

I/I CONTROL PROGRAM - REGIONAL BEST MANAGEMENT PRACTICES STATUS

EVALUATION OF INFLOW AND INFILTRATION
REDUCTION CONCEPTS PHASE 2

NOVEMBER 5, 2020



King County

Department of Natural Resources and Parks
Wastewater Treatment Division

OVERVIEW OF CURRENT I/I PROJECT

Phase 1

Explore

Conceptual Options

Completed in
December 2018

Phase 2

Define

Program Design

- Regional Best Management Practices (BMPs)
- Inspector Training and Certification Program
- Private Side Sewer Inspection Program with Financial Assistance

Act?

Implement

TASK FORCE MEETINGS

- Meeting #1: Goals, objectives and success factors of each of the 3 program concepts
- Meeting #2: Components of private side sewer inspection program options
- Meeting #3: Introduction to regional best management practices toolkit
- Meeting #4: Discussion of possible recommendation on BMPs

- Meeting # 5: expected Q4
- Meeting #6: expected Q4

REGIONAL BMPS TOOLKIT APPROACH

- Provides regional resources for side sewer BMPs
- Recognizes local agencies are the experts for their individual service areas
- Provides examples, templates and other resources to support local agencies in tailoring regional BMPs to their service areas and needs
- Placed in accessible location such as King County I/I Control Program website library and could be grown overtime

Before you buy or sell a property ... Get to know what's underground

Side sewer repairs or replacement can be expensive – averaging \$5,000 to \$15,000 – and can often come as a surprise to property owners when sewage starts coming out of sinks, toilets, bathtubs and other plumbing drains. Property owners should plan for side sewer maintenance and repair just as they do for regular maintenance and other major working systems of the building or residence.

Side sewers are the pipe that connects a building's plumbing to the City's treatment facilities. Main lines are the sewer lines that run from your side sewer to the City's treatment facilities.

To protect the value of your investment and avoid the surprise of a combi-repair, it is recommended that you have a professional inspecting a building's side sewer if it is more than 25 years old. This includes inspecting for a plastic PVC pipe running from the building to the City sewer main.

Why does this matter to me?

- In Tacoma, property owners are responsible for repair and maintenance of their private side sewer.
- Buildings constructed prior to 1980 are likely to have side sewers made of clay or concrete pipe. These can crack, shift out of place, and/or be subject to intrusion by roots, causing leakage or blockage in the pipe.
- When your side sewer is blocked, sewage from your home can back-up in your pipes and surface through your sinks, toilets, bathtubs and other building drains, causing a health issue as well as a potentially expensive mess. Side sewer blockages are typically caused by failures in the pipe. Potential failures can be easily detected by a simple inspection before they cause a serious problem.
- Raw water and groundwater that gets into the sanitary system from leaks in the pipe and soil and foundation can cause overflows of untreated sewage into areas.

How do I find out the condition and age of a side sewer? How do I know if there are sources of rainwater or ground

1. Ask the current property owner if they have had any issues with slow-draining plumbing fixtures, sewage backups, or have performed any inspections or repairs on the side sewer.
2. The City has permit some, but not all of in Tacoma. To see Tacoma permit see www.tacomawater.org and City Staff History or Call Services at (252)

<input type="checkbox"/>	Verify resin/catalyst and felt liner materials are consistent with the approved materials
<input type="checkbox"/>	Verify appropriate seasonal resin mix is being used (summer vs. winter mixes)
<input type="checkbox"/>	Note production date of resin/catalyst to ensure it is within the recommended shelf life
<input type="checkbox"/>	Verify that the resin/catalyst has been stored in sealed containers and at the appropriate temperatures
<input type="checkbox"/>	Verify liner material cut to length, including 1' for sample and 1' for test liner used to note resin application
<input type="checkbox"/>	Note time resin preparation (mixing) is initiated and time to application
<input type="checkbox"/>	Verify resin application during wet-out process (saturation of liner material with no spotting or dry patches noted). (Note time wet-out process completed)

