

Hydraulic Canal and Dam Safety Annual Update to Public

4-24-2025 5:30 PM-7:30 PM



Opening Remarks

- Annual Update of work done since 4-25-24 CAC Meeting
- Background information and Reports found at:

piquaoh.gov/CanalDam

- These slides will be put on this site after this meeting
- ***No decisions have been made on future construction related to Hydraulic System and Spillways***
- ***No decisions will be made until the current evaluation is complete and future public meetings or work sessions are held***

Piqua Overall Goals

1. Meet ODNR Dam Safety Inspection Reports, with the hydraulic capacity of the system being the key issue
2. Keep the waterways and adjacent public/private areas effected as little as possible, while meeting ODNR requirements in #1
3. Fiscal responsibility with public funds for the funding of construction to meet goal #1 and #2.

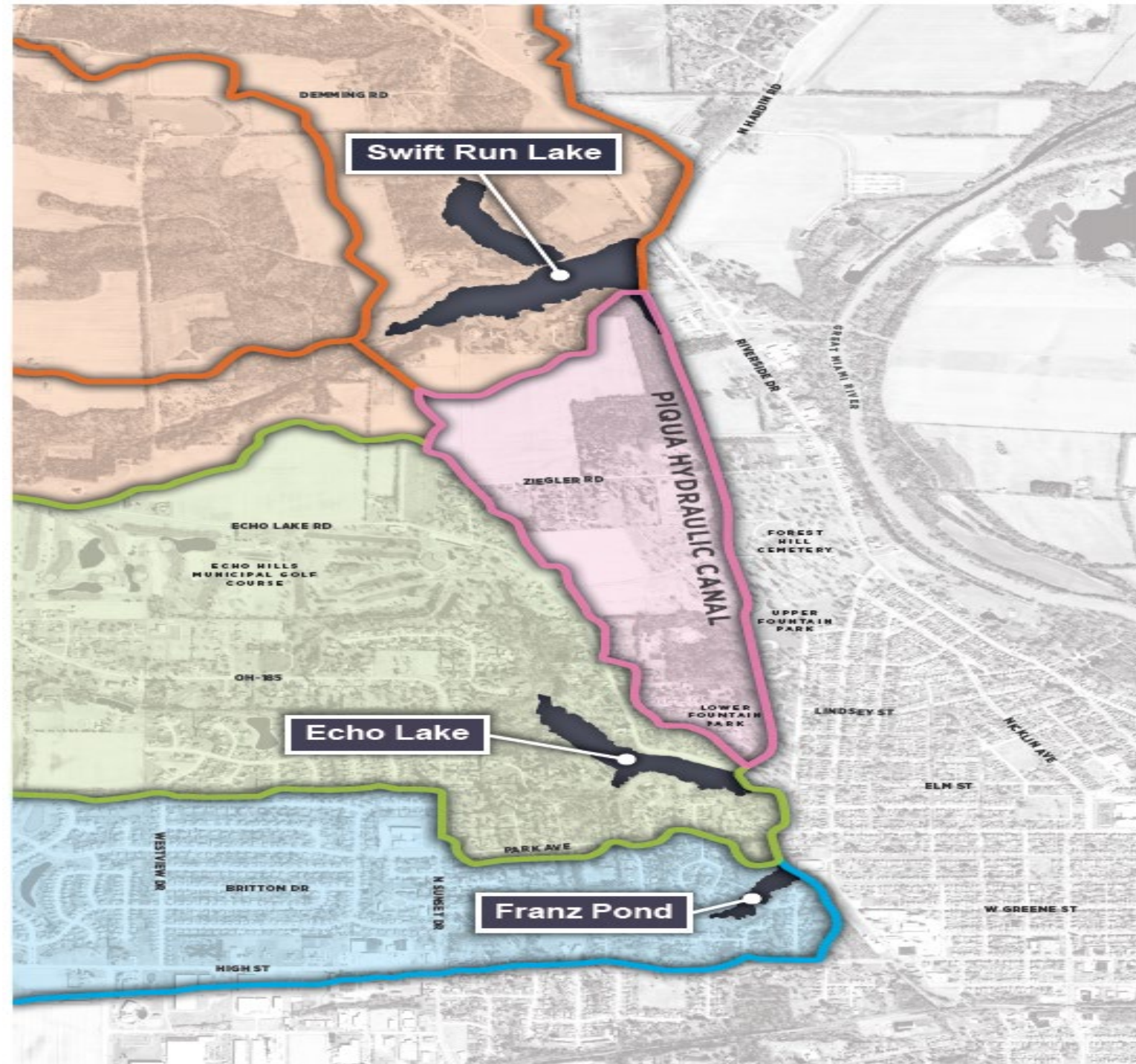
Watershed Map

Swift Run

Echo Lake

Franz Pond

Hydraulic Region



Ohio Department of Natural Resources (ODNR) Reports

- All Three Inspected November 26, 2024
- Piqua Receives Final Reports April 9, 2025

