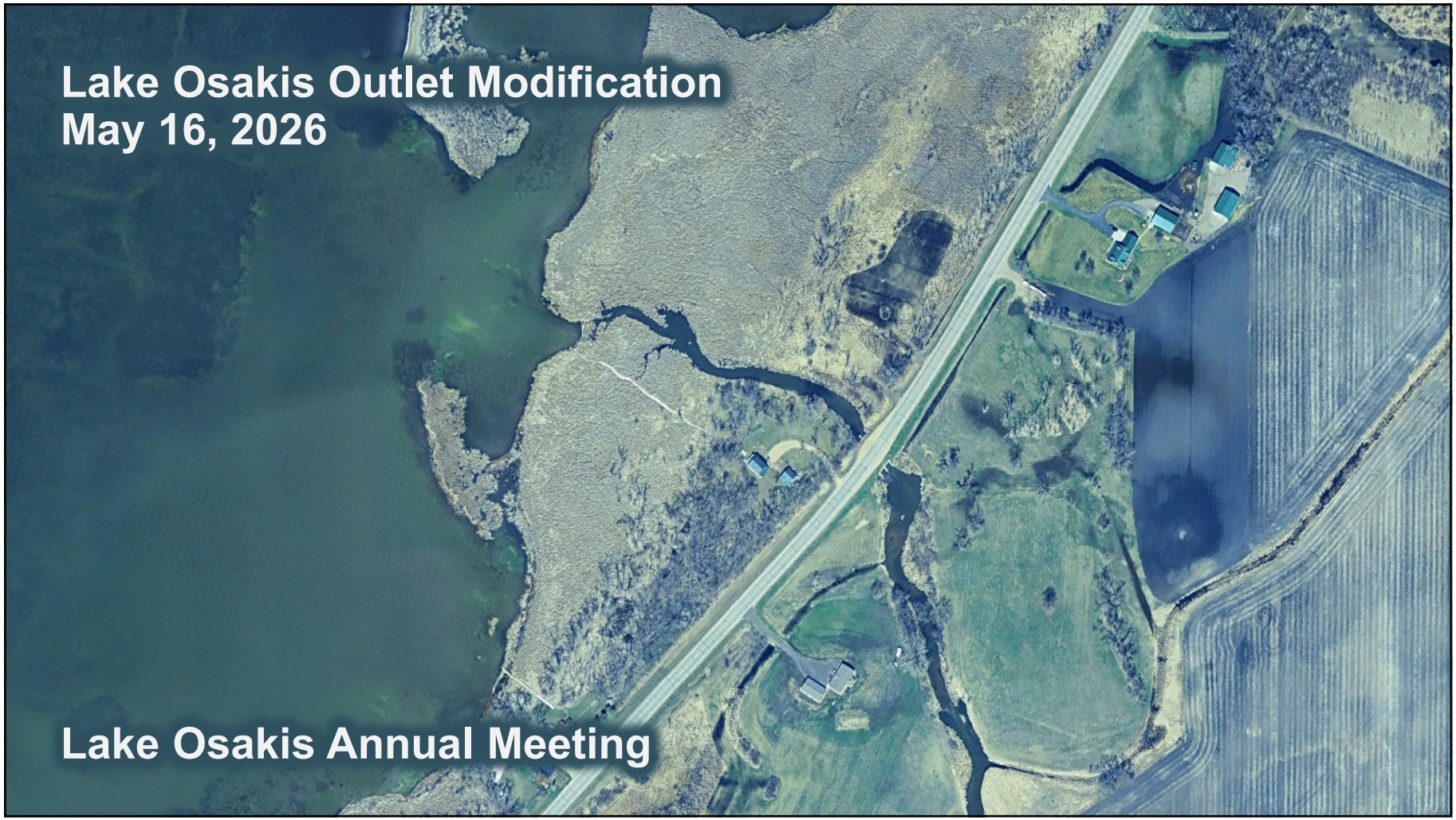
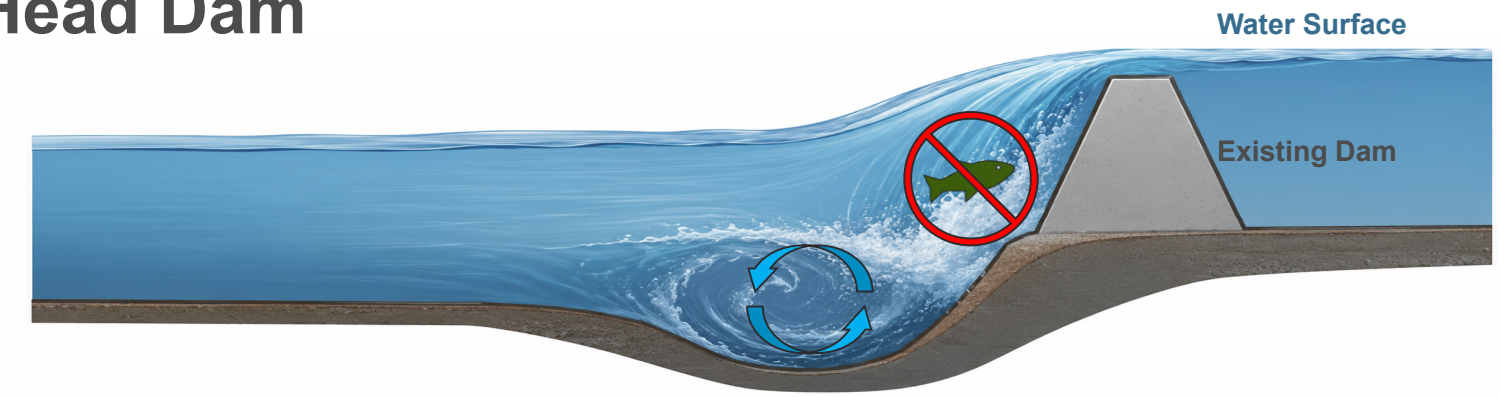
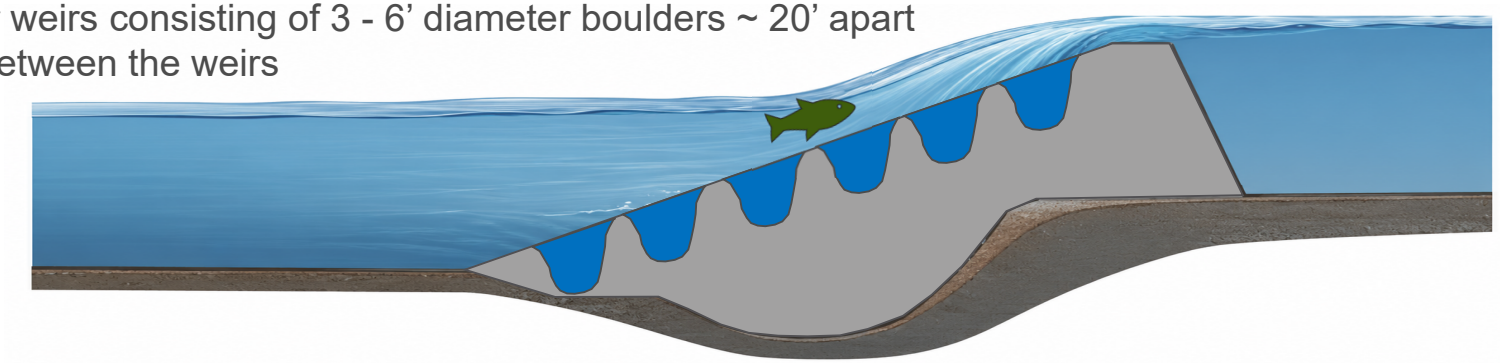

Lake Osakis Outlet Modification
May 16, 2026
Lake Osakis Annual Meeting

Low Head Dam



Rock Arch Rapids

- Riprap ramp installed at a gradual slope (typically 3%)
- Boulder weirs consisting of 3 - 6’ diameter boulders ~ 20’ apart
- Pools between the weirs



