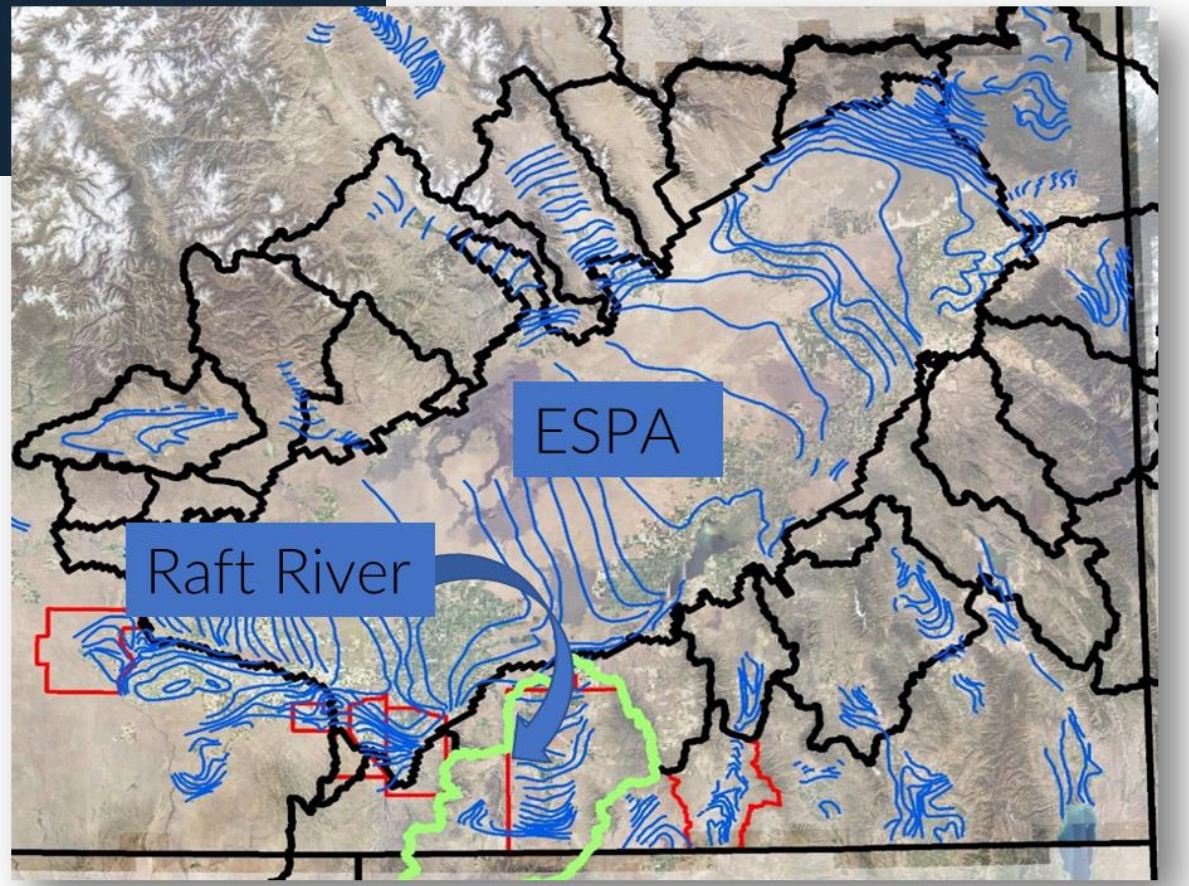
RAFT RIVER USDA NRCS PL 83-566 WATERSHED PROJECT

- Flooding has caused damage to crops, highways, animals and housing
- Yearly floods carry sediment loads that exceed total maximum daily load (TMDL) for the Raft River
  - *Sediment is carried to Snake River and is deposited in the sensitive wetland of the Wildlife Refuge*
- Declining groundwater levels are a risk to sustaining agriculture and the economy of the Raft River Basin



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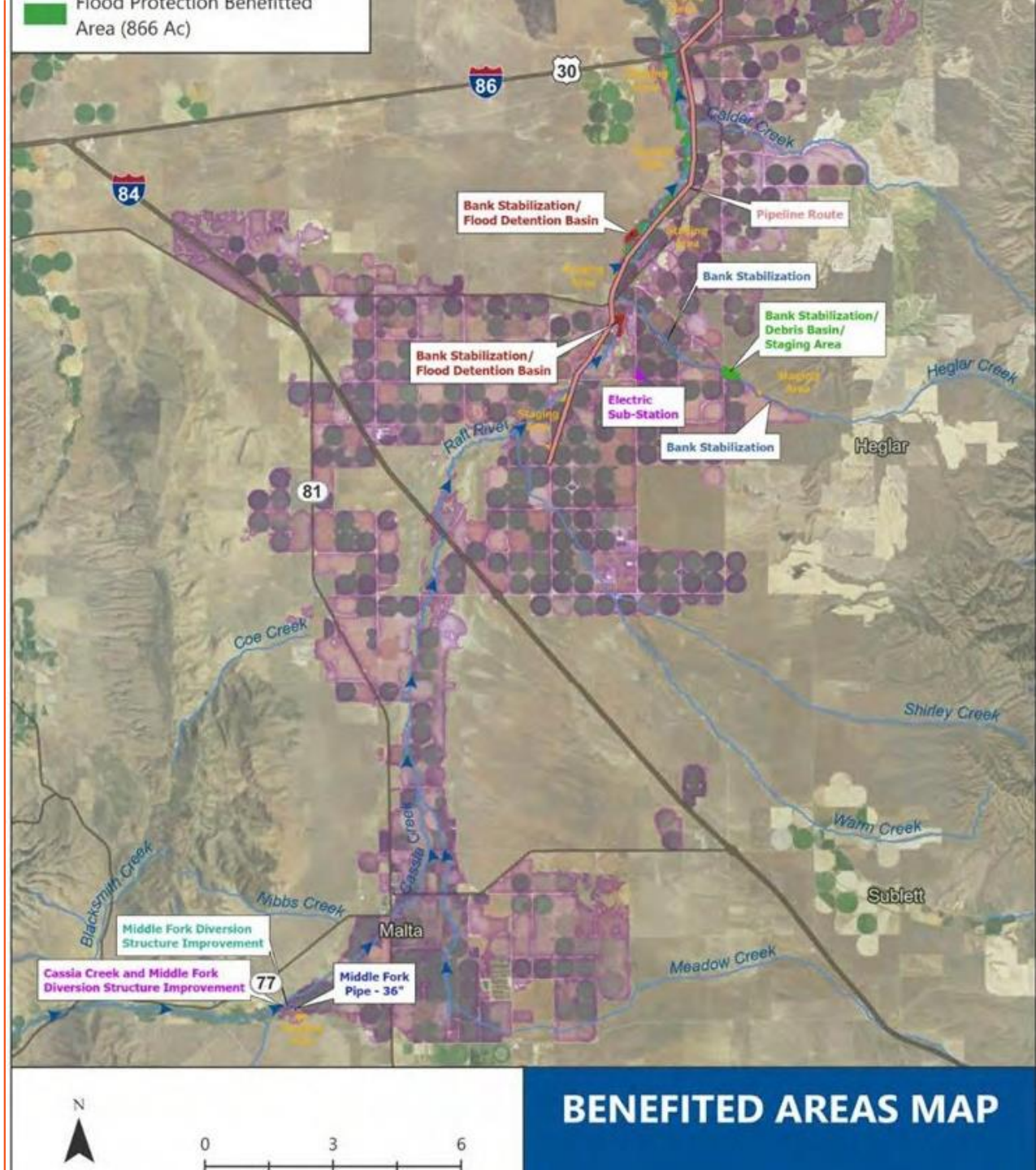
RAFT RIVER WATERSHED

This project, which would provide:

- Flood protection for the Raft River Basin
- Provide recharge to a designated CGWA aquifer
- Provide a sustainable source of irrigation water for agricultural producers
- Improve water quality in Raft River before it flows into the snake River



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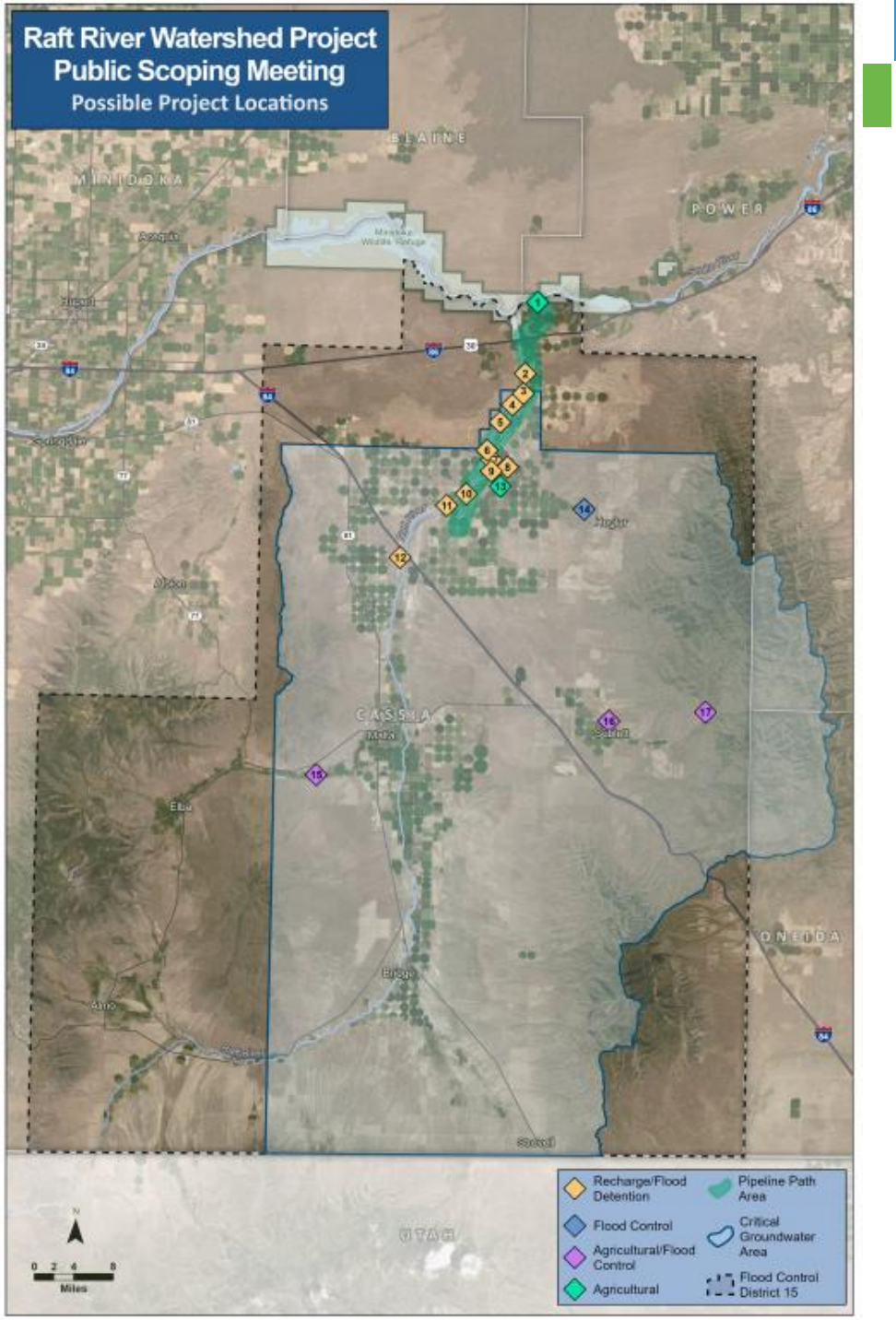
RAFT RIVER WATERSHED PROJECT DESCRIPTION

- Installing a pump station and pipeline from the Snake River into the Raft River basin to deliver private water rights for recharge.
- Developing flood detention and recharge ponds that recharge the aquifer, remove sediment and pollutants, and reduce flood flows.
- Completing bank restoration protection projects on tributaries of the Raft River.
- Pipe surface water delivery laterals to increase available water and decrease supplemental groundwater usage.



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RAFT RIVER FLOOD DISTRICT

Extensive flooding in 2017

- Overtopped freeway
- Flooded Raft River corridor
- Loss of crops and livestock

Raft River Flood District partnered with the Raft River Recharge Group and Raft River Electric to sponsor the project.

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RAFT RIVER ELECTRIC

Continued decline in groundwater levels necessitates more power each year

Substation upgrade included in agricultural portion of the project

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RAFT RIVER RECHARGE GROUP

The Raft River Recharge Group is committed and engaged to achieve aquifer recovery

- Developed and secured permit for groundwater recharge WR 1-10644
- Evaluated Pipeline Feasibility
  - Recharge benefit
  - Engineers Opinion of Cost for construction and operation
  - Snake River Water Availability

WATER RIGHT NO. 1-10644

Owner Type	Name and Address
Current Owner	RAFT RIVER RECHARGE GROUP LLC 246 E 300 S BURLEY, ID 83318
Attorney	MICHAEL C CREAMER GIVENS PURSLEY LLP PO BOX 2720 BOISE, ID 83701-2720 2083881200
Representative	BROCKWAY ENGINEERING PLLC C/O CHARLES G BROCKWAY 2016 N WASHINGTON ST STE 4 TWIN FALLS, ID 83301 2087368543

Priority Date: 01/25/2017
Status: Active

Source	Tributary
SNAKE RIVER	COLUMBIA RIVER

Beneficial Use	From	To	Diversion Rate	Volume
GROUND WATER RECHARGE	01/01	12/31	70 CFS	
Total Diversion			70 CFS	

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RAFT RIVER GROUNDWATER DISTRICT UPDATE

Data and Analysis Provided by Well Water Consultants

- The pipeline project will be critical to sustain irrigation in the valley.
  - *More effective if the recharge is accomplished ½ mile from the river*
  - *Soft conversions need to be an integral part, if not the main focus, of the pipeline*

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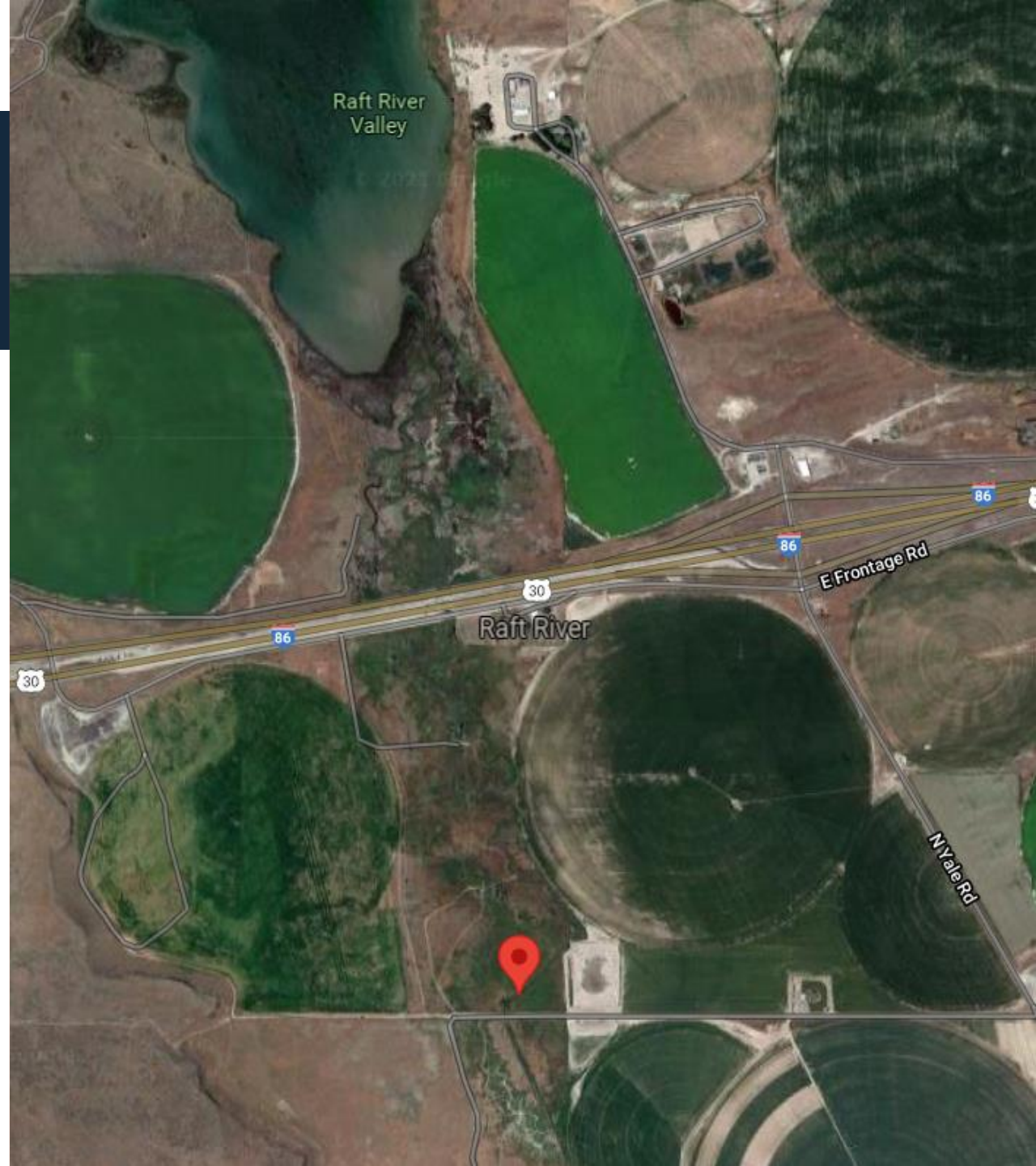
RAFT RIVER BASIN