- Swift Run Lake Dam – 0142-001 – Class II – Pass 50% PMP
- Echo Lake Dam – 0142-002 – Class I – Pass 100% PMP
- Franz Pond Dam – 0142-003 – Class I – Pass 100% PMP

- Class I because of “***Probable loss of human life***”

Inspection Reports

- Very similar to the three done in 2019 and 2014 and so on.....
- Note minor repair issues
 - Animal burrow holes in the system
 - Need to clear brush, cut down trees, and plant grass throughout
 - Minor seepage in spillway structures
 - Minor pipes in the vicinity of system
- Sprawling concrete issues
- ***But the main issue that has no easy repair or solution is the Hydraulic Capacity of the System – currently 12% of what ODNR desires***



Paterson Run

Swift Run Lake Dam

Spillway #3

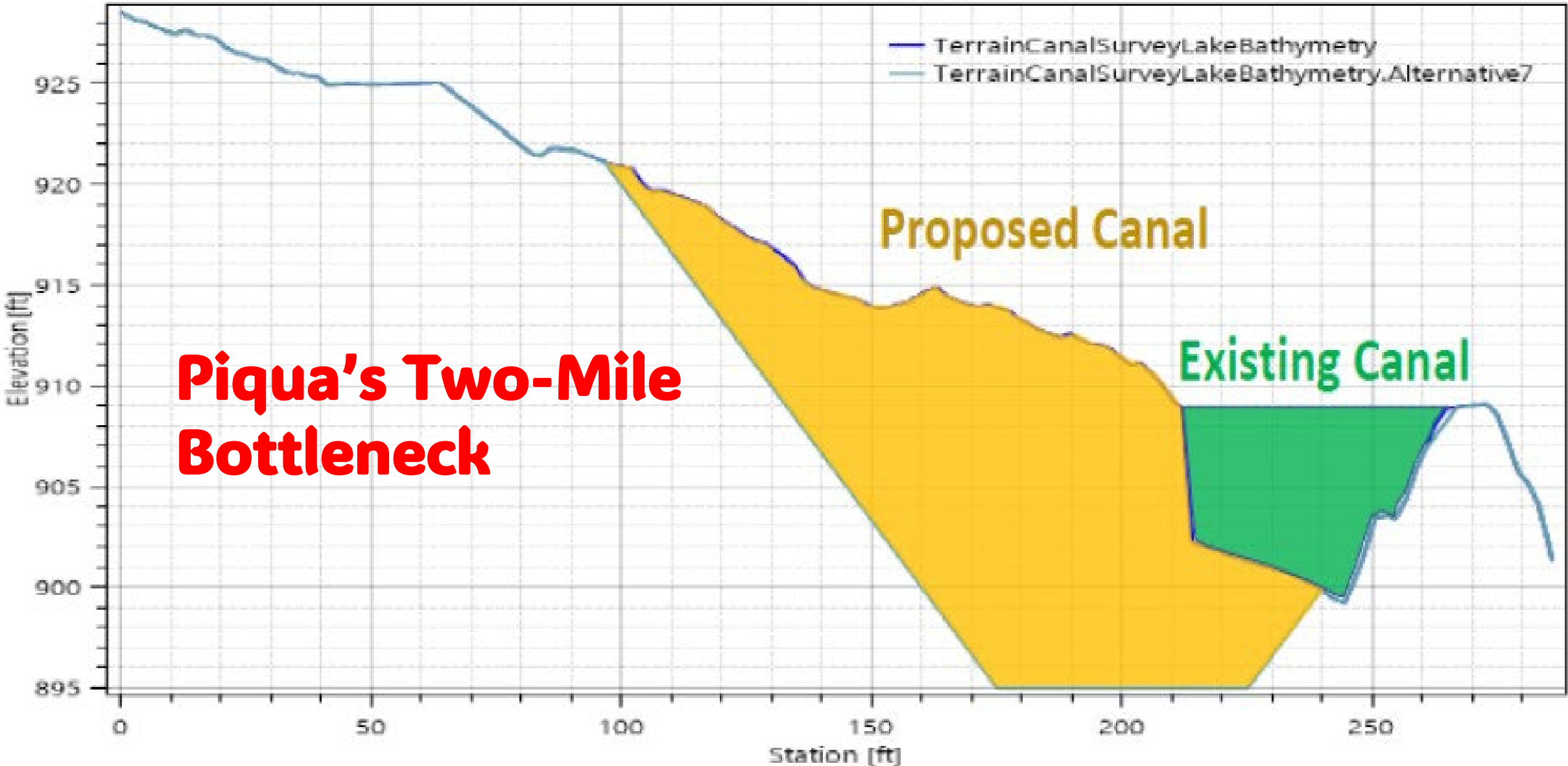
Spillway #2

Swift Run Lake

Canal Gate Structure

Spillway #1

Terrain Profile Plot



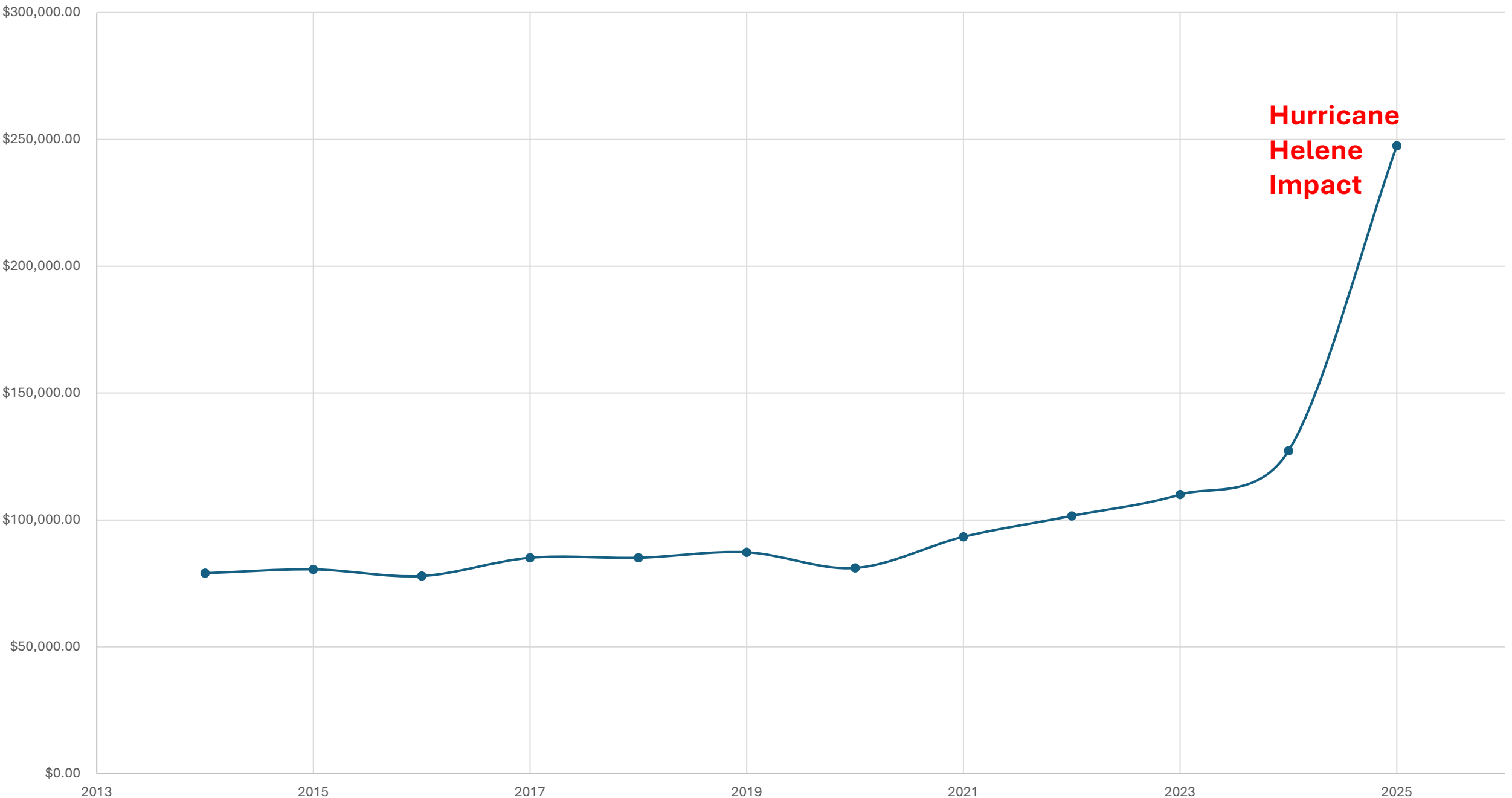
Financial Update

- 1/20/2025 Executive Order by President Trump
 - Paused funding on our current HHPD Grant 2022
 - The language shows HHPD 2022 should open up
 - But know we have uncertainty about HHPD 2024 Grant
- AEGIS insurance price update
- Swift Run Class II Engineer's Estimate
- Cemetery Cost Estimates
 - \$12,300,000
 - 2400 potential plots moved
 - Up to Five Years of work