Pelican River – Pelican Rapids, MN

Little Birch Lake – Melrose, MN


LITTLE BIRCH LAKE – MELROSE, MN

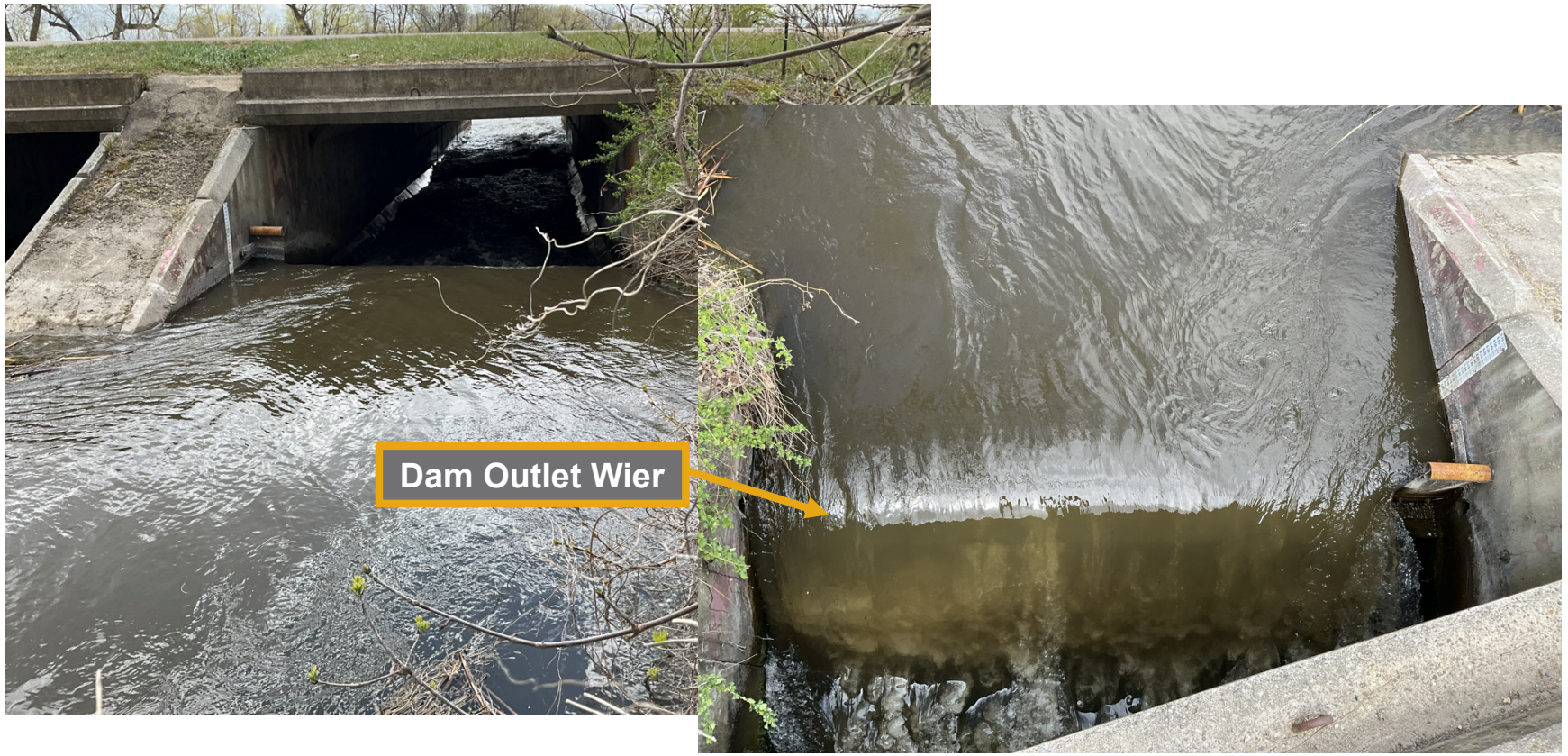
Osakis Lake Outlet - Background

- Existing dam: 2’ high fixed weir
- Location: Upstream side of the 2-12’x7’ box culvert under Todd CR 37
- Part of the Joint County Ditch #2 system
- Dam Owner: Todd County Hwy Dept.
- Constructed: 1996
- Weir Length: 22’
- Crest Elevation: 1322.2 (NAVD 88)
- OHW: 1324.2 (NAVD 88)

JCD #2 at CR 37 Bridge Looking Upstream (West)

JCD #2 AT CR 37 BRIDGE LOOKING DOWNSTREAM (EAST)

Existing Lake Osakis Outlet Weir

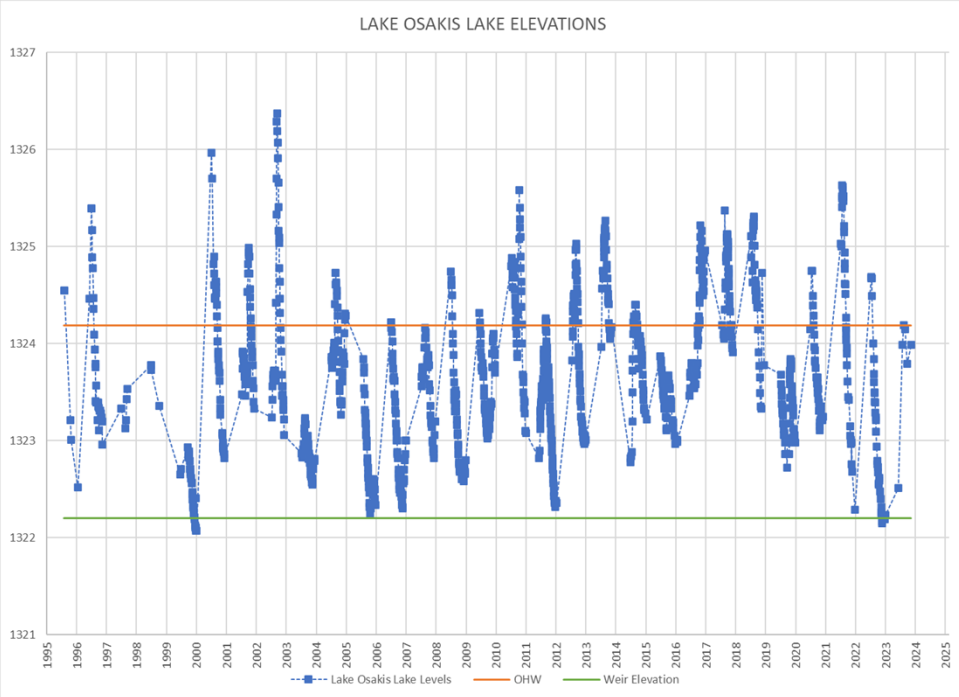


Project Purpose

- Maintain existing runout elevation
- Equivalent hydraulic performance at the OHW
- Improve fish passage
- Stable outlet
- Low maintenance outlet
- Reduce lake level fluctuations

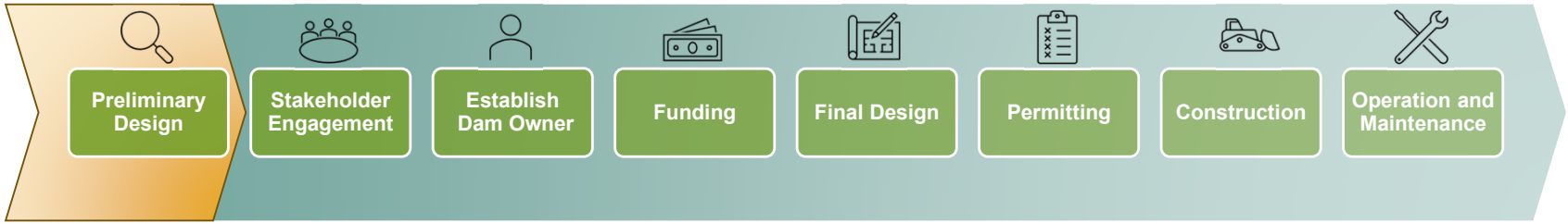
Minnesota Statutes 103G.005

1.the ordinary high water level is an elevation delineating the highest water level that has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial;



PROJECT TIMELINE

1/13/25



- Funded by the Osakis Lake Association
- Cost: $29,700


HOUSTON engineering, inc.

