



Pittsburgh
Water & Sewer
Authority

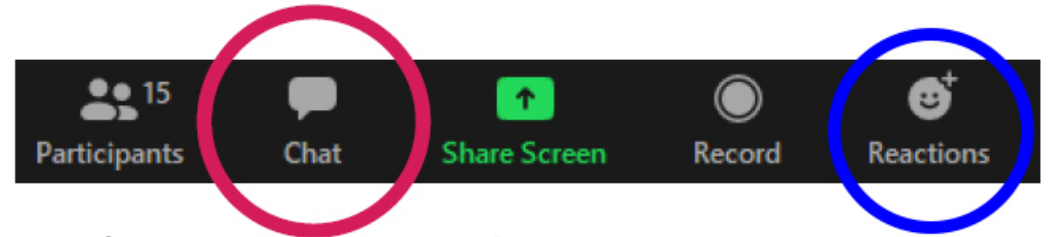
Four Mile Run Neighborhood Projects: Sewer / Water / Stormwater

30 March 2021 Project Updates

Submitting Questions Using Zoom

During Presentation

- Participants will be muted
- To ask a question use the chat box below
- We will pause between sections to answer clarifying questions about information presented on slides



Click the Chat Icon

- Located bottom of screen
- Looks like cartoon bubble
- Type question in dialogue box; press enter to send
- All attendees will receive your question
- Raise hand (*9 phone) or Reactions button if need to interject

When presentation ends

- We will respond to questions individually
- We will unmute microphones to enable verbal Q&A

For more information or to ask a question after the meeting, please visit www.pgh2o.com/4mr

Welcome and Introductions

Councilman Corey O'Connor

City Council District 5



ms consultants, inc.
engineers, architects, planners



Civil & Environmental Consultants, Inc.



Alex Sciulli, P.E.

PWSA - Chief of Program Management

Dan Cleary

PWSA – Water Group; Project Manager

Tony Igwe, PE

PWSA – Stormwater Group Manager; Project Manager

Tim Prevost

ALCOSAN – GROW Program Manager

Mallory Griffin, P.E.

JMT – M29 Outfall and Stormwater Pipeline Design

Diane McConnell, P.E.

JMT – Four Mile Run Water Relocation Design

Kari Mackenbach, CFM, ENV SP

ms consultants – Hydraulic modeling – 4MR storm and M29

Tim Nuttle, PhD

CEC – Panther Hollow Lake and Junction Hollow Design

Today's Agenda

6:30pm – 8:00pm

- 1: PWSA's Mission and Program Goals**
- 2. M29 Outfall Improvements**
- 3. Four Mile Run Large Diameter Water Relocation**
- 4. Four Mile Run Stormwater Improvements - Update**
- 5: Overall Project Schedule and Costs**
- 6: Questions and Answers**



1

PWSA Mission and Program Goals



PWSA's Mission

ORIGINAL MISSION:

- **PWSA's mission was originally limited to providing drinking water to Pittsburgh's homes and businesses, and to providing conveyance of wastewater through the sewer system to ALCOSAN's treatment facilities.**
 - The M29 Outfall is part of the PWSA combined sewer system
 - The Four Mile Run 50-inch transmission main is a critical portion of the PWSA drinking water system

TODAY: inclusion of stormwater

- **Successful stormwater management requires participation from government, residents, businesses, and non-profits.**
- **As the problem has grown in scale and in intensity, PWSA identified a need and has taken the initiative to address the impacts of stormwater.**
- **PWSA's 2016 Green First Plan identified projects and programs, including the Four Mile Run project, that can have a positive impact.**



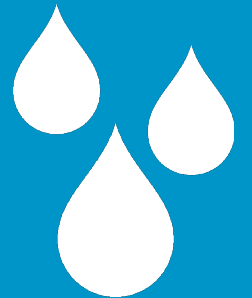


COMBINED PROJECT GOALS AND BENEFITS:

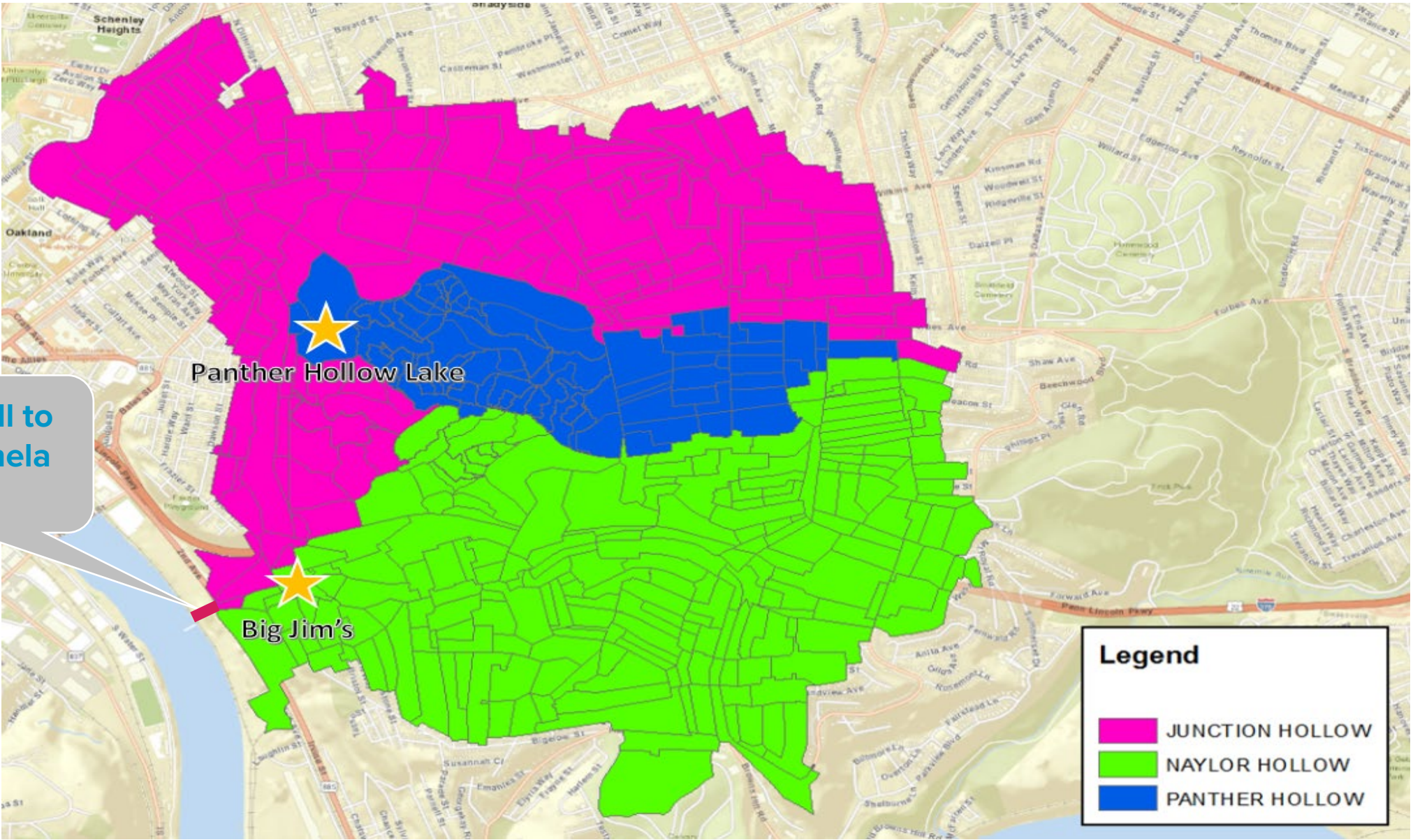
- 1. Longevity of Critical Water and Sewer Infrastructure**
- 2. Resiliency of Infrastructure and Water Quality**
- 3. Reduce Combined Sewer Overflows**
- 4. Reduce Flood Risk**
- 5. Manage Sediment and Operational Costs**
- 6. Leverage Resources for Regional Benefit**

