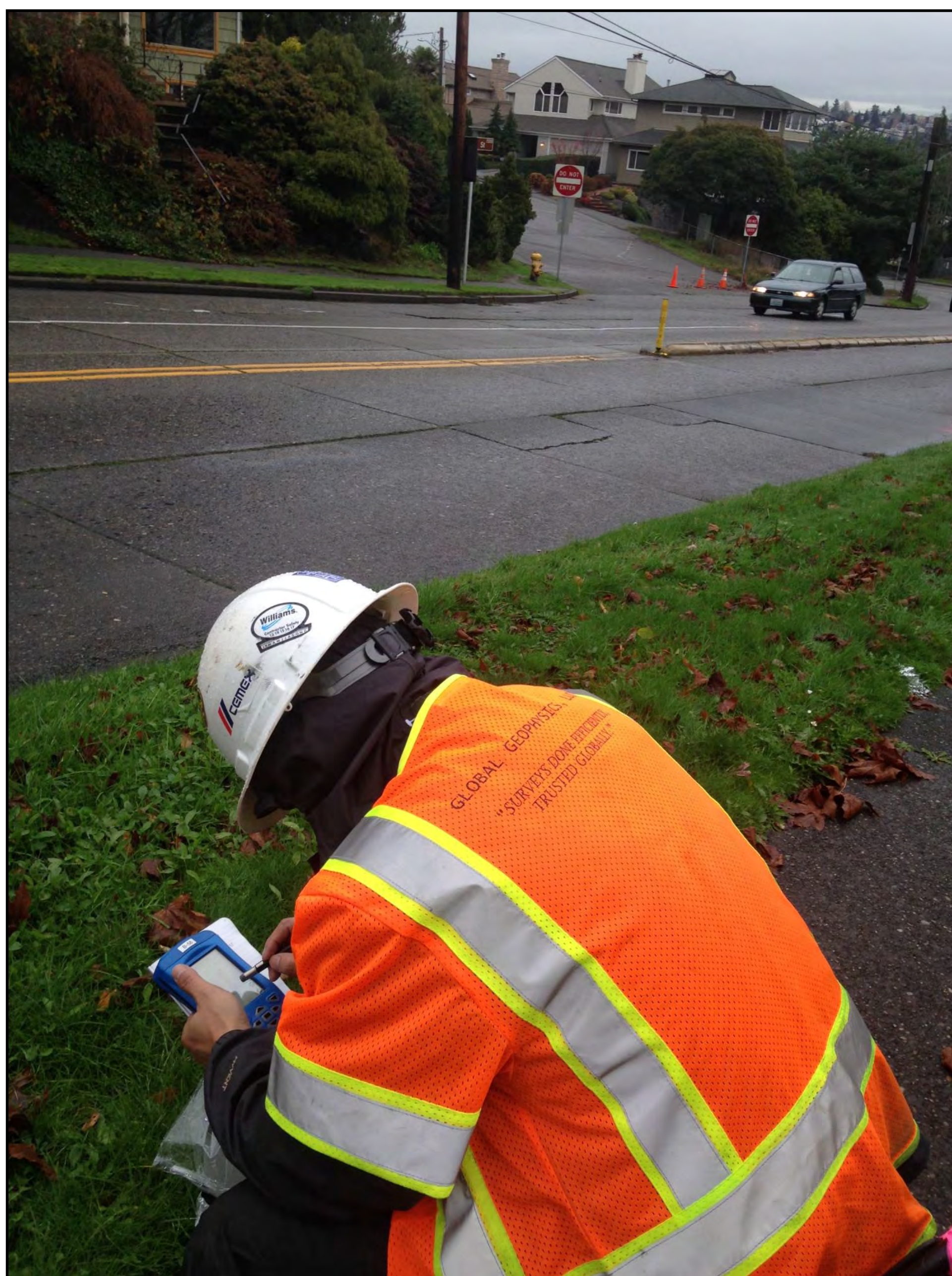


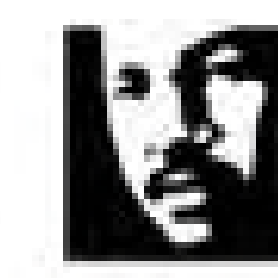
Damaged Pipe Investigation



Discovery Park Environmental Learning Center
February 16, 2017
6:30-8:30 p.m.

SOUTH MAGNOLIA

CSO CONTROL PROJECT



King County

Department of Natural Resources and Parks
Wastewater Treatment Division

Meeting purpose

- Update you on the project
- Answer your questions
- Hear and learn from each other

Overview

- Introductions
- Welcome - WTD Director Mark Isaacson
- Pipe Background
- Overview of King County's activities
- Current findings
- Upcoming work on W. Galer St.
- Questions

