



CITY OF WASHINGTON, ILLINOIS
Committee of the Whole Agenda Communication

Meeting Date: November 11, 2024

Prepared By: Dennis Carr – City Engineer
Brian Rittenhouse – Public Works Director

Agenda Item: Presentation – Water System Improvement Projects

Explanation: As discussed at the March 11th Committee of the Whole and the March 18th City Council meetings, the IEPA requires a Project Plan in order to obtain a State Revolving Fund (SRF) Loan. The Project Plan will need to include a rate study to show how the City will afford to pay the loan payment. The rate study will develop a financial plan for the utility and needs to consider future capital improvement costs.

Staff has been working with Crawford Murphy and Tilly (CMT) to identify future capital improvements to the City’s water systems. The attached presentation discusses several improvement projects that were identified for Council to consider. The approved projects will be included in the rate study.

Fiscal Impact: TBD

Staff’s Recommendation: Staff recommends discussion to determine which projects Council wishes to include in the rate study.

Action Requested: Discussion and Direction

Water System Improvement Projects

City of Washington, IL

Committee of the Whole

November 11, 2024



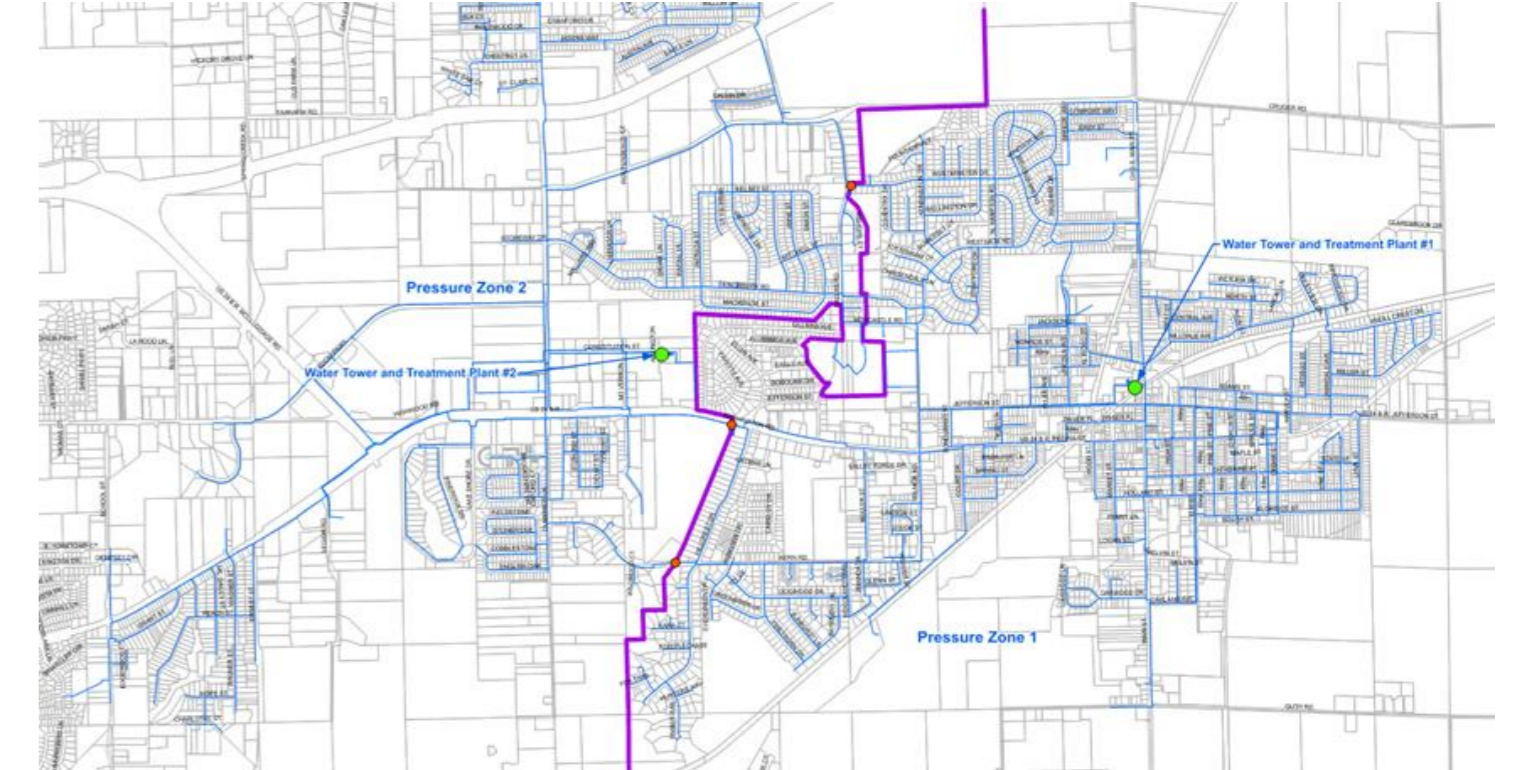
Existing Water System Assets



2 Water Treatment Plants



*2 Water Towers
450,000 gallons each*



Water Distribution Pipe Network

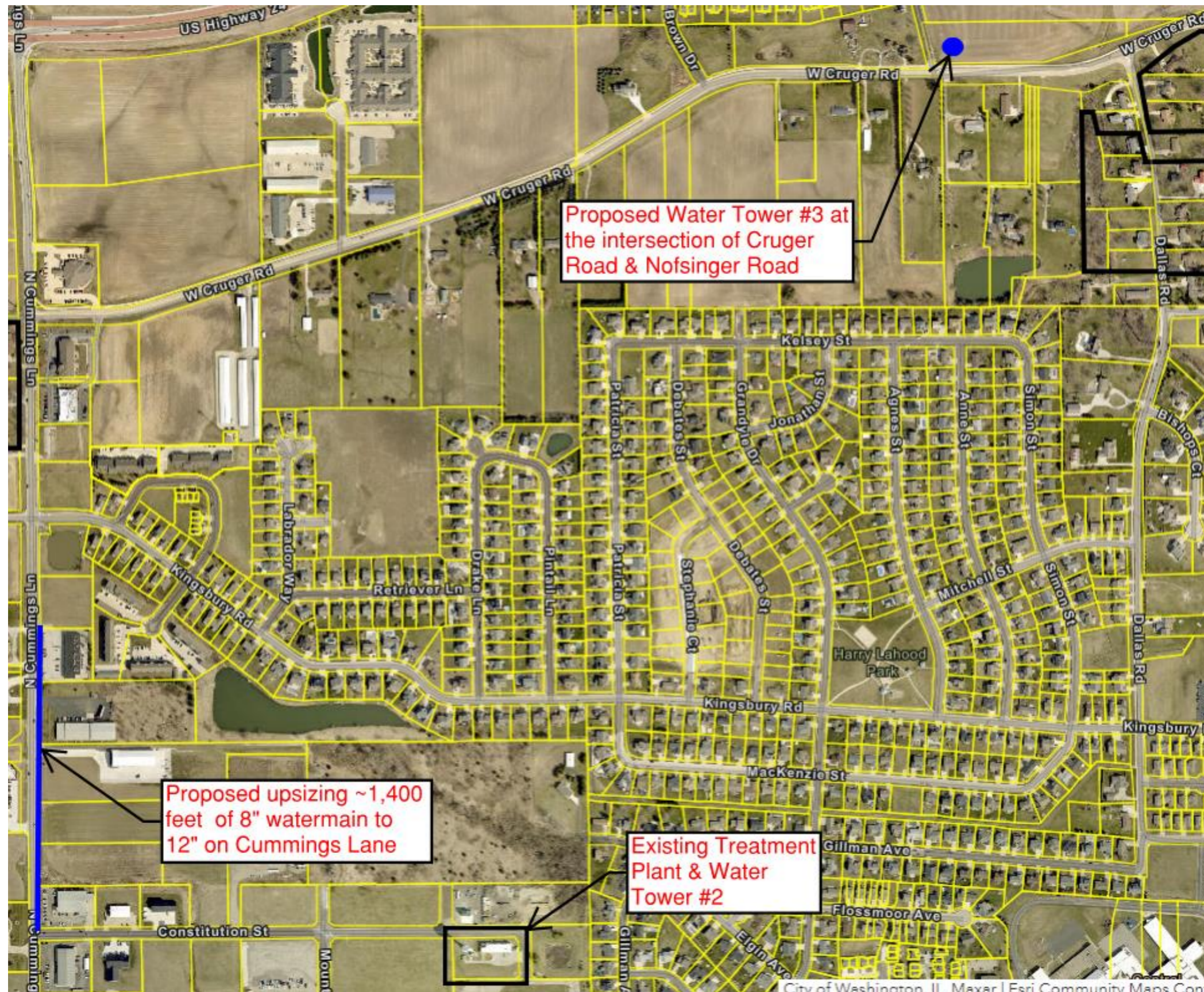
- *~85 miles of watermain ranging in size from 4" – 16"*
- *~5,400 customers*