Figure 3-2. Sanitary Lateral Lining Checklist – Liner Preparation

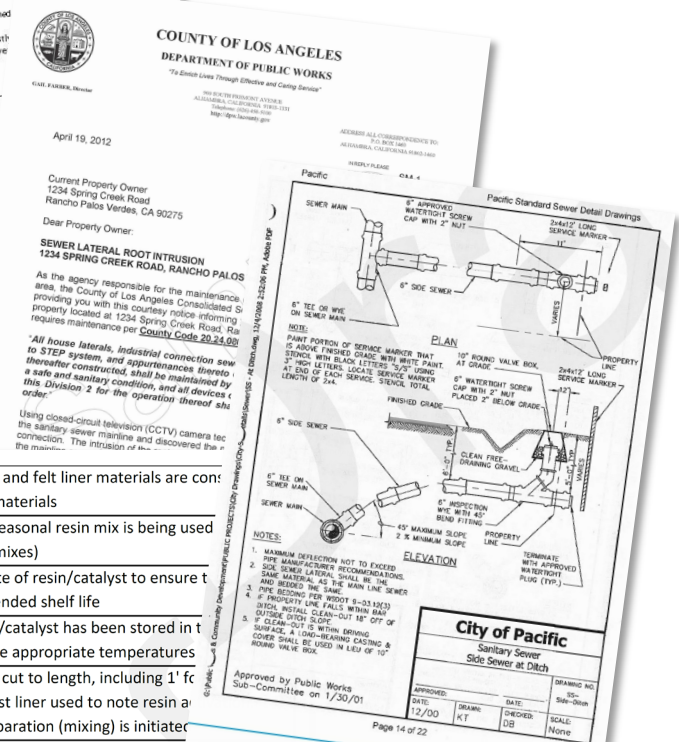
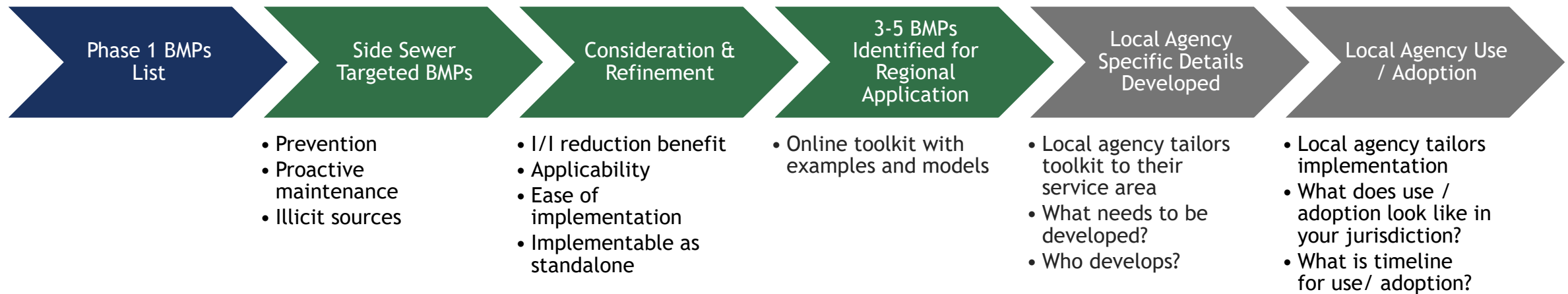


Figure 3-3. Side Sewer at Ditch Detail

APPROACH TO REACH IMPLEMENTATION OF SELECTED BMPS

Goal: Regional, consistent use of three to five best management practices with the greatest potential to reduce I/I in separated basins applied by all WTD's component agencies.



- Green arrows are to be completed under the Phase 2 consultant contract.
- Gray arrows are next steps after the contract is completed and are expected to be led by the component agencies.

SIDE SEWER BMPS UNDER CONSIDERATION

- **Side sewer I/I prevention BMPs:** prevent I/I from entering side sewers and connections at sewer mains due to construction, repair, and rehabilitation-related issues
- **Proactive side sewer maintenance BMPs:** encourage residential property owners to maintain their side sewers to prevent defects that could lead to I/I entering the collection system and/or cause backups into homes
- **Identifying and/or mitigating I/I sources on private property BMPs:** identify and/or mitigate non-structural side sewer-related private property I/I sources

SIDE SEWER BMPS UNDER CONSIDERATION

- A1. Watertight side sewer specifications, standard drawings, and proper methods for new and repaired side sewers
- A2. New side sewer construction inspection and product-specific inspection requirements
- A3. Repair, rehabilitation, and replacement inspection requirements
- A4. Side sewer contractor prequalification
- A5. Unauthorized connection prohibition
- A6. Side sewer design guidelines that address flood-prone areas
- A7. Lake line guidelines and lakefront property provisions
- A8. Over-water structure connection provisions and recommendations
- A9. Side sewer design guidelines in steep areas
- A10. Side sewer disconnection, reconnection, and demolition requirements
- B1. Side sewer maintenance responsibility declaration and enforcement mechanism
- B2. Tree and sewer main separation requirement
- B3. Model courtesy notice to property owner / occupant regarding roots in lateral connections
- B4. Model web content for local agencies
- B5. Side sewer maintenance guideline documents
- C1. CCTV inspection specifications
- C2. Rainfall simulation and dye testing specification
- C3. Illicit source disconnection public education materials
- C4. Cleanout cap replacement program

CONSULTANT RECOMMENDATION UNDER CONSIDERATION BY TASK FORCE

The following BMPs are recommended to move forward:

- A5. Unauthorized connection prohibition (model language)
- B3. Model courtesy notice to property owner/occupant regarding roots observed in lateral connections
- B5. Side sewer maintenance guidance documents
- C3. Illicit source disconnection public education materials

NEXT STEPS

- Consultant to draft technical memo
- Task force to discuss further and make a recommendation to E&P subcommittee

TASKFORCE MEMBERS

Please reach out to taskforce members if you are interested in getting additional information:

- Andy Tuscherer, Sammamish Plateau Water
- Brion Humenay, Alderwood Water and Wastewater District
- Bob Elwell, City of Auburn
- Cynthia Lamonte, Skyway Water and Sewer District
- Don Anderson, City of Seattle
- Steve Hitch on behalf of Gary Schimek, City of Redmond



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