PRELIMINARY DESIGN REPORT

To: Osakis Lake Association
From: Bret Zimmerman, PE, Houston Engineering, Inc.
Subject: Preliminary Design Report – Lake Osakis Outlet Modification
Date: January 13, 2025
HEI Project: 12824-0001

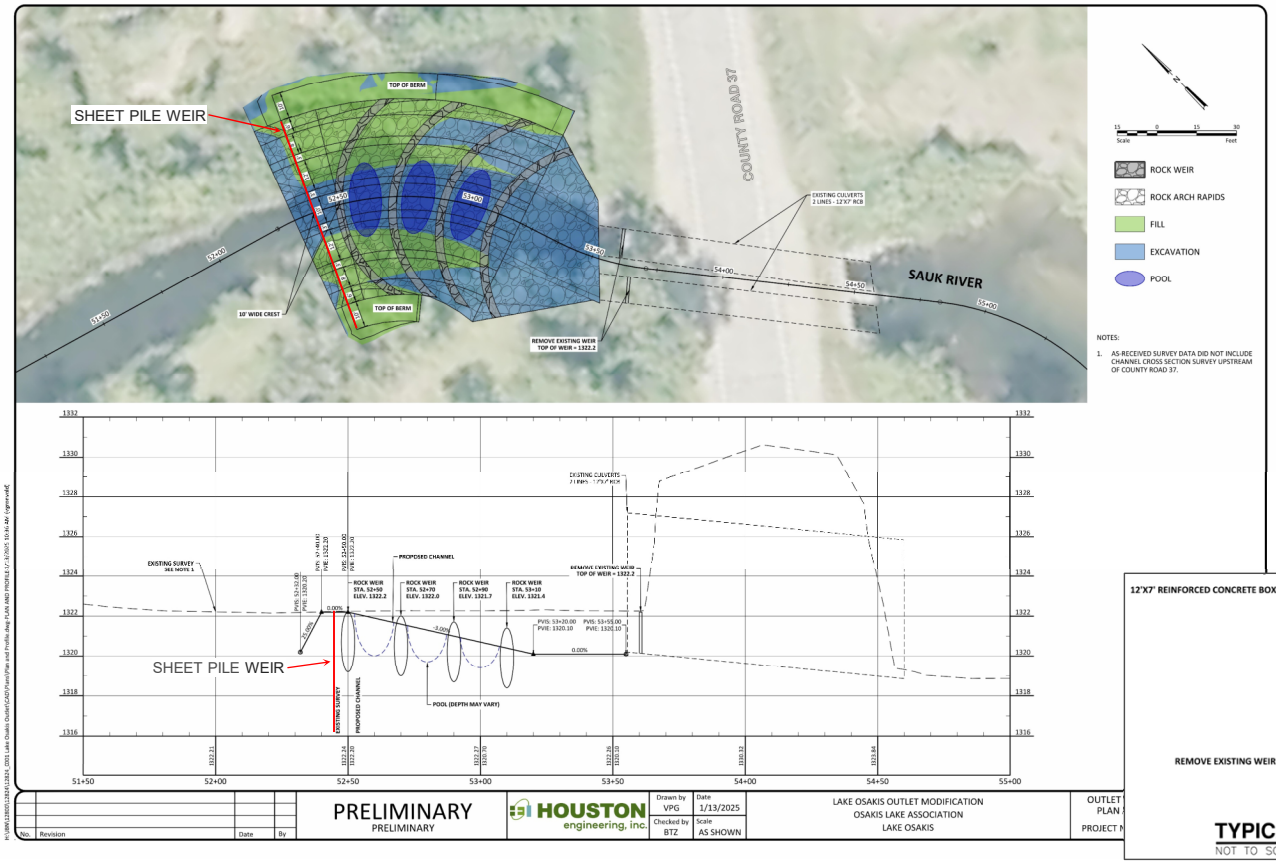
INTRODUCTION

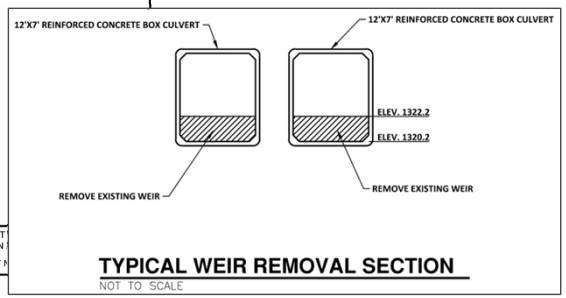
BACKGROUND

VERTICAL DATUM

LAKE OSAKIS OUTLET MODIFICATION

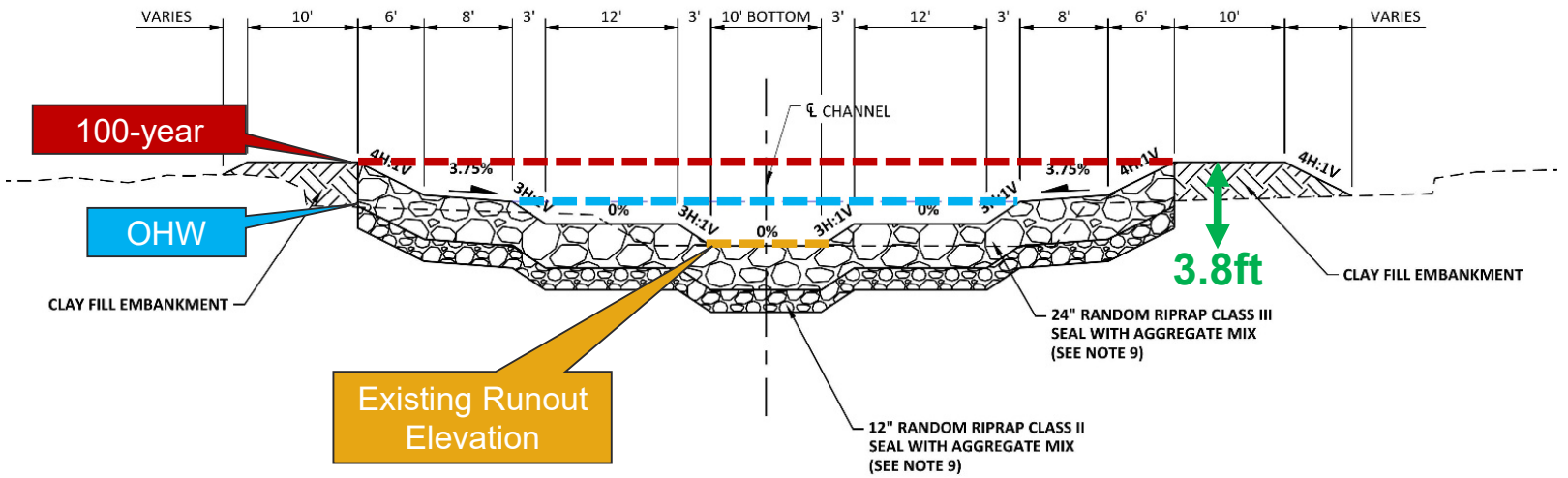
PRELIMINARY DESIGN





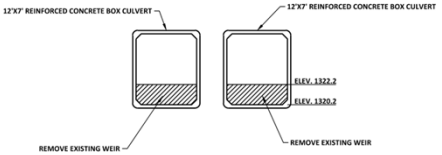
- 4 Boulder Weirs
- Rock Ramp
- Weir Removal
- 2’ of Drop
- 88’ Total Length
- 74’ Wide (rock)
- 94’ Total Width
- Sheet Pile Weir

