



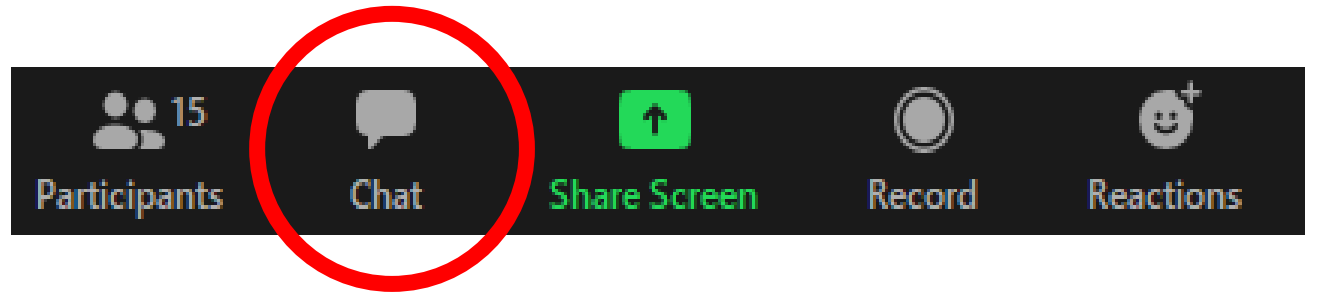
Haverhill Stormwater Improvements Project

Preliminary Design

East Hills and Homewood Communities

June 28, 2022

Zoom Overview



- **Recording Meeting**

- Recording, presentation slides, and notes will be posted to project webpage
- www.pgh2o.com/haverhill

- **During Presentation**

- Participants will be muted
- To ask a question use the chat box below

- **How to Use Chat in Zoom**

- Click on the chat icon that looks like a cartoon bubble at the bottom of screen
- Type question in dialogue box then press enter to send
- All attendees will receive your question

- **When Presentation Pauses or Ends**

- We will respond to questions individually
- We will allow attendees to unmute microphones (press *6 on phone) to enable verbal Q&A

Agenda

- Welcome and Introductions
- Stormwater Overview
- Project Overview
- Preliminary Design
- Question and Answer



Project Team

Project Owner: PWSA

- **Design Project Manager:** Ryan Quinn
- **Stormwater Inspector:** Samantha Young
- **Education and Outreach Associate:** Elaine Hinrichs

Property Owner: City of Pittsburgh

- **Project Manager:** Michael Panzitta

Project Designer: Ethos Collaborative

- **Project Manager:** Barton Kirk
- **Project Manager:** Damon Weiss
- **Project Landscape Architect:** Matt Zambelli

Project Partner: Upstream Pittsburgh

- **Community Engagement Manager:** Rose Flowers
 - **Programs Assistant:** Aaron Birdy
- 



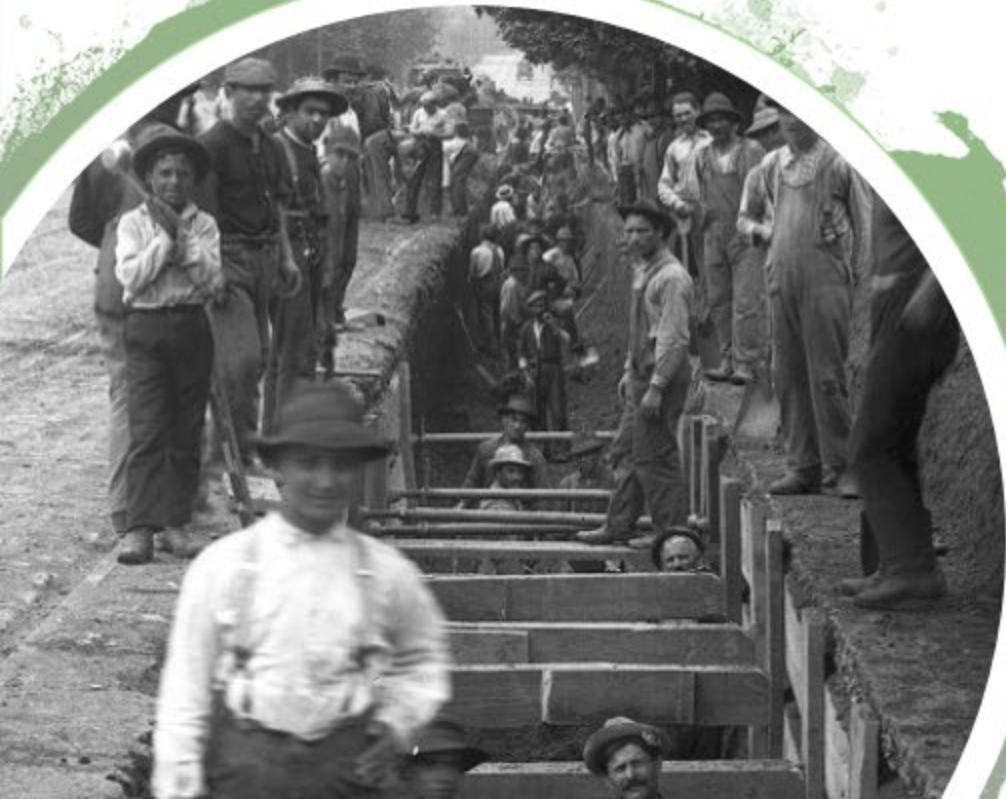
Stormwater Overview


*Pittsburgh has a stormwater
management problem.*



Our system was not built for this volume of stormwater

- We have more pavement and hard surfaces than we did 100 years ago
- We have more rain, and localized severe storms, than the system is built to handle





