Inflow and Infiltration Evaluation Summary
Sanitary Sewer Evaluation Study

April 2024

Christine Kurtz, PE

THE TOWN OF
WILTON
CONNECTICUT

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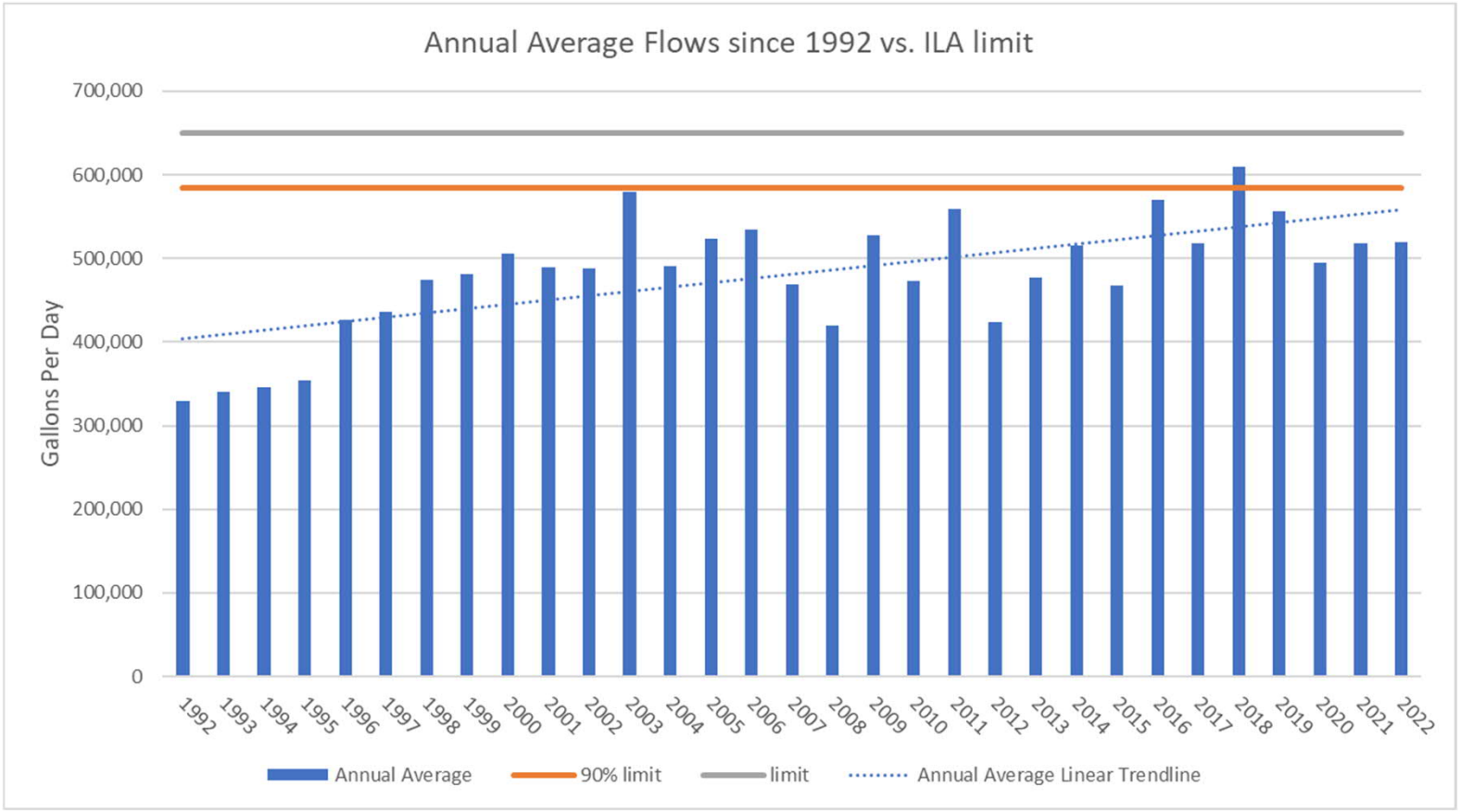
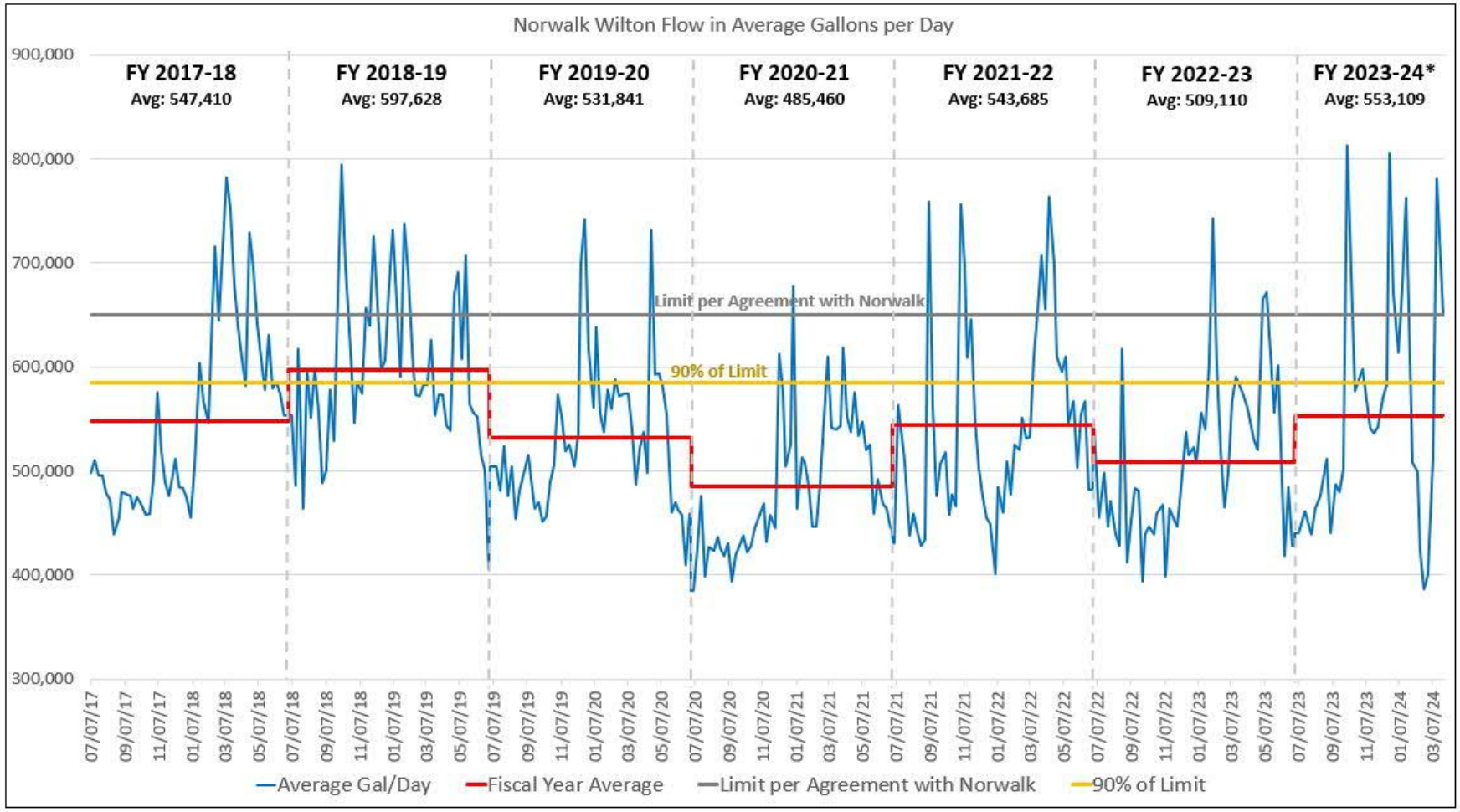
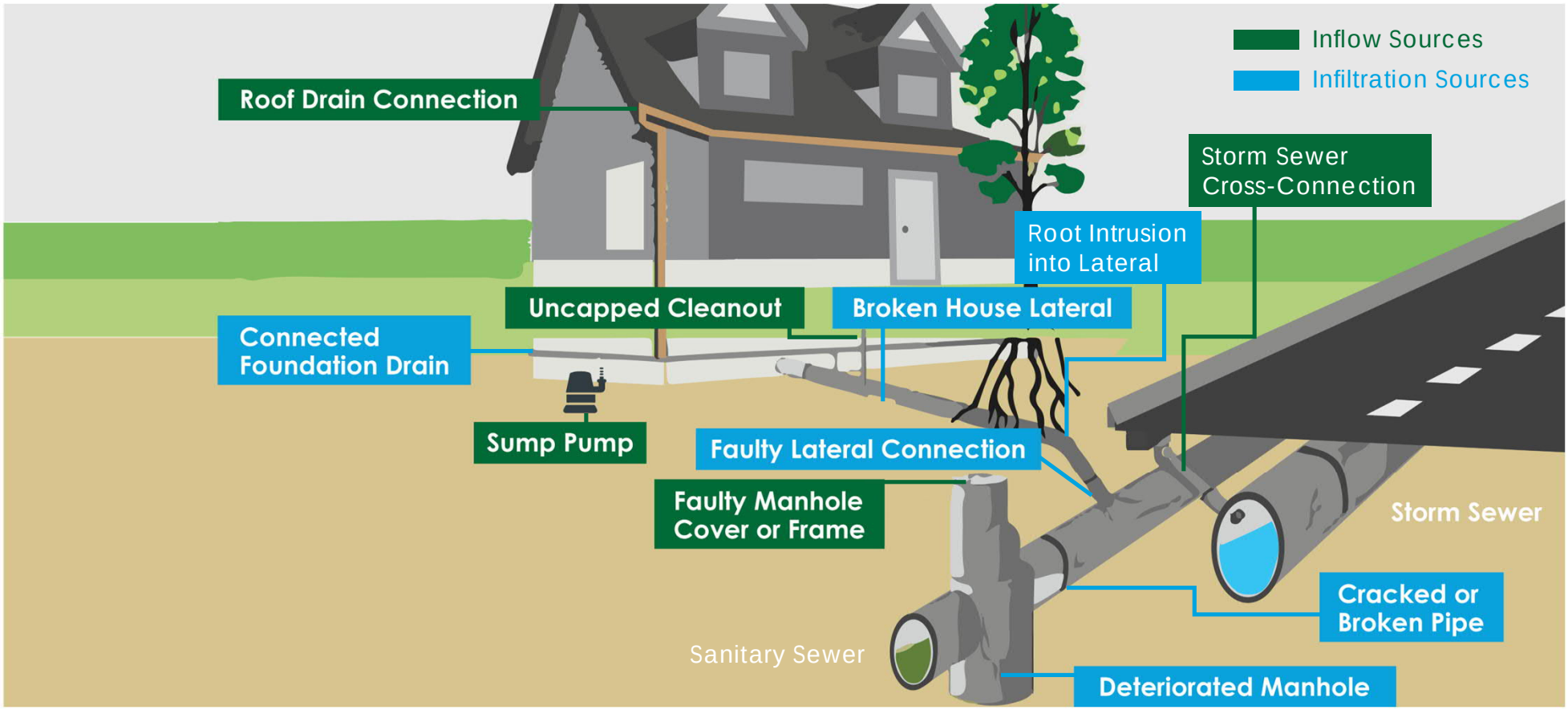
Annual Wastewater Totals