A close-up photograph of water being poured into a clear glass. The water is captured in mid-pour, creating a dynamic splash and bubbles. The background is a soft, light blue gradient. A large, semi-circular blue graphic element overlaps the bottom left corner of the image.

Overview of Projects

- *Water Tower #3*
- *Well #13*
- *Route 24 Watermain Relocation*
- *Southeast Area Watermain Improvements*
- *Sunnyland Water Service Redundancy*
- *Bondurant Street Watermain Replacement*

Water Tower #3



Need for Project:

- City does not meet ISO fire flow recommendation of having a minimum storage equal to the highest flow for 3 hours
 - Tower #2 Capacity = 450,000 gallons
 - City's highest flow = 3,500 gpm which equals 630,000 total gallons for a 3 hour period
- City does not meet IEPA Title 35 minimum storage recommendation for systems not providing fire protection – minimum system storage should equal daily consumption
 - City's Average Daily Consumption = 1.1 MGD
 - City's System Storage = 0.9 MGD

Project Design:

- 500,000 gallon elevated spheroid shaped tank
- 1,427 lineal feet of new 12" diameter watermain along Cummings Lane

Estimated Project Construction Cost:

- Water Tower – \$4,300,000
- Cummings Lane Watermain – \$530,000

Well #13



Need for Project:

- Water Treatment Plant #2 is primarily served by Wells #11 and #12 located at the Washington Public Works building off Legion Road
- In an emergency, the Plant can run off wells #9 and #10 located near the Plant. However, the water chemistry of this aquifer location is very high in ammonia. Current plant operations are ill-equipped to remove excess ammonia.
- Increase the treatment capacity at Water Treatment Plant #2 from 1.5 MGD to 2.0 MGD
- Proposed Well #13 is a better suited alternative for a redundant, emergency well

Project Design:

- Submersible well pump located 424 feet deep by an 8" diameter steel column
- ~20 foot x 15 foot block building
- Connected to existing 16" raw water line running to Water Treatment Plant #2

Estimated Project Construction Cost:

- \$1,500,000



Route 24 Watermain Relocation

Need for Project:

- *Accommodate future IDOT roadway improvements from Legion Road to Lynn Street*
- *Critical Watermain Location = Wilmor Road to Lynn Street*

Project Design:

- *Relocate ~20,050 lineal feet of 6" – 10" watermain to outside pavement limits*
- *~180 service connections*
- *38 connections to existing watermains*

Estimated Project Construction Cost:

Total Length – \$7,730,000
Critical Length – \$4,500,000

Southwest Area Watermain Improvements

Need for Project:

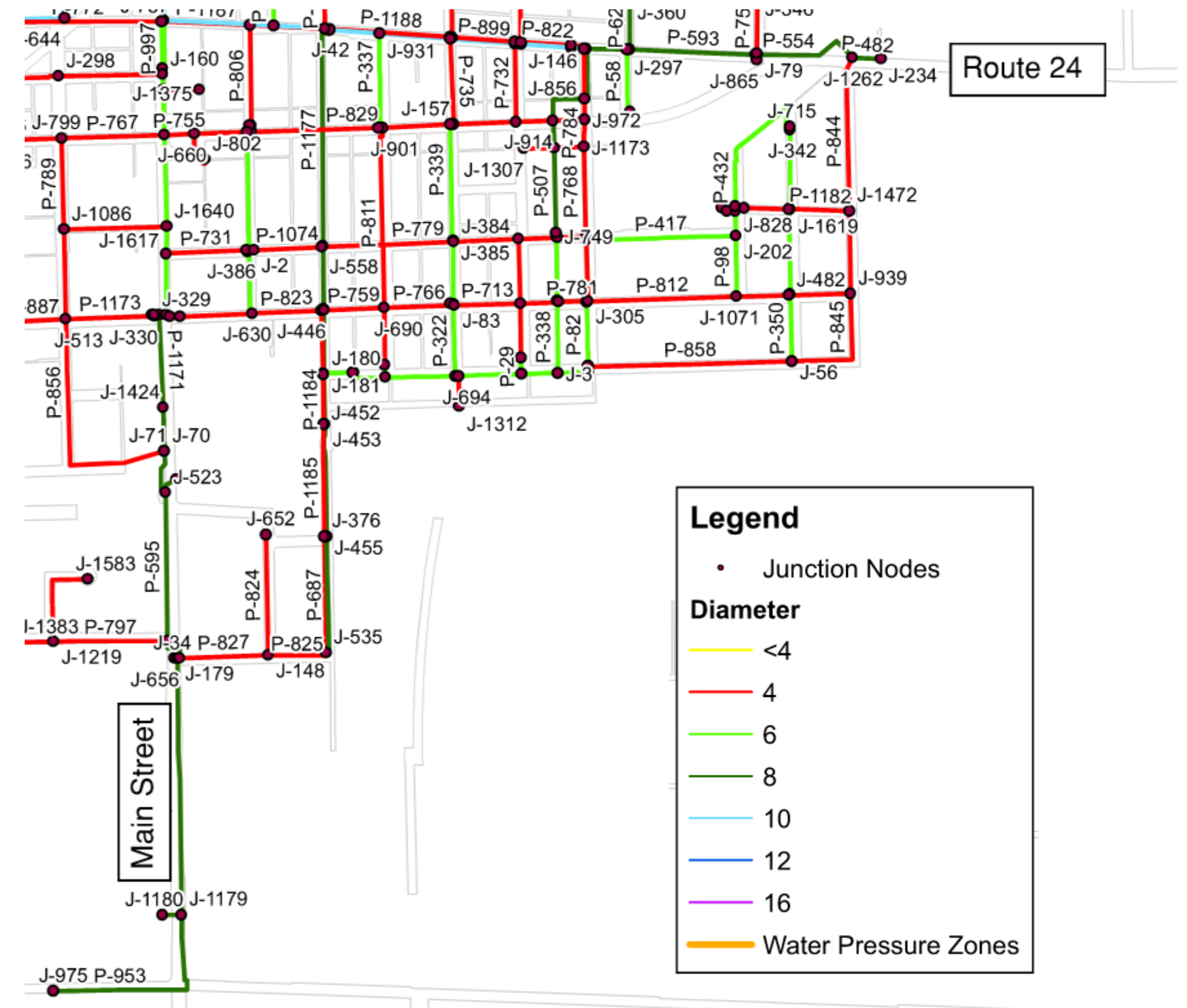
- Aging infrastructure of cast iron piping pasted its life expectancy
- Cast iron water mains account for 1/3 of the system but represent an average of 2/3 of the breaks
- Oldest watermain in the system is over 100 years old