Too much stormwater + sewer water = pollution in our rivers


It doesn't take much to overflow the system – it can happen with just an inch of rainfall or less.





PWSA is stepping up

To tackle our stormwater challenges, PWSA is building an innovative stormwater management system, designed to absorb or redirect as much rainwater as possible *before* it enters our overburdened sewer system and mitigate flooding.





Project Overview

Haverhill Stormwater
Improvements Project

Project Area





Renovation and repair of green stormwater infrastructure (GSI)



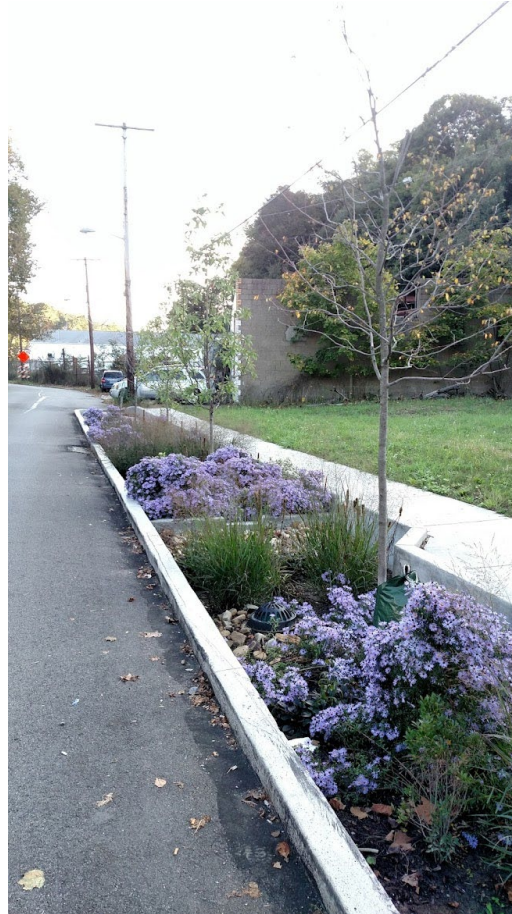
Remediation of landslide and seep impacts on road and drainage



PROJECT SCOPE

Haverhill Stormwater Improvements Project Preliminary Design

BACKGROUND



UpstreamPgh's Rosedale Runoff Reduction Project

Rosedale Runoff
Reduction Project



Haverhill Stormwater Improvements Project

Preliminary Design

BACKGROUND

2014

The **Rosedale Runoff Reduction project** was initiated by the Upstream PGH (formerly Nine Mile Run Watershed Association or NMRWA)

Rosedale Runoff Reduction Project



2015

Oakwood Street and Batavia Street and Crescent Elementary School identified as a high capture area for potential stormwater project.

2016

Oakwood & Batavia GSI facilities are constructed by PJ Dick Construction as the second component of the larger Rosedale Runoff Reduction Project led by the Upstream PGH



2018 - 2022

Temporary measures are installed to control erosion from seep and mitigate sediment loading to Oakwood Street GSI facility.



2017 - 2018

Real-time GSI Monitoring systems installed at both Batavia Street and Oakwood Street bioretention facilities. Heavy sediment loading from landslide and seep flow is observed during install and delay Oakwood Street facility monitoring install until summer of 2018. Upstream PGH first reports seep to City and PWSA

2022

PWSA and city initiate Haverhill Stormwater Project to address ongoing issues related to seep, erosion, and ongoing structural issues observed at GSI facilities. Ethos Collaborative is awarded the project and begins joint project with PWSA and the City of Pittsburgh.