Monthly Wastewater Totals



I/I Sources



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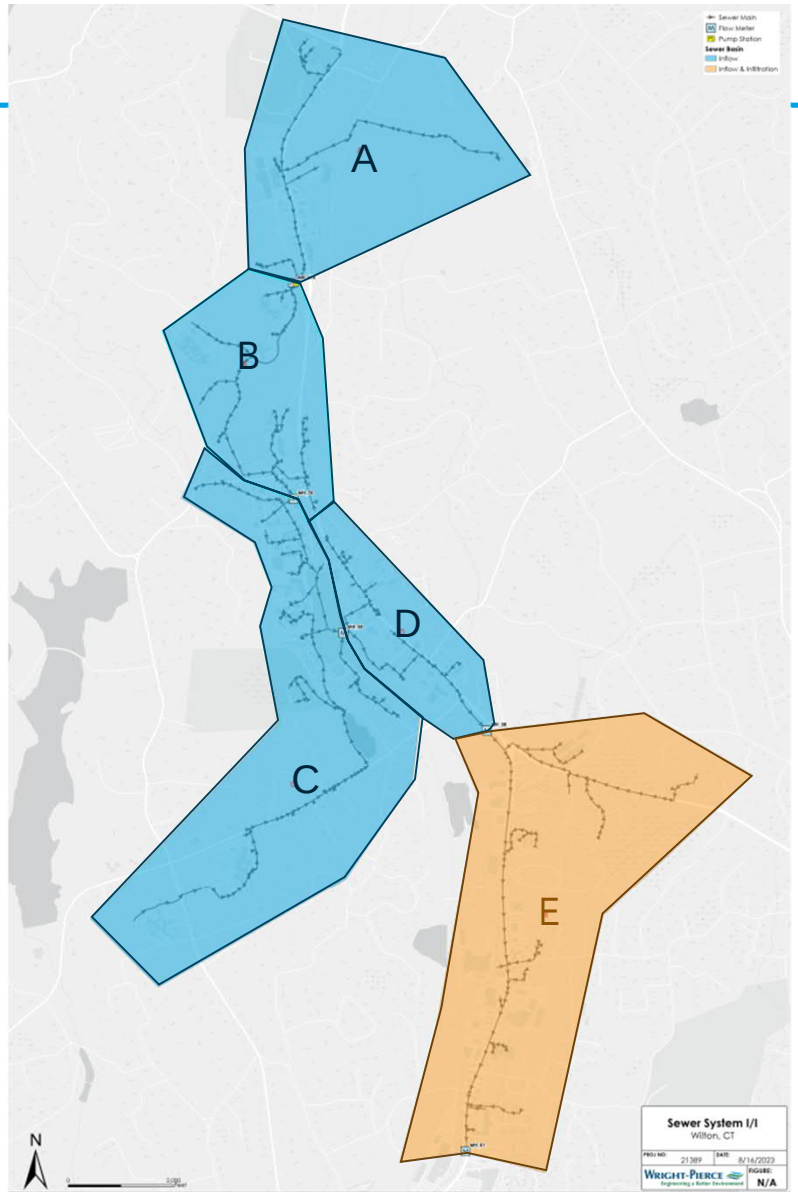
Sewer Sub-Areas