PRELIMINARY DESIGN



TYPICAL ROCK ARCH RAPIDS SECTION

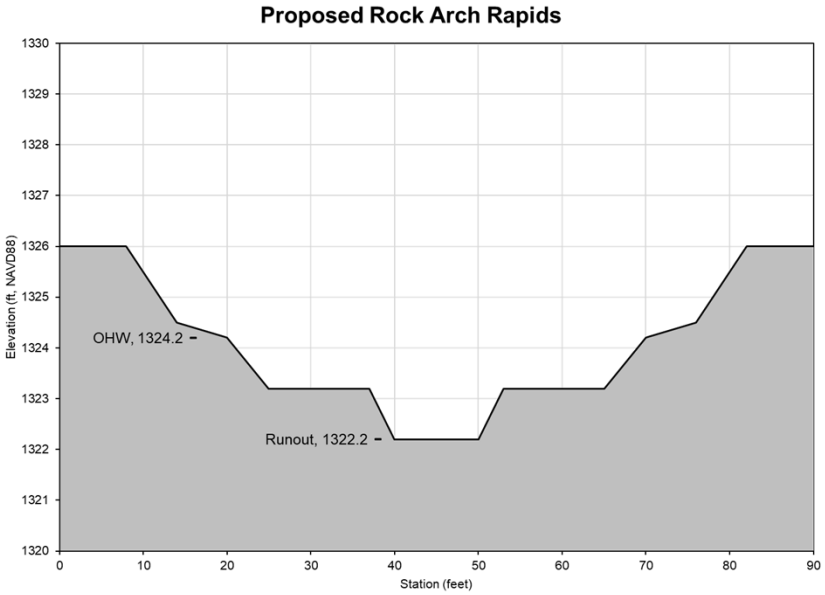
NOT TO SCALE

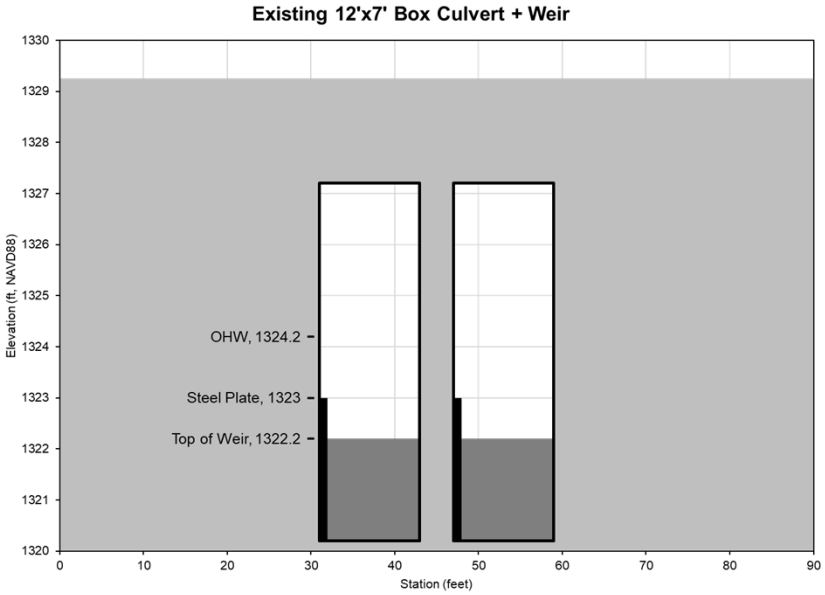


TYPICAL WEIR REMOVAL SECTION

NOT TO SCALE

PRELIMINARY DESIGN

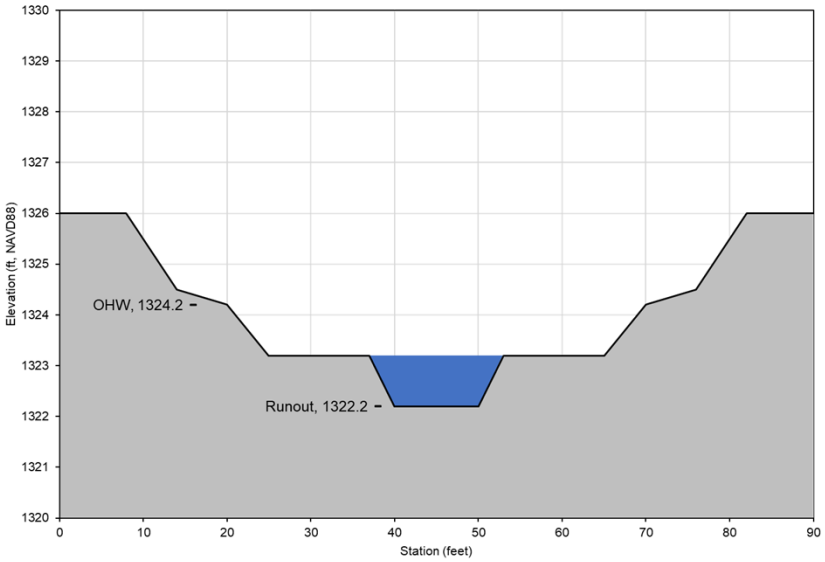




PRELIMINARY DESIGN

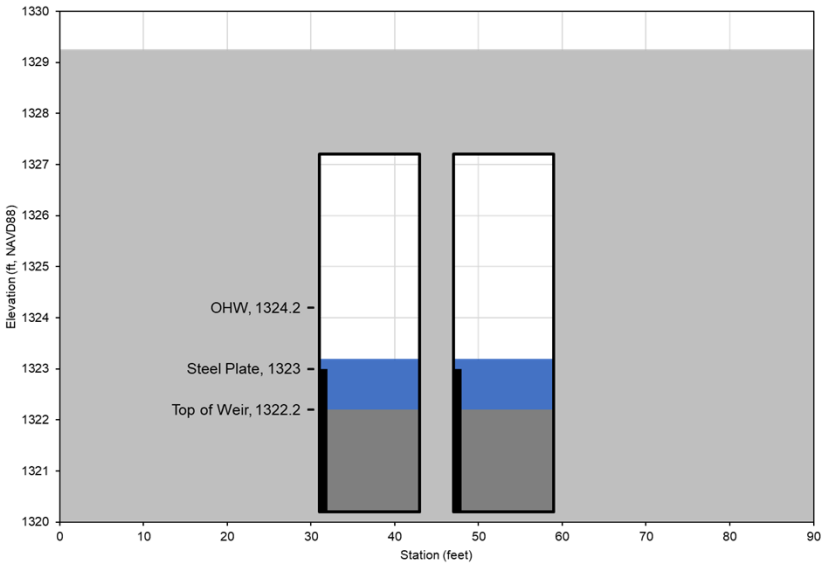
Lake Level = 1,323.2

Proposed Rock Arch Rapids



13 ft² Flow Area

Existing 12'x7' Box Culvert + Weir

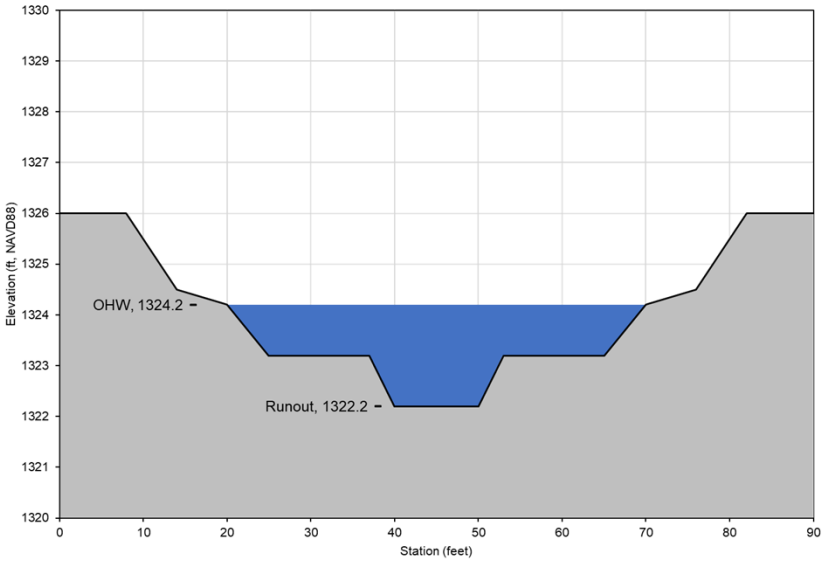


22 ft² Flow Area

PRELIMINARY DESIGN

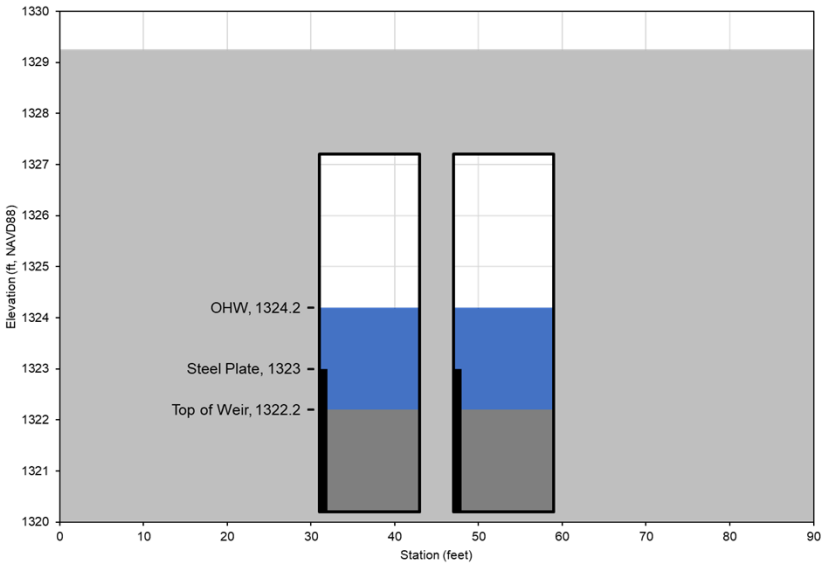
Lake Level = 1,324.2 (OHW)