Partners

Developer

UpstreamPgh

Design & Planning

Stormworks

Landbase Systems

Ethos Collaborative

Operation Better Block

Funding

The Heinz Endowments

Richard King Mellon Foundation

Commonwealth Financing Authority

Construction

PJ Dick

Stormworks

OBB Junior Green Corps

Agency

City of Pittsburgh

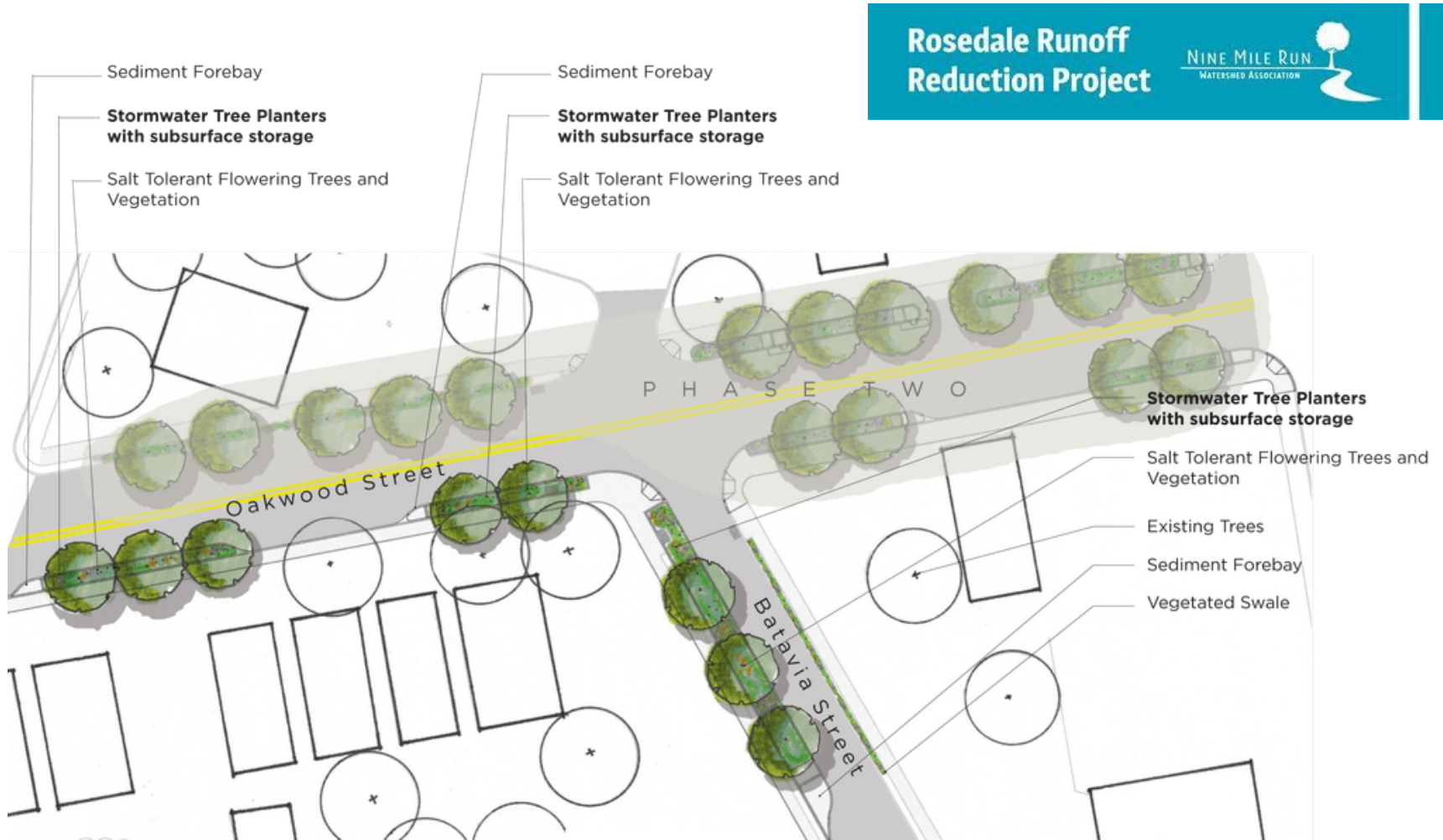
PWSA

ALCOSAN

Timeline of Project Partnership

Haverhill Stormwater Improvements Project Preliminary Design

BACKGROUND



- Original two-phase concept by UpstreamPgh (then Stormworks) & Ethos Collaborative (then Urban Rain Studio) in 2014

Haverhill Stormwater Improvements Project

Preliminary Design

Stormwater Planter Bed:
Collects street runoff and allows it slowly soak into the soil, subsurface storage and/or back to the PWSA sewer



Subsurface Stormwater Storage:
Modular underground stormwater storage chambers detain large volumes of stormwater collected and filtered by planter beds



Sediment Forebay:
Intercepts and filters coarse sediment and debris prior to planter beds



Anatomy of Green Stormwater Infrastructure (GSI)