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Opening Remarks

WTD Director Mark Isaacson

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Pipe Background

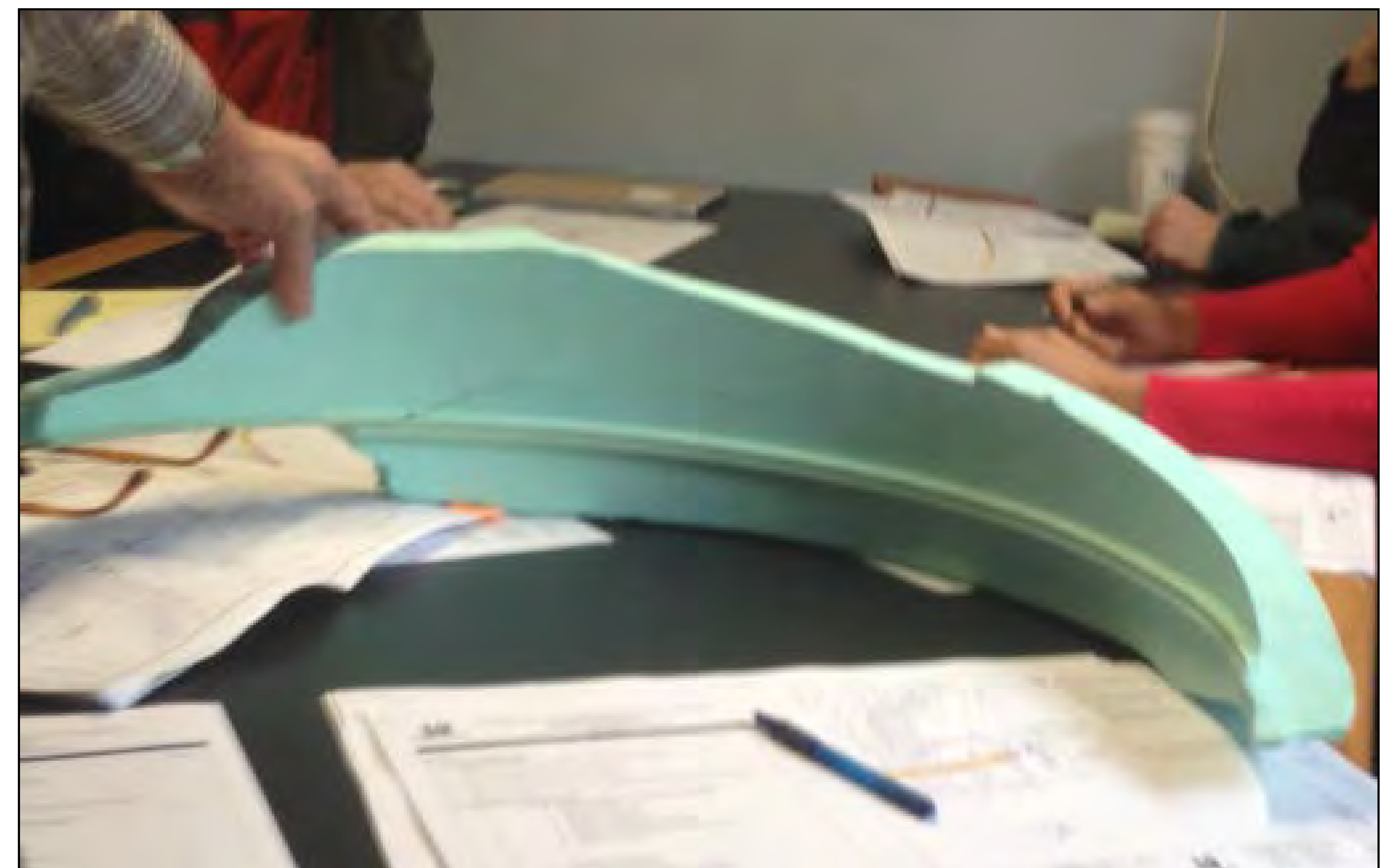
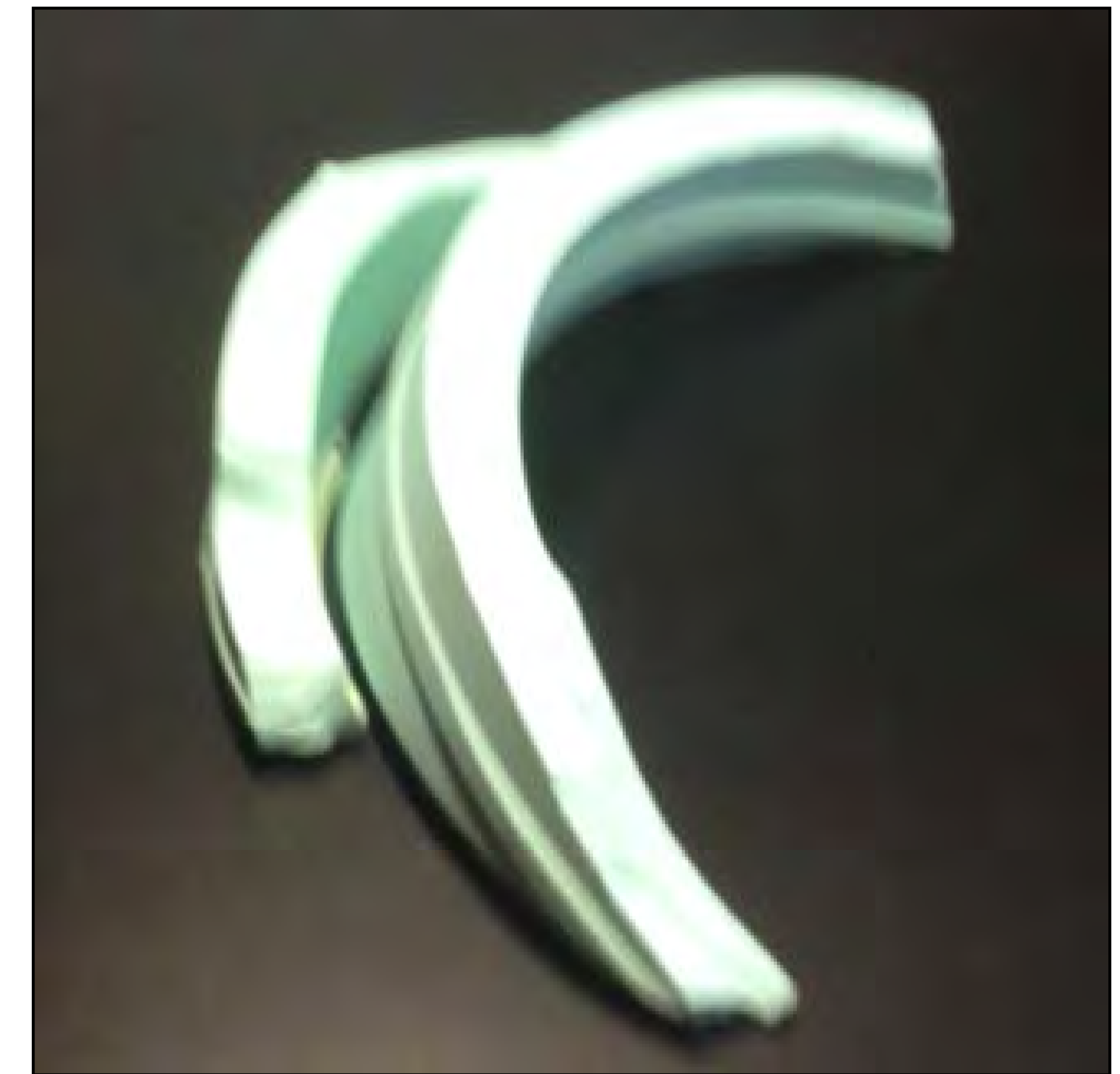
- Sends sewage and stormwater to Magnolia Wet Weather Facility
- Installed 2014-15
- Inspected and tested 2015
- Met EPA Consent Decree