2

M29 Outfall Improvements



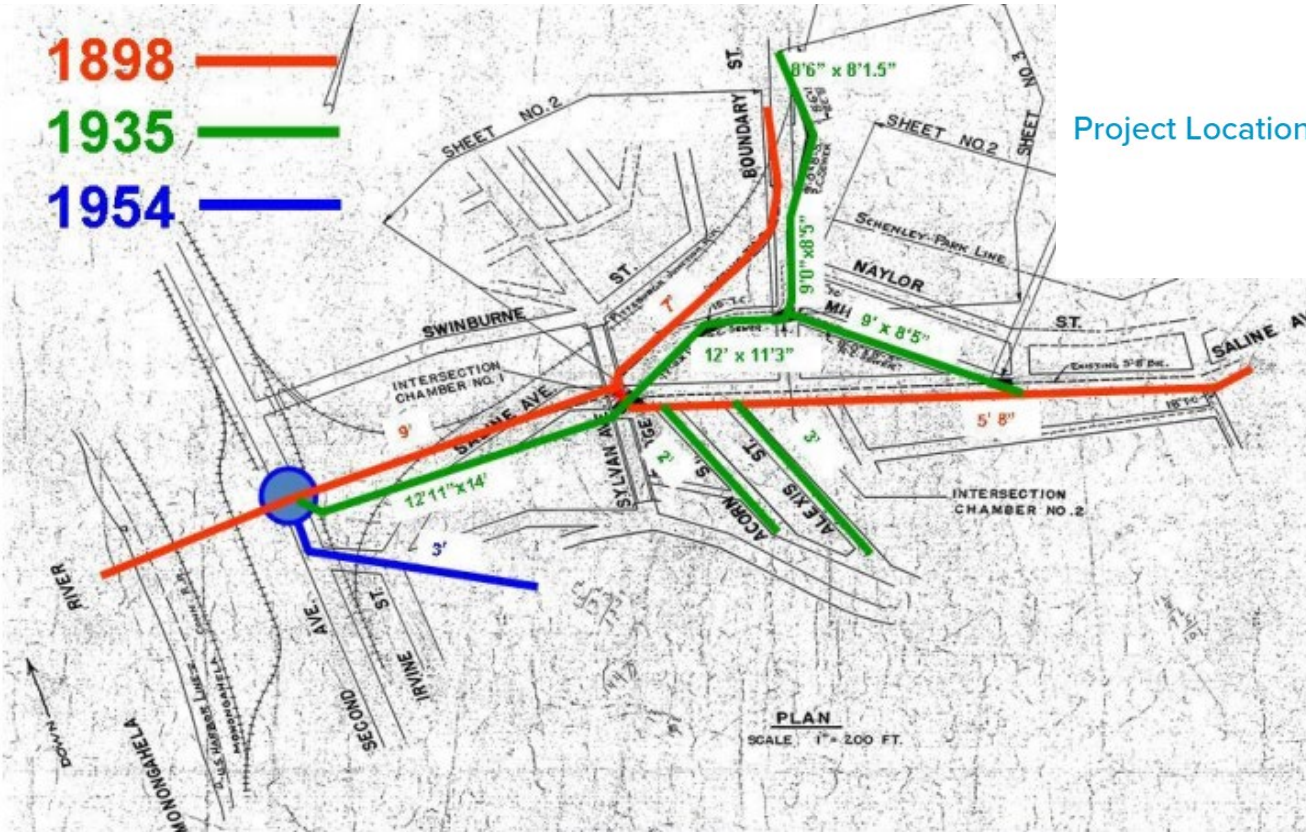
M-29 Sewershed /Four Mile Run Sub-Watersheds



M29 outfall to Monongahela River

M-29 Outfall Improvements Location

- Joint responsibility of PWSA and ALCOSAN
- 3rd Largest CSO Structure in the System
- Original construction in 1898 for steel mill to culvert Four Mile Run
- Approximately 450 long section of Brick Culvert between Second Avenue and the Monongahela River