Haverhill Stormwater Improvements Project

Preliminary Design

BACKGROUND



2016 Prior to Construction



2017 After Construction

Haverhill Stormwater Improvements Project

Preliminary Design



2018 Landslide on Haverhill St.



Sediment and seep water inundated stormwater planters



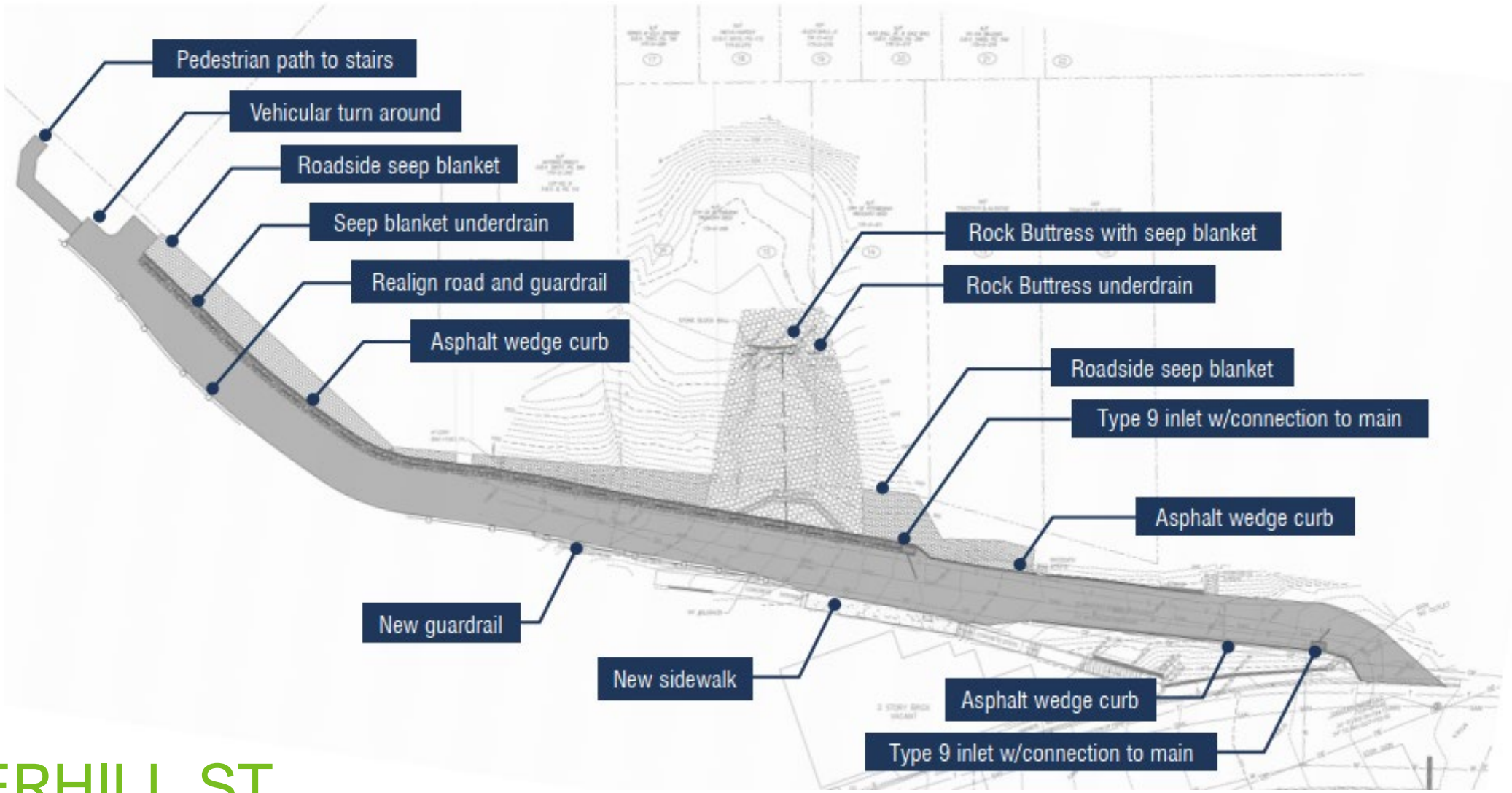
Repeated vehicle strikes damaged trees and infrastructure