Project Design:

- ~17,000 lineal feet of 4" diameter watermain replacement
- ~286 service connections

Estimated Project Construction Cost:

- \$8,870,000 (Split into multiple projects over 20 years)



Sunnyland Water Service Redundancy

Need for Project:

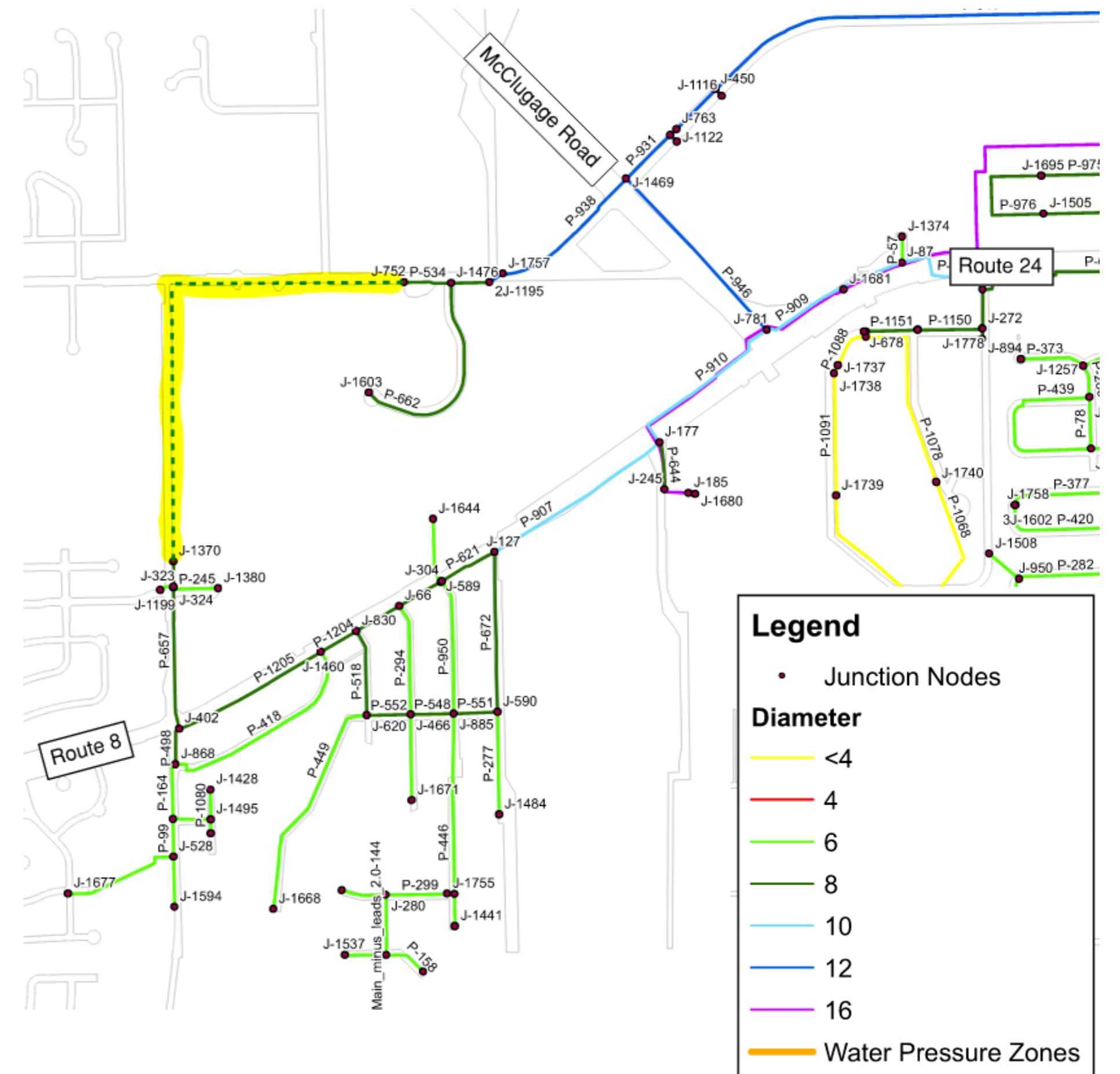
- Currently, a single existing 10" watermain serves Sunnyland
- Any failure of that line would leave Sunnyland with no access to water
- Connecting the existing 8" diameter watermain lines to the North of Sunnyland allows for redundancy in serving those residents