Investigation starts September 2016

- Tank did not fill during storm
- Inspections eliminate City sewers as source
- No indications of a problem from surface
- Pipe debris found in November



Safety and stability always the top priorities

Regular monitoring of surface conditions

- Alignment walks
- Surveys
- Searched for other construction/surveys along pipe
- Slope monitoring

No signs of movement

Rapid response initiated



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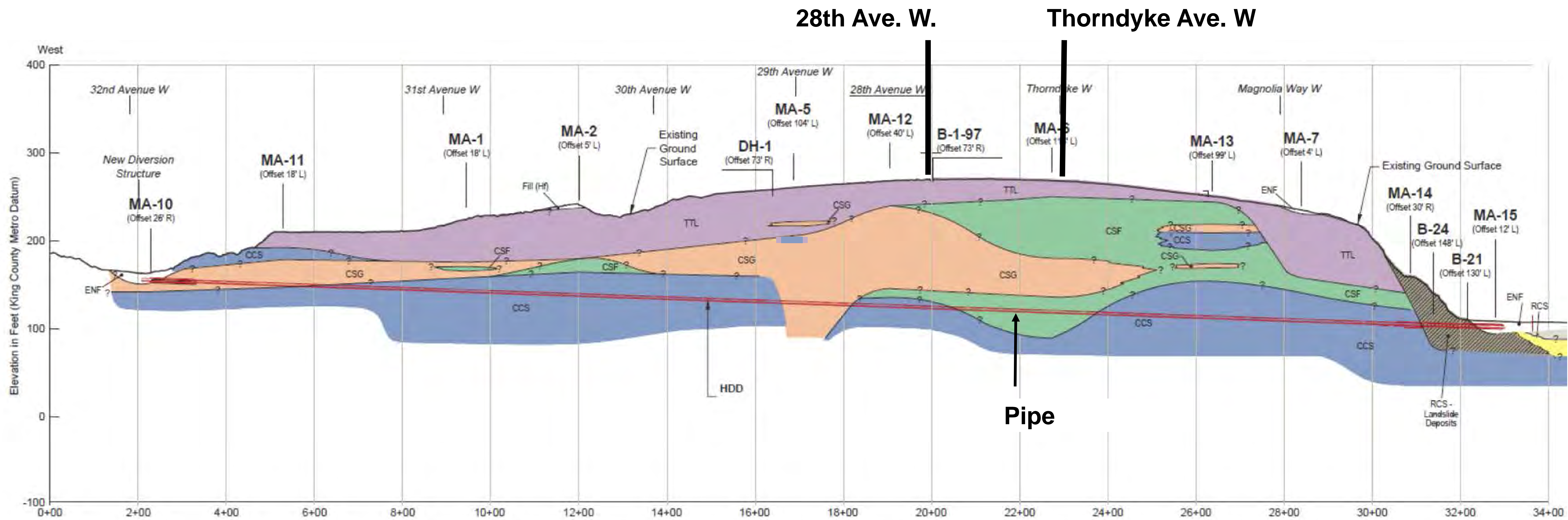
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W. Galer St. subsurface profile