BACKGROUND

EXISTING CONDITIONS

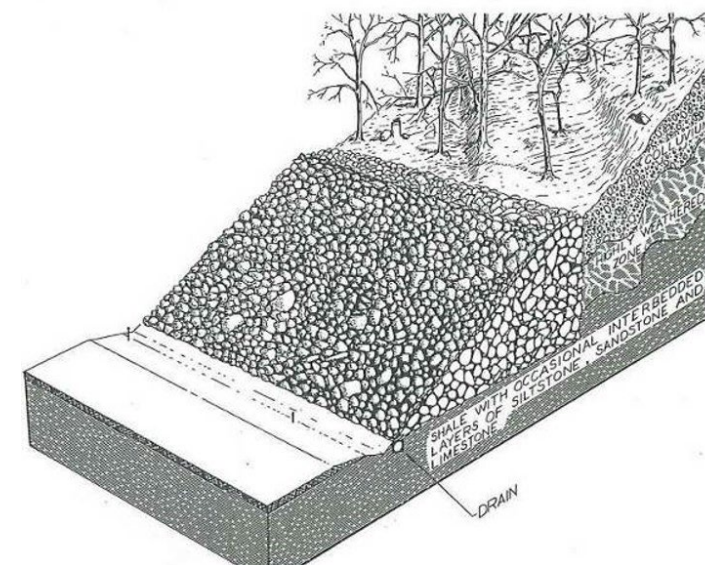
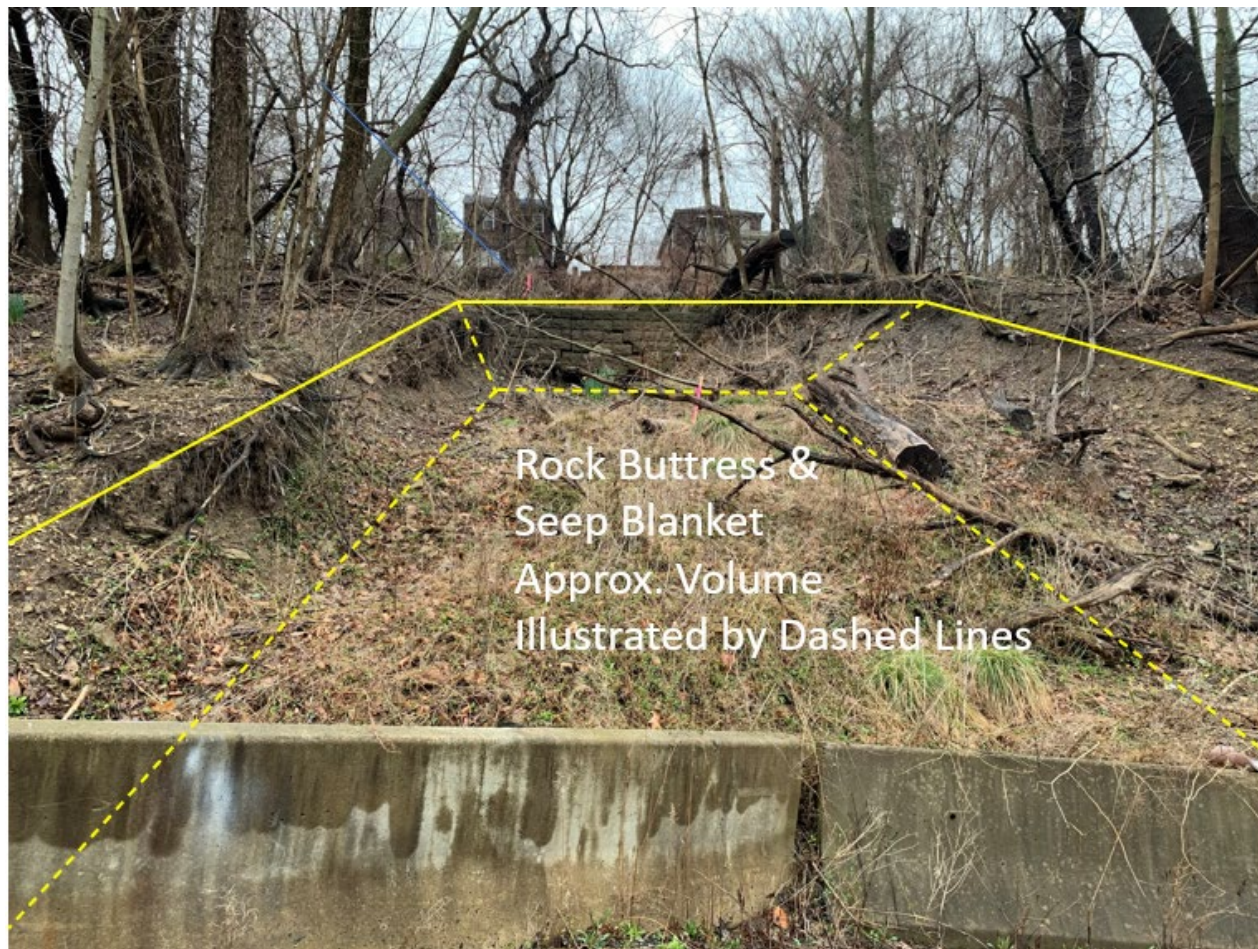