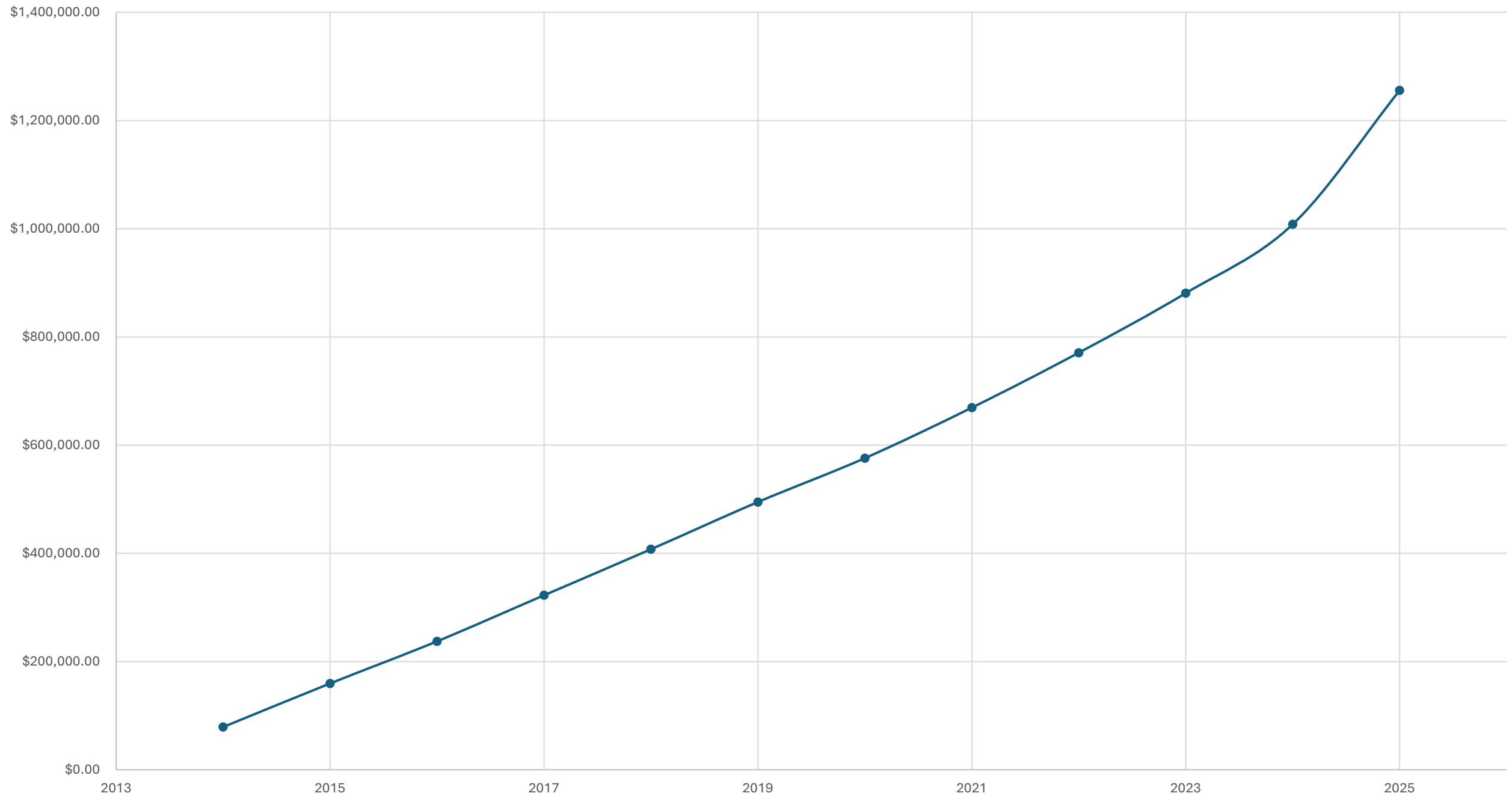
Stantec Evaluation Work to Date

	Overall Cost	Grant Portion	Piqua Portion
2020	\$74,649.34	\$48,522.07	\$26,127.27
2021	\$213,666.96	\$138,883.52	\$74,783.44
2022	\$69,602.44	\$45,241.59	\$24,360.85
2023	\$206,305.23	\$134,098.40	\$72,206.83
2024	\$117,381.09	\$76,297.71	\$41,083.38
2025	\$192,924.56	\$0.00	\$192,924.56
w/EO	\$874,529.62	\$443,043.29	\$431,486.33
Expected	\$874,529.62	\$568,444.25	\$306,085.37
TOTAL	\$874,529.62	Total amount of work (as of 4/15/25)	
65%	\$568,444.25	Grant Portion paid	
35%	\$306,085.37	Piqua's Portion paid	