Soil Types

Till and Till Like

Sand and Gravel

Clay and Silt

Silt and Fine Sand



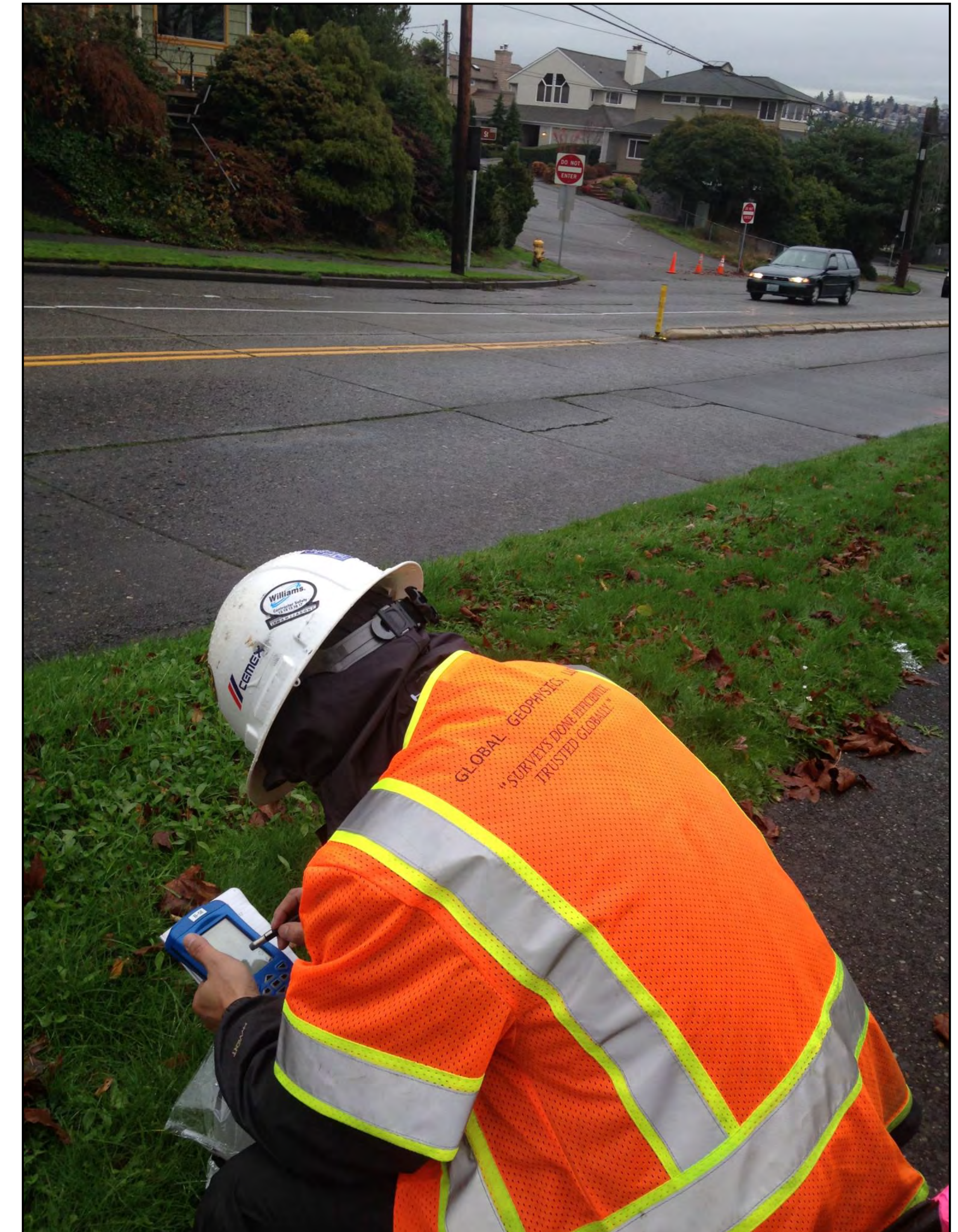
Geophysical Surveys – December 2016

Two types: microgravity & electrical resistivity

Each gathers different information about soils along pipe

No areas of soil loss near surface

2 locations of interest located deeper down



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Drilling & grouting – December 2016