Aquifer and Curtailment

RAFT RIVER

- Previously perennial stream
- Now intermittent and subterranean
- Loss of habitat for wildlife
  - *Impacts the Minidoka Wildlife Refuge*



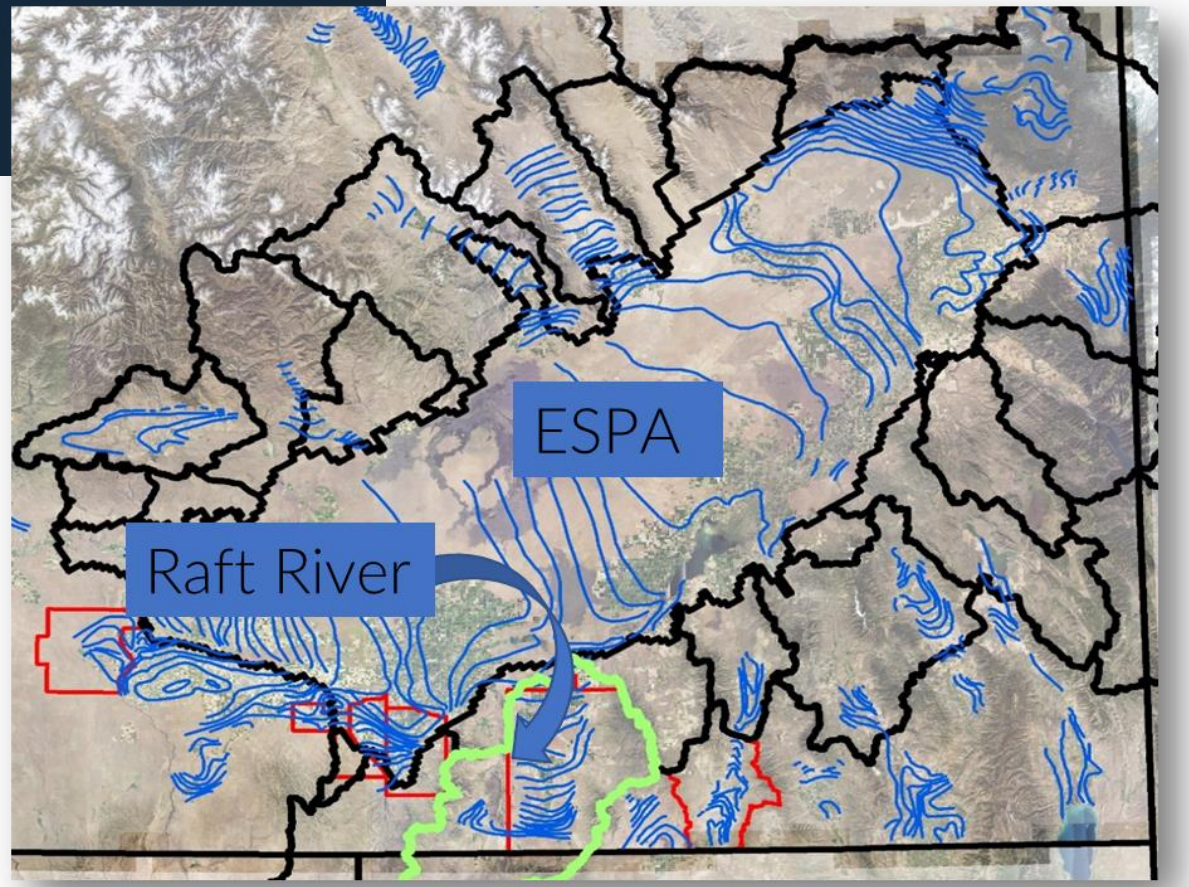
RAFT RIVER AQUIFER

Raft River Critical Groundwater Area Designated in 1963

- Original investigation by USGS in 1970

Recent investigation started in 2019 by the IDWR and USGS as part of larger groundwater modeling effort

  - Hydrologic Characterization



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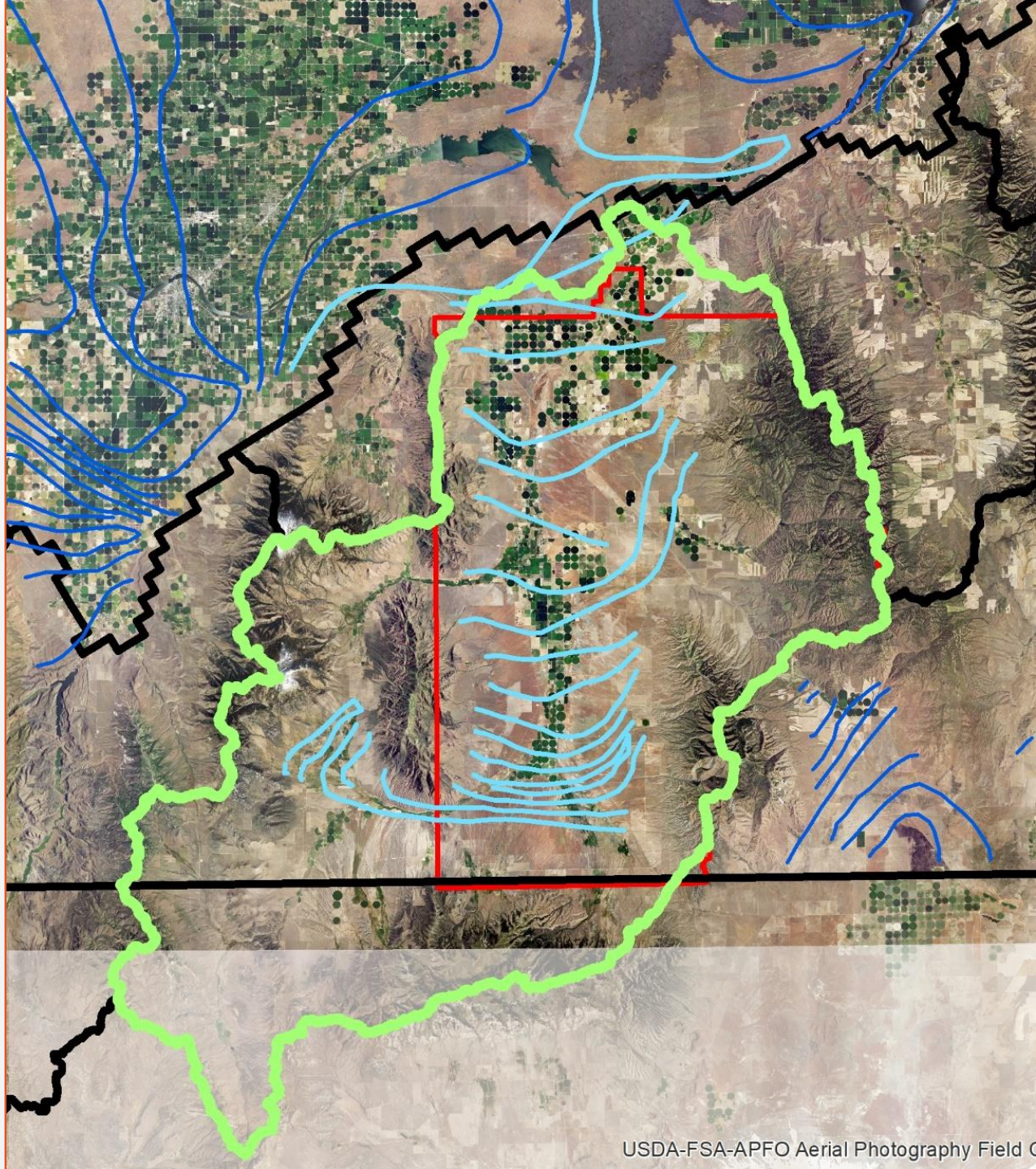
RAFT RIVER AQUIFER

- Modified boundaries to remove Yost-Almo, Elba, Albion, and Cotteral Regions in 1966, 1970, and 1977 respectively
- Expansion Acres curtailed in 2016 due to requirements of IC 42-1416B requiring Critical Groundwater Areas to curtail expansion acres unless:
- "Average annual withdrawals…equal to average annual recharge"



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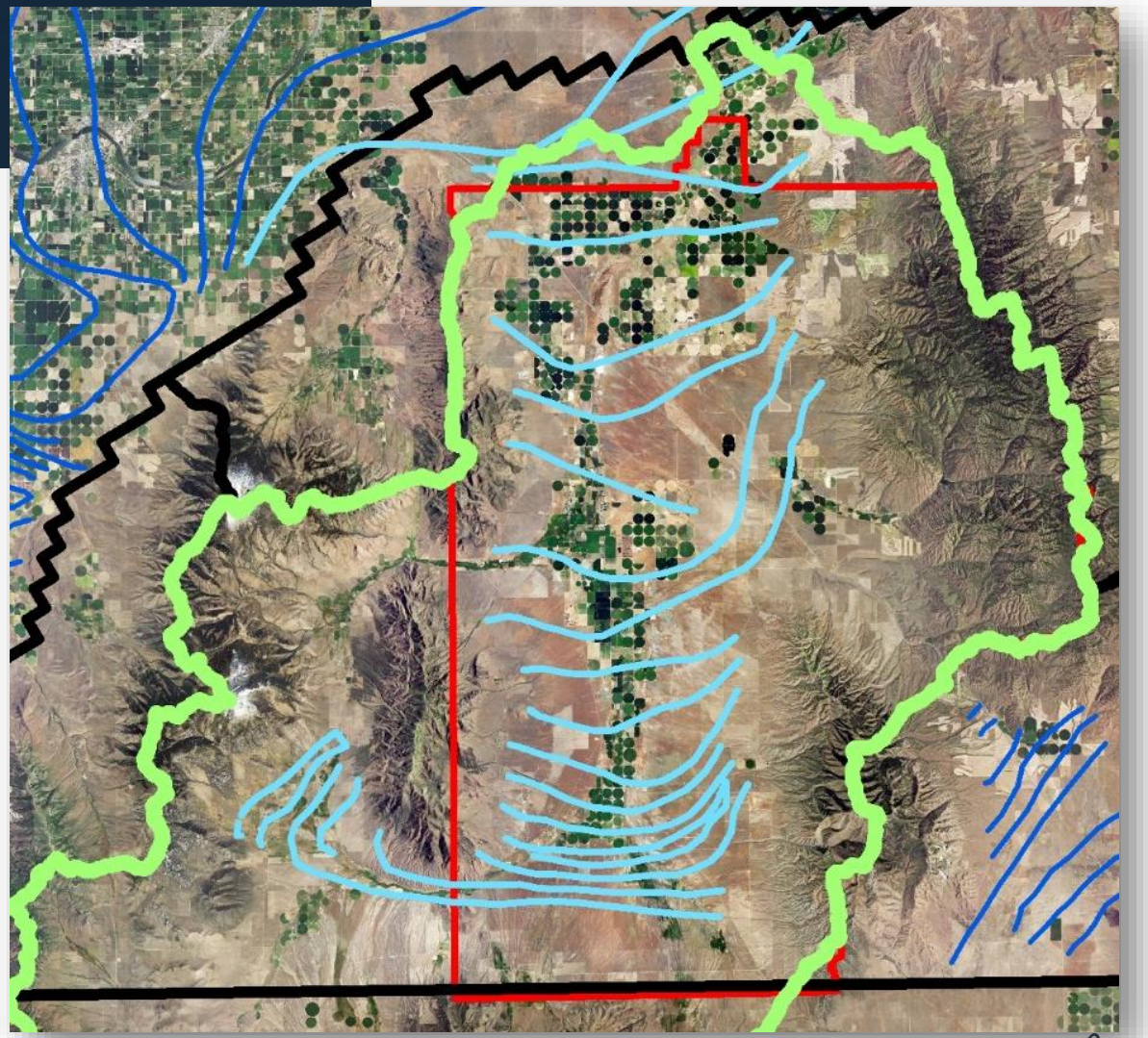
RAFT RIVER AQUIFER

Raft River Critical Groundwater Area expansion acres are curtailed

Curtailment prevents water from being applied to acreage during a year regardless of

- Efficiency improvements
- Crop consumptive use or farming practices



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CURTAILMENT = ECONOMIC IMPACT

Final Curtailment Order Issued for Expansion Acres in September of 2016

- Curtailment of 7,800 acres over a 3-year period
- IDWR monitors curtailed acreage for irrigation
- Future curtailment possible if the aquifer remains unbalanced

Cassia County decreased the assessed value of curtailed acreage

- Dry Graze Land is 1/10th of Irrigated Land Value
- Affects farmers ability to operate
- Affects land tax basis

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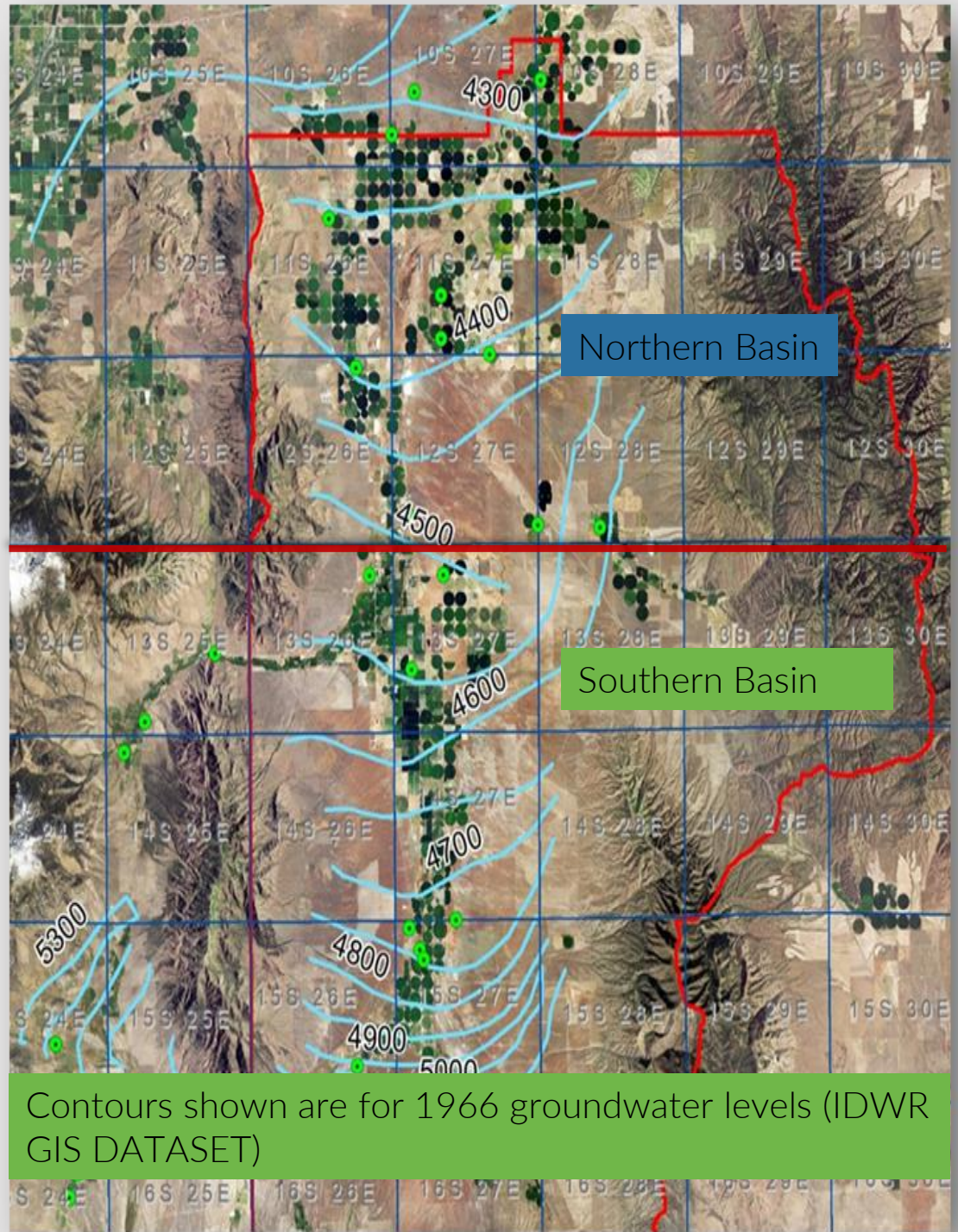
RAFT RIVER BASIN

Groundwater declines average 1.7 feet per year (Neeley 2015)

Aquifer deficit unknown. Last estimate was 103,000 afa in 1966 and assumes no salvage of outflow from basin (Walker et al. 1970).