Proposed Rock Arch Rapids



44 ft² Flow Area

Existing 12'x7' Box Culvert + Weir

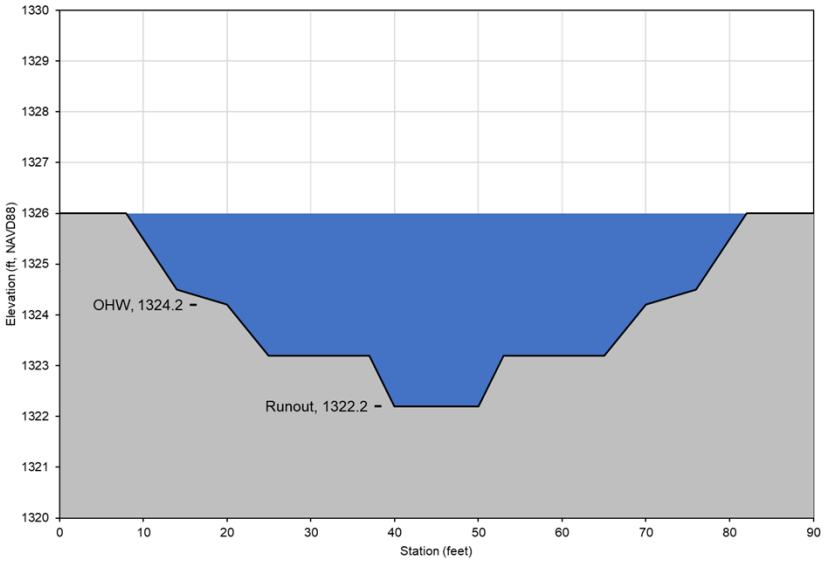


46 ft² Flow Area

PRELIMINARY DESIGN

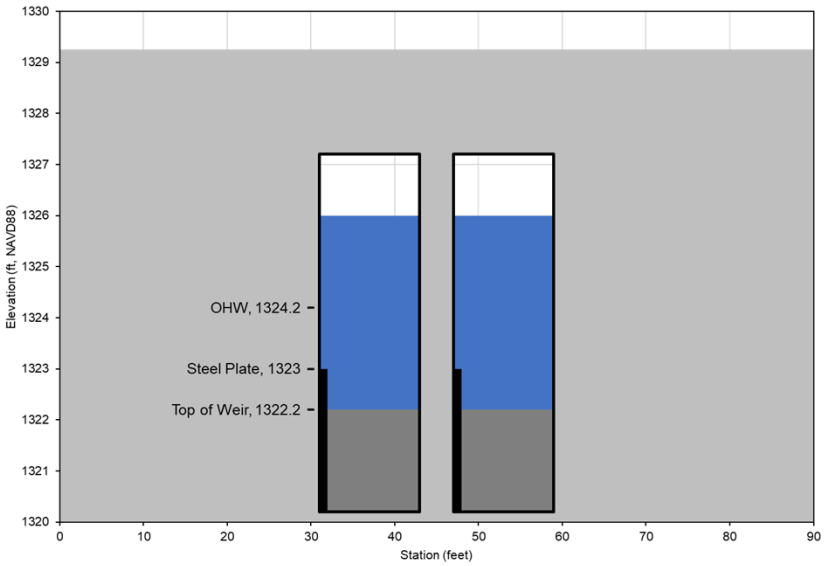
Lake Level = 1,326.0

Proposed Rock Arch Rapids



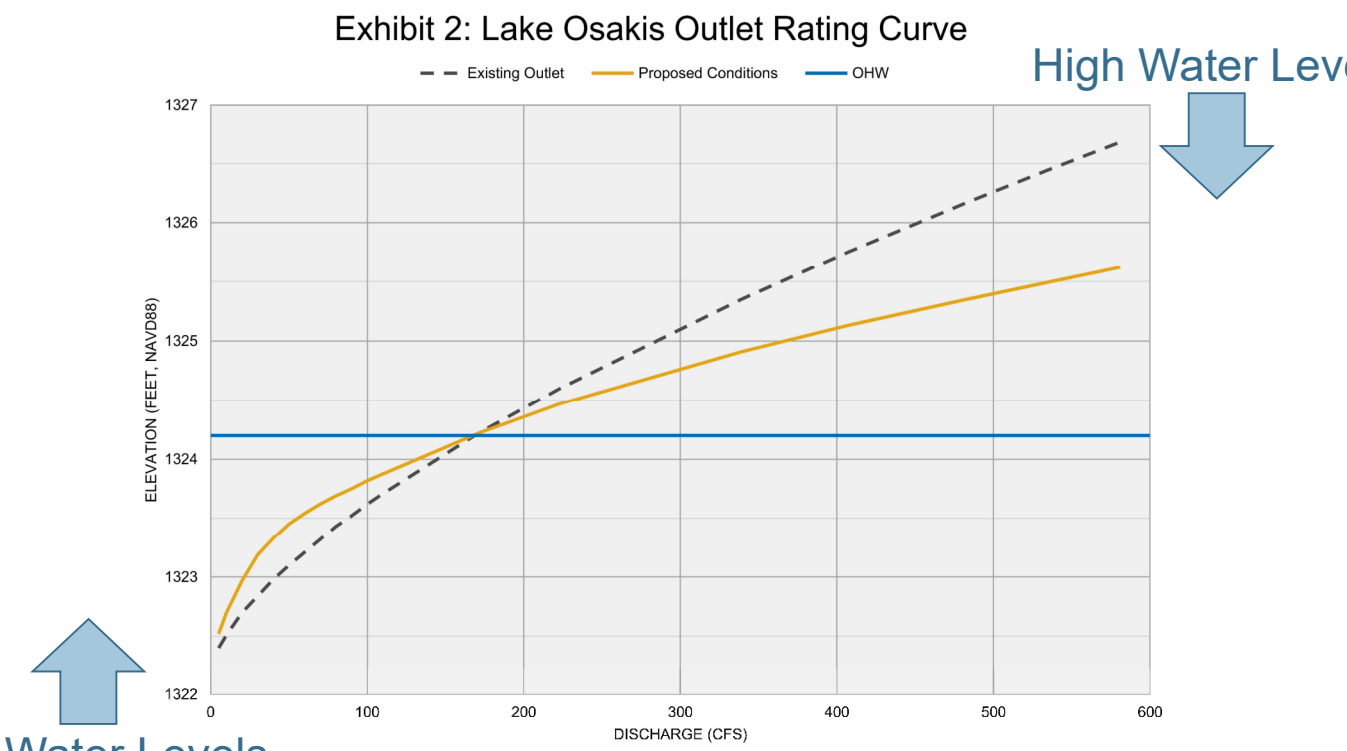
162 ft² Flow Area

Existing 12'x7' Box Culvert + Weir



89 ft² Flow Area

PRELIMINARY DESIGN



High Water Levels

Low Water Levels

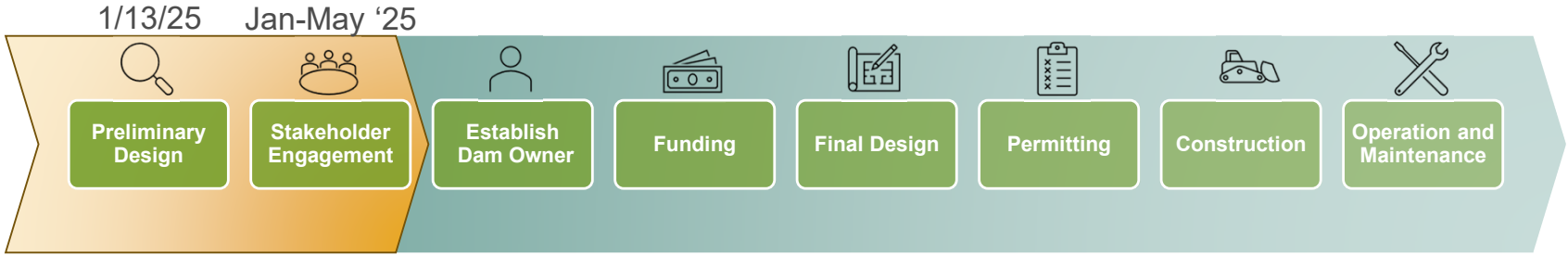
PRELIMINARY OPINION OF PROBABLE COST

- Total PRELIMINARY Project Cost: $423,800
- Includes Construction and Non-Construction Costs
- Non-Construction Costs:
  - Construction
  - Engineering
  - Legal and Administrative
  - Easement
  - Permitting

NO.	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL COSTS
1	MOBILIZATION	LS	1	$ 15,000.00	$ 15,000.00
2	FLOTATION SILT CURTAIN	LF	120	$ 30.00	$ 3,600.00
3	REMOVE EXISTING WEIR	LS	1	$ 10,000.00	$ 10,000.00
4	STEEL SHEET PILE	SF	500	$ 60.00	$ 30,000.00
5	RANDOM RIPRAP CLASS II	CY	310	$ 120.00	$ 37,200.00
6	RANDOM RIPRAP CLASS III	CY	620	$ 130.00	$ 80,600.00
7	ROCK WEIR (36" TO 60" DIAMETER BOULDERS)	LF	345	$ 60.00	$ 20,700.00
8	ROCK BOULDERS (36" TO 60" DIAMETER BOULDERS)	EA	6	$ 450.00	$ 2,700.00
9	FLAT ROCK BOULDERS (48" TO 72" DIAMETER BOULDERS)	EA	4	$ 750.00	$ 3,000.00