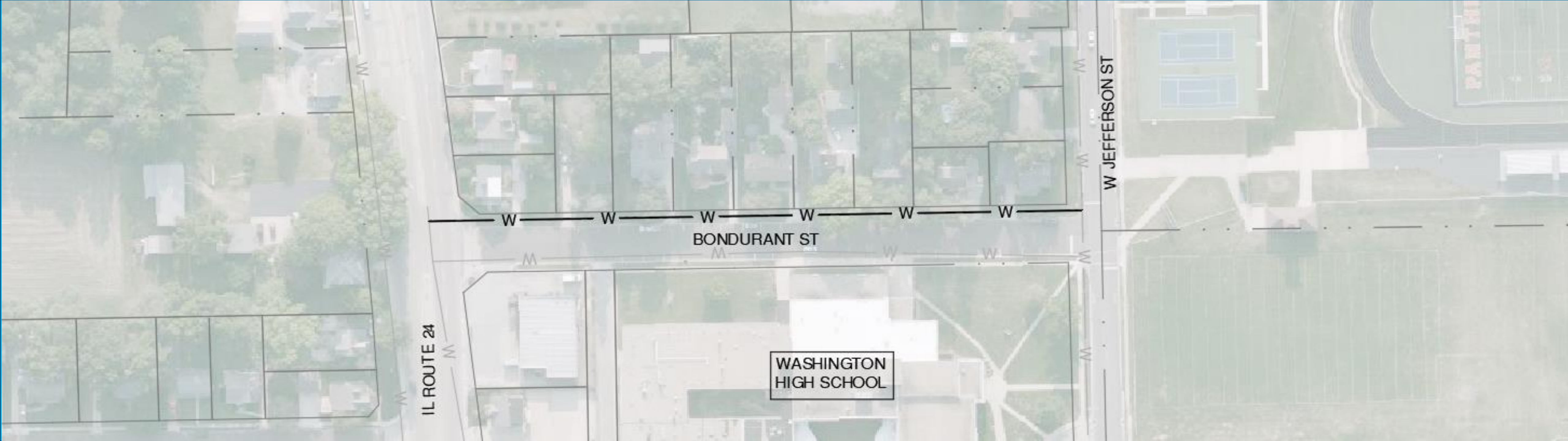
Project Design:

- ~4,100 lineal feet of new 8" diameter watermain along School Street and Centennial Drive

Estimated Project Construction Cost:

- \$875,000





Bondurant Street Watermain Replacement

Need for Project:

- Aging infrastructure of existing watermain serving critical facility – Washington High School

Project Design:

- Replace ~ 670 lineal feet of 4" watermain with new 8" watermain

Estimated Project Construction Cost:

- \$375,000

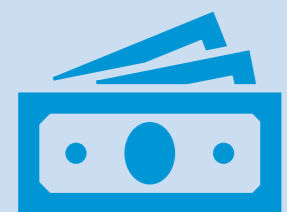
Potential Funding Sources



City of Washington Water Revenue



IEPA State Revolving Fund Loan Program



Utility Revenue Bonds or Municipal Bonds

Next Steps

Rate Study

*Raftelis Financial Consultants,
Inc.*

Completed by February 2025

Project Planning Report

*Crawford, Murphy, & Tilly,
Inc.*

*Completed and submitted to the
IEPA by March 2025*

Questions