

Broadview Sewer & Drainage Improvements



Public Meeting - April 6, 2011

Agenda

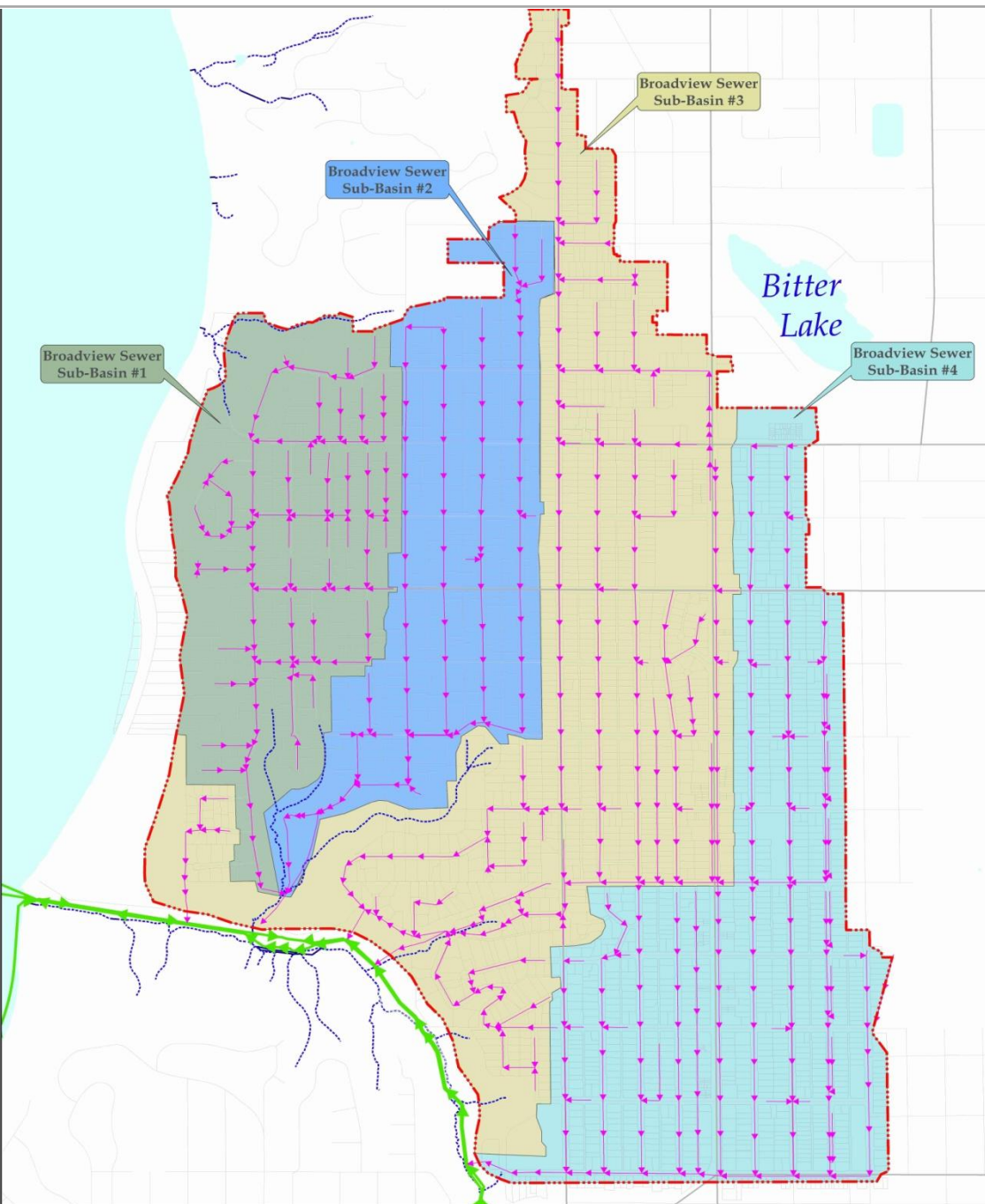
- 6:00 p.m. Open House**
- 6:30 p.m. Welcome & Meeting Overview**
- 6:40 p.m. Broadview Projects**
- 6:50 p.m. Review of Research & Flow Monitoring**
- 7:00 p.m. Action Plan for 2011**
- 7:30 p.m. Long-term Action Plan**
- 7:40 p.m. Next Steps**
- 7:45 p.m. Questions & Comments**