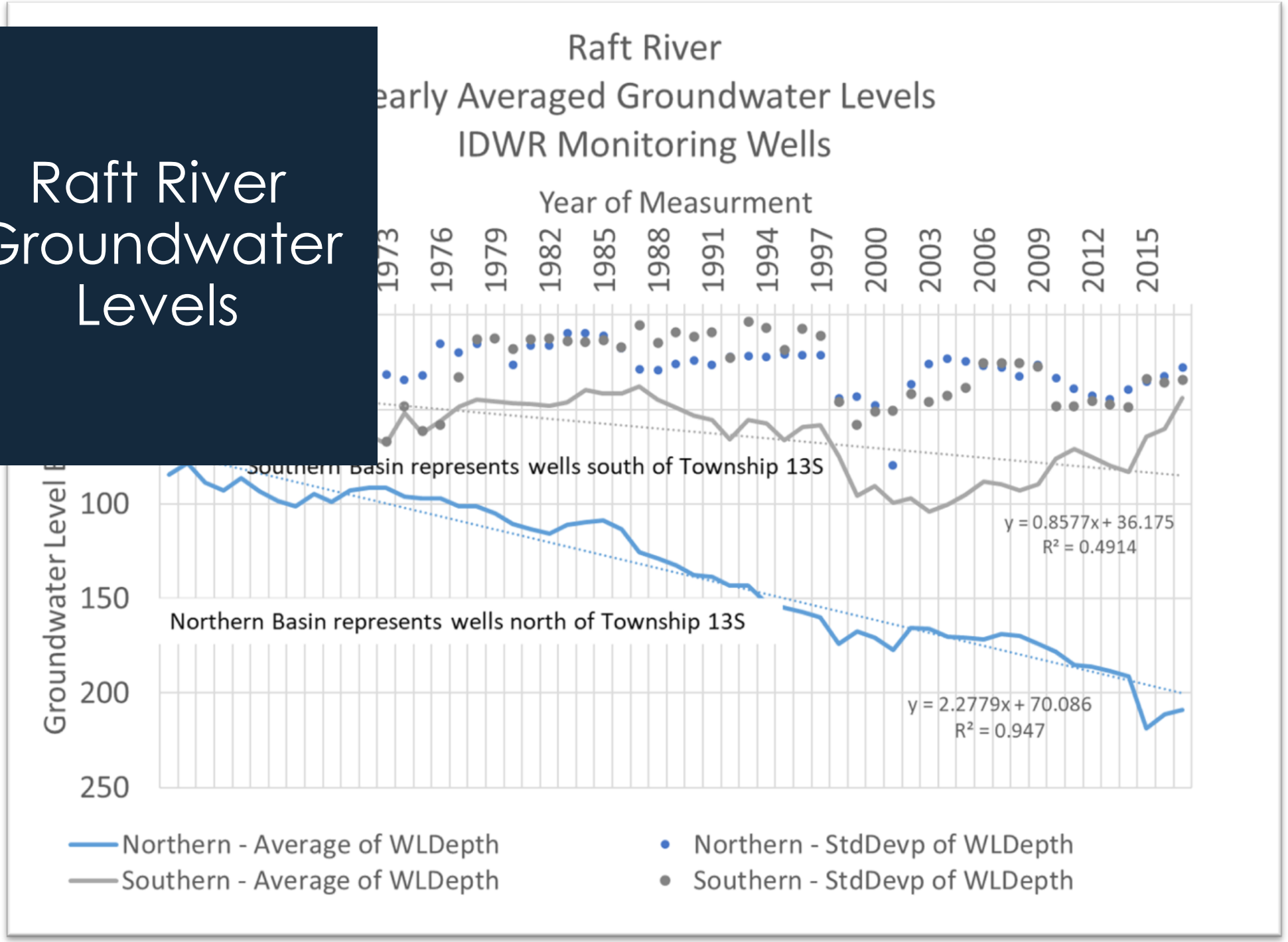
Estimated aquifer deficit likely between 36,000 afa and 120,000 afa annually

Estimate of deficit based on McVay and Higgs water balance models (Zobott 2017)

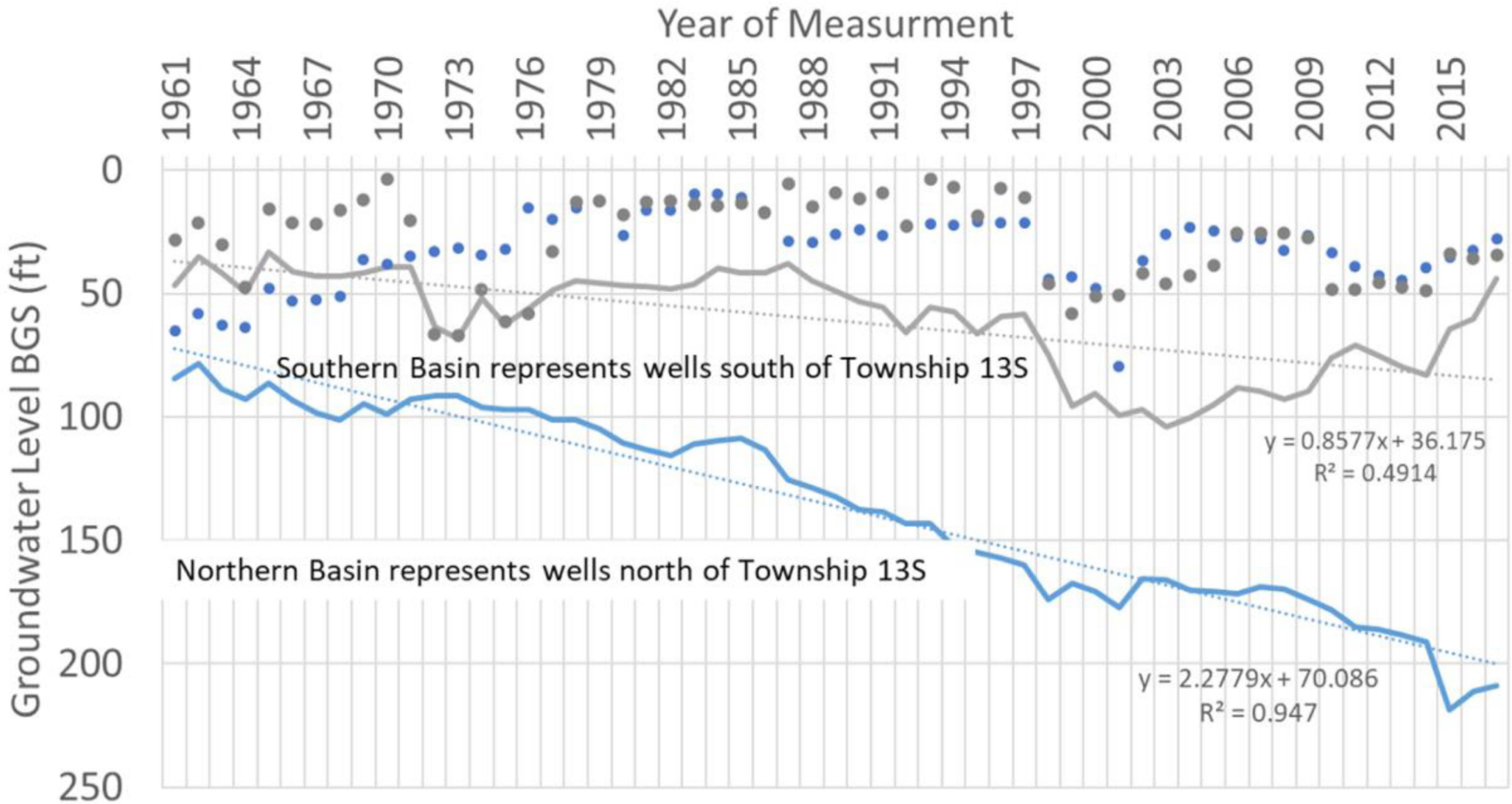


Contours shown are for 1966 groundwater levels (IDWR GIS DATASET)

Raft River Groundwater Levels



Raft River
Yearly Averaged Groundwater Levels
IDWR Monitoring Wells



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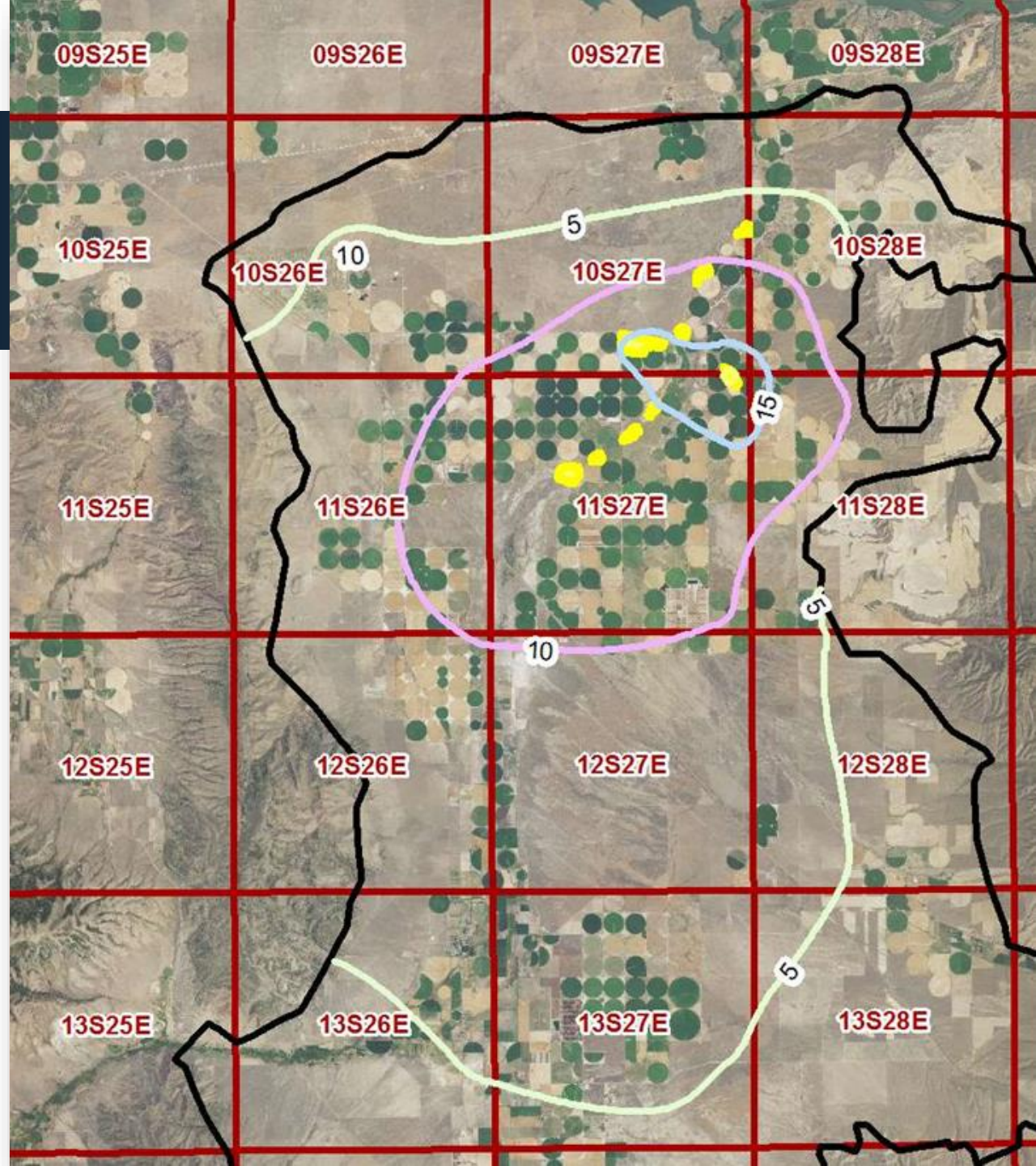
GROUNDWATER RECHARGE

Increases water levels in the Northern Basin

Maximum recharge years are expected to provide significant impact



CONSERVE WATER THROUGH GROUNDWATER RECHARGE

The RRRG and partners proposes to build a pipeline to divert water from the Snake River to reduce groundwater declines