Project Location



M-29 Culvert Rehabilitation



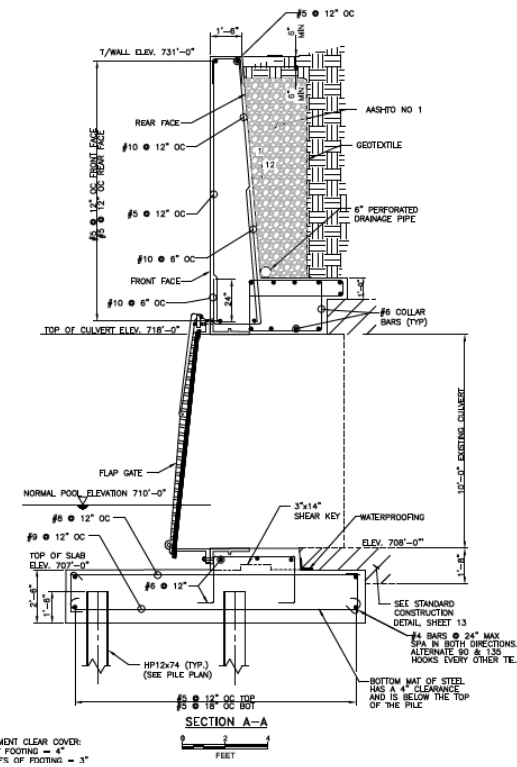
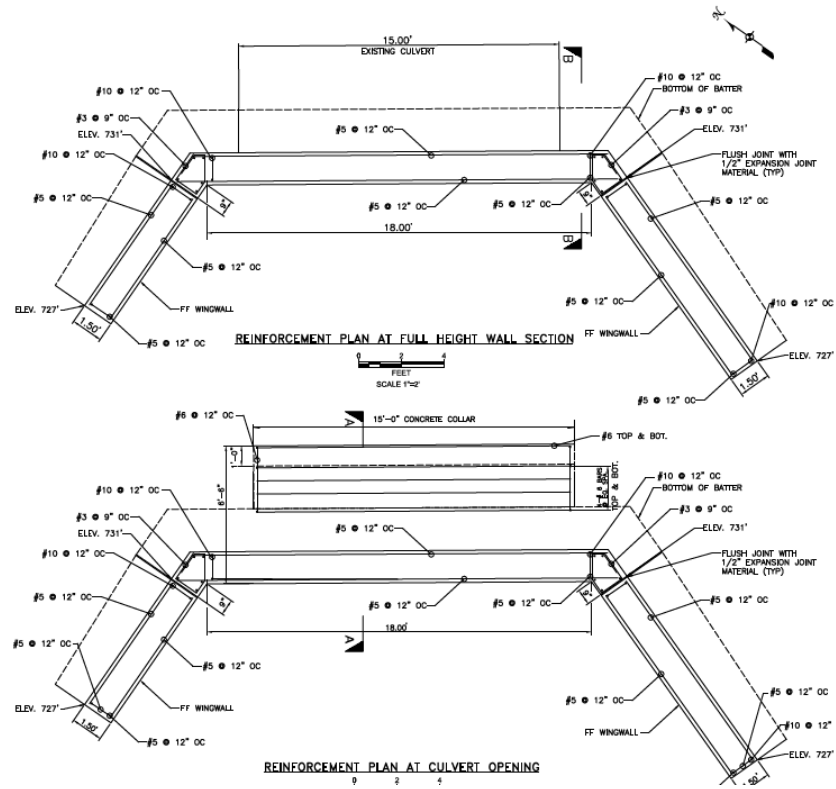
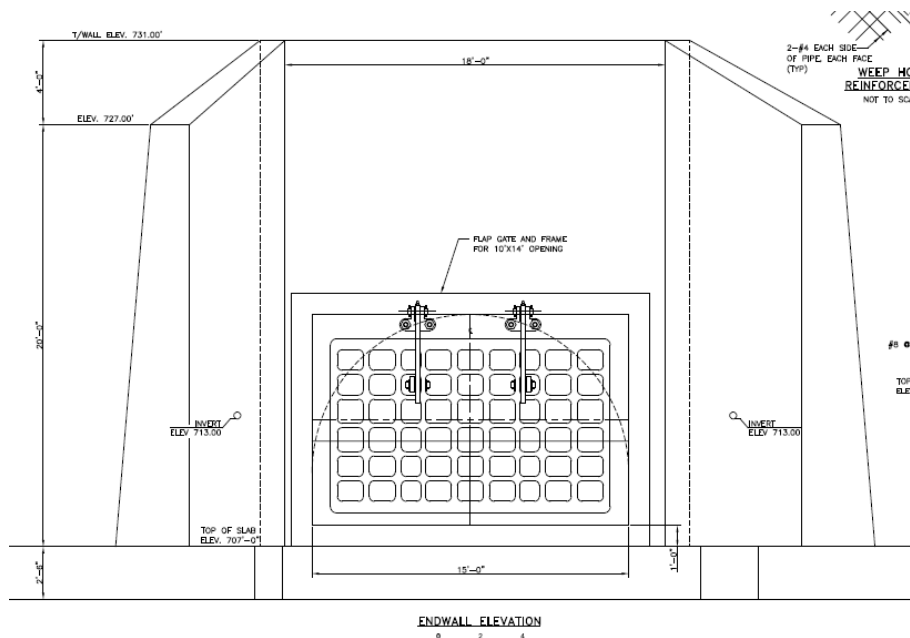
- Existing Culvert is Rectangular and Arch Shaped
- Major Structural Deficiencies to be repaired
- Geopolymer or Shotcrete lining
- Access from one manhole in Second Avenue and the Opening at the River



M-29 Outfall Rehabilitation



- Replace old failing endwall on the Mon River
- Construct new cast-in-place concrete endwall
- Install new flapgate structure to stop river water and sediment from entering the system



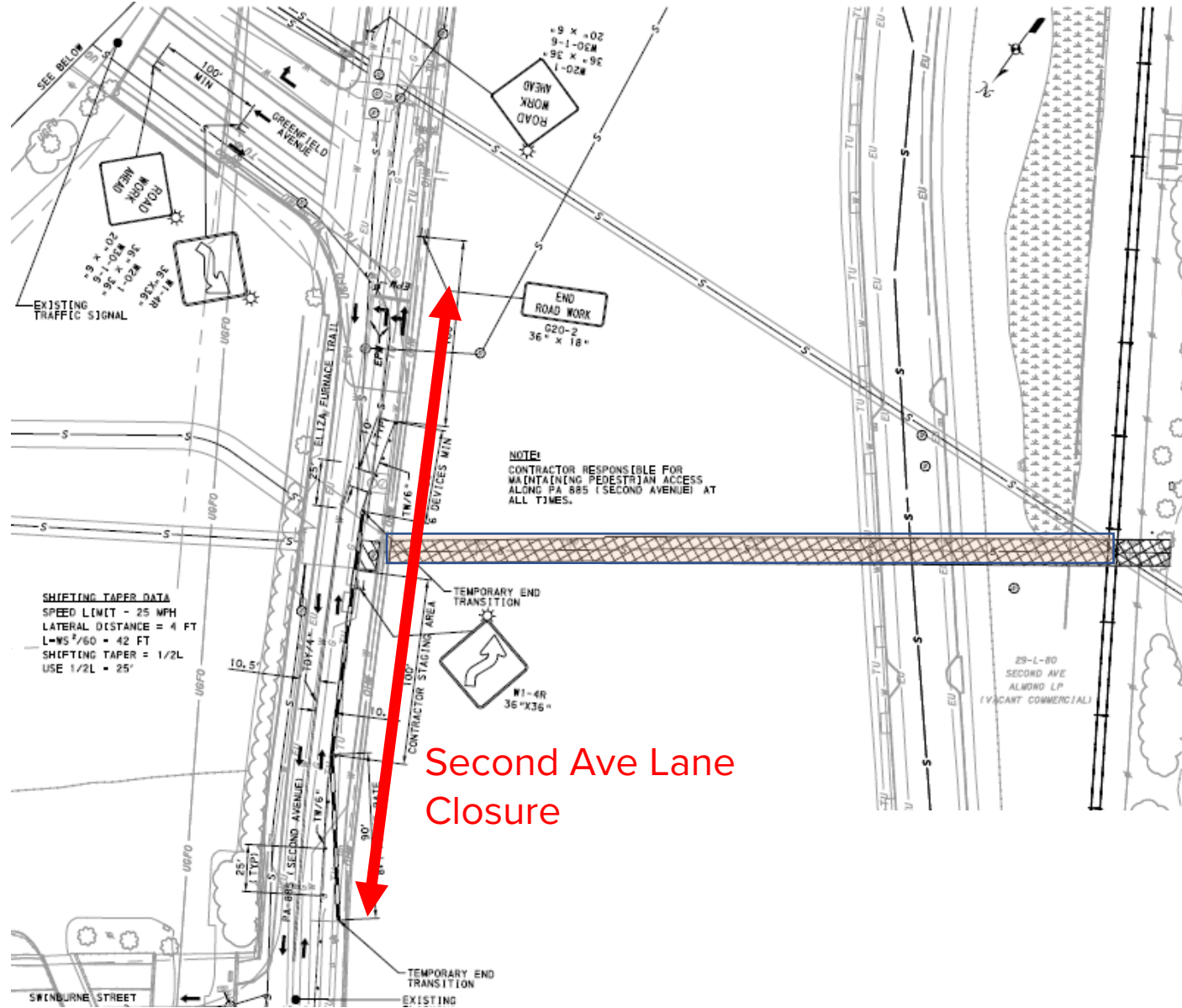
M-29 Outfall – Hydraulic Improvements

A physical model of the M29 system was built by the University of Iowa to simulate actual conditions with varying river stage levels