- Orange sub-areas have excessive inflow & infiltration
- Blue sub-areas have excessive inflow



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Dry Weather Results – Based on Spring Season

Net Base Infiltration (BI)

Sewer Sub-Area	Net Average Dry Day Flow (MGD)	Net Average Minimum Night Flow (MGD)	Net Base Infiltration (MGD)	Inch-diameter-mile (IDM)	Net BI Unit Rate (GPD/IDM)	Excessive Threshold (GPD/IDM)
A+B	0.152	0.101	0.090	54.91	1,639	< 4,000
C+D	0.203	0.140	0.123	75.70	1,625	< 4,000
E	0.602	0.431	0.344	58.32	5,898	> 4,000

Wet Weather Results – Based on Spring Season

Inflow for 1-Year, 6-Hour Design Storm (2.02”)

Sewer Sub-Area	Net Total Inflow Volume (MG)	Net Direct Inflow Volume (MG)	Net Delayed Inflow Volume (MG)	Percent Total Inflow
A+B	0.229	0.054	0.175	26%
C+D	0.211	0.064	0.147	24%
E	0.457	0.123	0.334	51%
Total	0.897	0.241	0.656	100%

Typical Recommendations → Inspection Scope of Work

Infiltration

- Excessive if infiltration unit rate ≥ 4,000 GPD/IDM

Sanitary Sewer Evaluation Survey (SSES)

- Manhole inspections
- Closed-circuit television (CCTV) pipe inspections
- Night flow isolations and/or micro-metering

Inflow

- Excessive if sub-area contributes to large percent of total inflow volume (for 1-year, 6-hour design storm)
- All inflow should be eliminated

Sanitary Sewer Evaluation Survey (SSES)

- Manhole inspections (top portion only; focus on cover, frame, and chimney)
- Smoke testing
- Dye testing

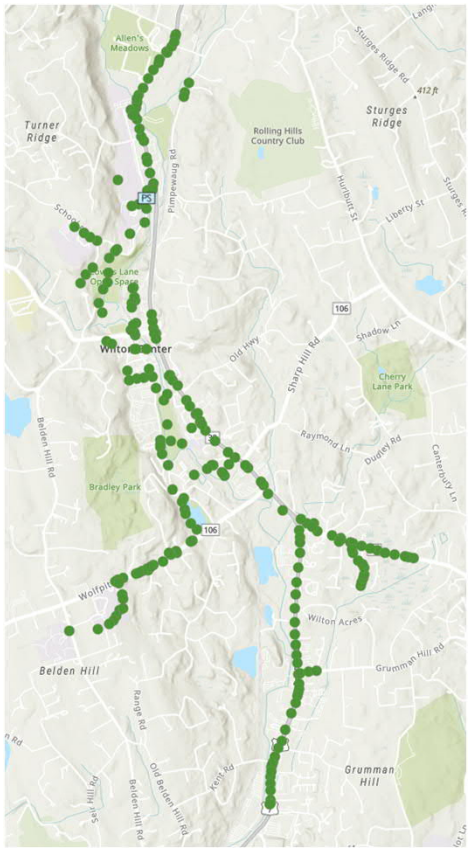
Manhole Inspections Completed

Rehabilitation

Improvement Type	Number of MHs
Grout	64
Chimney Seal	59
Line Manhole	34
Fix Pipe Seal(s)	19
Patch	18
Replace Frame & Cover	17
Line Chimney	5
Light Clean	3
Point Repair	1