Improve access to groundwater

Provide opportunity for soft conversion

Prevent future curtailment

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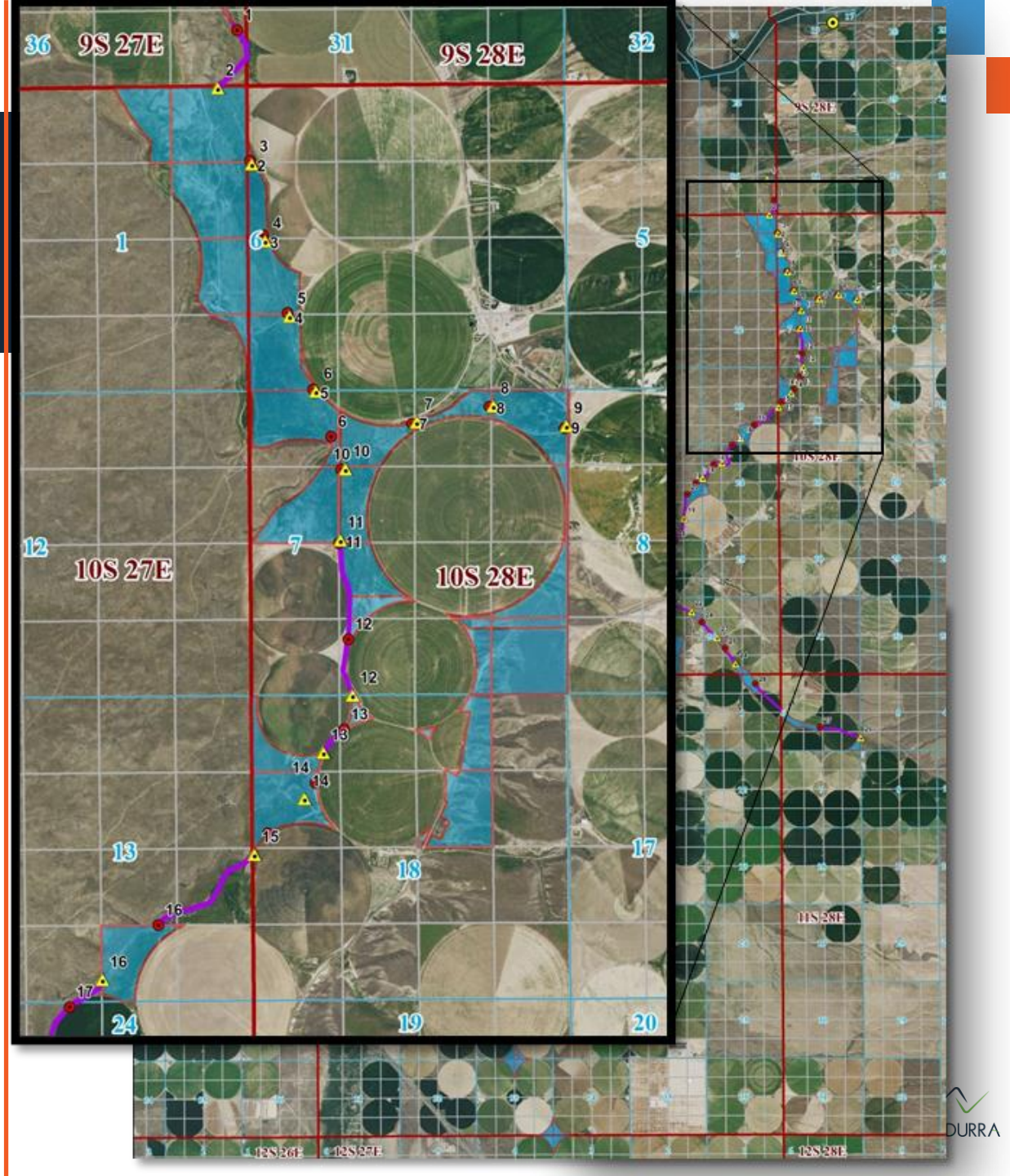
RAFT RIVER WATERSHED PLAN

- Construct suction lines or an open channel from the Snake River, a pump station located on private property near the Snake River, and a 13-mile-long (68,872 feet), north to south, buried pipeline to deliver 70 cubic feet per second (cfs) of water for groundwater recharge and 30 cfs for irrigation.
- Construct flood control and recharge basins along the Raft River floodplain to provide for 620 acre-feet (ac-ft) of floodwater detention while reducing flood risk and recharging the aquifer.
- Construct an 85 ac-ft debris and storage facility along Heglar Creek for flood and sediment control.
- Construct a 25 megawatt substation that includes a control building and associated equipment on a 1.5-acre site to supply power to the proposed pump station.
- Improve existing diversions to flood channels of the Raft River, Cassia Creek, and the Middle Fork of Cassia Creek.
- Provide bank restoration and stabilization to protect against erosion and degradation and to decrease sediment load during flood events on Heglar Creek.

RAFT RIVER RECHARGE PIPELINE PROJECT

- Recharge Areas:
- Along the Raft River Corridor in permeable soils
- Within areas of highly permeable soils outside of the Raft River Corridor
- Recharge to rotate within the Place of Use



RAFT RIVER WATERSHED PROJECT BENEFITS

- Improving delivery of surface water sources to reduce groundwater diversions for irrigation will decrease demand on the aquifer.
- Stabilize groundwater levels by recharging the aquifer.
- Decrease sediment loads in the Raft River and tributaries to prevent damage to Minidoka Wildlife Refuge wetlands.

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FUNDING REVIEW

Raft River Recharge Group Efforts

RAFT RIVER RECHARGE FUNDING

- USDA-NRCS through the Watershed Protection and Flood Prevention Program PL 83-566 (WFPO PL 83-566)
  - *Three Phases*
    - Environmental (100% funded)
    - Design (100% funded)
    - Construction (Funding depends on category)
      - Will fund up to 25 M in construction
      - Requires 6.25 M in match for agricultural projects
  - *Sponsored by: Raft River Flood District,*
  - *Cosponsored by:*
    - Raft River Recharge Group LLC,
    - Raft River Electric

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RAFT RIVER RECHARGE GROUP FUNDING

- Idaho Water Resources Board
- Water Projects Loan Program
  - *20 year repayment*
  - *4.75% interest rate*
  - *$14.1 M loan approved by IWRB in January*
    - Formation of the Raft River Irrigation District

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PROJECT FUNDING SUMMARY

Source of Funding	Amount	% of Project Total
NRCS Phase 3 (Construction)	$25,000,000	**51%**
NRCS Phase 2 (Design)	$3,250,000	**7%**
Raft River Recharge Group (cash)	$6,250,000	**13%**
Raft River Electric (cash)	$1,500,000	**3%**
IWRB Loan	$14,111,000	**29%**
Total Estimated Project Costs	**$48,602,142**	**100%**

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FLOOD CONTROL COST ESTIMATE AND BUDGET

Item	Description	Unit	Unit Price	Quantity	Total
	Flood Control				
1	Mobilization	LS	$50,000	1	**$50,000**
2	Flood Recharge Basin Excavation	CY	$2	1,410,430	**$2,820,860**
3	Basin Structure	EA	$15,000	3	**$45,000**
4	Heglar Flood Control Basin	LS	$750,000	1	**$750,000**
5	Diversion at Middle Fork - Cassia Creek	LS	$120,000	1	**$120,000**
6	Diversion at Ditch Diversion - Middle Fork	LS	$50,000	1	**$50,000**
7	36" PVC Pipe (South Fork of Cassia Creek)	FT	$250	2,640	**$660,000**
8	Stream Bank Protection (Heglar Creek)	FT	$100	11,110	**$1,111,000**
9	48" Culvert Upsize	Ft	$250	60	**$15,000**
	Construction Subtotal				**$5,621,860**
	Construction Contingency			10%	**$562,186**
	Construction Total				**$6,184,046**
	Engineering (8% Design, 8% Construction)			16%	**$899,498**
	Project Administration (NRCS)			2%	**$112,437**
	Project Administration (Sponsor)		$4,000.00	1	**$4,000**
	Permits		$15,000.00	1	**$15,000**
	Total Flood Control				**$7,214,981**

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AGRICULTURAL AND WATER MANAGEMENT COST ESTIMATE AND BUDGET

Item	Description	Unit	Unit Price	Quantity	Total
	Pipeline				
1	Mobilization	LS	$200,000	1	**$200,000**
2	Traffic Control	LS	$20,000	1	**$20,000**
3	SWPPP	LS	$8,000	1	**$8,000**
4	30" C900 PVC Pipe (DR 25, 165 PSI)	LF	$145	1,132	**$164,140**
5	42" C900 PVC Pipe (DR 51, 80 PSI)	LF	$140	22,025	**$3,083,500**
6	54" C900 PVC Pipe (DR 32.5, 125 PSI)	LF	$375	45,715	**$17,143,125**
7	Rock Excavation	CY	$150	1,960	**$294,000**
8	Trench Excavation, 4.5'-Width	LF	$17	1,132	**$19,244**
9	Trench Excavation, 5.5'-Width	LF	$21	22,025	**$462,525**
10	Trench Excavation, 6.5'-Width	LF	$25	45,715	**$1,142,875**
11	Trench Support and Stabilization	TON	$14	23,280	**$325,920**
12	Pipe Bedding (8" Pea Gravel)	TON	$12	49,890	**$598,680**
13	30" D.I. Reducers, Elbows, and Caps (5% Length Estimate)	LS	$8,207	1	**$8,207**
14	42" D.I. Reducers, Elbows, and Caps (5% Length Estimate)	LS	$154,175	1	**$154,175**
15	54" D.I. Reducers, Elbows, and Caps (5% Length Estimate)	LS	$857,156	1	**$857,156**
16	Secondary Road Crossing, Gravel	CY	$30	800	**$24,000**
17	Secondary Road Crossing, Asphalt	SF	$100	400	**$40,000**
18	6" Gate Valve	EA	$2,000	12	**$24,000**
19	6" Combination Air-Vacuum Valve	EA	$10,000	12	**$120,000**
20	Service Connection Turnout	EA	$30,000	4	**$120,000**
21	Service Connection Meter and SCADA	EA	$20,000	4	**$80,000**
	Pipeline Subtotal				**$24,889,547**

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Item	Description	Unit	Unit Price	Quantity	Total
	River Pump Station				
22	Phase Cable Upgrades by RRRE	LF	$16	18,500	**$296,000**
23	Electrical Substation	LS	$3,000,000	1	**$3,000,000**
24	Construction Water Control/Dewatering	LS	$100,000	1	**$100,000**
25	Concrete Foundation	LS	$25,000	1	**$25,000**
26	Vertical Turbine Pump (11,225 GPM at 330 FT TDH)	EA	$450,000	5	**$2,250,000**
27	1300 HP 3 Phase Motor	EA	$150,000	5	**$750,000**
28	Pump Column and Discharge Head	EA	$10,000	5	**$50,000**
29	Pump Controller	EA	$185,000	2	**$370,000**
30	Soft Start	EA	$22,000	2	**$44,000**
31	Transformers and Service	LS	$100,000	1	**$100,000**
32	Electrical Disconnects, 800 AMP	EA	$4,000	6	**$24,000**
33	Electrical Cabling and Supplies	LS	$10,000	1	**$10,000**
34	Electrical Labor, Installation, and Testing	MH	$100	320	**$32,000**
35	24" x 20" D.I. Reducer	EA	$3,000	5	**$15,000**
36	24" D.I. Spool (3'-0" Length)	EA	$2,500	5	**$12,500**
37	Pressure Gauge (0-200 PSI Range) w/ Isolation Ball Valve	EA	$1,000	10	**$10,000**
38	24" D.I. Restrained Flange Coupling Adapter	EA	$2,000	5	**$10,000**
39	24" Check Valve	EA	$15,000	5	**$75,000**
40	24" Butterfly Valve	EA	$12,000	5	**$60,000**
41	24" D.I. Spool (10'-0" Length)	EA	$6,000	5	**$30,000**
42	54" D.I. Suction Manifold (w/ (2) 54" D.I. Tees & (5) 54" x 24" D.I. Tees)	LS	$55,000	1	**$55,000**
43	54" D.I. Discharge Manifold (w/ (5) 54"x 24" D.I. Tees)	LS	$40,000	1	**$40,000**
44	54" Steel Suction Intake Pipe	LF	$200	600	**$120,000**
45	Wedge-Wire Steel Screen Intakes W/ Airburst Cleaning	EA	$43,000	8	**$344,000**
46	Cinder Block Pump Station Building	SF	$300	2,000	**$600,000**
47	Ventilation Equipment	LS	$10,000	1	**$10,000**
48	Site Grading and Restoration	LS	$25,000	1	**$25,000**
49	Excavation	CY	$30	3,500	**$105,000**
	River Pump Station Subtotal				**$8,562,500**
	Construction Subtotal				**$33,452,047**
	Construction Contingency			10%	**$3,345,205**
	Construction Total				**$36,797,252**
	Engineering (7% Design, 7% Construction)			14%	**$4,683,287**
	Project Administration (NRCS)			2%	**$669,041**
	Project Administration (Sponsor)	LS	$4,000.00	1	**$4,000**
	Permits	LS	$15,000.00	1	**$15,000**
	Total Agricultural Water Management				**$42,168,580**

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RAFT RIVER IRRIGATION DISTRICT

Raft River Recharge Group

CURRENT IRRIGATION DISTRICT FORMATION STATUS

- Hired legal counsel to represent the district
- Prepared and submitted petition to form the district in Cassia County
- Special election will be in August for district formation

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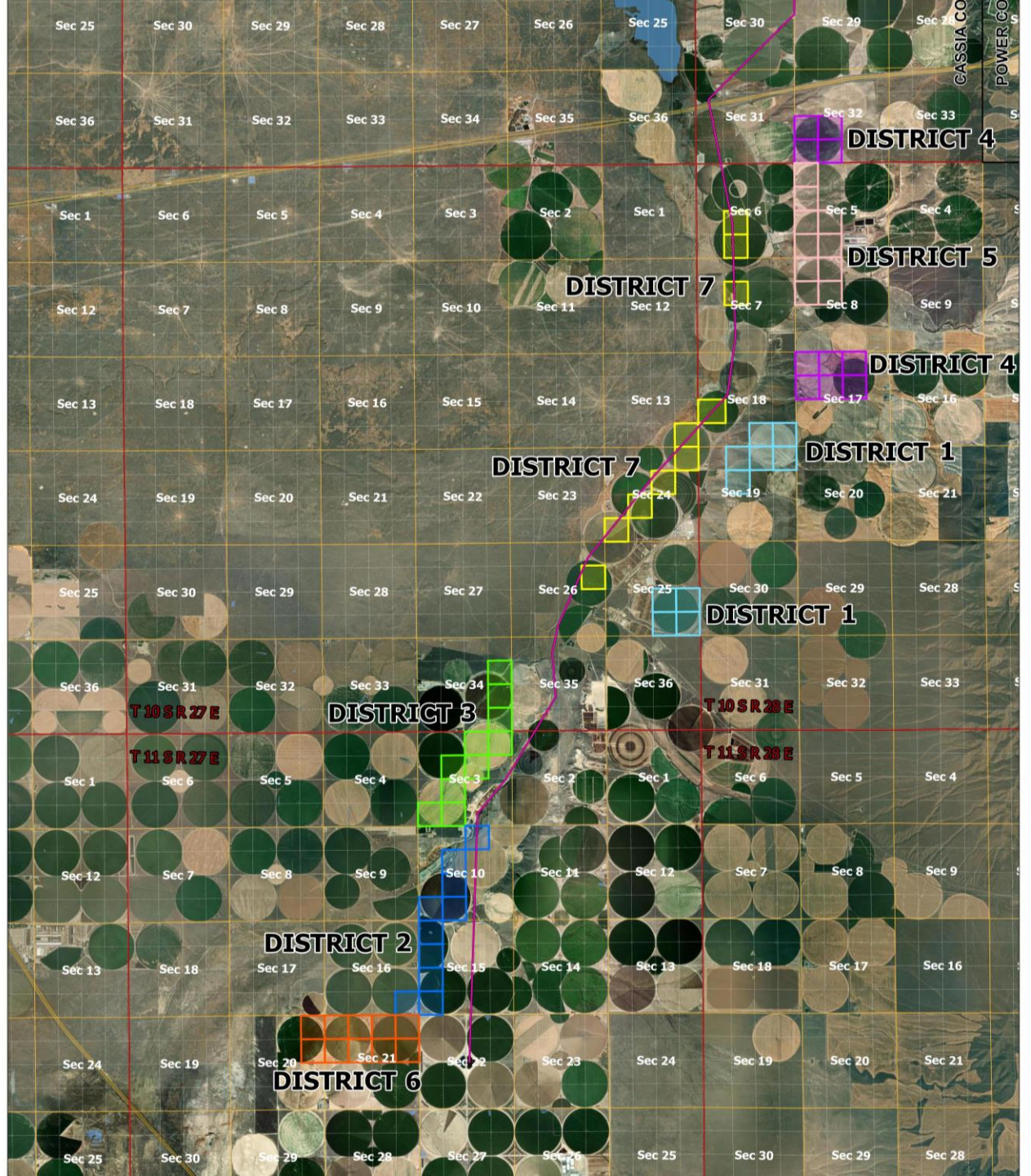
RAFT RIVER IRRIGATION DISTRICT FORMATION

- Equal districts for each member
- Limited to 3,000 acres total for directors to live outside of district
- 7 districts will be formed



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PROJECT STATUS UPDATE

Raft River Recharge Group

CURRENT PROJECT STATUS

- Secured water right permit for groundwater recharge
- Preliminary environmental review with Bureau of Reclamation and US Fish and Wildlife Service
- Project selected for funding through NRCS PL 83-566 Watershed Program.
- Project loan earmarked for Raft River Irrigation District
- Working with USDA NRCS, Bureau of Reclamation, and the US Fish and Wildlife Service to complete an Environmental Assessment.
  - Draft Preliminary Plan EA submitted to Idaho NRCS State Office
  - PENDING Submittal to the National Watershed Management Center