Broadview Projects

Post-Storm Priority Assessment

- Broadview impacts severe although rainfall less than other areas (about 3 inches in 24 hours)
- Priority raised for capital improvements and storm response plans
- Schedule accelerated
- Staffing levels increased
- Funding allocated

Broadview Sub-basins



Research & Flow Monitoring

- Pipes in western & eastern portions smoke tested
- Monitors installed to measure sewer flows
- Field mapping of drainage system
- Calibrated sewer system model developed



Stormwater Sources

- ❑ Capacity of sewer system in some areas may be exceeded as rainfall reaches 2-3 inches in 12 hours
- ❑ No single major source of stormwater inflow
 - ❑ Direct inflow
 - ❑ Base infiltration
 - ❑ Slow and rapid infiltration
 - ❑ Footing drains, foundation drains, & sumps

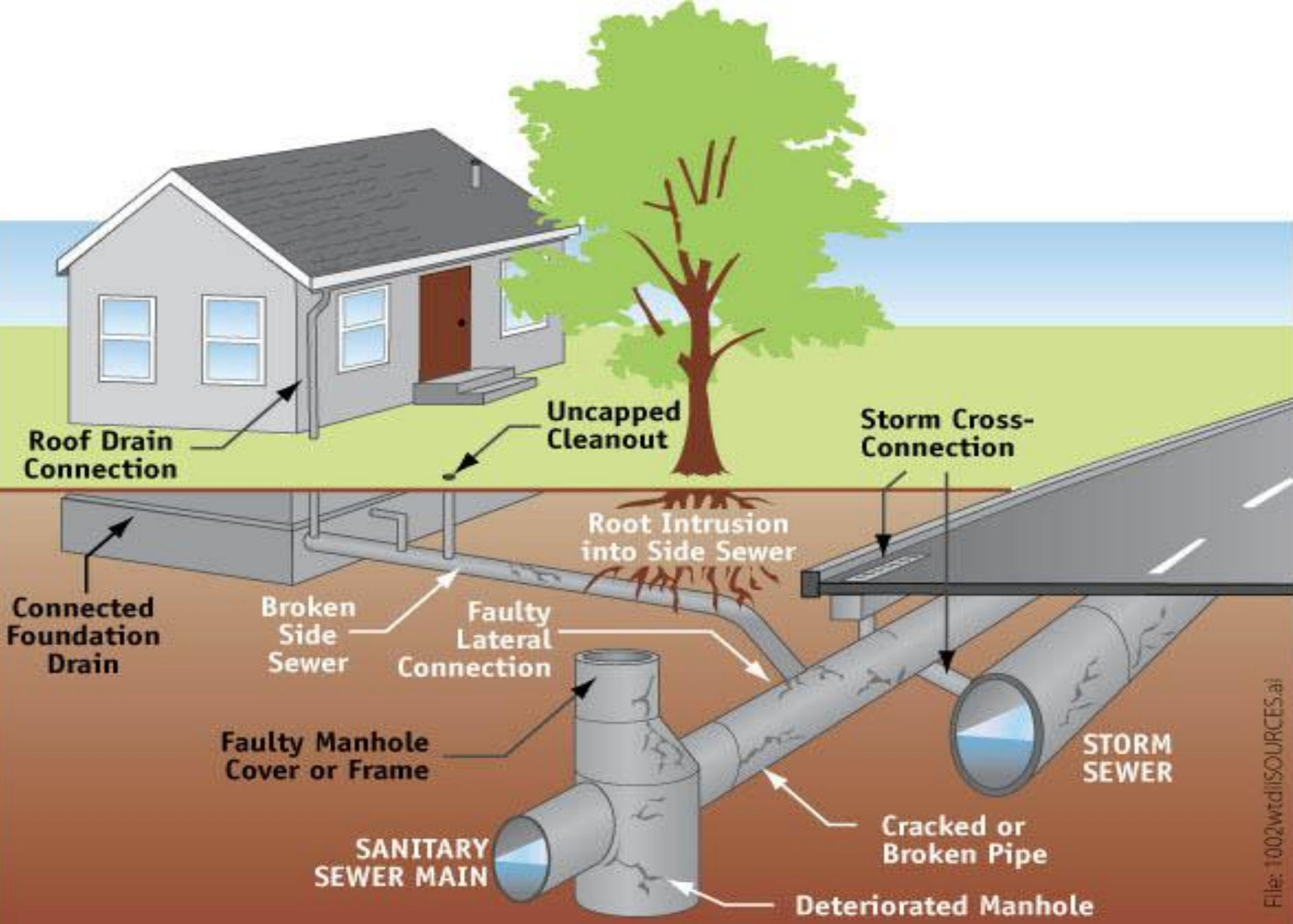
What We Concluded

- ❑ **Capacity enough for sewage, but stormwater volume exceeds system's capacity in some areas**
- ❑ **Multi-pronged solution needed:**
 - ❑ Reduce side sewer infiltration
 - ❑ Reduce inflow from direct connections (downspouts)
 - ❑ Consider use of backflow preventers
 - ❑ Continue proactive maintenance
 - ❑ Conduct additional monitoring to inform design for long-term capital projects

Action Plan for 2011

Proposed Backflow Prevention

- Interim measure for those with sewer backups
- Considering use of backwater valves and grinder pumps
- Modeling sewer system to assess candidate locations
- Will work directly with homeowners identified as possible candidates



INFLOW SOURCES (black text)

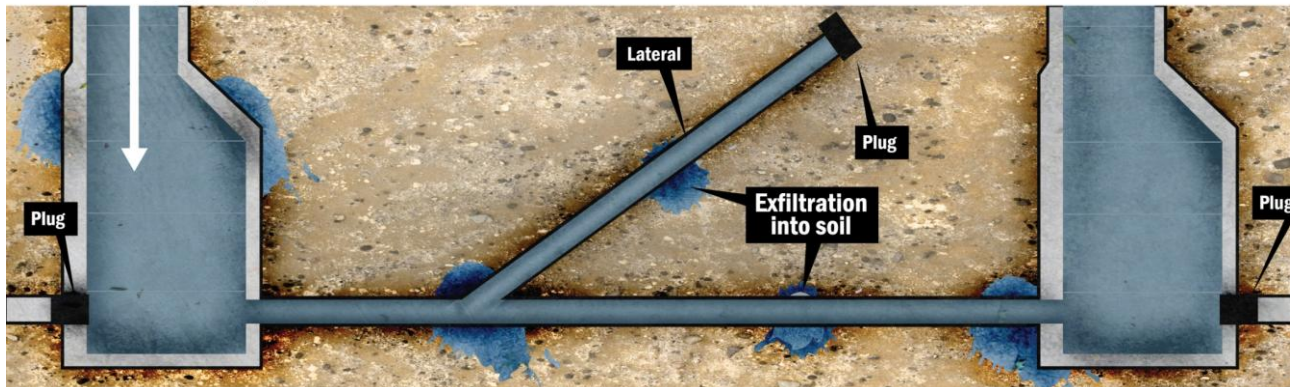
INFILTRATION SOURCES (white text)