Approximately $400,000

220 MHs Inspected



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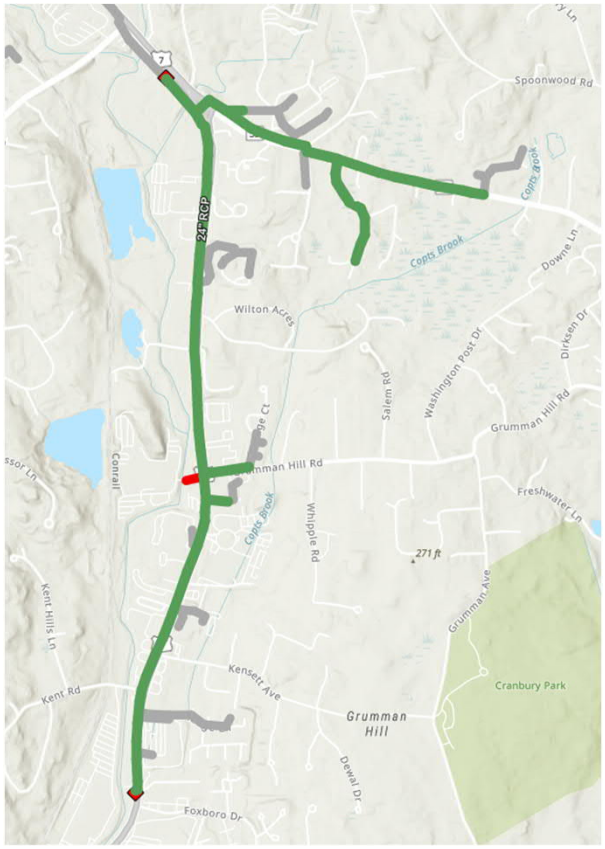
Pipe Inspections Completed

Rehabilitation

Improvement Type	Number of Pipe Segments (MH to MH)	Approximate LF
Test & Seal	33	6,300
Clean	7	1,700
Lining	2	400
Point Repair	1	100
No Action	28	5,200

Approximately $200,000

14,000 LF Inspected



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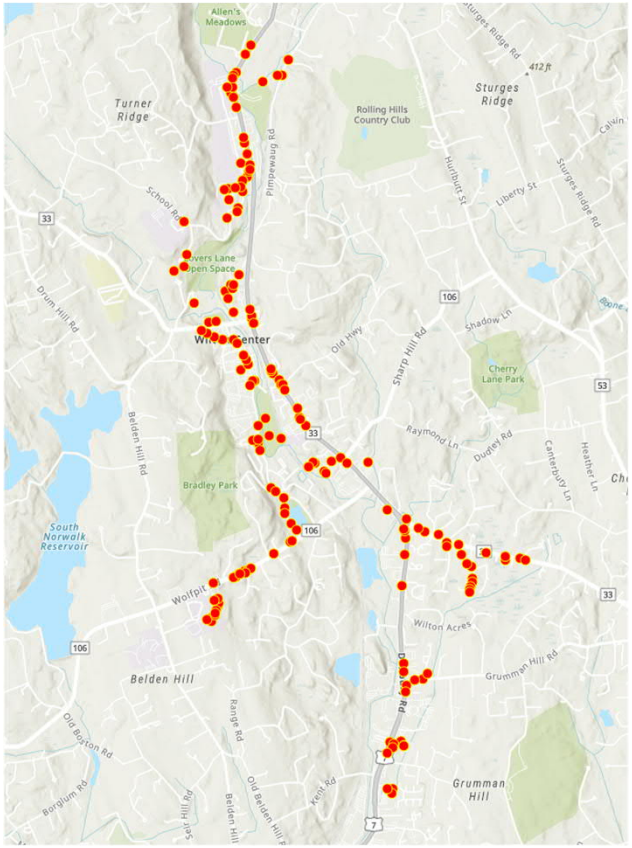
Smoke Testing Completed

Observations – Potential Repairs

- 51 defective manhole frames (~$100,000)
- 3 vented manhole cover
- 3 cleanout caps missing
- 2 potential illicit building connections
- 1 potential broken lateral
- 1 potential defective grease trap

Town can do some of this work.
Unknown cost until further investigation.