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CURRENT PROJECT STATUS

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PROGRAMMATIC APPROVAL SCHEDULE-EA

2023

June	July	August	September	October	November
• Submit EA to NWMC • Review of EA	• Review of EA	• Receive EA Comments	• Revise EA per Comments	• Submit EA to NRCS National Office	• Programmatic approval of EA, NRCS National Office • Start final design

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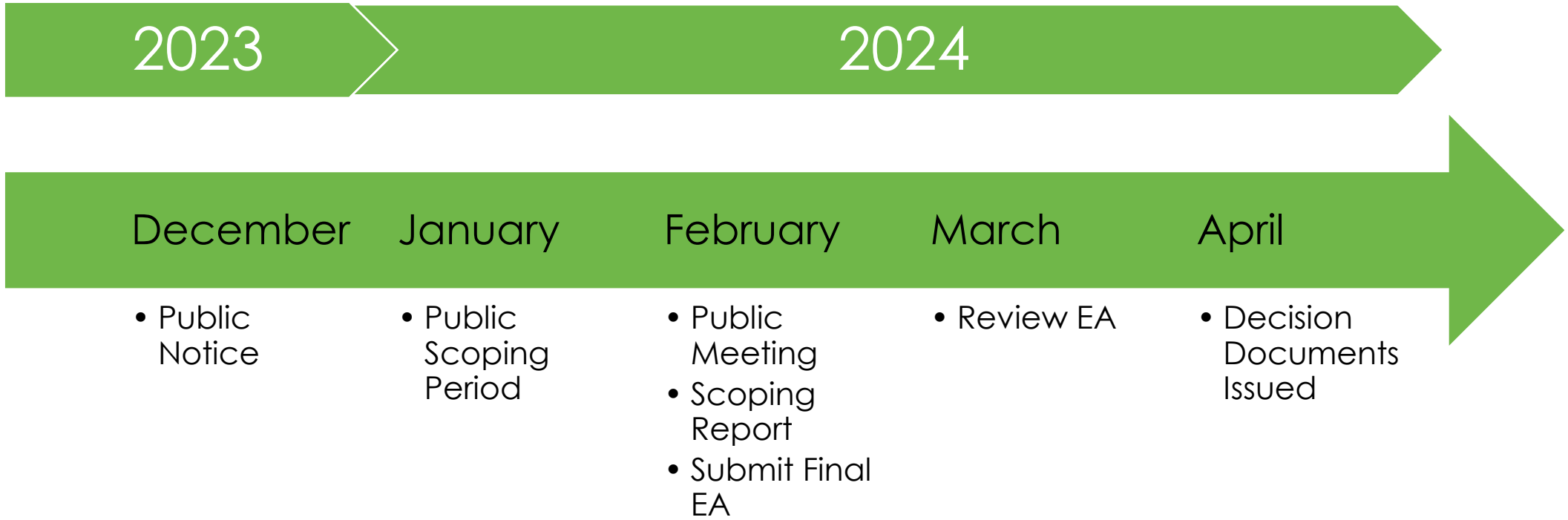
FINALIZE EA SCHEDULE



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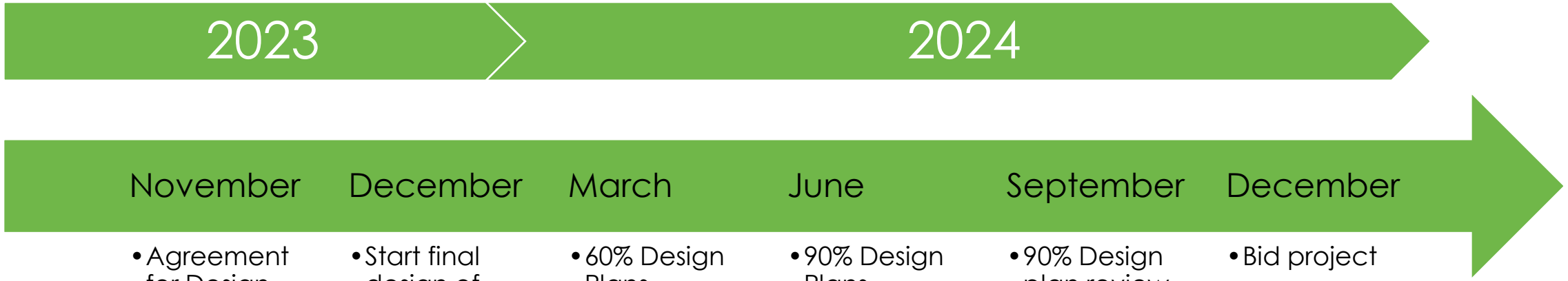
DESIGN PHASE SCHEDULE



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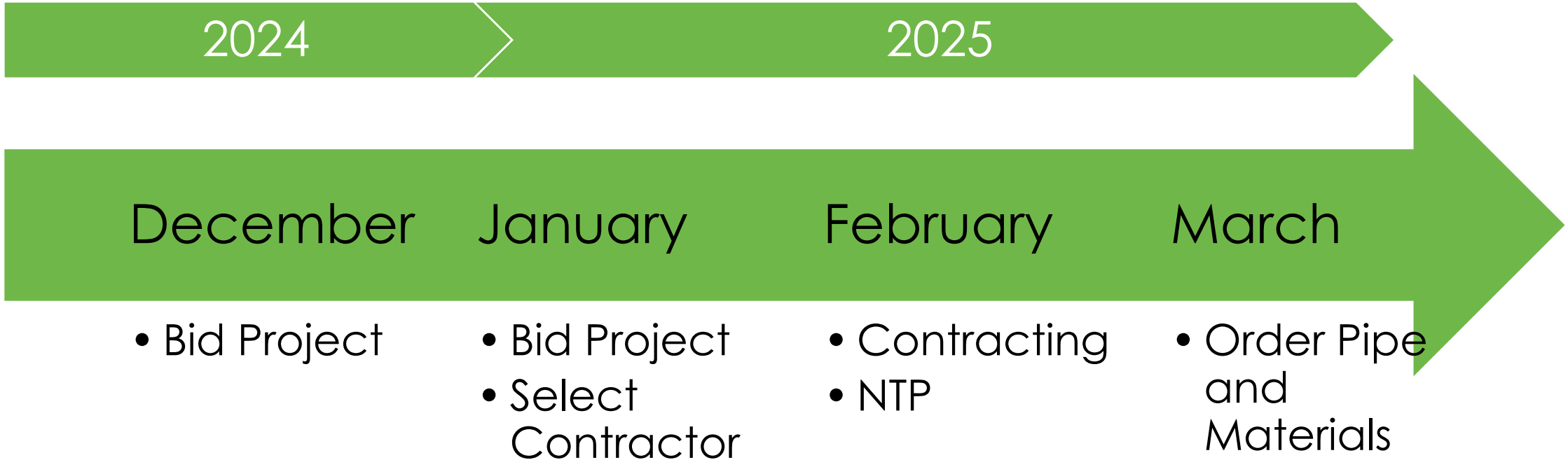
CONSTRUCTION PHASE SCHEDULE-BIDDING



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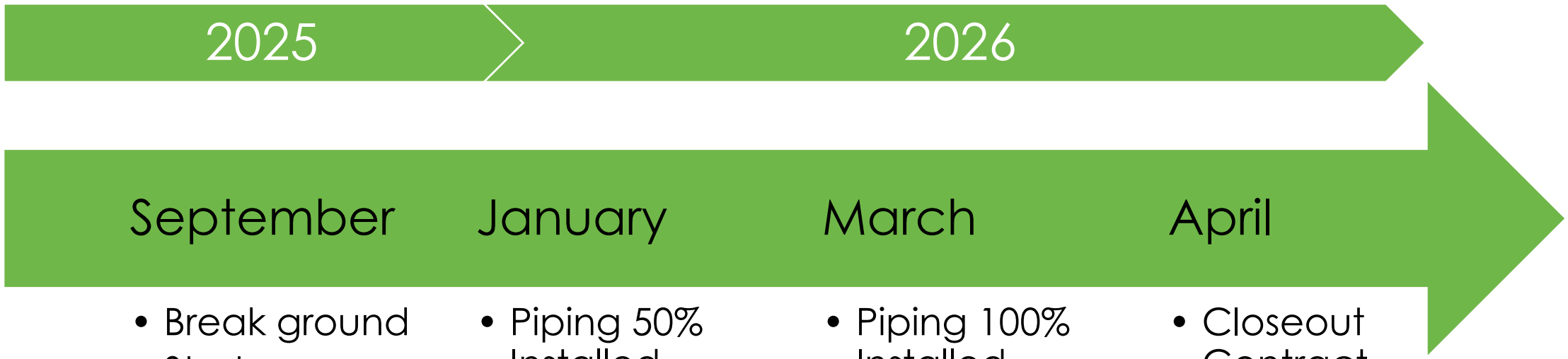
CONSTRUCTION PHASE SCHEDULE-CONSTRUCTION



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SUPPORT NEEDED

Raft River Irrigation District

REGIONAL WATER SUSTAINABILITY LIST

- Maintain project on Regional Water Sustainability List
- Upgrade as a priority by the IWRB for the list
- Review of project as ARPA fundable by IDWR
  - *Tributary aquifer to ESPA*
  - *Pending groundwater hydrologic framework and groundwater modeling*
- Provide grant funding for project through IWRB
  - *Disqualified as aging infrastructure*
  - *Currently on the list for Regional Water Sustainability*
  - *May be fundable as groundwater recharge if qualified for ARPA funding*

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FUNDING

Source of Funding	Amount	% of Project Total
NRCS Phase 2	$25,000,000	**51%**
NRCS Phase 3	$3,250,000	**7%**
Raft River Recharge Group (cash)	$6,250,000	**13%**
Raft River Electric (cash)	$1,500,000	**3%**
IWRB Loan	$14,111,000	**29%**
Total Estimated Project Costs	**$48,602,142**	**100%**

ARDURRA

IWRB GRANT FUNDING

- Investigate ARPA funding for groundwater recharge as a tributary to the ESPA and water supply for region
  - *Rely on IWRB to determine if qualified*
- Provide opportunity for loan forgiveness or grant conversion of the loan through Regional Water Sustainability Program
  - *Guidance on program requirements and opportunities will guide this process*
  - *Must match with non-federal dollars*
  - *The loan is a backstop to grant funding efforts to ensure the project is built*
  - *Pursuing grants in the amount of the loan to complete the project: $14.1 M*

ARDURRA

QUESTIONS

Thank you!

REFERENCES:

References:

- Brockway, C.G. (2015). Feasibility of Raft River Pipeline Project to Deliver Surface Water for Groundwater Recharge. Engineering Report to Raft River Recharge Group.
- Brockway, C.G., H. Zobott. (2016). Raft River Recharge Group Application Narrative Report. Engineering Report to Idaho Department of Water Resources.
- Neeley, K. (2015). Raft River Critical Ground Water Area. IDWR Report. January 2015
- Walker, E. H., Dutcher, L. C., Decker, S. O., & Dyer, K. L. (1970). The Raft River Basin, Idaho-Utah as of 1966: A reappraisal of the water resources and effects of ground-water development (No. 70-355). Idaho Department of Water Administration.
- Zobott, H.Z., (2017). Evaluations of Aquifer Deficit Calculations for the Raft River Aquifer. Engineering Report to Raft River Groundwater District.

ARDURRA

Idaho Water Resource Board
Finance Committee
Regional Water Sustainability Priority List Presentation

Lost Valley Dam Replacement and Enlargement

The Most Cost Effective New Storage Project in Idaho

Lost Valley Reservoir Board

Dale Barton Doug McAlvain Irv Leen

Idaho Water Engineering

Hal Anderson

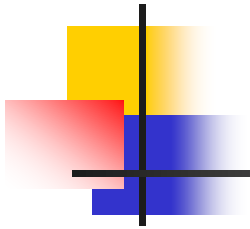
June 14, 2023

Why Lost Valley Enlargement ?

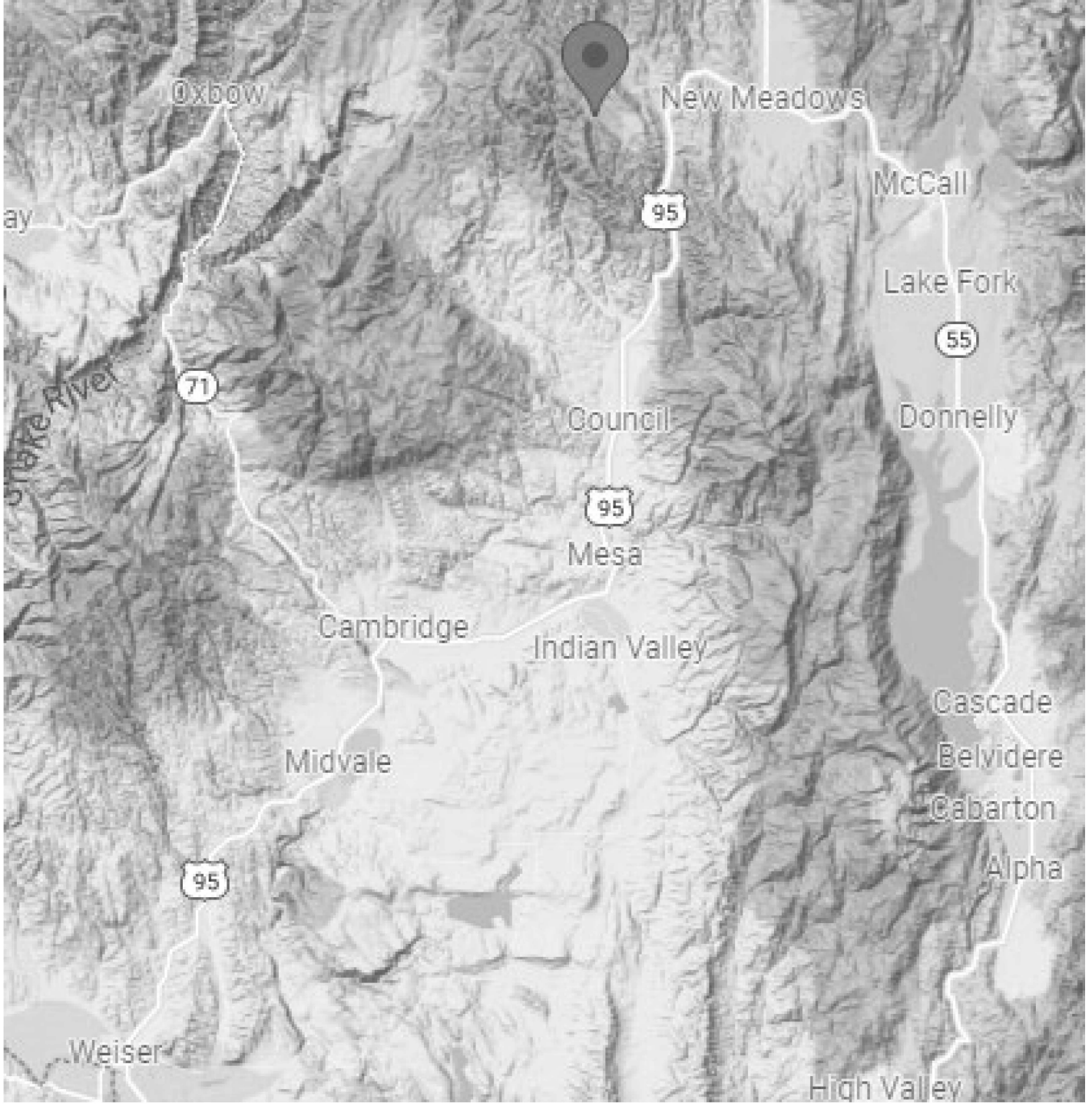
- 100 year old Dam that needs to be replaced for Public Safety and Sustainability of future water supply.
- Project has long been a supported priority for the IWRB.
- Lowest Cost new Storage Project in Idaho.
- Project is fully supported by Local Water Users, Legislators, County Commissioners and Farm Bureau.