Landslide / Roadway / Drainage Improvements



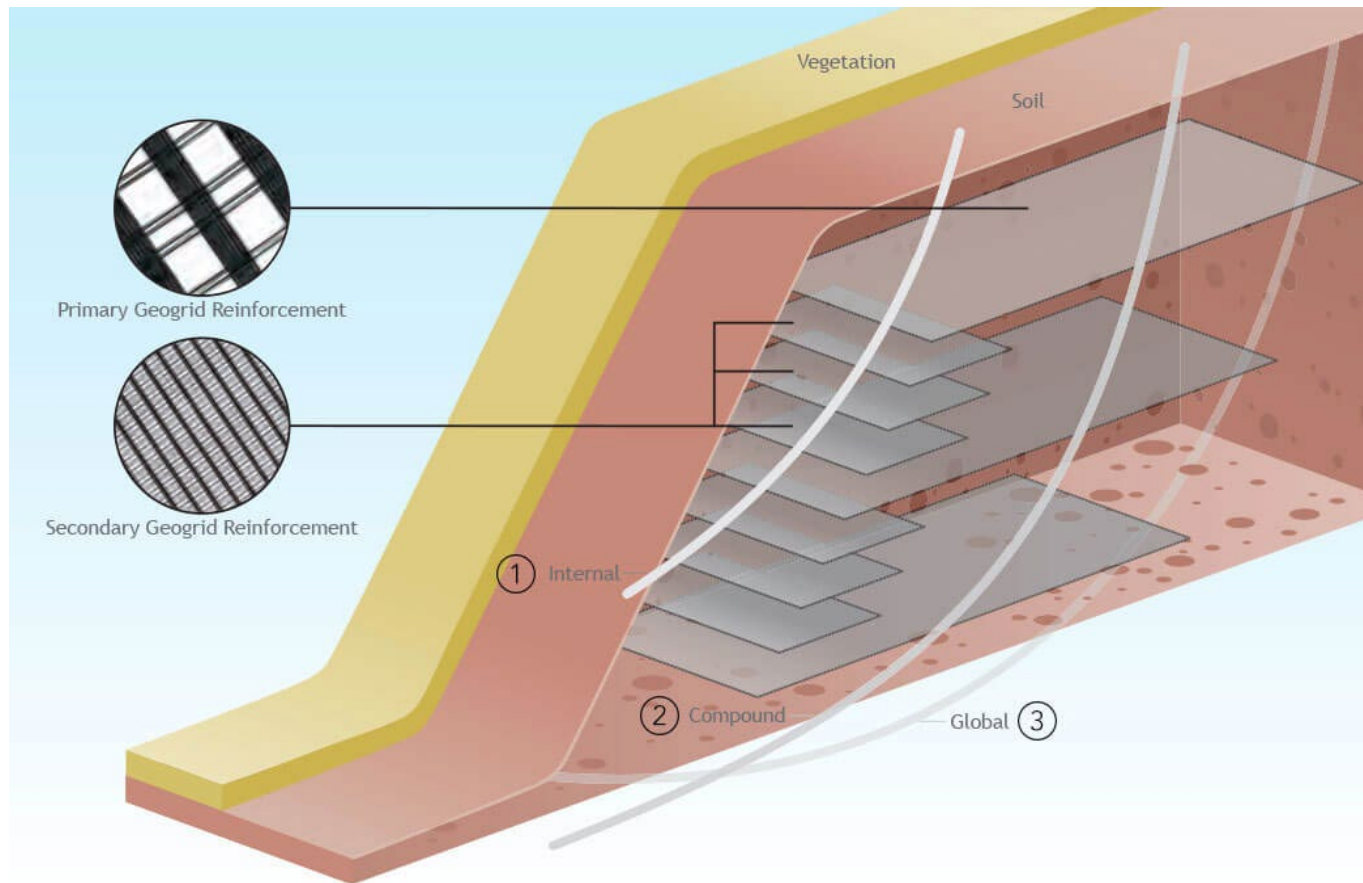
Haverhill St

Landslide Mitigation - Rock Buttress



HAVERHILL ST

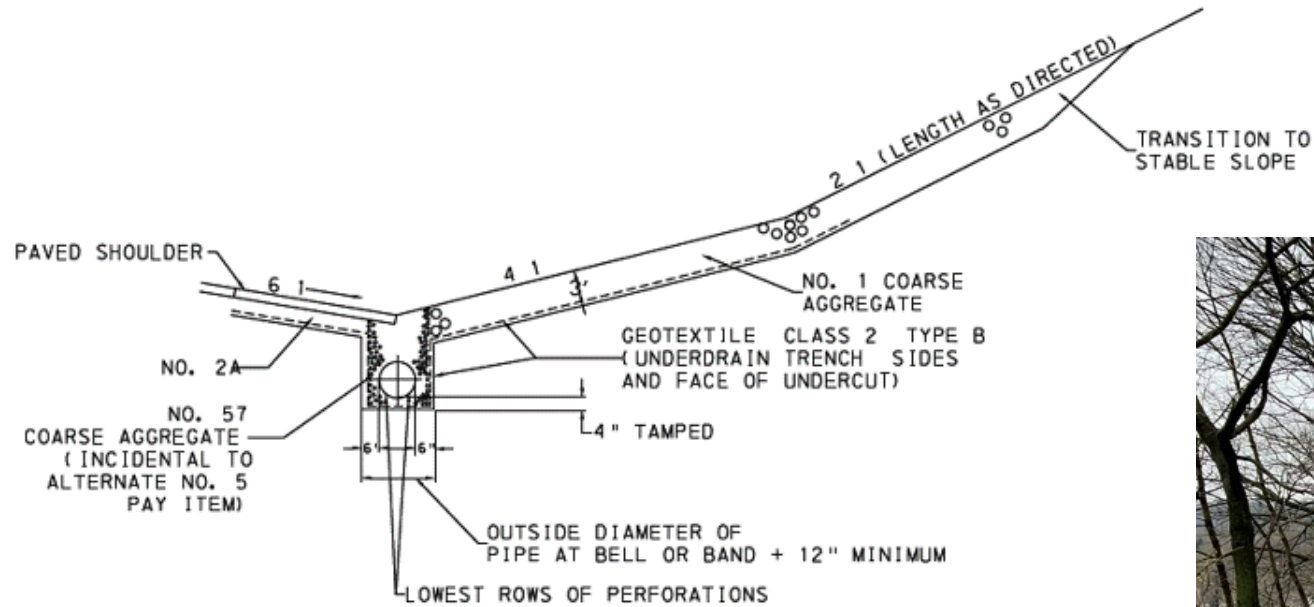
Landslide Mitigation - Rock Buttress Alternatives