10	CLAY FILL EMBANKMENT	CY	50	$ 60.00	$ 3,000.00
11	CLEARING AND GRUBBING	LS	1	$ 5,000.00	$ 5,000.00
12	SEEDING AND MULCHING	LS	1	$ 5,000.00	$ 5,000.00
TOTAL CONSTRUCTION COSTS					**$ 215,800.00**
CONTINGENCIES (30%)					$ 65,000.00
TOTAL CONSTRUCTION COSTS INCLUDING CONTINGENCIES					**$ 280,800.00**
ENGINEERING – PROJECT DEVELOPMENT AND DESIGN (PRIOR TO 1/15/2025) *					$ 40,000.00
ENGINEERING – FUTURE PROJECT DEVELOPMENT AND DESIGN *					$ 45,000.00
ENGINEERING – IMPLEMENTATION *					$ 45,000.00
LEGAL AND ADMIN FEES *					$ 5,000.00
PERMANENT EASEMENT ACQUISITION *					$ 5,000.00
PERMITTING APPLICATION FEES *					$ 3,000.00
TOTAL NON-CONSTRUCTION COSTS					**$ 143,000.00**
TOTAL PROJECT COST					**$ 423,800.00**

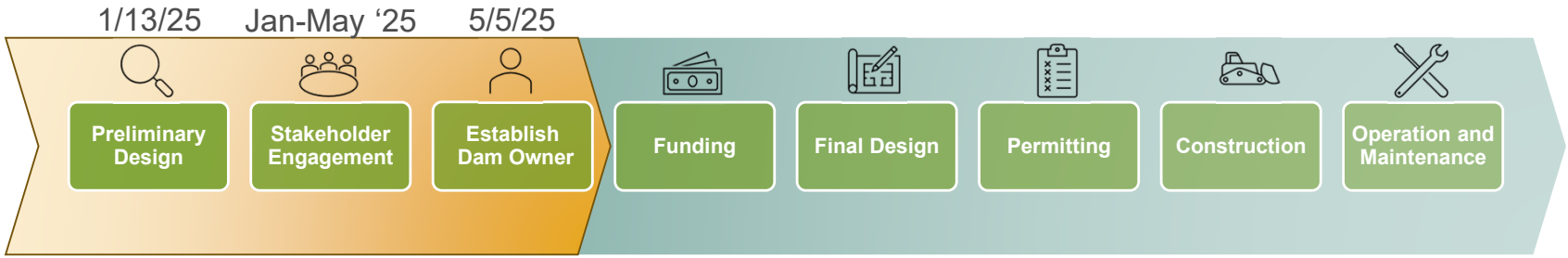
*ESTIMATED COSTS

STAKEHOLDER ENGAGEMENT



- January 21, 2025 – SRWD Board Meeting
- March 26, 2025 – Regulatory and Government Agencies Meeting
- April 7, 2025 – Landowner Meeting
- May 5, 2025 – JCD #2 Drainage Authority Board Meeting
- May 17, 2025 – Osakis Lake Association Annual Meeting
- December 18, 2025 – JCD #2 Drainage Authority Board Meeting
- May 7, 2026 – Regulatory and Government Agencies Meeting
- May 16, 2026 – Osakis Lake Association Annual Meeting

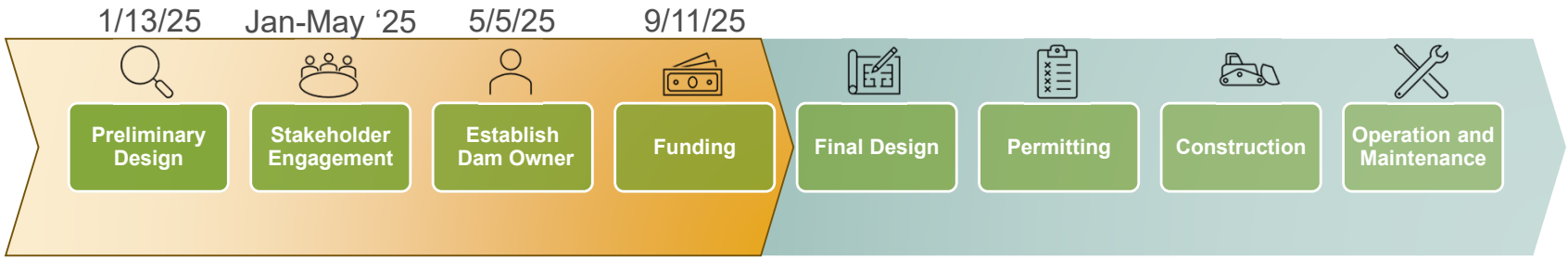
ESTABLISH DAM OWNER



Three Potential Project Paths:

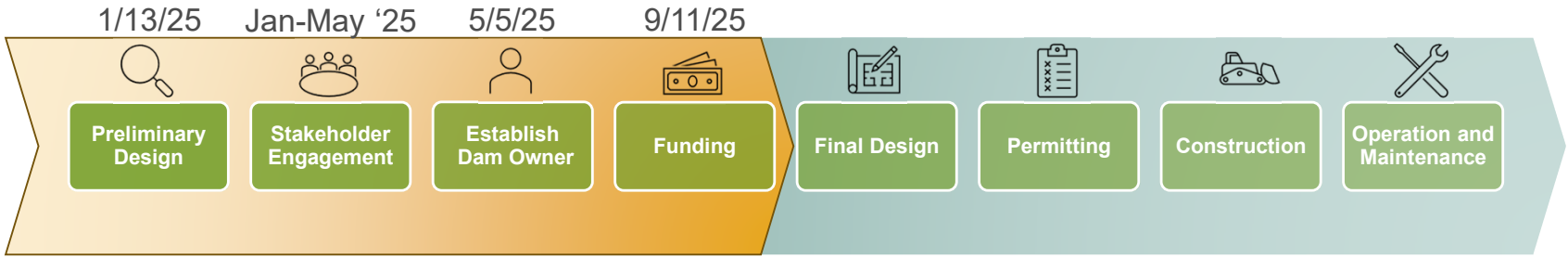
- 103D.701 – SRWD Leads Project Initiated by Board Resolution
  - *"…Lake association members asked the board if they would consider establishing this as a Sauk River Watershed District project by resolution or if the board would be requesting a petition in order to establish it as a project. Discussion ensued and it was advised that the OLA would need to circulate a petition…"* January 21, 2025, SRWD Board Meeting Minutes
- 103D.705 – SRWD Leads Project Initiated by Petition
- 103E.011 Subd. 4 – JCD #2 Leads Drainage Authority Powers

FUNDING



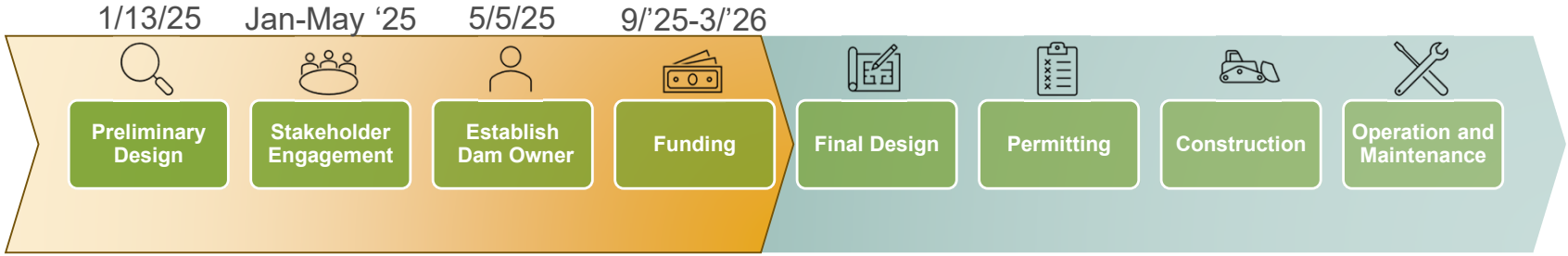
- Conservation Partners Legacy (CPL) Grant Program
  - Traditionally opens August 1st, closes mid September
  - Projects up to $500,000
  - 10% non-state match required
  - Pre-Award Match – Engineering and Design costs within 18-months of application deadline

CPL Grant Application



- Project Manager & Fiscal Contact: Shane Finck, JCD #2 Drainage Inspector
- Land Manager: Charlie Meyer, JCD #2 Board Chair
- Partner Commitment Letter: Osakis Lake Association
- CPL Public Waters Project Form: Mike Anderson, DNR Area Hydro
- Letter of Continued Coordination: DNR NW Regional Fisheries Manager

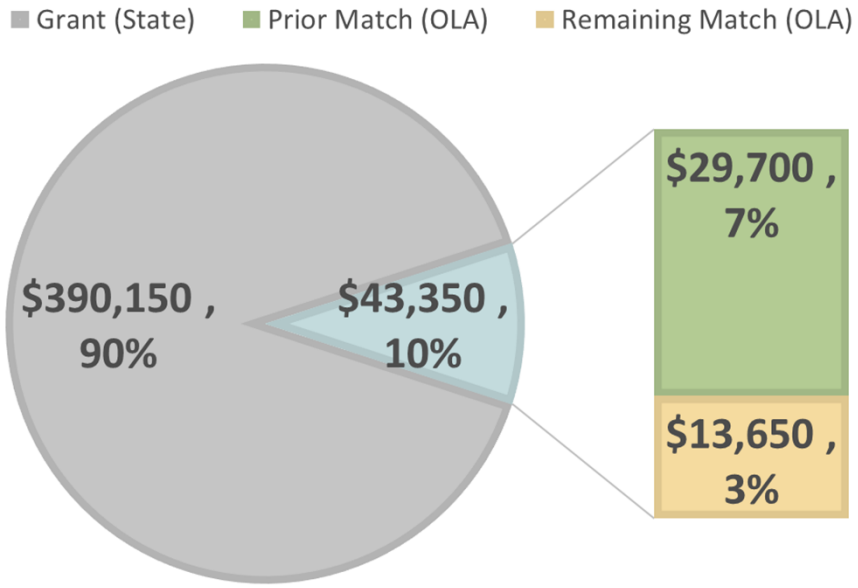
CPL Grant Application



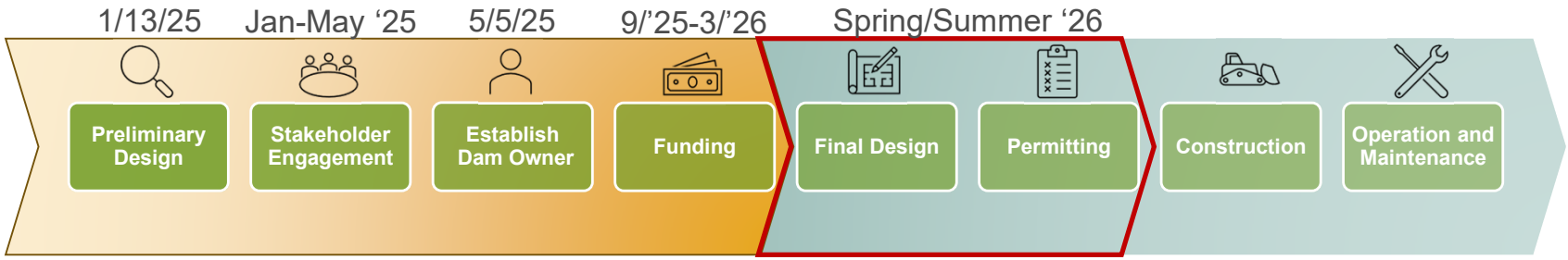
- Submitted: 9/11/25
- Executed: 3/23/2026

Budget Overview

Item Type	Grant	Match	Total
Personnel			
Contracts	$308,800		$308,800
Fee Acquisition with PILT			
Fee Acquisition without PILT			
Easement Acquisition	$5,000		$5,000
Travel (in-state)			
Professional Services	$76,350	$43,350	$119,700
DNR Land Acquisition Cost			
Equipment/Tools/Supplies			
Additional Budget Items			
Total:	$390,150	$43,350	**$433,500**