Project Sponsor
Lost Valley Reservoir Company

- Private Reservoir Company
- Three person board
  - Dale Barton, Chair
  - Doug McAlvain
  - Irv Leen
- Fourth seat to be created to represent the Class D (Enlargement) shares
- Initially created 6/19/1925
- LVRC owns some of the land under the reservoir the remainder is USFS.



PROJECT DESCRIPTION AND BACKGROUND


Oxbow
New Meadows
McCall
95
Lake Fork
55
71
Council
Donnelly
95
Mesa
Cambridge
Indian Valley
Cascade
Belvidere
Midvale
Cabarton
Alpha
95
Weiser
High Valley

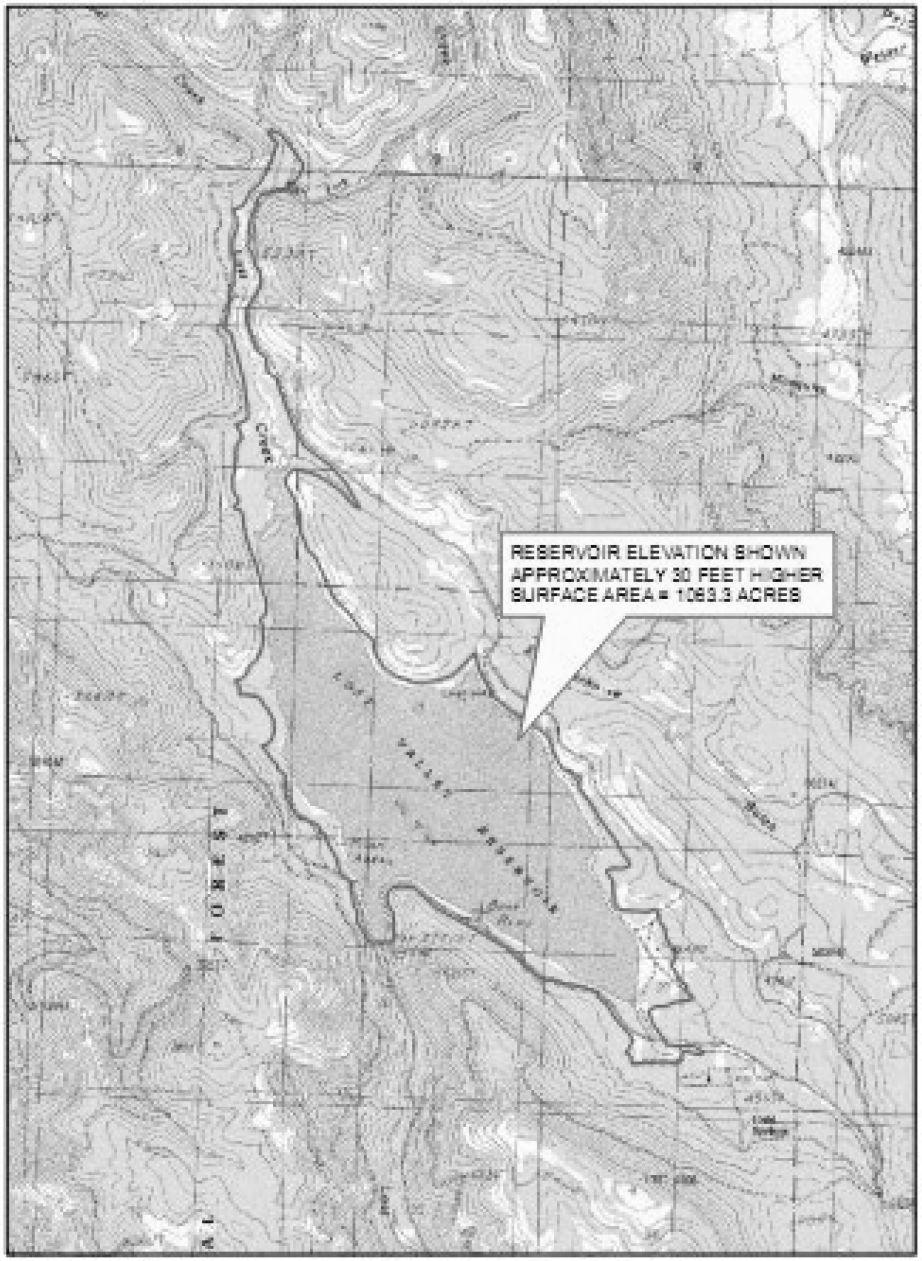
Proposed Enlargement

- Raise water level by 30 feet.
- Increase storage from 10,000 acre-feet to 30,000 acre-feet.
- 110 year old dam and outlet works are in need of replacement (cost of replacement estimated to be $3,700,000 in 2023 dollars).
- This project provides opportunity to provide additional storage water and to replace the dam and outlet works and to provide a sustainable future water supply for Weiser Basin.

FOOTPRINT

LOST VALLEY RESERVOIR

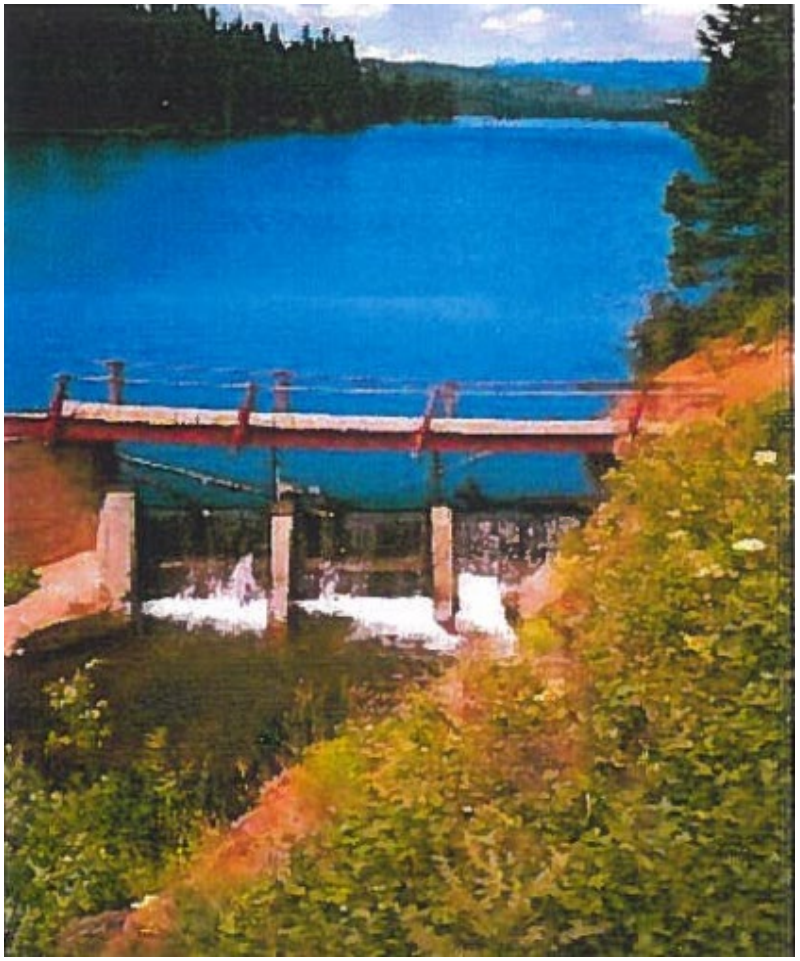
Idaho Water Engineering
Water Solutions



TOPO

APRIL 24, 2014

100 Year Old Dam needs to be Replaced !



Timeline of Lost Valley Reservoir

- Jun 2, 1993 Application filed
- Dec 20, 1993 Protest filed by US Forest Service
- Mar 5, 1999 IDWR Prehearing Conference
- Apr 1, 2013 Lost Valley Reservoir Company (LVRC) signs Agreement with Idaho Water Engineering (IWE)
- Sep 14, 2014 Presentations before the Idaho Water Resource Board Water Storage Project Committee Meeting in Weiser
- 2018 Study on Northern Idaho Ground Squirrel (NGIS)
- 2020 IWRB Signed a Subordination Resolution

Subordination

- Lost Valley Reservoir Board requested subordination of Galloway by the IWRB.
- Advantages stated:
  - Beneficial to summer flows.
  - Carry-over storage will enhance the fishery in Lost Valley Reservoir and downstream.
  - Additional storage to work in tandem with Galloway, if built.
  - This is a low-cost storage project for Idaho, and provides an opportunity for the IWRB or other water users to acquire some of the storage.
  - Without this subordination further studies for Lost Valley Reservoir would not have been warranted.
- Subordination signed on July 20, 2020

Support for this Project

- **Idaho State Water Plan** recognizes that surface water development will play a key role in meeting Idaho's future water needs; it supports assessment and development of new high potential storage facilities, and supports the creation of collaborative partnerships with private entities, concerned stakeholders, local governments, and federal agencies to evaluate, design and construct water storage projects.
- **Idaho State Water Plan** identifies Lost Valley Reservoir as a reservoir site with high potential for development.
- **House Joint memorial No. 8 (HJM 8)** passed and approved by the 2008 Idaho Legislature encouraged the Idaho Water Resource Board (IWRB), in coordination with other public and private entities, to initiate and complete the study of additional water storage projects in the state of Idaho and identified potential projects such as the Minidoka Dam enlargement, Teton Dam replacement, Twin Springs Dam, Galloway Dam and Lost Valley Dam.

Idaho Water Resource Board Support for the Project

- 1992: The IWRB funded in part the initial feasibility study for the enlargement of Lost Valley Dam and Reservoir, in the amount of $7,500.
- 2017: The IWRB funded Lost Valley Reservoir Measuring Devices in the amount of $16,253.51.
- 2019: The IWRB funded the Northern Idaho Ground Squirrel Study in the amount of $30,000.

Public Support of this Project

- Letters of Support
  - Adams County Commissioners
  - Washington County Commissioners
  - Snake River Development Alliance

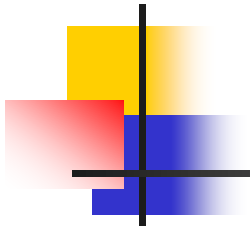
Idaho Farm Bureau Support for the Project

Idaho Farm Bureau Policy 16.

16. Dams

We support:

1. The Northwest Power Planning Council focusing its efforts on issues that will provide the region with its current and future power needs;
2. The construction, improvement and increased size of storage facilities that provide beneficial multiple uses of Idaho's water;
3. Municipalities, federal agencies, and tribes advocating for and funding additional storage projects to help meet the increasing demand for water, and avoid taking irrigation water from agricultural purposes;
4. The continued existence and current usage of all dams on the Columbia and Snake Rivers. We oppose any efforts to destroy or decrease production of those dams;
5. Construction of the Galloway Dam on the Weiser River; and
6. Raising of the Lost Valley Reservoir Dam.



COST ESTIMATE, BUDGET AND FUNDING PLAN

Lost Valley Reservoir Projected Construction Costs, for 20 KAF of Additional Storage

- 1992 -- $2 to 2.4 M
- 2020 -- $9 M
- 2026 -- $13.5 M (Including anticipated inflation)

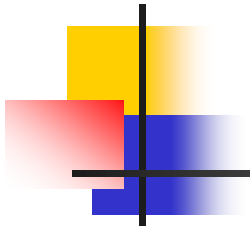
Per former IWRB Chairman Joe Jordan: "Enlargement of Lost Valley Reservoir is the least cost new storage in Idaho"

Cost Estimates for 2026 (multiply 2020 costs by 1.5)

Anticipated Costs for Lost Valley Reservoir Enlargement			
Construction and Mitigation Costs	**1992 Est.**	**2020 Est.**	**2026 Est.**
A&B Eng.	$2M to $2.4M		
Quadrant Construction Cost Estimate		$ 6,402,000	$ 9,603,000
Lost Valley Estimate of Additional Cost for Mountain Operations (25%)		$ 1,600,500	$ 2,400,750
Total Estimated Construction Cost		$ 8,002,500	$ 12,003,750
Mitigation		$ 1,000,000	$ 1,500,000
Total		$ 9,002,500	$ 13,503,750
Pre-Construction Costs			
EIS and Federal Consultation Cost Estimate		$ 400,000	$ 600,000
USFS Cost Estimate		$ 150,000	$ 225,000
Preliminary Engineering Estimate		$ 70,000	$ 105,000
Legal Work Estimate		$ 25,000	$ 37,500
Contingency		$ 100,000	$ 150,000
Total		$ 745,000	$ 1,117,500
Total Estimated Project Costs		**$ 9,747,500**	**$ 14,621,250**

Preliminary Estimate of Cost Per Share

- For the 16,000 shares, the construction funds needed are estimated to be $13,500,000. This results in a construction cost of around $840/af.
- IWRB will typically provide bonding for the project.
- If the interest rate is around 3% (Municipal Bond Rate adjusted by IWRB incentives), then the annual cost per af is $36, for a 40 year bonding period.



FUNDING PLAN

Shares to be Offered

- Class A, B and C shares total around 10,000.
- 20,000 Class D shares to be created.
- Each share is for 1 acre-foot (af) of space in the reservoir. Annual fill is not guaranteed. The average basin yield is around 26,000 af. In the relatively dry year of 2021, around 20,000 af were available for fill, so the Class A, B and C shares plus half fill of the Class D shares would have been available.

Offerings of the Additional Storage

1. Existing shareholders
2. Other water users in the Weiser River Basin
3. IWRB
4. Others

Preliminary Estimate of Cost Per Share

- 4,000 shares for project development
- 16,000 shares to share in costs
- Pre-Construction funds needed are $1,120,000
- IWRB is requested to provide matching funding for Pre-Construction costs
- The remaining preliminary investment will be around $35/share for Class D Shares. This investment does not guarantee success but reserves shares.

Currently Reserved Shares

Lost Valley Reservoir Enlargement Interested Parties

As of June 14, 2023

No. of shares reserved by 50 individuals and entities.

Last Name or Business Name	First Name or Organization Contact	Telephone No.	email	No. Shares
Total				10326
			Originally available	16000
			Remaining	5674

The 4,000 shares reserved for the developers have been offered to the State of Idaho. If not acquired by the State of Idaho they will be marketed elsewhere.

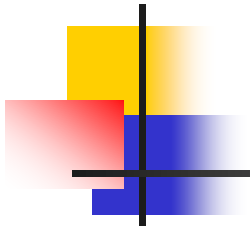
Unreserved shares can be marketed out of basin. American Falls – Aberdeen Ground Water District has expressed an interest in acquiring the remaining shares.

What is the Expectation of Fill?

- Three assessments of average annual fill have been computed using different techniques:
  - 29 KAF (A&B Engineering)
  - 25 KAF (Steve Lipscomb, USGS, Method 1)
  - 28 KAF (Steve Lipscomb, USGS, Method 2)
- Fills in recent years have verified these estimates.
- If the reservoir is raised to 30 KAF, and ABC shares total 10KAF, then the average fill of the D shares is estimated to be about 15 KAF plus carry-over, so actual estimated average will be greater.

Where Can this Water Be Used?

- In the Weiser River Basin.
- Upstream in the Snake River Basin by exchange, replacing flows for Salmon flush.
- For this reason, the water is highly desired by others in the Upper Snake Basin.