Design Storm	POI	Depth of Flooding (ft)*		
		Existing	Proposed	Prop. w/o Weir Improvements
10-Yr Storm	North Bowl	3.68	2.24	2.44
10-Yr Storm	South Bowl	1.84	0.35	0.50

M-29 Outfall Construction Schedule and Impacts



BID OPENING: March 19, 2021

AWARD: April 23, 2021

CONSTRUCTION DURATION:
Late May to late October

IMPACTS:

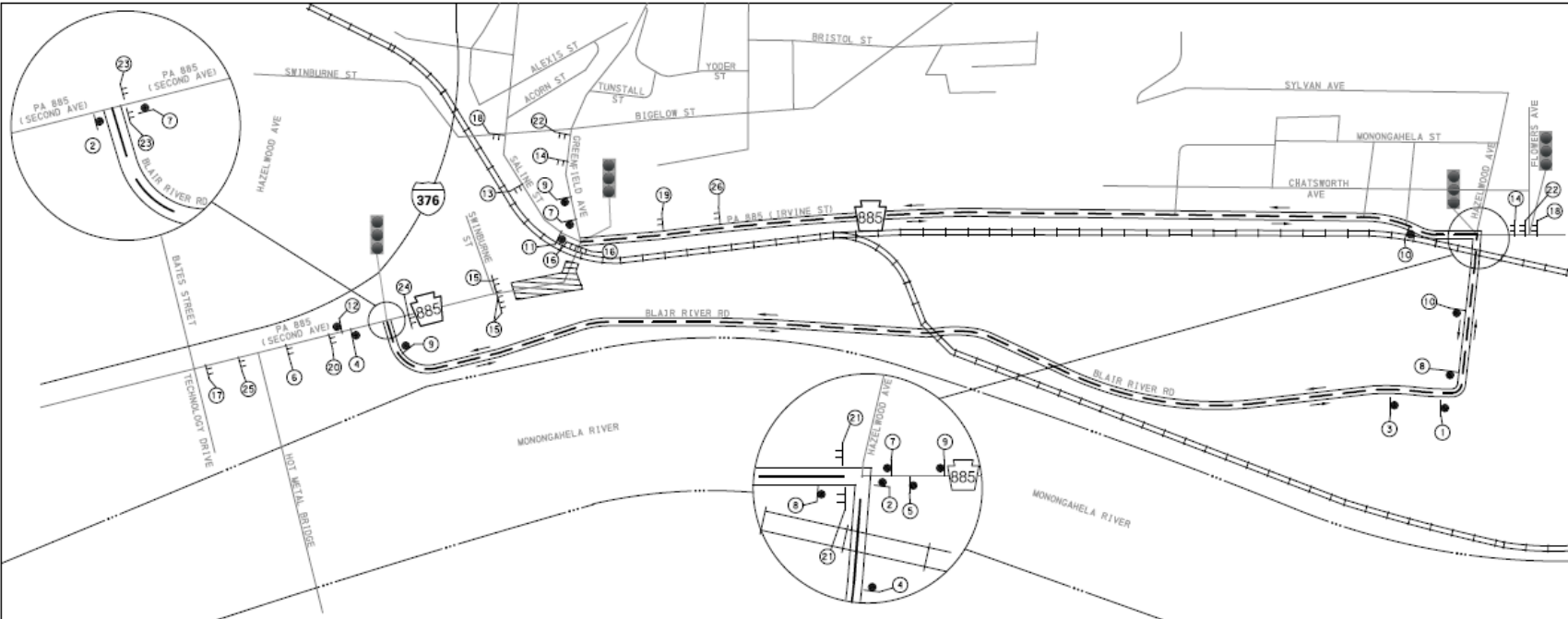
- Daily lane closure at Second Avenue following PennDOT restrictions
- Limited detours on nights / weekends

M-29 Outfall Construction Schedule and Impacts



Weekend detour route for work within Second Avenue:

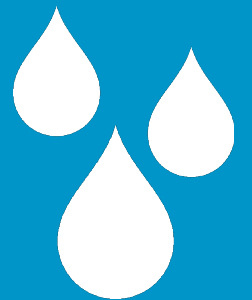
- Road closed to vehicles between Blair River Road and Irvine Street
- Temporary trail through construction limits will be in place to maintain access to Eliza Furnace Trail