9 holes

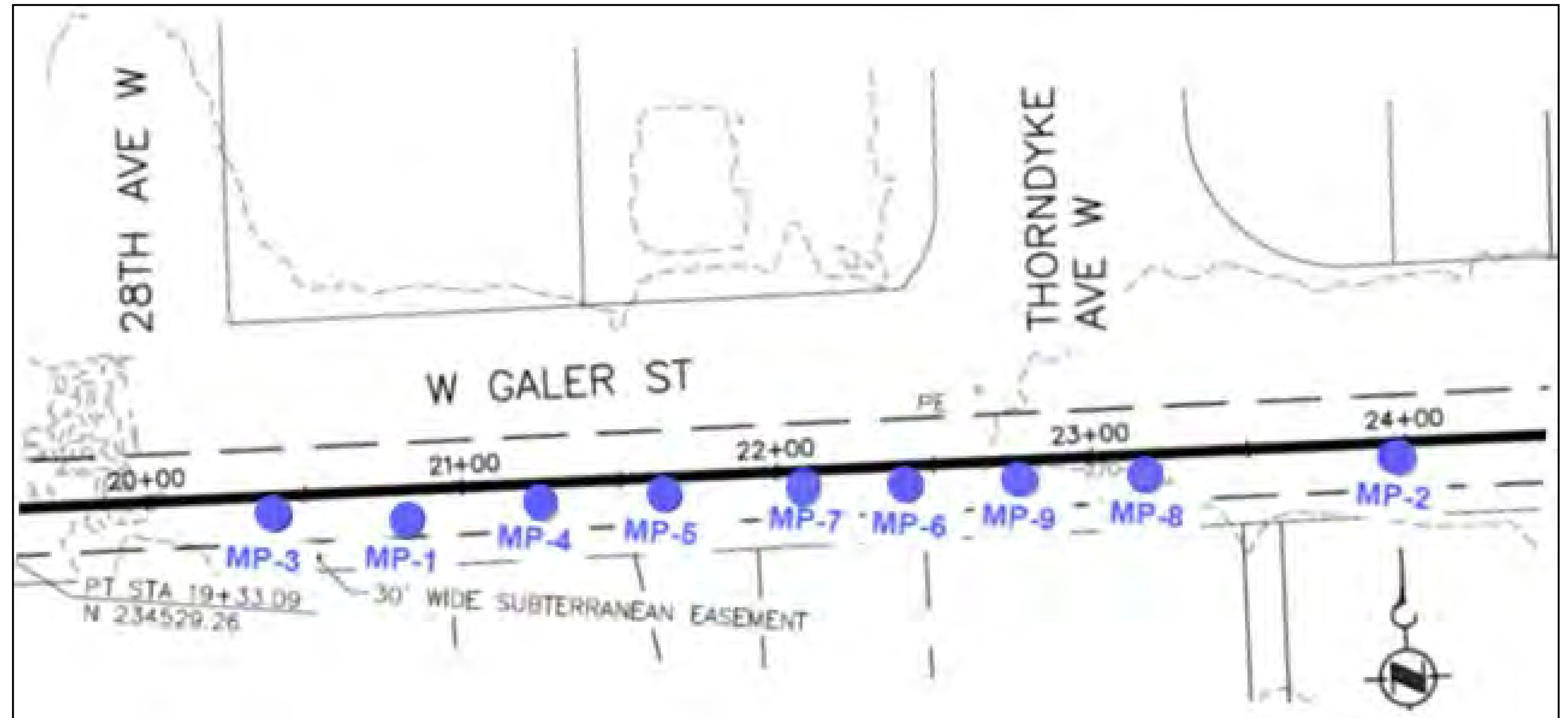
- 6-inch diameter
- 135-145 feet deep
- At or near each pipe joint