AEGIS Annual Insurance Costs



AEGIS Combined Costs 2014-2025



Opinion of Probable Cost - Developed by Stantec in March 2024

Swift Run Class II Compliance

Swift Run Modifications for Compliance with ODNR Class II	Quantity	Unit	Unit Cost	Estimated Cost
Misc. Site Work				
Mobilization	1	LS	\$500,000	\$500,000
Erosion and Sediment Control	1	LS	\$200,000	\$200,000
Tree Removal	90	EA	\$2,500	\$225,000
New Labyrinth Spillway Construction				
Water Control	1	LS	\$1,000,000	\$1,000,000
Demolition	1	LS	\$300,000	\$300,000
Excavation	30,000	CY	\$15	\$450,000
Reinforced Concrete Cast-in-Place	2,800	CY	\$1,500	\$4,200,000
Rock/Riprap/Aggregates	1,000	CY	\$100	\$100,000
Insulation Foam	1,500	SY	\$50	\$75,000
Structural Backfill	3,000	CY	\$50	\$150,000
Permanent Erosion Control	1	LS	\$500,000	\$500,000
Sheetpile Cutoff Barrier	5,000	SF	\$50	\$250,000
Revetments - Articulating Concrete Block	2,000	SY	\$150	\$300,000
Drainage/Outlet Pipe	750	FT	\$50	\$37,500
Downstream Slope Regrading to 3H:1V with Drainage System				
Abandon Existing Piezometers	6	EA	\$2,500	\$15,000
Excavation	2,500	CY	\$15	\$37,500
Embankment Fill	45,000	CY	\$35	\$1,575,000
Chimney Drain, Drainage Blanket, Toe Drain Filter	5,000	CY	\$75	\$375,000
Toe Drainage System	1,520	LF	\$60	\$91,200
Cleanouts	5	EA	\$2,000	\$10,000
Topsoil Placement	5,000	CY	\$20	\$100,000
Crest and Slope Seeding/Mulching	10	AC	\$5,000	\$50,000
Other				
Earthen Berm @ North End of the Hydraulic Canal - Just South of Raw Water Intake	1	LS	\$75,000	\$75,000
Berm work at SR 66 & Sludge Pumping Facility (Break Inundation)	1	LS	\$250,000	\$250,000
Parking lot and boat ramp upgrades	1	LS	\$25,000	\$25,000
Maintain raw water intake structures	1	LS	\$25,000	\$25,000
Permanent Piezometers	5	EA	\$12,000	\$60,000
Survey Monuments	10	EA	\$200	\$2,000
Design - 25%				\$2,729,000
Contingency - 30%				\$3,274,860
Cost Escalation - 25%				\$2,729,000
Construction Inspection/Testing 5%				\$545,810
Total				\$ 20,256,970

\$20,256,970 in 2024

Potential Construction Constraints

- Cemetery
- Adjacent Uses
 - Fountain Park – Baseball Field – Courts - Shelters
 - Ziegler Booster Station – Feeds westside drinking water
 - Walk/Bike Path – 2-3 miles
 - Hance Pavilion
- Roadways, bridges, access and closings
- Bypass pumping of waters
- Loss of all trees
- **Where would a 300-foot-wide spillway go that would run to Great Miami River (GMR)**