SR 0885 (SECOND AVENUE) WEEKEND CLOSURE AND DETOUR
NOT TO SCALE

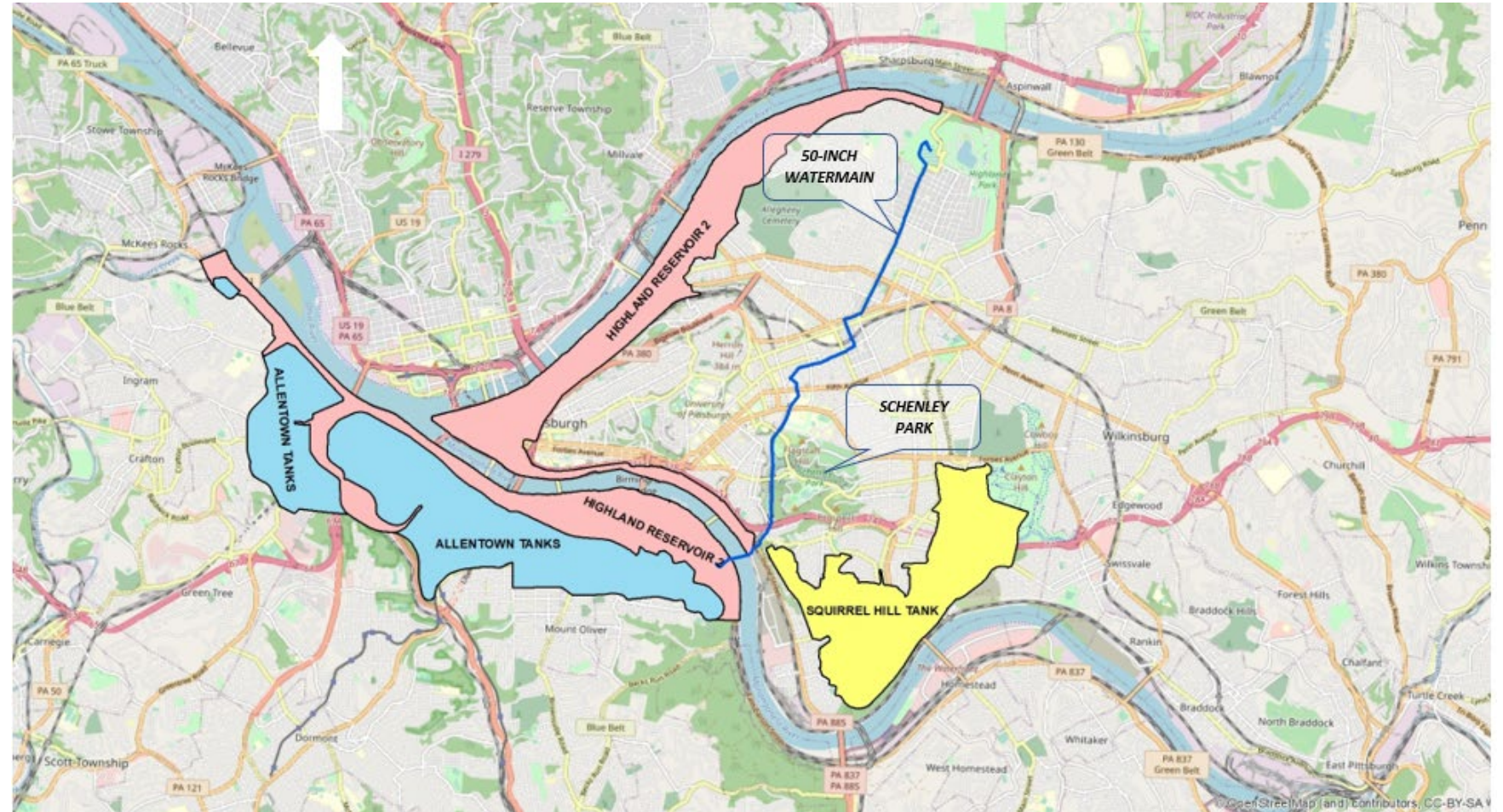
3

Four Mile Run Large
Diameter Water Relocation



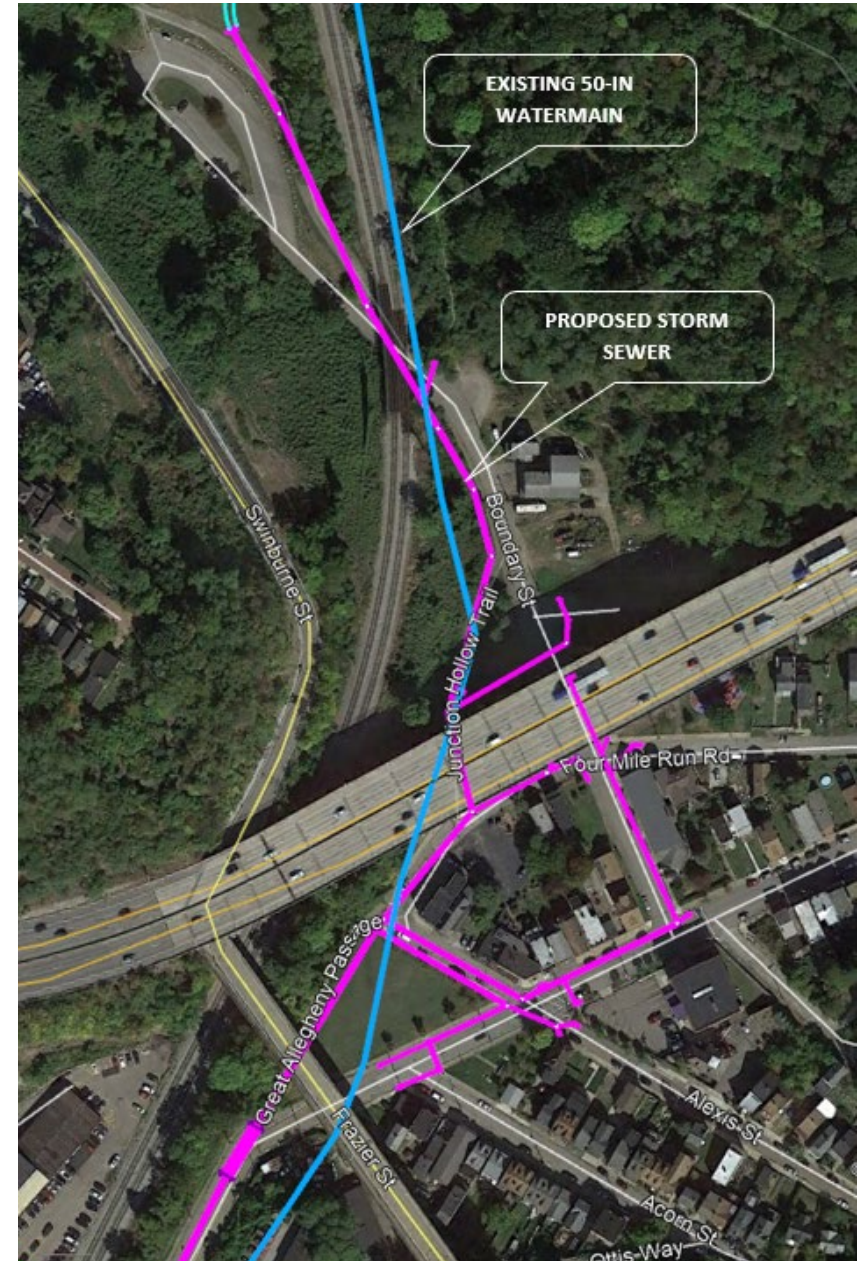
Four Mile Run Large Diameter Water Overview

- Existing 50-inch steel water main built in 1906
- Part of Highland System 2 from Highland Park to South Side
- Through Schenley Park and Four Mile Run



Four Mile Run Large Diameter Water Relocation

- Water main location conflicts with new storm water pipes in the Run
- Relocating the water main is the only viable option
- Relocate 1,000 LF of 50-inch water main in the Run



Four Mile Run Large Diameter Water Relocation

- Considering that the storm water project continues to Panther Hollow Lake and the water main does, too...
- Relocate 3,000 LF of 50-inch watermain along CSXT railroad to Panther Hollow Lake





Four Mile Run Large Diameter Water Relocation

- **Construct relocated water main in a location that will ensure long-term operation and maintenance access**
- **Eliminate risk associated with critical infrastructure failure due to age**
- **Coordinate asset construction with other PWSA projects to avoid future service disruptions**

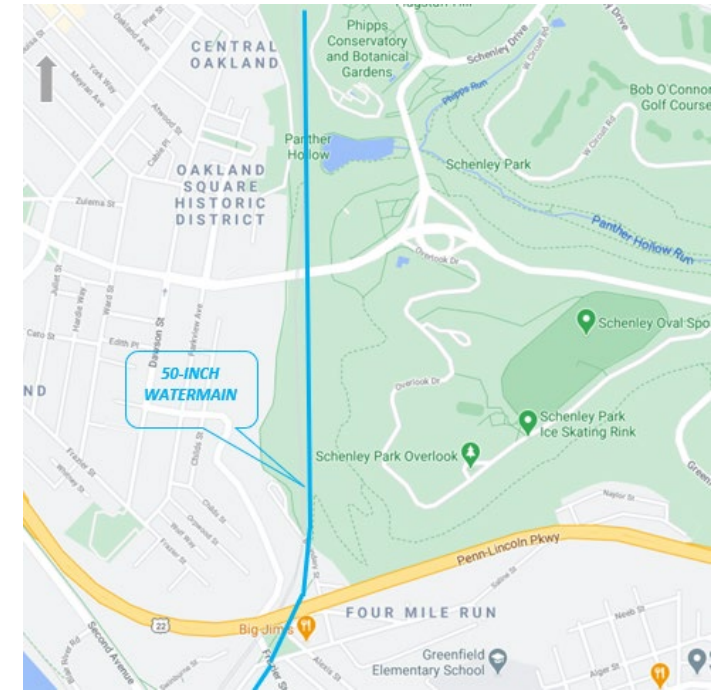
Four Mile Run Large Diameter Water Relocation