Casings inserted

Grout inserted to replace lost soils

Regular monitoring

- No sign of movement



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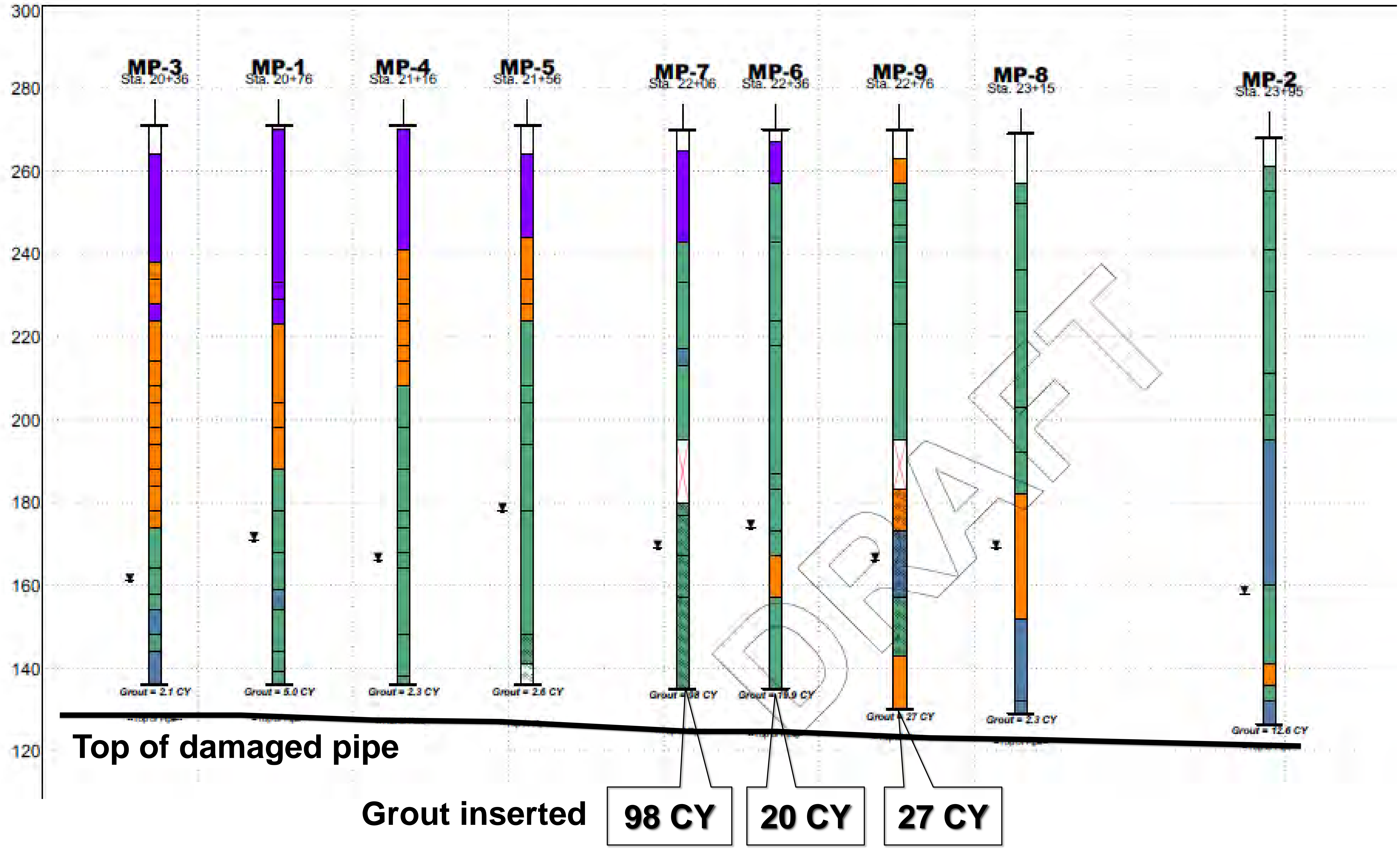
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28th Ave. W

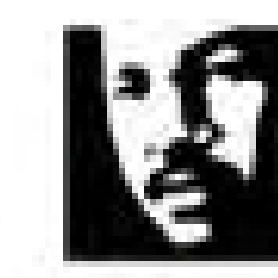
W. Galer St.

Thorndyke Ave. W



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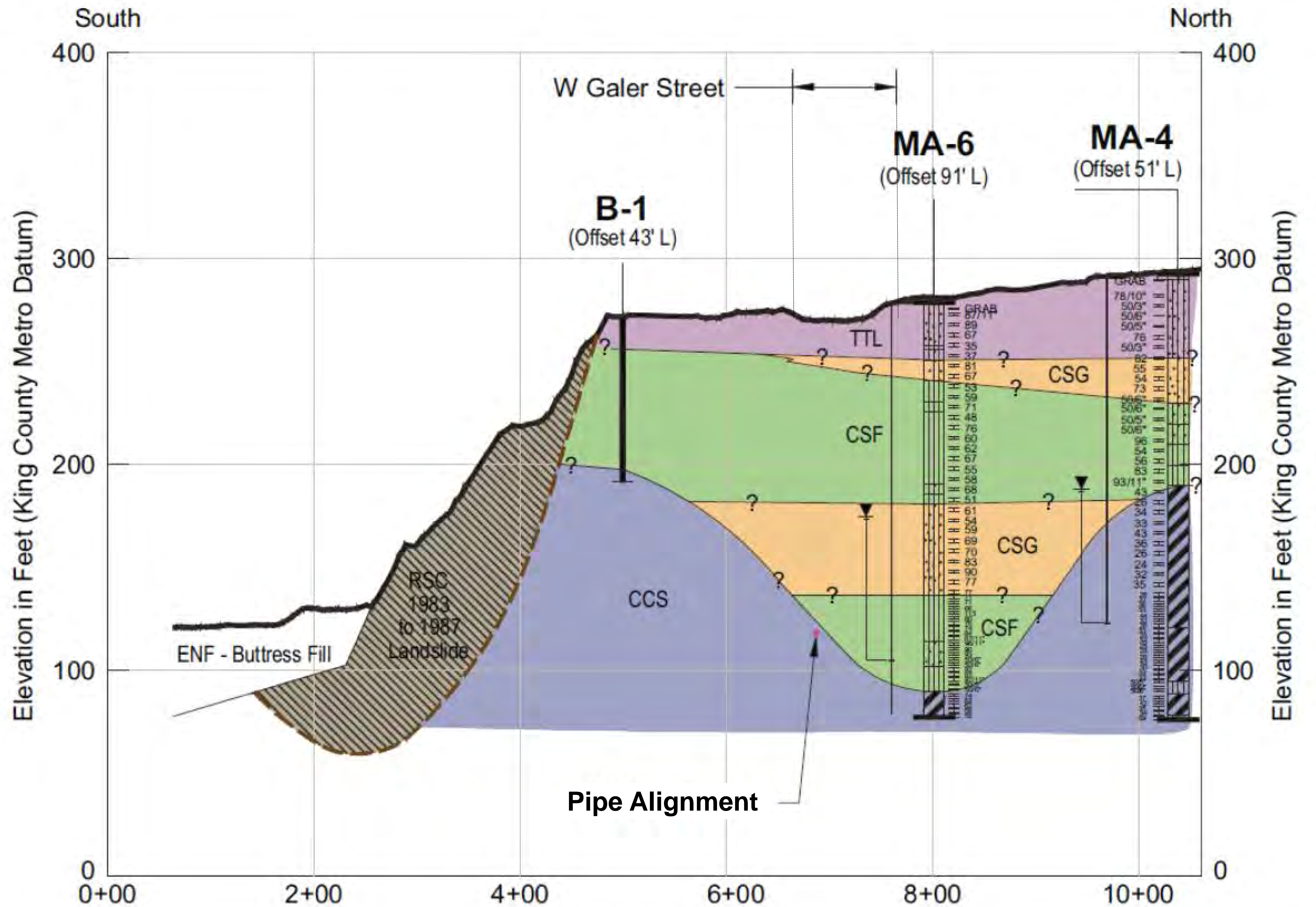