Water Storm Sanitary

Imagery 2018

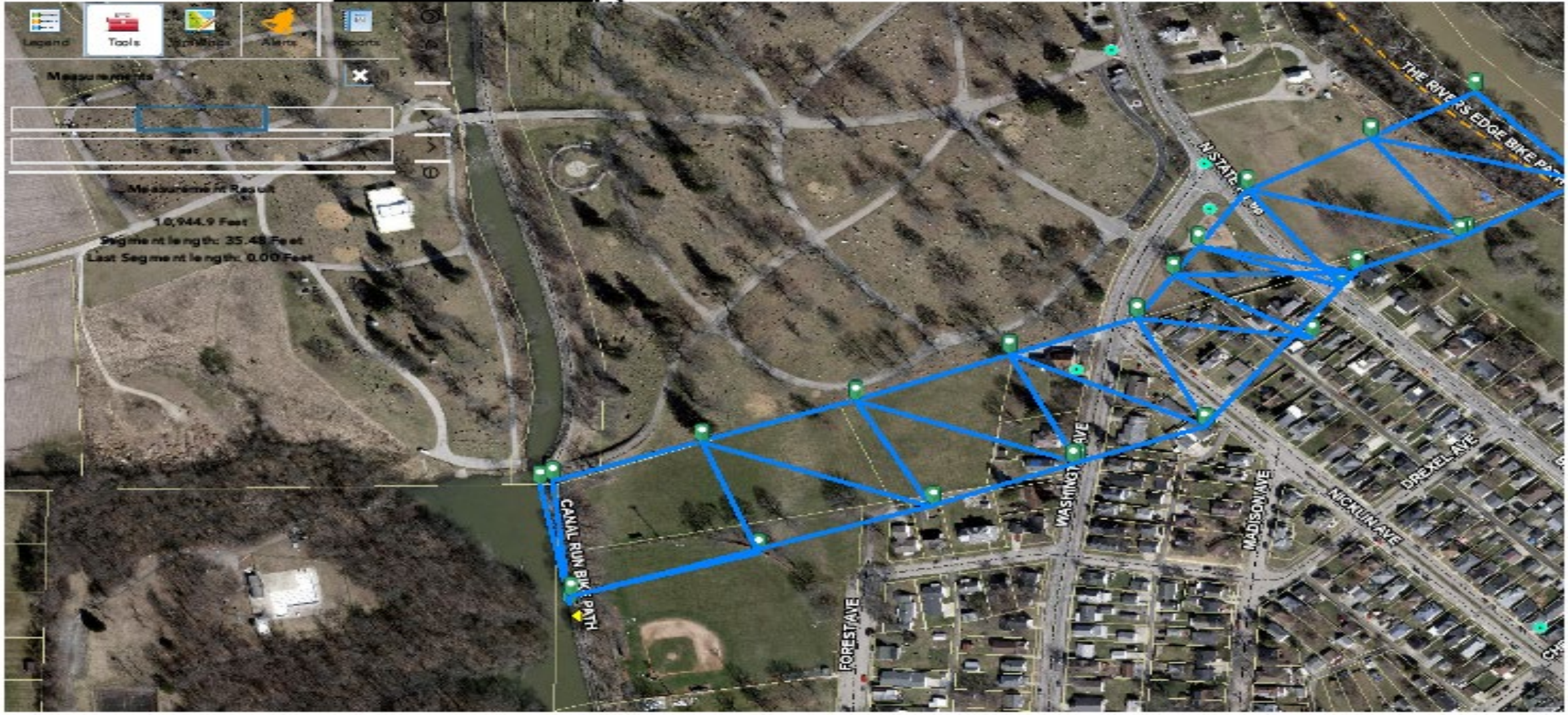
Find address or place



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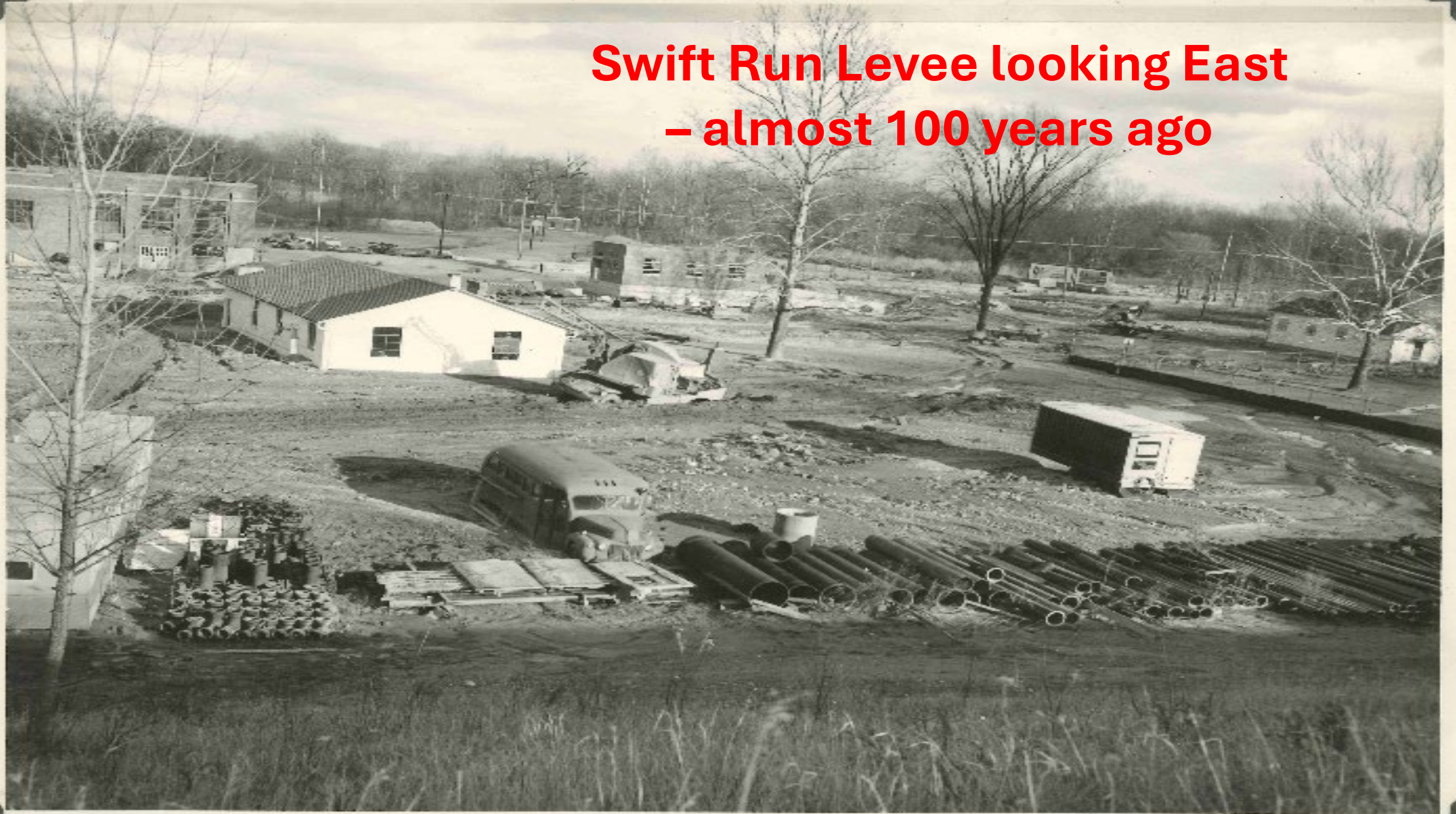
City of