SCHEDULE

- Submit PADEP public water supply (PWS) application in mid April 2021
- Begin construction after receiving permit
- Coordinate construction with storm water projects
- Estimated construction November 2021 – September 2022

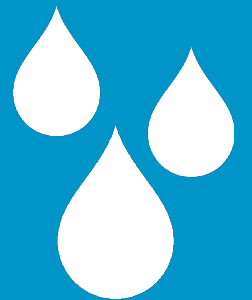
IMPACTS

- Junction Hollow temporary trail and detours
- Construction occurring in Four Mile Run Park and Schenley Park

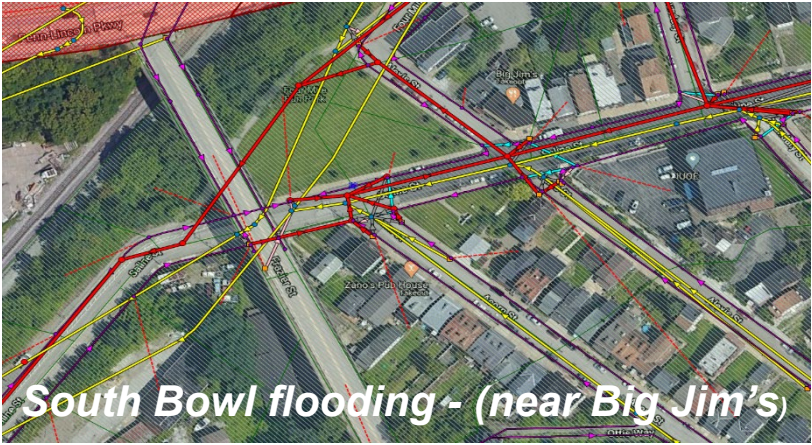
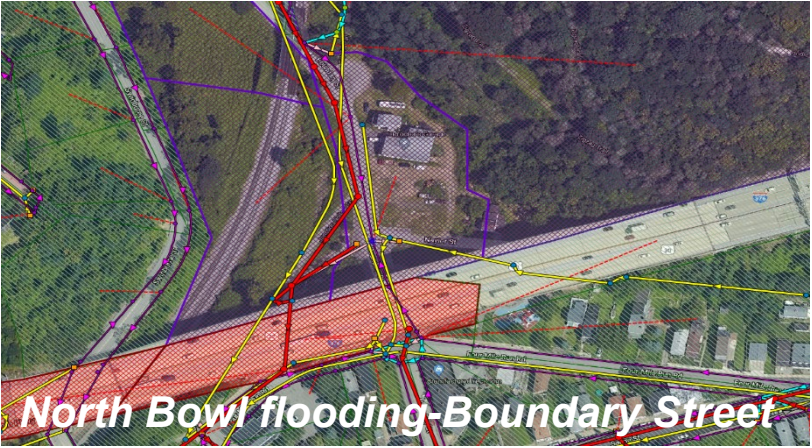
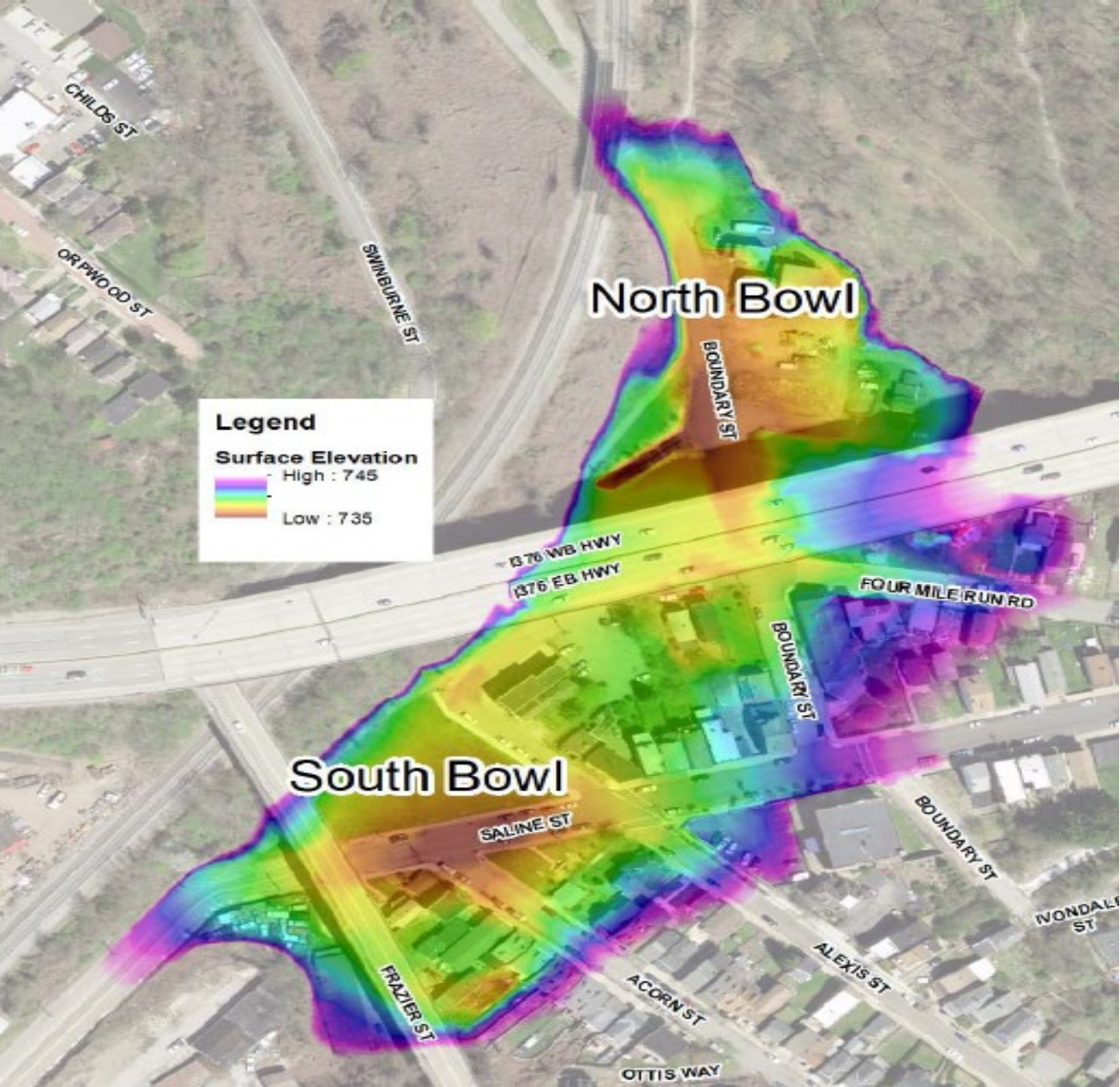