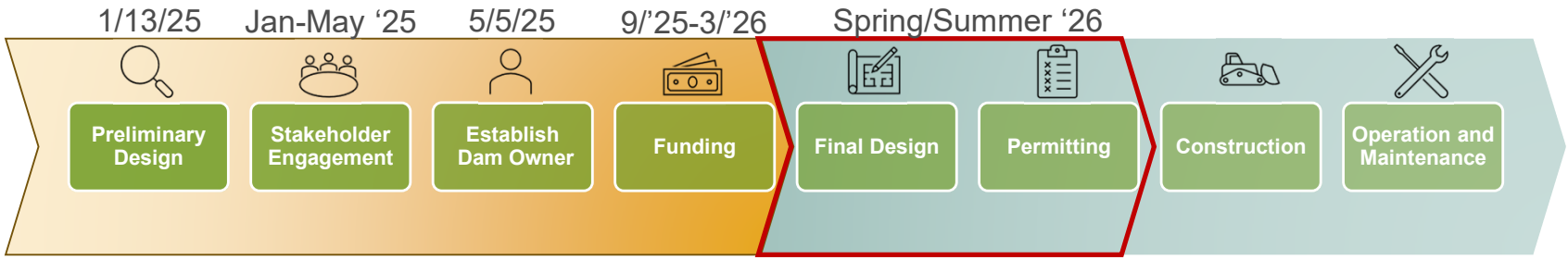


Next Steps



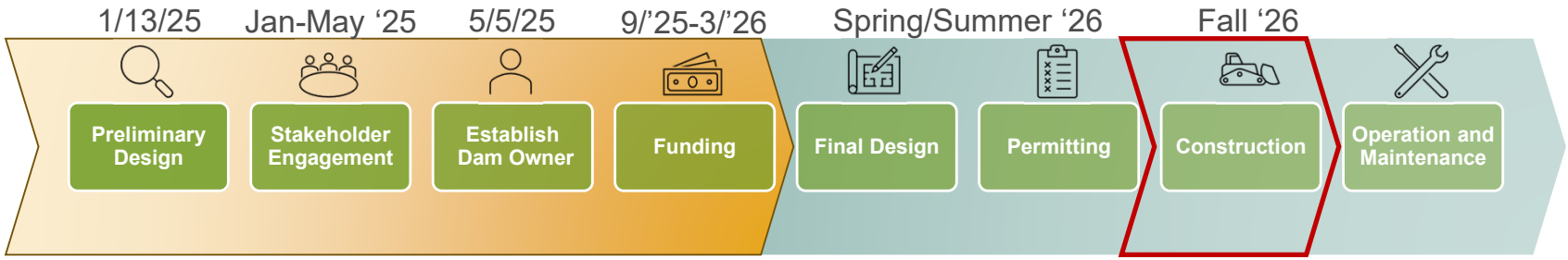
- Final Design:
  - Topographic Survey (5/12/2026)
  - Design coordination with DNR
  - Stakeholder coordination
  - Landowner coordination / Easements?
    - JCD #2 – 16.5ft Right-of-Way from top edge of constructed channel

Next Steps



- Permitting:
  - DNR Public Waters Work
  - *DNR Dam Safety – Exempt due to height*
  - JCD #2 103E – Order under 103E.011
  - Sauk River Watershed District – Stormwater, Drainage, Water Uses
  - Todd County – Work in the ROW
  - Todd County – Planning and Zoning
  - USACE Nationwide 27

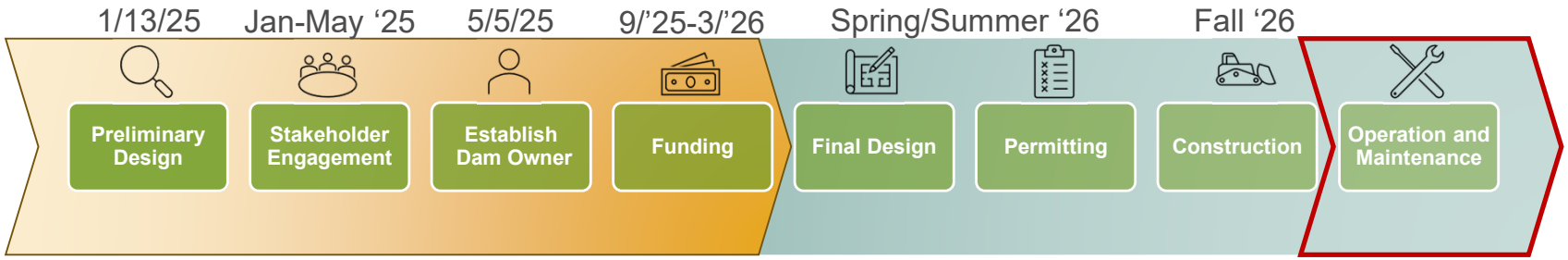
Next Steps



- Early as Fall of 2026?
- Late fall / winter are typical timeframe
- Work within the open channel (no cofferdams, diversions, etc.)
- Existing weir to be removed after upstream components are installed
- 1-year Correction Period


Pelican Rapids, MN

Next Steps

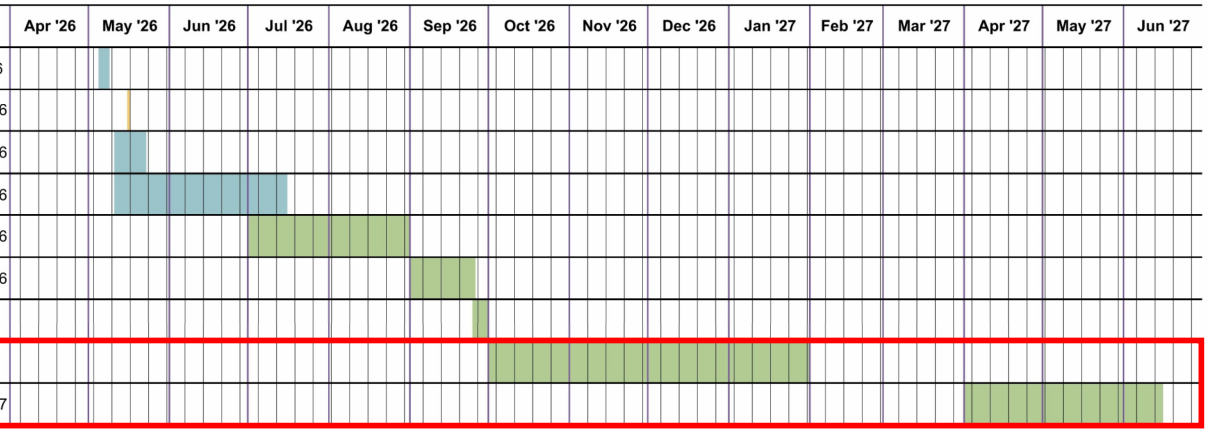


- No Operation
- Minimal or no Maintenance
- High flows will clear any debris or materials that get caught in the rapids


Lake Lizzie – Otter Tail County

Next Steps

Task	Start	Finish
Stakeholder and Regulatory Agency Kick-off Meeting	5/5/2026	5/8/2026
OLA Annual Meeting	5/16/2026	5/16/2026
Topographic Field Survey	5/11/2026	5/22/2026
Final Design & DNR Coordination	5/11/2026	7/15/2026
Permitting (Assumed completion date)	7/1/2026	8/31/2026
Bid Letting	9/1/2026	9/25/2026
Construction Contract Administration	9/25/2026	9/30/26
Construction	10/1/2026	1/31/27
Seeding and Punch List Items	4/1/2027	6/15/2027



- Grant expires June 30, 2029

SUMMARY

- Reduced public safety concerns
- Restores “natural” stream aesthetics
- Allows for fish passage and other ecological benefits
- Mitigated low water levels
  - Shoreline erosion, habitat loss
- Reduced flooding at high water levels
  - JCD 2 inlets, farmland, residential properties, septic systems
- Reduced long term maintenance costs