PROJECT IMPLEMENTATION SCHEDULE

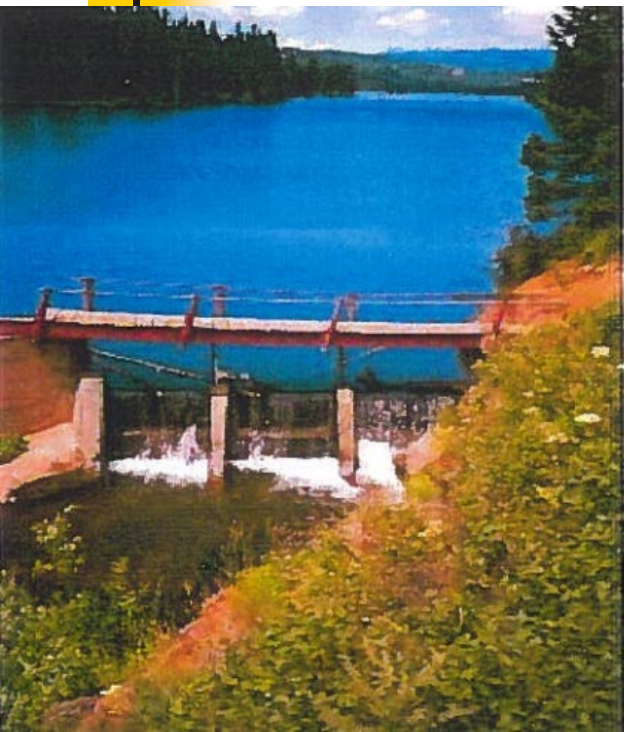
Lost Valley Reservoir Enlargement as of June 14, 2023

ACTIVITY	ANTICIPATED COST	PLANNED START DATE
Collect funds from interested spaceholders and IWRB	Obtain $560K from the IWRB and $560K from the Shareholders	1-Aug-23
Initiate Pre-Construction Activities		1-Aug-23
Complete Pre-Construction Acitivites		1-Aug-24
Arrange for financing for final engineering and construction.	$13.5M additional minus grants from IWRB and Federal Govt.	1-Aug-24
Prepare and distribute final engineering RFP with IWRB Staff and Lost Valley Team		1-Sep-24
Prepare and distribute construction RFP with IWRB Staff and Lost Valley Team		1-Mar-25
Select construction company and contract for		1-Jun-25
Construct the Project		2025-2026
Store and deliver water		Spring 2027

TYPE OF ASSISTANCE NEEDED BY THE IWRB AT THIS TIME

- Provide matching funds for next steps (including EIS) of $560K.
- Decide if the State of Idaho should acquire the remaining available 5,674 of Class D shares and the 4,000 project development shares, or if these should be offered to other entities.

Thank you.



Email:

raiselostvalley@gmail.com

Mackay Dam Spillway and Tower Improvements
Preliminary Construction Cost Estimate

Line Existing Spillway Channel

No.	Item	Qty	Unit	Unit Cost	Ext. Cost
1	mobilization	1	lump sum	$197,432	$197,432
2	demo existing bridge and dispose	1	lump sum	$15,000	$15,000
3	remove sections of wall and floor due to failure (15% of total flume area)	3,456	square feet	$10	$34,560
4	restore removed sections of wall and floor	128	cubic yards	$1,200	$153,600
5	new walls and floor within existing walls and floor with walls 2' higher and 1' thick	948	cubic yards	$1,200	$1,137,600
6	construct new bridge across flume 30' wide x 24' span with 2' tall parapets each side	1	lump sum	$400,000	$400,000
7	blast mountain side and regrade to discourage future falling rock	1	lump sum	$700,000	$700,000
8	haul off blasted rock and dispose on dam site nearby	18,519	cubic yards	$15	$277,778
9	Install rock catch system along face of mountain	1	lump sum	$500,000	$500,000
10	6 ft chain link fencing	700	linear feet	$100	$70,000
11	Keep Out signage on fencing	10	each	$200	$2,000
Subtotal					**$3,487,970**

Rehabilitate Tower & Gates

No.	Item	Qty	Unit	Unit Cost	Ext. Cost
1	mobilization	1	lump sum	$107,825	$107,825
2	install cofferdam at tower base	1	lump sum	$200,000	$200,000
3	demolition of miscellaneous aspects of the existing tower to make ready for new construction	1	lump sum	$50,000	$50,000
4	new gate brass bushings	5	each	$25,000	$125,000
5	new gate stems	5	each	$25,000	$125,000
6	motors	5	each	$18,000	$90,000
7	new 1' thick concrete wall pinned to existing exterior wall from top to bottom of existing tower	192	cubic yards	$1,200	$230,400
8	raise the existing tower 9' to avoid flooding motor room at high water	27	cubic yards	$1,200	$32,400
9	blast mountain side and regrade to discourage future falling rock	1	lump sum	$400,000	$400,000
10	haul off blasted rock and dispose on dam site nearby	9,259	cubic yards	$15	$138,889
11	Install rock catch system along face of mountain	1	lump sum	$250,000	$250,000
12	new electrical, wiring, controls and lighting in control room	1	lump sum	$60,000	$60,000
13	vent in tower top, 36" dia	1	lump sum	$10,000	$10,000
14	electricity to site including transformer on pole and power to meter base	1	lump sum	$60,000	$60,000
15	SCADA system for gate motors	1	lump sum	$15,000	$15,000
16	6 ft chain link fencing	100	linear feet	$100	$10,000
17	Keep Out signage on fencing	2	each	$200	$400
Subtotal					**$1,904,914**

Total Construction Costs	**$5,392,884**
Contingency	**$1,887,500**
Total Estimated Construction Costs	**$7,280,384**

SFBR DIVERSION PROJECT

www.sfbrdiversion.com

South Fork Boise River Diversion Project Review and Update

Presented to the IWRB Finance Committee

June 14, 2023

Agenda

1. Project Setting & History
2. Project Overview
3. Elmore County Actions
4. Project Background
5. Estimated Cost and Funding
6. Conceptual Schedule
7. IWRB Needs

Project Setting

Aquifer Declines and Project Need

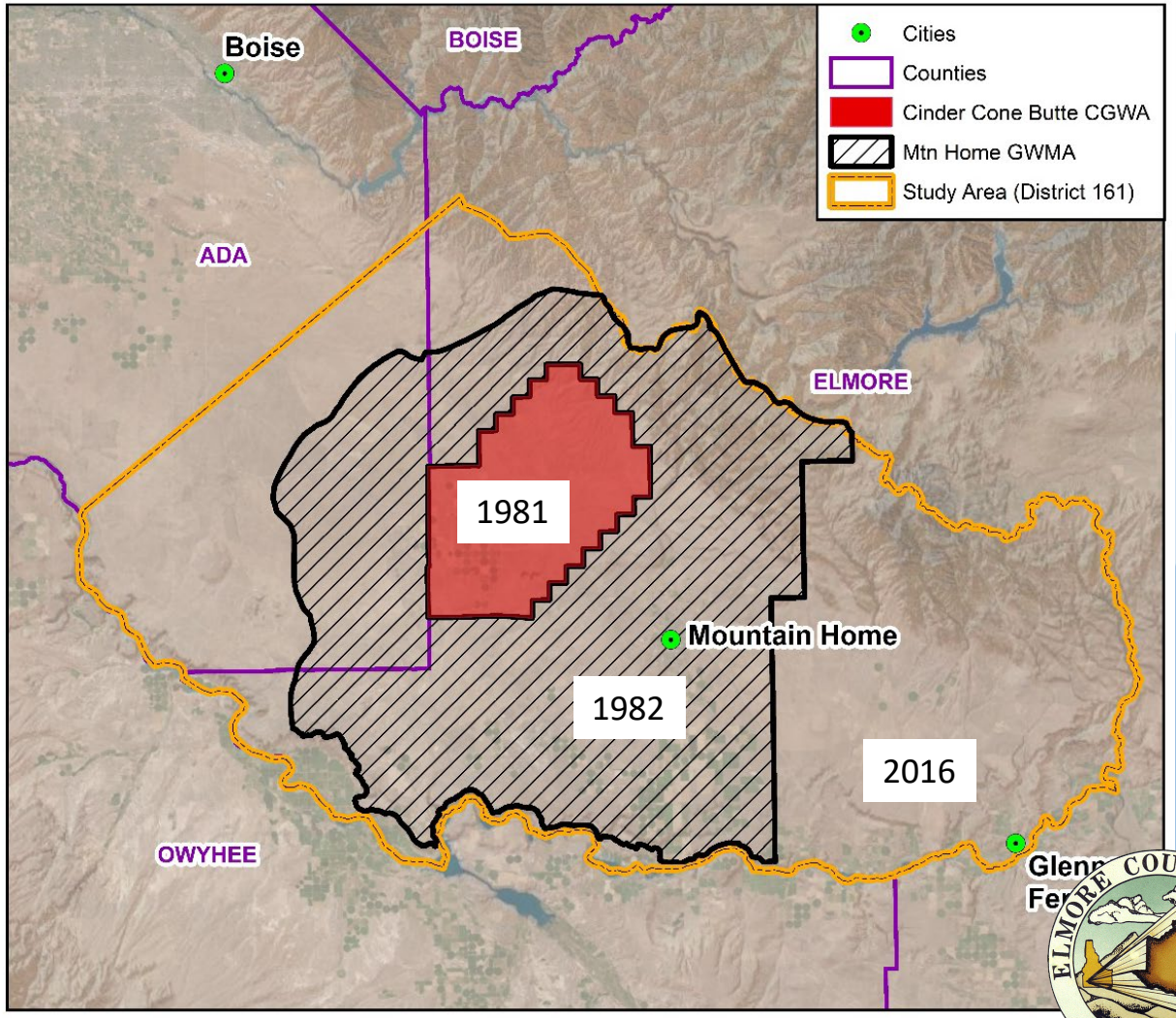
Longstanding: Groundwater pumping exceeds recharge

Annually:

-80,000 af pumped

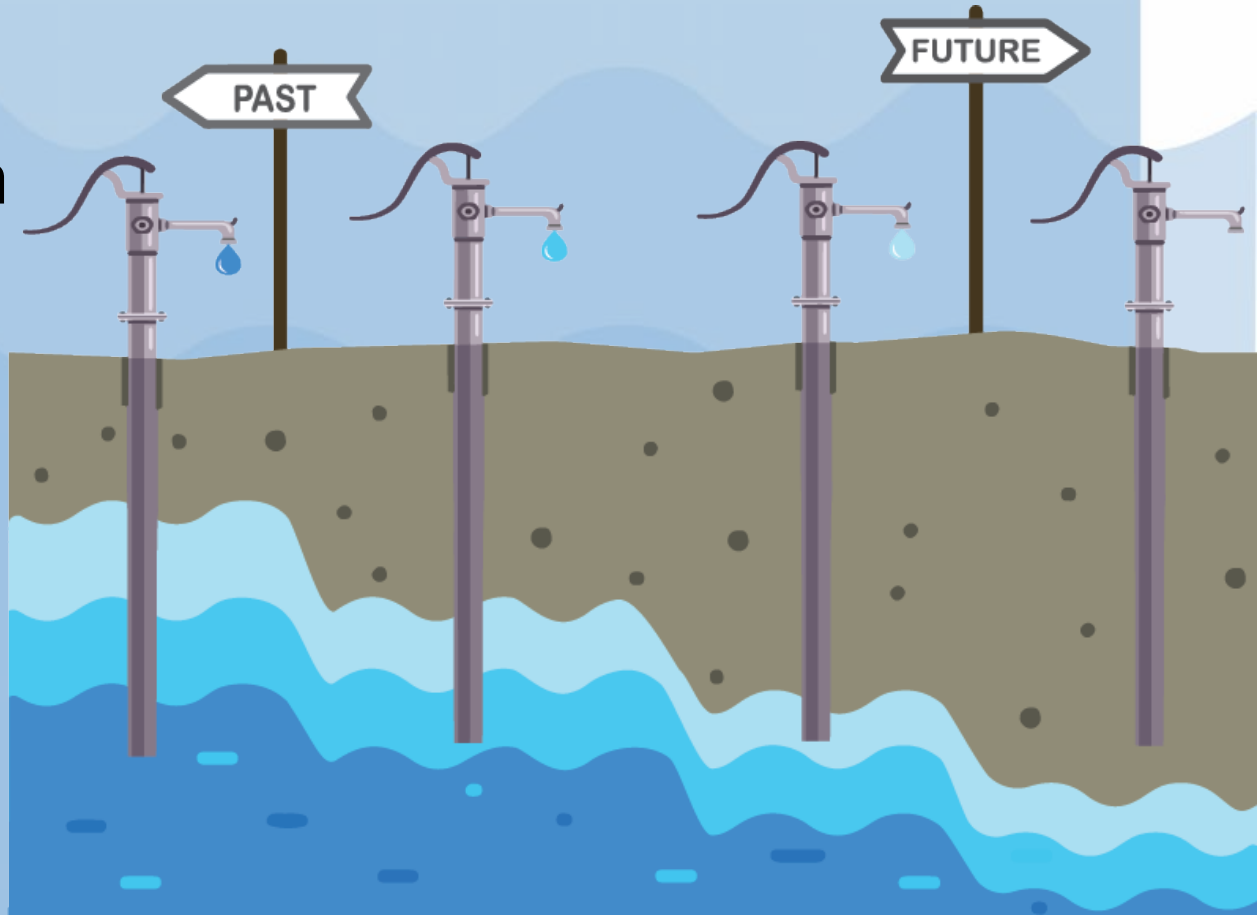
+40,000 af recharged

-40,000 af deficit



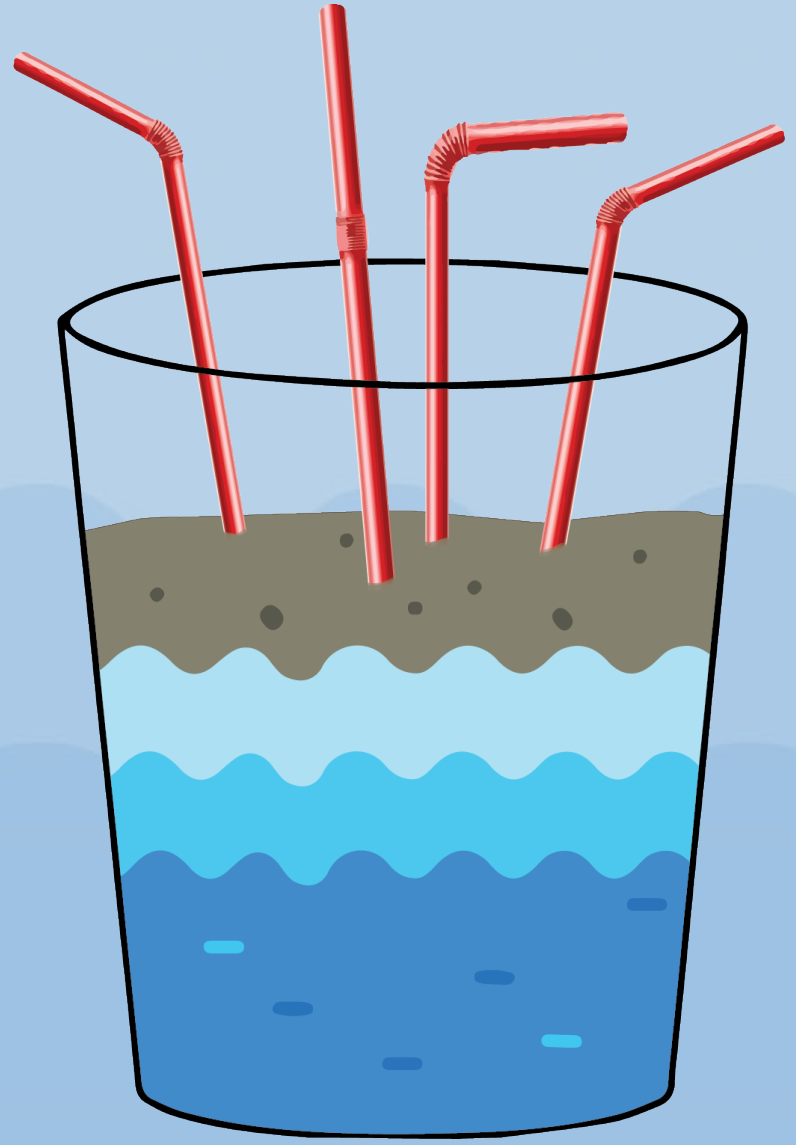
Cumulative Water-Level Decline Varies By Area

- 100 to 200 feet at Cinder Cone Butte
- 75 to 100 feet south of Mountain Home
- 70 to 90 feet at MHAFB
- No decline north of Mountain Home or near Mayfield