4

Four Mile Run Stormwater
Improvements - Update



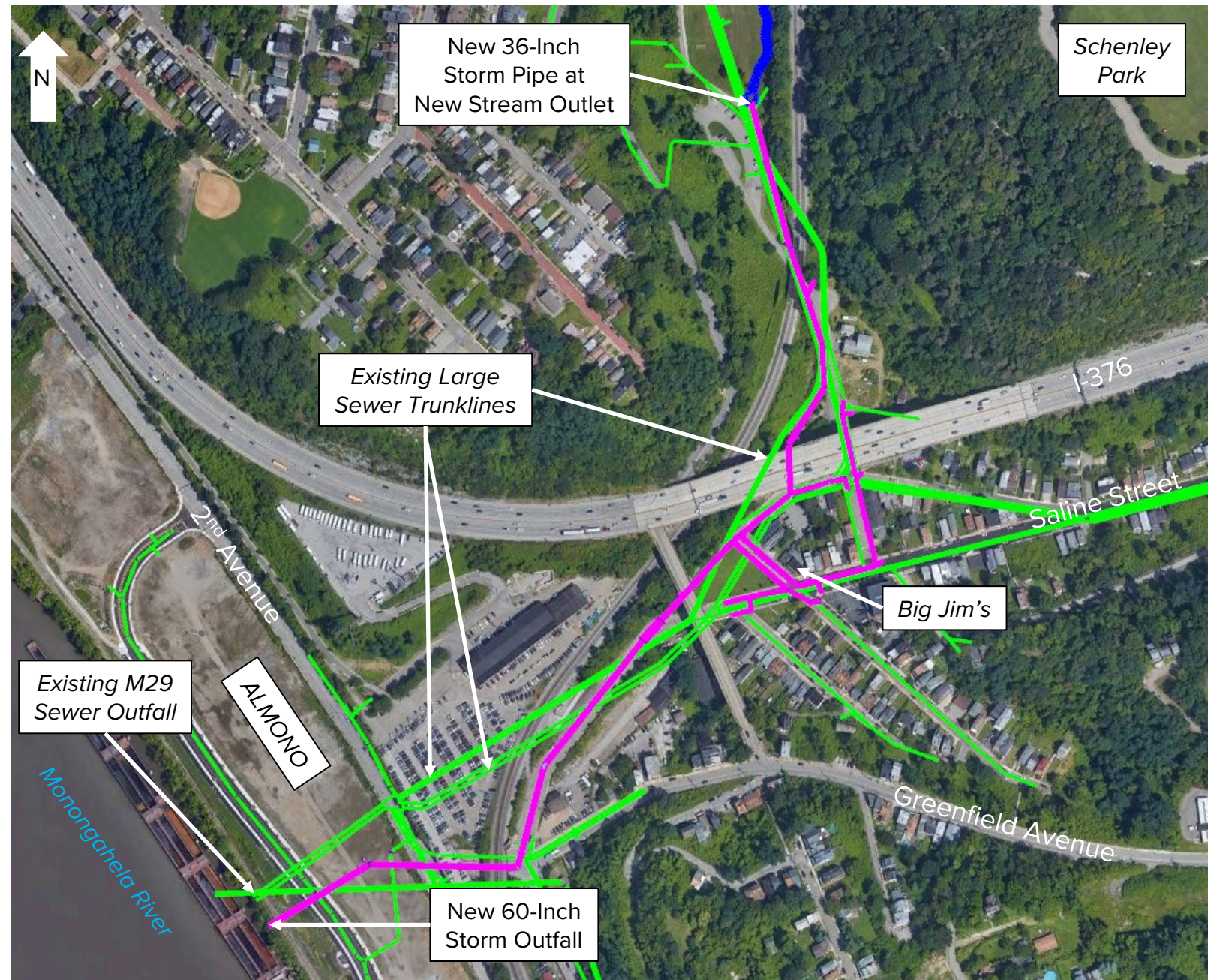
Review - Flooding – Points of Interest



Review - Stormwater Pipeline

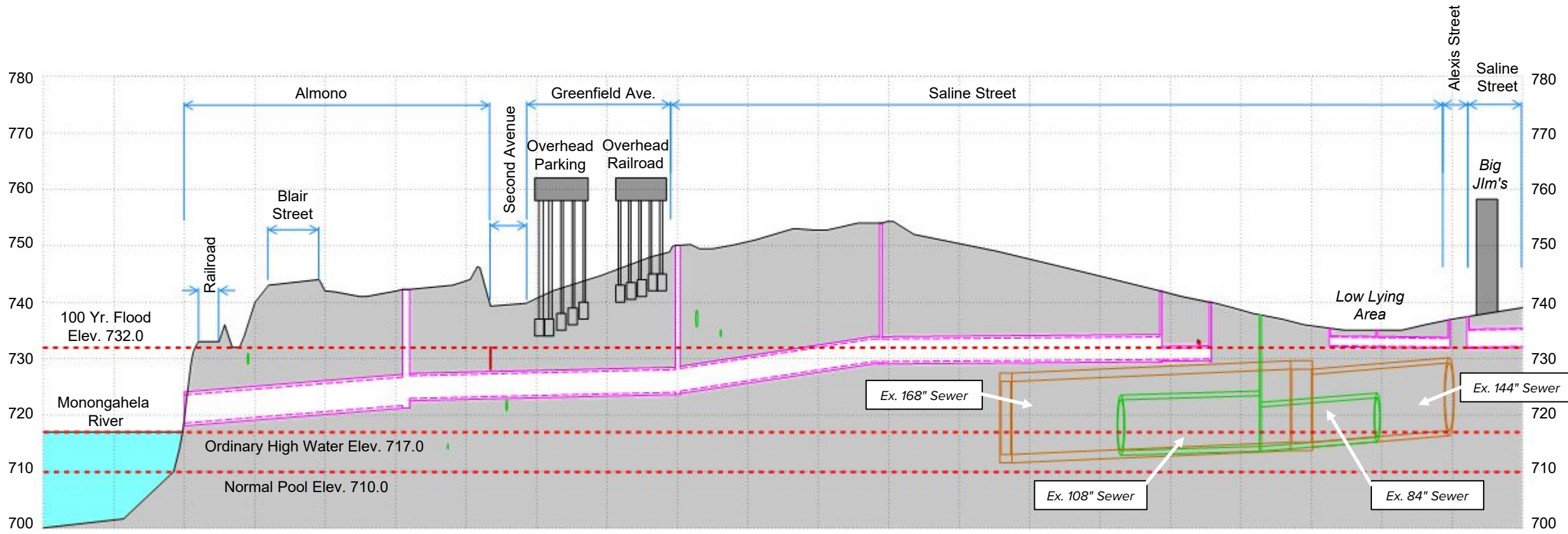
Map Legend

- Existing Combined Sewer
- Proposed Storm System



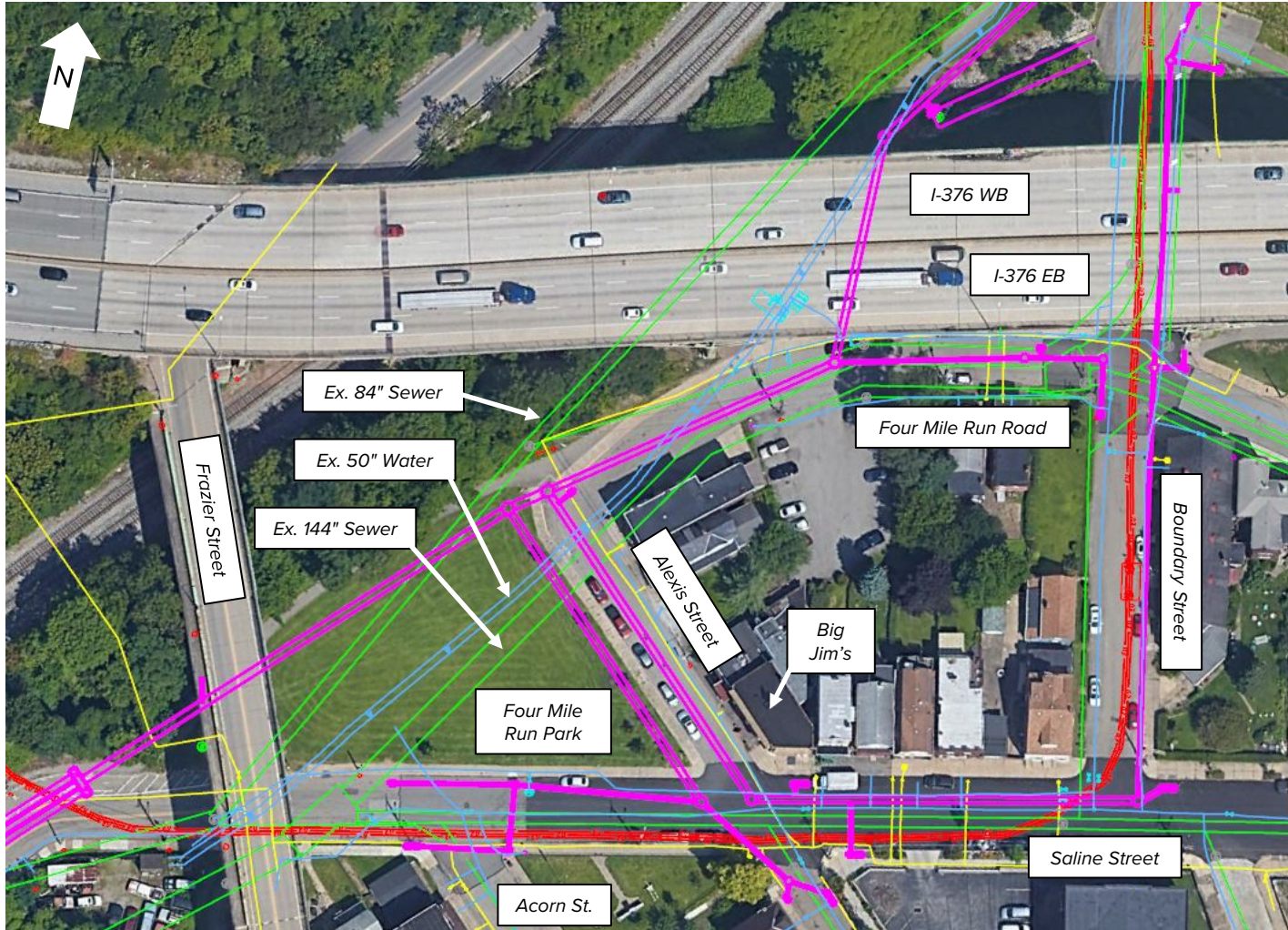
Review - New Storm Profile

Monongahela River to Big Jim's on Saline St.



Review - Utility Improvement Corridor

Saline St. / Alexis St. / Four Mile Run Rd./ Boundary St.



Updates from stormwater:

- 30+ new storm inlets
- Disconnection of combined sewer inlets
- Disconnection of I-376 drainage

Additionally, PWSA is replacing

- 16" water main in Saline and Boundary St.
- 8" water main in Boundary St.

People's Gas is replacing:

Gas mains in Saline, Alexis, Boundary, and Four Mile Run Rd. – Scheduled for Summer 2021

Map Legend	
	Proposed Storm
	Existing Sewer
	Existing Water
	Existing Electric
	Existing Gas

4MR Stormwater Update – Where we are at: Final Permitting

Allegheny County Conservation District

- Erosion and Sedimentation Control Approved Dec. 2020

City Stormwater – Final Approvals February 2021

PADEP Joint Permit Application – submitted August 2020

Panther Hollow Lake Dam Safety Permit – original submission Nov 2019

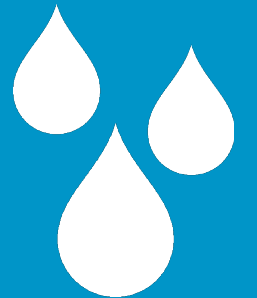
- Completeness review accepted March 2021
- Technical Review Period ongoing

CSX Railroad

- Agreement and technical review pending