(https://piquette.org/)



SWIFT RUN LAKE DAM & Spillway #2 and #3

**Swift Run Levee looking East
– almost 100 years ago**



Spillway #3 at Swift Run



Swift Run Lake Current



Proposed – 3:1 slopes, trees removed, embankment to isolate Swift Run, new labyrinth spillway



Spillway #1 Looking East After Rain Event





**Isolation Gate Between
Spillway #1 and Spillway #2**

ECHO LAKE DAM AREA







Echo Lake Dam

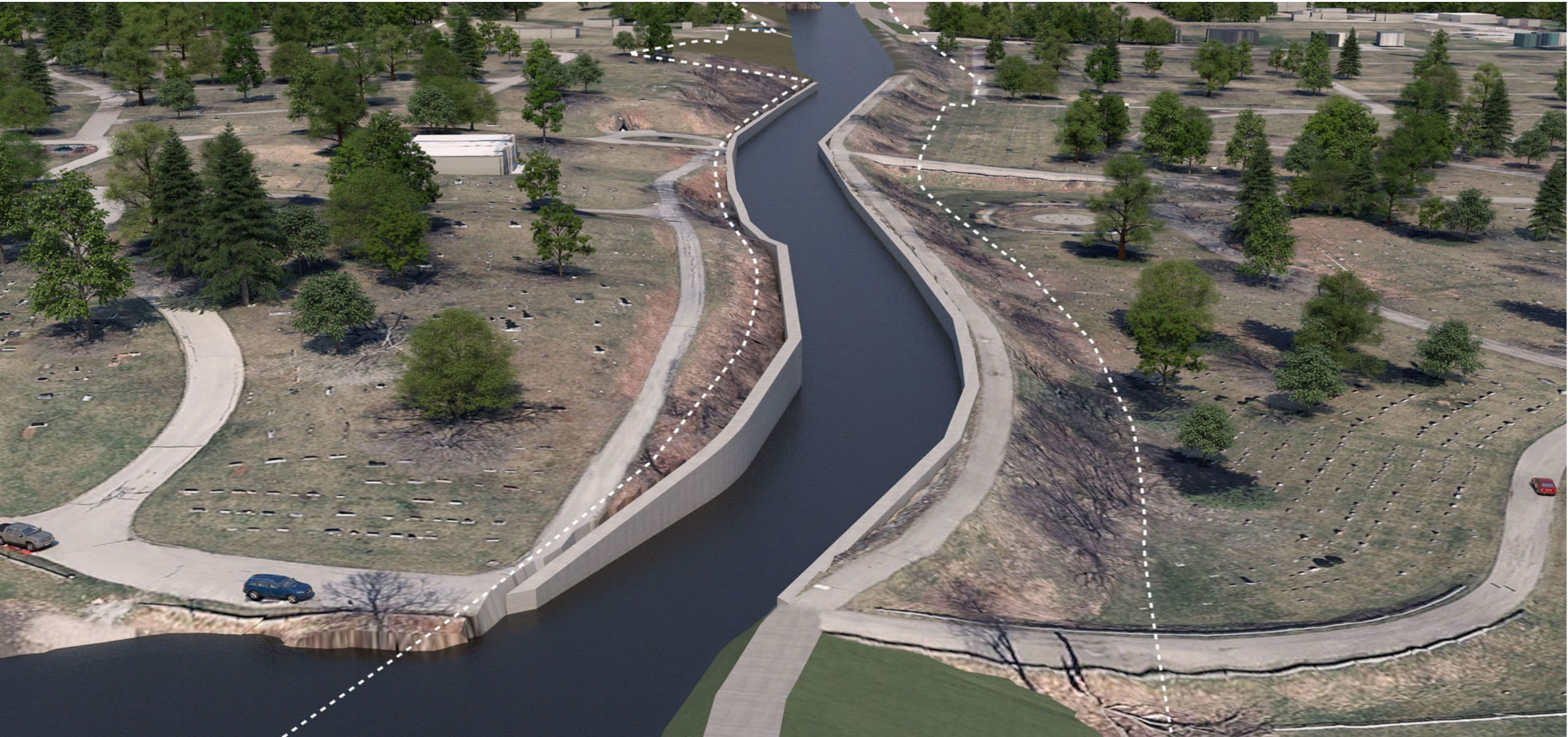
Existing



Proposed



Proposed with 25' LOW



FRANZ POND DAM

Existing



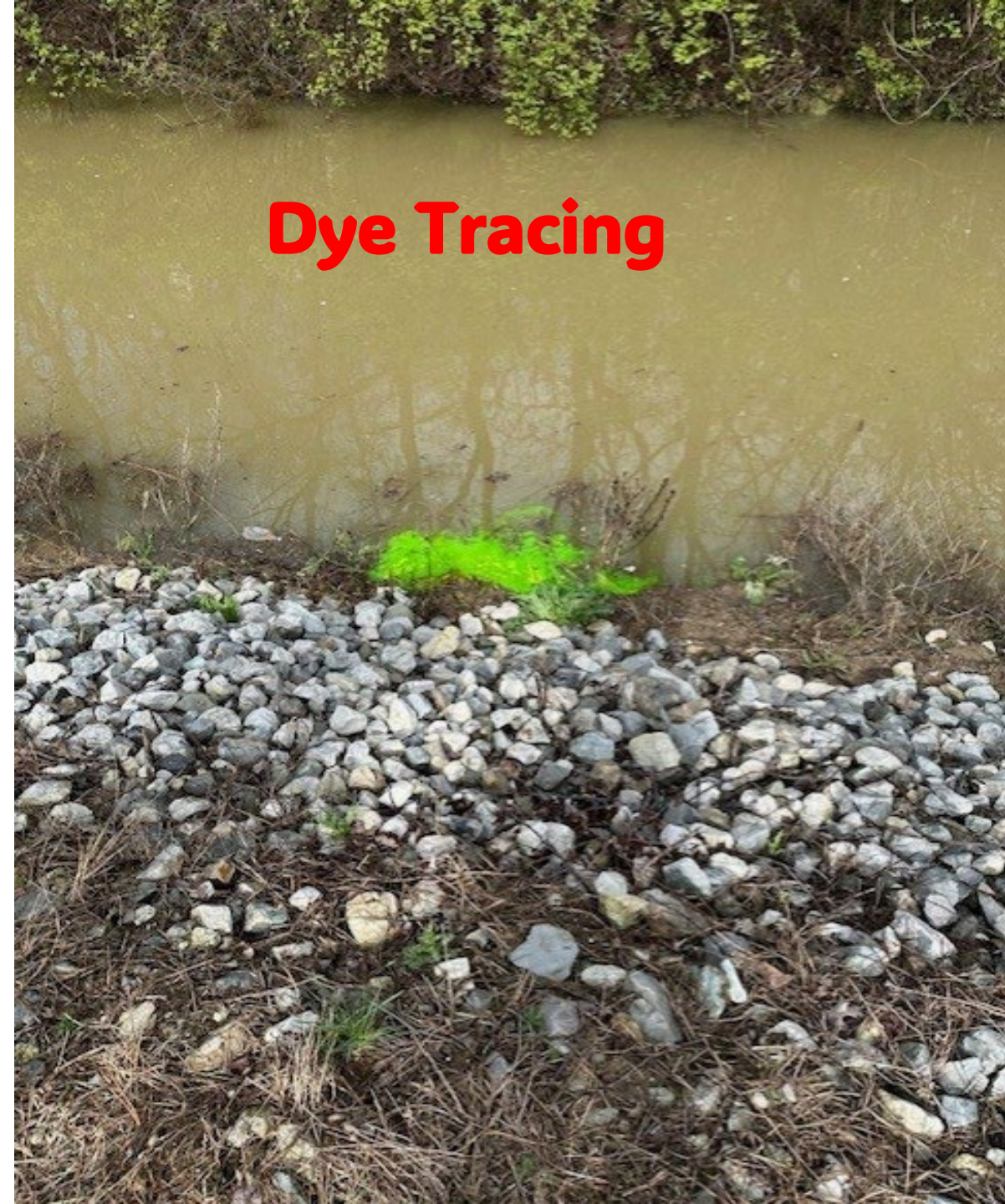
Proposed – 3:1 slopes, trees removed,
new spillway, widened canal



Hartzell and some homes very close to this dam

Forest Ave. Seepage





**Repairs made on the inside of canal
2023 and 2024**

Shrub line removed Fall 2024





**Repair made on the
Outside of Levee
2025**

WORK IN PROGRESS