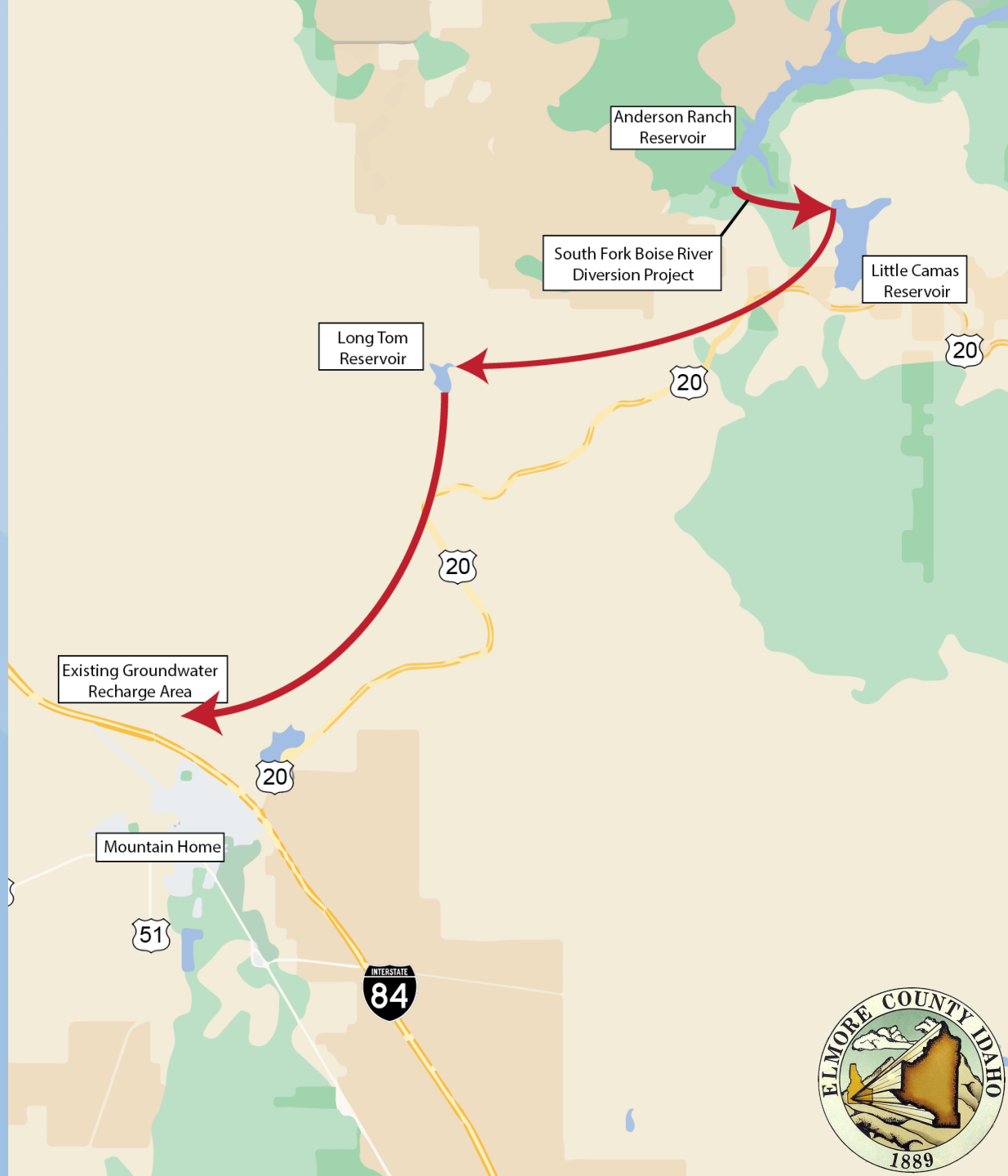
Project Background

- South Fork Boise River (SFBR) Diversion Project resulted from the 2017 Water Supply Alternatives Study
  - *2/3 funded by IWRB*
- South Fork Boise River Floodwater Permit (200 cfs) approved for irrigation and recharge



Project Overview

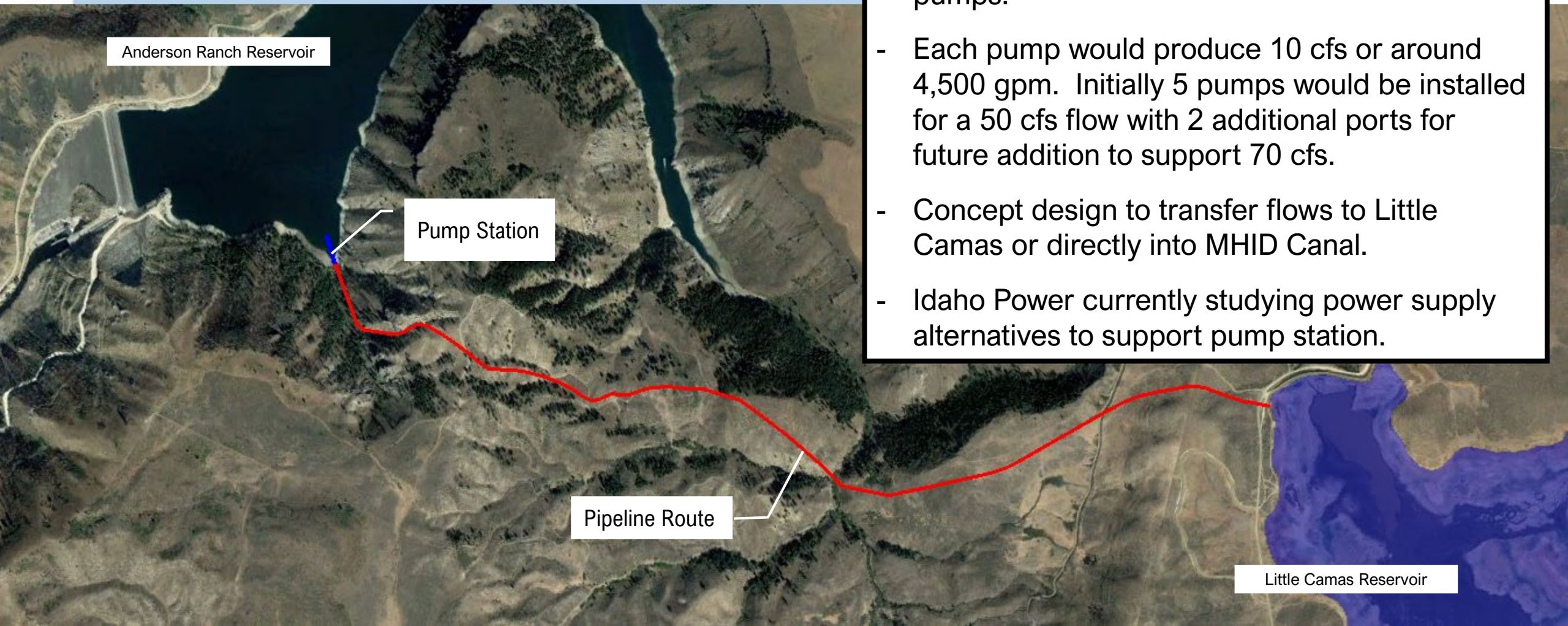
- Pump Station and Pipeline from Anderson Ranch Reservoir to Little Camas Reservoir
  - Existing infrastructure would transfer water from Little Camas to the Mountain Home area
- Canyon Creek Recharge facilities would be utilized
  - IWRB provided majority funding for these facilities

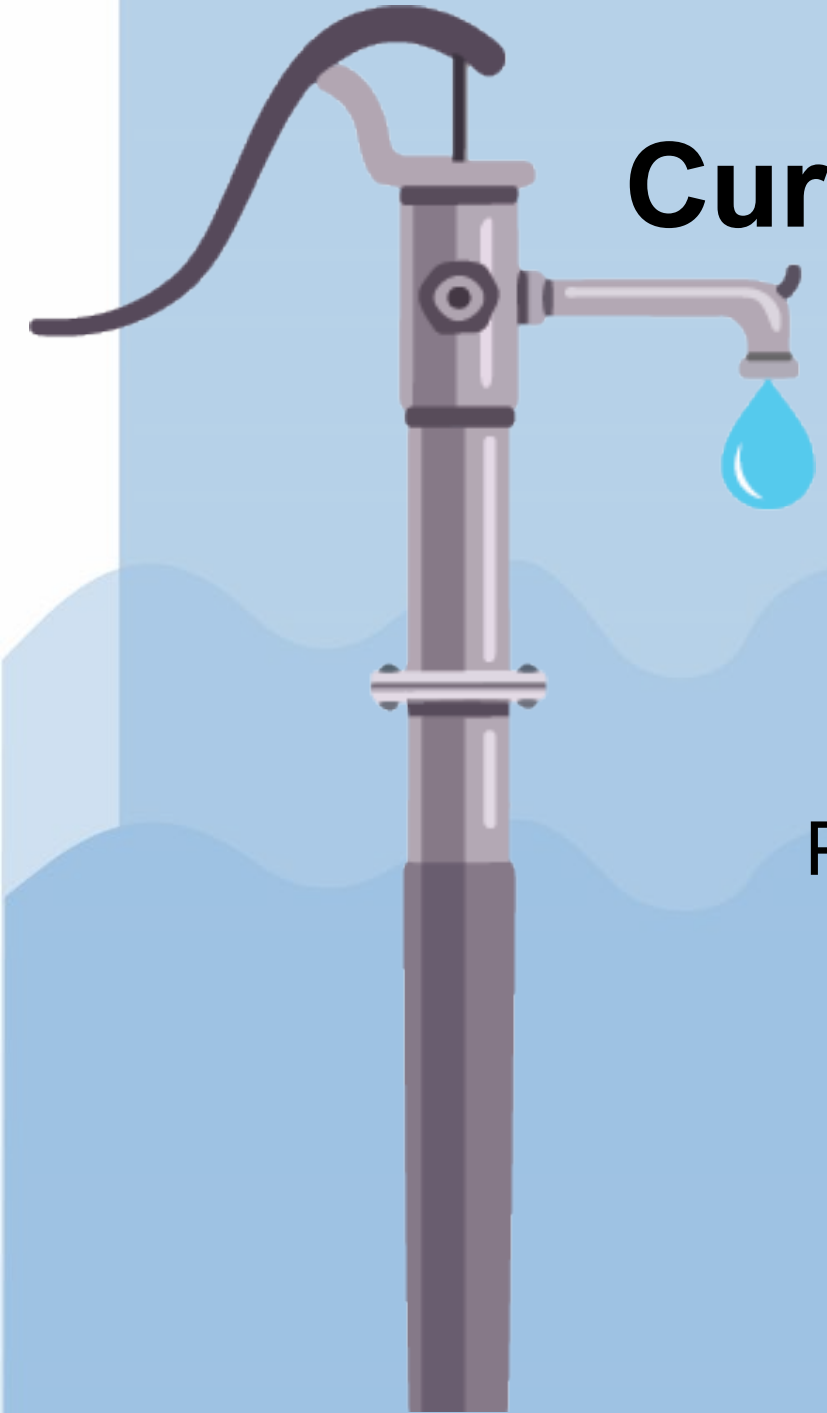


Project Details

Specifications

- 13,600 Linear Feet of 48” diameter pipe (steel and reinforced fiberglass pipe).
- 5 to 7 pumps at 1,500 Hp each. Currently researching vertical turbine or submersible pumps.
- Each pump would produce 10 cfs or around 4,500 gpm. Initially 5 pumps would be installed for a 50 cfs flow with 2 additional ports for future addition to support 70 cfs.
- Concept design to transfer flows to Little Camas or directly into MHID Canal.
- Idaho Power currently studying power supply alternatives to support pump station.





Current Elmore County Actions

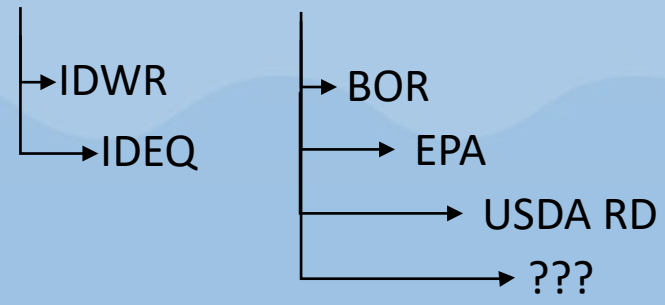
- Preliminary Design
- Pre-NEPA Fieldwork and Studies
- Community Outreach and Education

Estimated Cost & Funding

Preliminary Cost Estimate $30 to 40 million

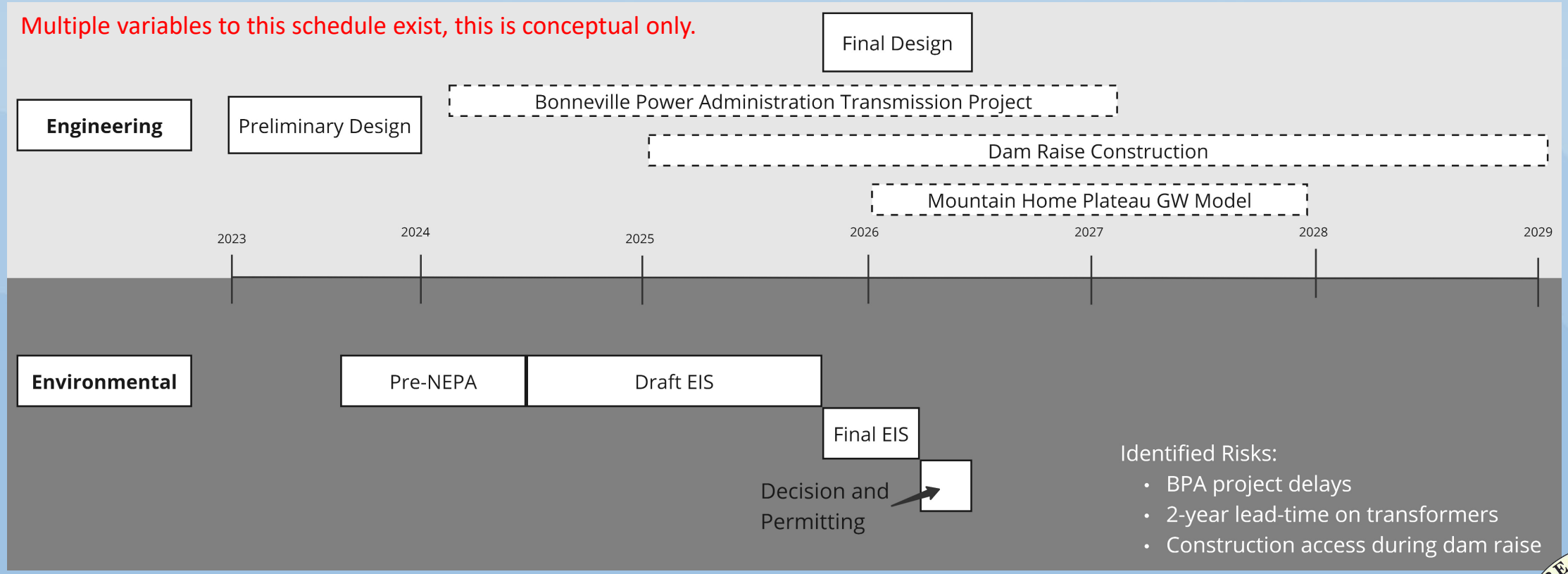
Funding Source Estimate

Capital cost = Local + State + Federal



O&M cost = Taxing district and fee revenue and potential Hydropower to offset O&M costs

Conceptual Schedule



Next Steps

- 2023
  - Complete preliminary engineering
  - Continue public education and stakeholder engagement
  - Formalize a project description for NEPA initiation
- 2024
  - Perform a seepage study on the 13-mile canal *(IWRB Grant Application Planned)*
  - Formally initiate NEPA
  - Pursue additional water procurement
  - Develop financial and managerial capacity for the Project

IWRB Needs

- Aging Infrastructure Grant (Aug. 4th deadline)
  - Seepage study of 13-miles of 100-year-old canal from Little Camas
  - Elmore County and Mountain Home Irrigation District Partnership

- Continued project support as a priority project for the State of Idaho
  - Project supports viability of the Mountain Home metropolitan area, a vital support to the Mountain Home AFB