5

Project Schedule and Costs



Stormwater Project Schedule - Update

Construction Phasing: Fall 2021 – Summer 2023

Phase 1 – Mon River to Saline Street: Q4 2021

Phase 2 – Boundary Street to Soccer Field: Q3 2022

Phase 3 – Stream Daylighting: Q4 2022

Phase 4 – Connect Panther Hollow: Q1 2023

Phase 5 – Restoration: Q2 – Q3 2023

Project Costs and Funding

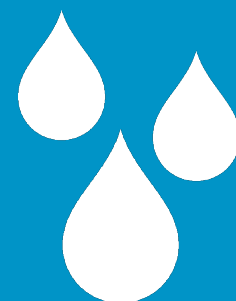
All Project Costs: ~\$36.1M

- Design, easement, permitting and modeling fees: \$7.5M
- Early Action project (complete) - \$537,000
- M29 Outfall project (starting construction) - \$3.6M
- 50-inch water relocation (in final design) - \$7M
- Stream and Panther Hollow Lake - \$3M
- Stormwater Pipeline - \$11M
- Construction Management / Inspection - \$2.5M
- Future maintenance and operation - \$1M



6

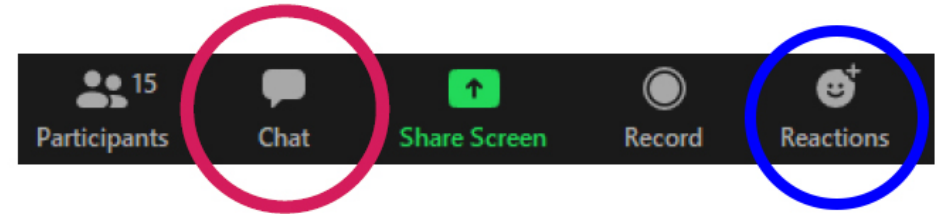
Questions and Answers



Facilitating Today's Q&A

Click the Chat Icon to ask a question

- We will answer questions in the chat first
- Located bottom of screen
- Looks like cartoon bubble
- Type question in dialogue box; press enter to send
- All attendees and facilitators will see your question



Open Q&A Discussion

- We will call on those with questions
- Everyone will have a chance to speak
- Speak politely; one at a time
- You may continue to use chat feature to ask questions

For more information or to ask a question after the meeting, please visit www.pgh2o.com/4mr