61 Defective Results



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Report Deliverable

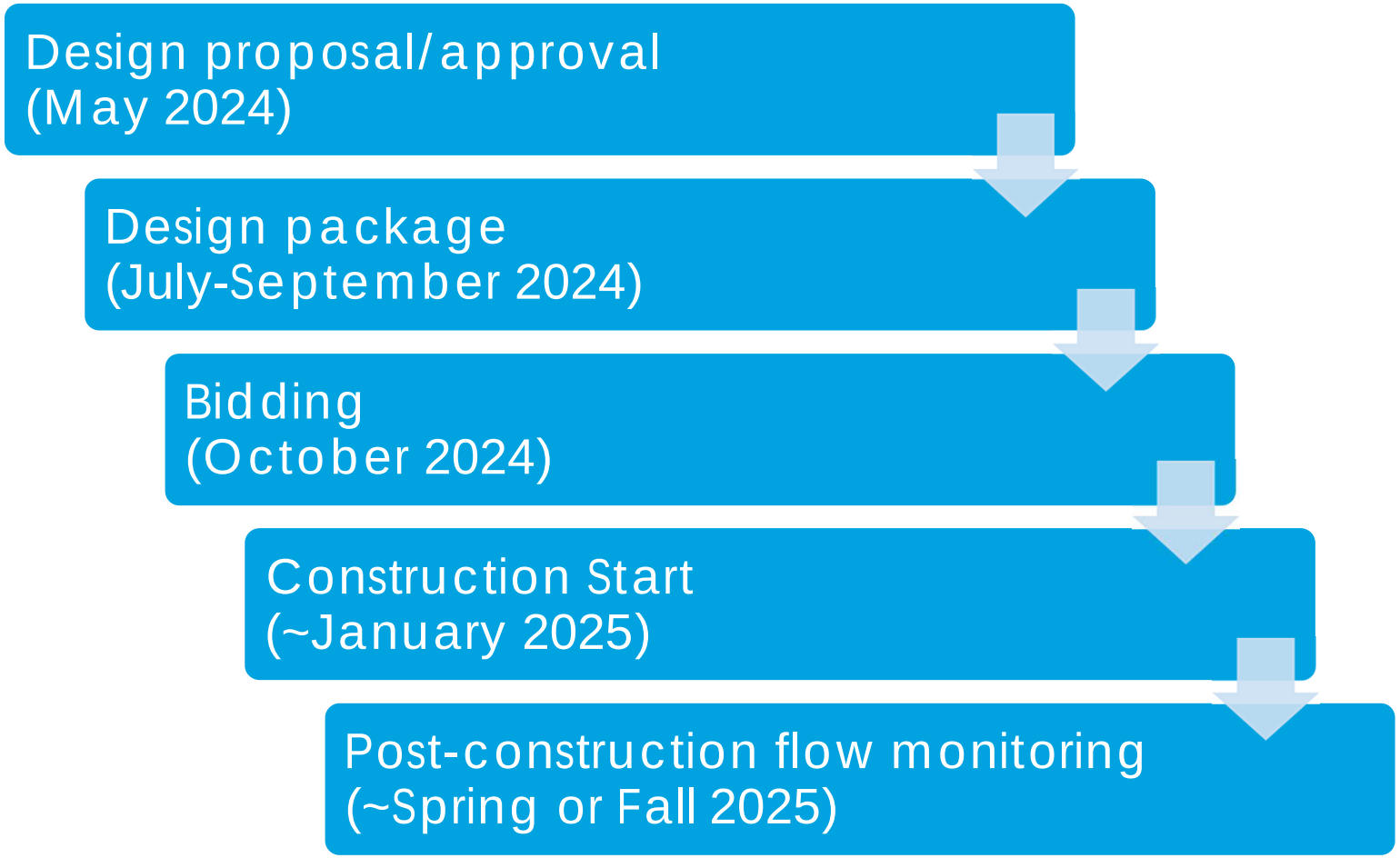
Evaluation

- Identification of structural and O&M issues
- Location of I/I sources
- Estimated quantification of I/I
- Cost-effective analysis (assumes 50% I/I removal)
- Rehabilitation recommendations (follow up meter)
- Estimated costs and schedule (~$1,000,000)

Format

- Draft and final
- GIS submittal

Next Steps (Proposed Dates)



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