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Subsurface Profile: Cross-section at Thorndyke

- Till and Till Like
- Sand and Gravel
- Clay and Silt
- Silt and Fine Sand





Pipe Cleanout – January 2017

California-based pipe cleanout specialty company hired

- Water rose on upstream (western) side of pipe during clean out
- Prevented camera inspection

Pipe remains blocked





Upcoming work on W. Galer St.

February - March 2017

Meet with community Feb. 16

Start street work Feb. 21

- Resume drilling near Thorndyke/W. Galer intersection
- Insert grout in areas of soil loss
 - Traffic impacts
 - Vibration monitoring

Finish subsurface investigation

- Tomography: sonar “pings” between boring holes



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March – June 2017

Finish drilling/grouting plan

Complete tomography

Evaluate repair options

- Internal repair
- Repair from surface
- Replacement

Update community

Initiate repair project



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Your turn

QUESTIONS?

SOUTH MAGNOLIA CSO CONTROL PROJECT

Staying informed



www.kingcounty.gov/depts/dnrp/wtd/capital-projects/active/south-magnolia-cso-storage.aspx

King County

Home How do I... Services About King County Departments

Natural Resources and Parks
Wastewater Treatment

Capital projects

Current projects

- Denny Way Regulator Station upgrade
- Eastgate Interceptor rehabilitation (lining) - Phase 3
- Eastside Interceptor lining
- Fremont Siphon replacement
- Georgetown Wet Weather Treatment Station
- Kent-Auburn conveyance system improvements
- Lake Hills and NW Lake

Home > Natural Resources and Parks > Wastewater Treatment > Capital projects > Current projects > South Magnolia CSO control - storage

Magnolia Wet Weather Storage Facility at Smith Cove

Project update

Damaged Pipe Investigation Update meeting

Discovery Park Environmental Learning Center
3801 Discovery Park Blvd, Seattle
6:30 - 8:30 p.m.
February 16, 2017

Last fall, King County began investigating a break in a pipe that carries wastewater and stormwater to the County's Magnolia Wet Weather Storage Facility near Smith Cove.

At this meeting you can meet the project team, ask them questions, and hear

Contact us

Contact Doug Marsano, community services lead, at:

- 206-477-5549
- doug.marsano@kingcounty.gov
- @kingcounty.gov

Planning Design Construction Operations

Tweet

King County WTD @KingCountyWTD

Meeting Feb 16 at Disco Park to hear update on investigation of damaged pipe in Seattle's Magnolia neighborhood!
[@SeattleParks](#) [@qamagnews](#)

MAGNOLIA CSO CONTROL PROJECT

JOIN US TO LEARN MORE!

Damaged Pipe Investigation Update
Discovery Park Environmental Learning Center
3801 Discovery Park Blvd, Seattle
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February 16, 2017

Last fall, King County began investigating a break in a pipe that carries wastewater and stormwater to the County's Magnolia Wet Weather Storage Facility near Smith Cove.

Reply to King County WTD, Seattl...

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King County Department of Natural Resources and Parks Wastewater Treatment Division Protecting our water

December 23, 2016

King County work to locate break, stabilize area around damaged sewer pipe continues through first week of 2017

No work from December 24-26 and December 31-January 2

King County contractors finished drilling about half of the survey holes necessary to help locate a break in a County sewer pipe 150 feet beneath the surface of W. Galer St. in Magnolia.

28th Ave. W.
Thurston Ave. W.
W. Galer St.
Magnolia Way W.

Work area: bike lane and sidewalk closed

Traffic and pedestrians will detour north of the work area while King County crews stabilize the area around a damaged County sewer pipe

The survey work should finish in the first week of January 2017. Crews will not work from Dec. 24-26 and Dec. 31 - Jan. 2.