Infiltration Reduction Pilot

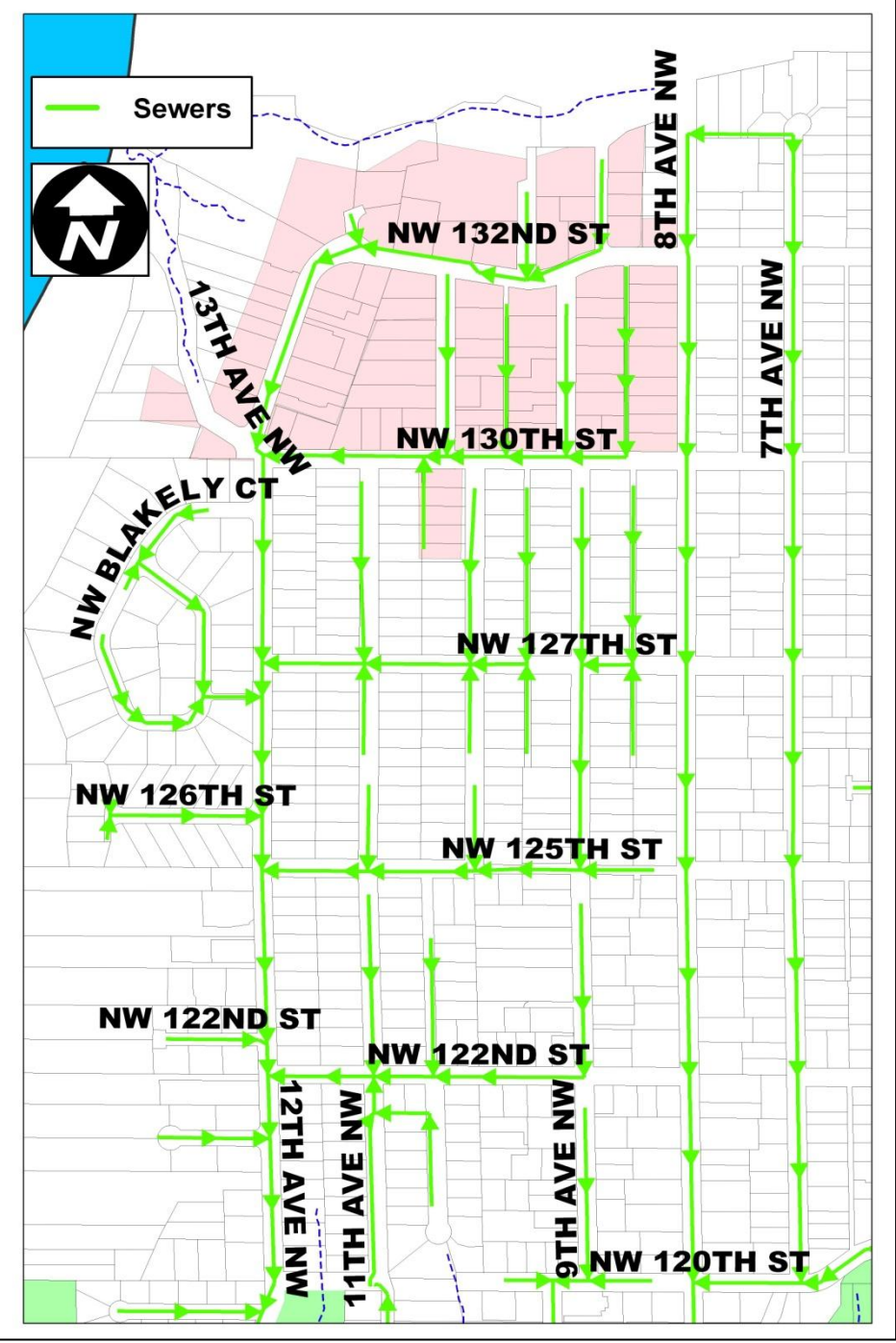
- ❑ Focused on 12th Avenue sub-basin
- ❑ Starts with inspecting side sewers
- ❑ Grout cracks in pipes
- ❑ Monitor to measure improvement
- ❑ Upcoming meeting with homeowners



Flooding of an isolated section of sewer with proprietary solutions



Infiltration Reduction Pilot



Long-term Action Plan

Preliminary Alternatives

- Seal existing sanitary sewers or replace them
- Construct stormwater conveyance systems, including storage and treatment
- Remove stormwater connections from sewer
- If needed, upsize sewer system in certain locations

Schedule

2011 – Alternatives Analysis

2012 – Design

2013 – Possible start for implementation

Long-term Action Plan

How Will Decisions Be Made?

- ❑ SPU will be assessing options and working with community before deciding on final, preferred alternative
- ❑ Long-term project will be informed by results of pilot projects

Next Steps

1. Please provide email address for updates
2. Check email for messages about upcoming meetings
3. Regular e-mail progress reports on all improvements
4. Project website in development
5. Call Martha Burke with questions, (206) 684-7686
6. Infiltration Reduction Pilot scheduled to begin in May
7. Will work with Broadview Sewer Task Force to schedule next community meeting, likely September

Questions and Comments

**Thank You
for Your Input!**