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## Purpose

The purpose of this report is to provide Council with options to mitigate inflow and infiltration to the sanitary sewer collection system from private property.

This presentation will provide an overview of:

- ✓ What is inflow and infiltration and why is it a problem
- ✓ Private-side property laterals
- ✓ Considerations for private property I&I reduction
- ✓ Recommended multi-year strategy

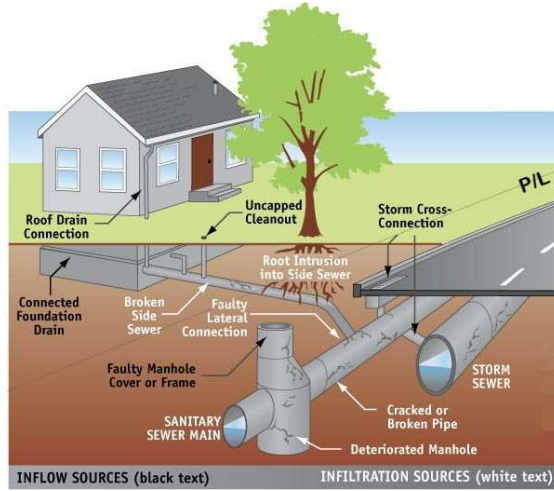
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# Background

*Inflow* – rainwater that enters the sanitary sewer system through storm drain cross connections.

*Infiltration* – groundwater that seeps into sanitary sewer pipes through cracks and leaky pipe joints.



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## Who owns the pipes?



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## Why is I&I a problem?

- ✓ Excessive I&I can result in overflows into waterways and backflows of sewage onto private property
- ✓ Increased maintenance and treatment costs
- ✓ Can lead to unnecessary construction of expensive oversized conveyance and treatment facilities
- ✓ Climate change will increase I&I as reoccurrence of severe rainfall is anticipated to increase



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## Regulatory Commitment

### Core Area Liquid Waste Management Plan

Reduce maximum daily wet weather flows below four times the average dry weather flow by 2031.



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## Issues

- ✓ Significant portion of the City's sanitary system was constructed over 100 years ago
- ✓ I&I increases with the age of the system
- ✓ Several catchments in the system are contributing I&I flows that are greater than the regional target of four times average dry weather flow
- ✓ Flow reductions to support climate resilience and regulatory requirements will require expanding mitigation to include I&I originating from private properties
- ✓ City focus to-date has been on publicly owned portion of the system
- ✓ Estimated that private laterals generate approximately 40% to 60% of total I&I flows



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## Private-side Laterals Program

Common issues, barriers and difficulties related to private sewer lateral programs fall into three broad categories:

1. Property owner participation with private-side piping
2. Technical challenges with renewing private-side laterals
3. Authorities



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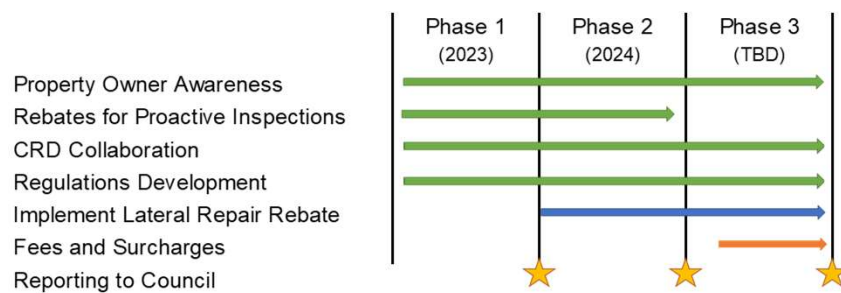
## Focus Areas for Program

- ✓ Build awareness of the property owner's responsibilities and develop effective communications with investigation and repair incentives
- ✓ Design initiatives that target both reducing rapid inflows from cross-connections and renewing private-side pipes to reduce infiltration sources
- ✓ Dedicate new funds for private-side incentives/rebates
- ✓ Secure long-term program resources
- ✓ Refine bylaws and policies so that there is a clear, reasonable standard for all homeowners and developers to follow
- ✓ Review plumbing permit thresholds for lateral inspections



## Recommended Strategy

### Private-side Laterals Program



## Recommendations

That Council:

1. Endorse the recommended strategy presented in this report to begin mitigating inflow and infiltration from private property sanitary sewer laterals.
2. Direct staff to bring forward a funding strategy and budget request as part of the 2023 Financial Planning process that includes resource and funding requirements to implement the recommended strategy.