FOR MORE INFORMATION

Call: Doug Marsano at 206-423-0480
Email: doug.marsano@kingcounty.gov
Search: "Magnolia storage" at kingcounty.gov
Follow: @KingCountyWTD on Twitter

County contractors are using two small drill rigs to drill holes approximately 130 feet deep in the W. Galer St. right of way to confirm the exact location of the pipe break. Crews fill any areas of soil loss discovered along the pipe with grout. Traffic detours north around the work areas for about 500 feet on W. Galer St. and the eastbound bike lane and sidewalk are closed. The bike lane and sidewalk reopen after work finishes each day. Steel plates cover active drill sites after hours. Some plates may extend into the bike lane.

Find out what to expect! →

ALTERNATE FORMATS AVAILABLE: 206-477-5371 / TTY Relay 711

FOR MORE INFORMATION

Call: Doug Marsano at 206-423-0480
Email: doug.marsano@kingcounty.gov
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THANK YOU!

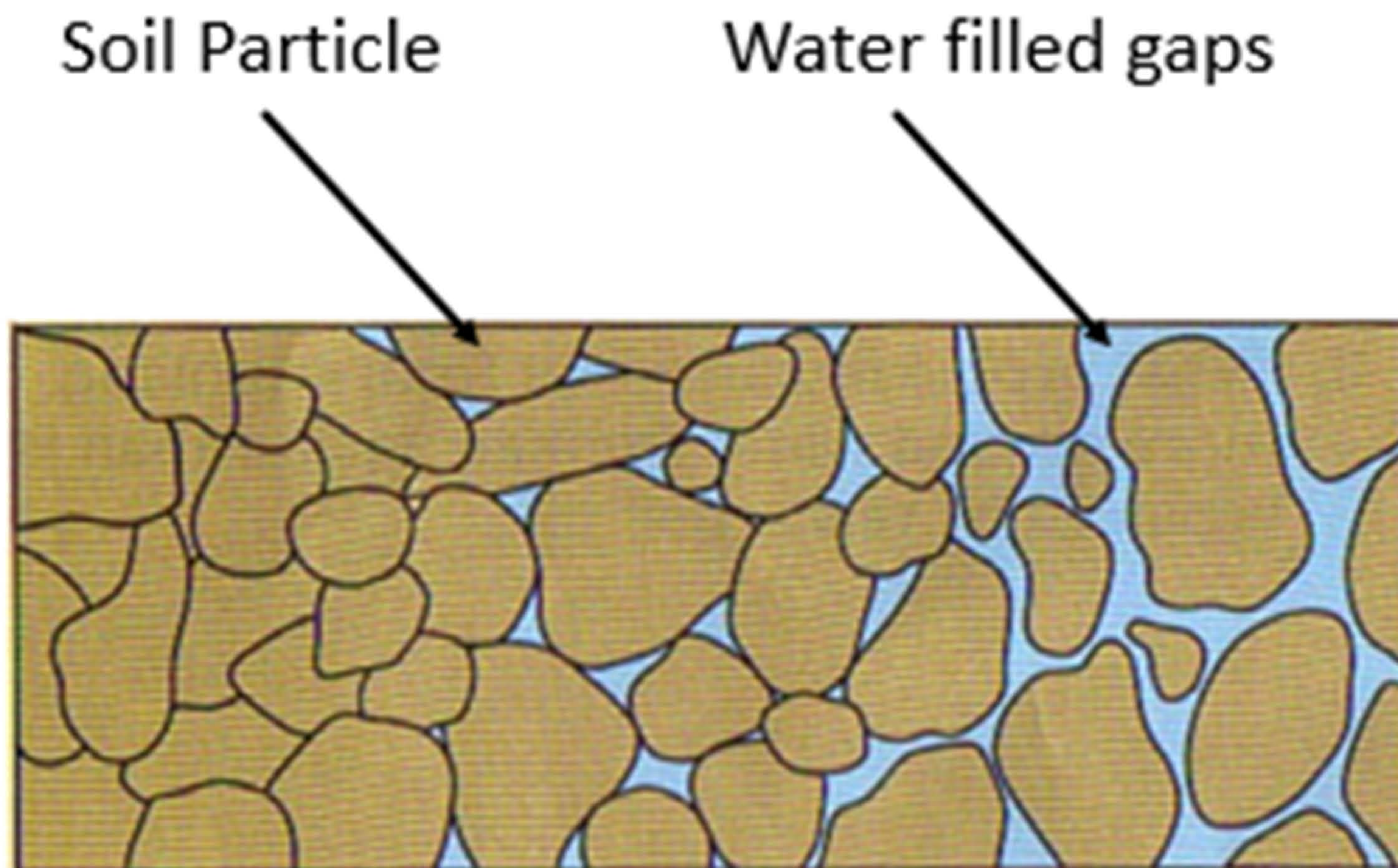
How gravity and resistivity change underground

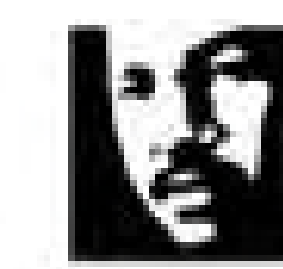
Less Porous
Less Water
Higher Density

More Porous
More Water
Lower Density

Higher Gravity
Higher
Resistivity

Lower Gravity
Lower
Resistivity





Electrical Resistivity

Measures earth's resistance to electrical current flow

Identifies voltage differences vertically and horizontally