Vegetated & Stabilized Soil Slope
Reinforced With Synthetic
Geotextile Fabric or Geoweb

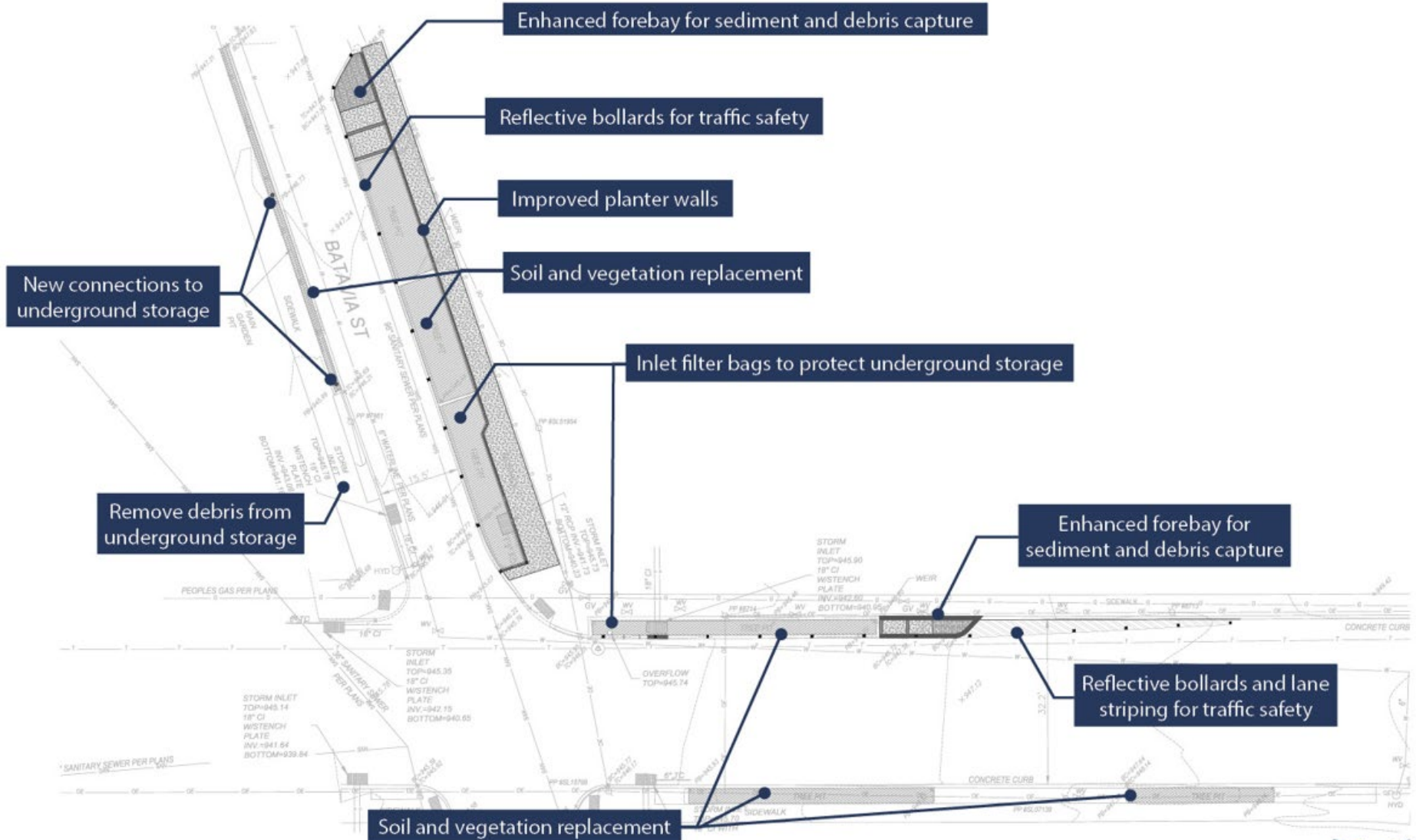
HAVERHILL ST

Seep Mitigation - Seep Blanket & Underdrain & Repaving



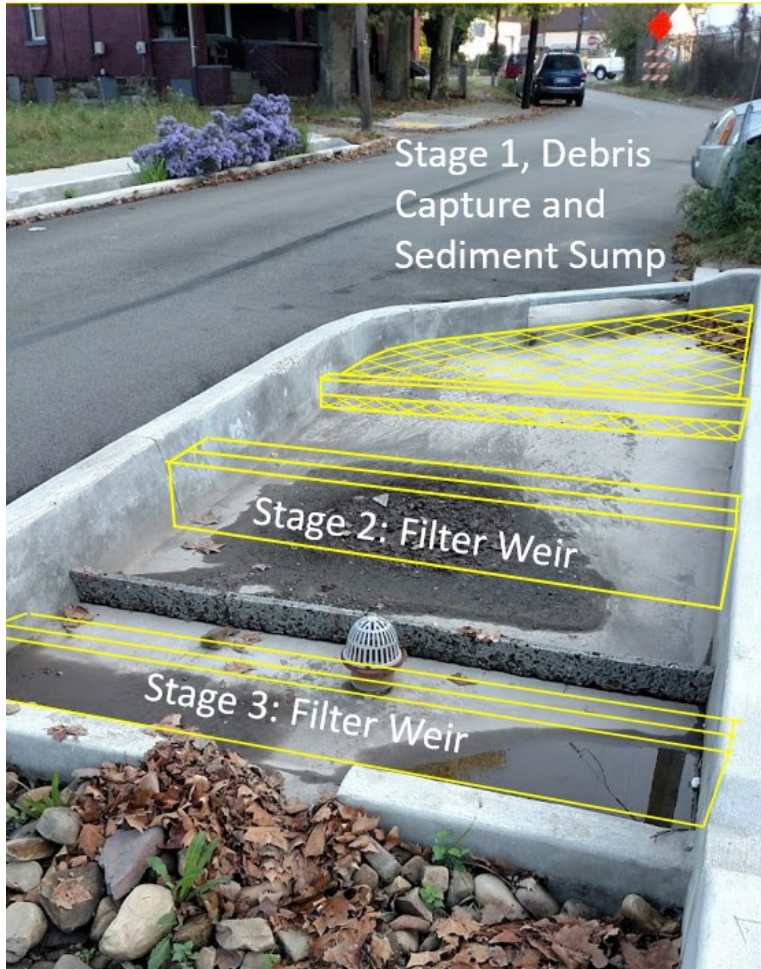
HAVERHILL ST

Stormwater Planter Renovations



OAKWOOD & BATAVIA GSI

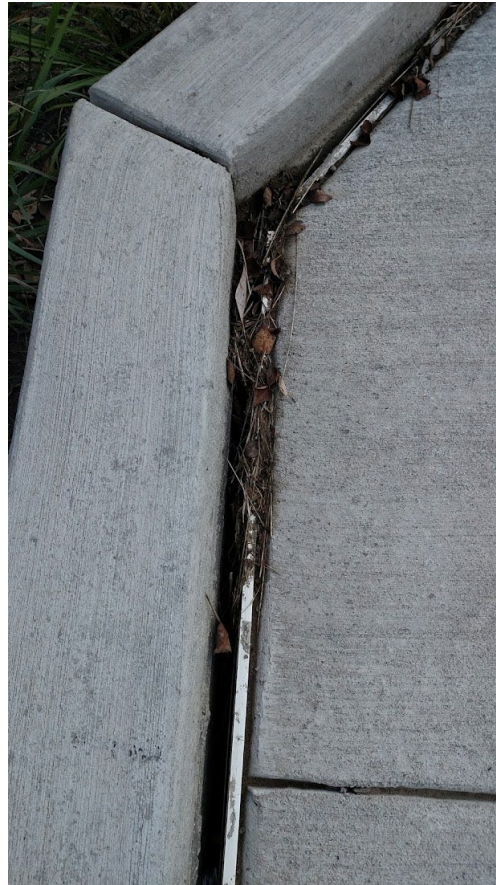
Debris & Sediment Capture – Enhanced Multi-Stage Forebays



OAKWOOD & BATAVIA GSI

Long-Term Durability – Improved Planter Walls

Haverhill
Preliminary
Design



OAKWOOD & BATAVIA GSI

Visibility / Traffic Safety – Reflective Delineators, Line Striping & Signage

Haverhill
Preliminary
Design



OAKWOOD & BATAVIA GSI

Long-Term Health – Replace Soil, Trees, and Perennial Plantings

Haverhill
Preliminary
Design



ANDROPOGON VIRGINICUS
BROOM SEDGE



SCHIZACHYRIUM SCOPARIUM
LITTLE BLUESTEM



DESCHAMPSIA CAESPITOSA
'GOLDTAU'



CALTHA PALUSTRIS
MARSH MARIGOLD



AMSONIA TABERNAEMONTANA
COMMON BLUESTAR



PHYSOSTEGIA VIRGINIANA
'VIVID' OBEDIENT PLANT



PANICUM VIRGATUM
'CAPE BREEZE'



CAREX AMPHIBOLA
CREEK SEDGE



CAREX AMPHIBOLA
CREEK SEDGE



ZIZIA AUREA
GOLDEN ALEXANDER'S



AQUILEGIA CANADENSIS
COLUMBINE



LOBELIA SIPHILITICA
GREAT BLUE LOBELIA

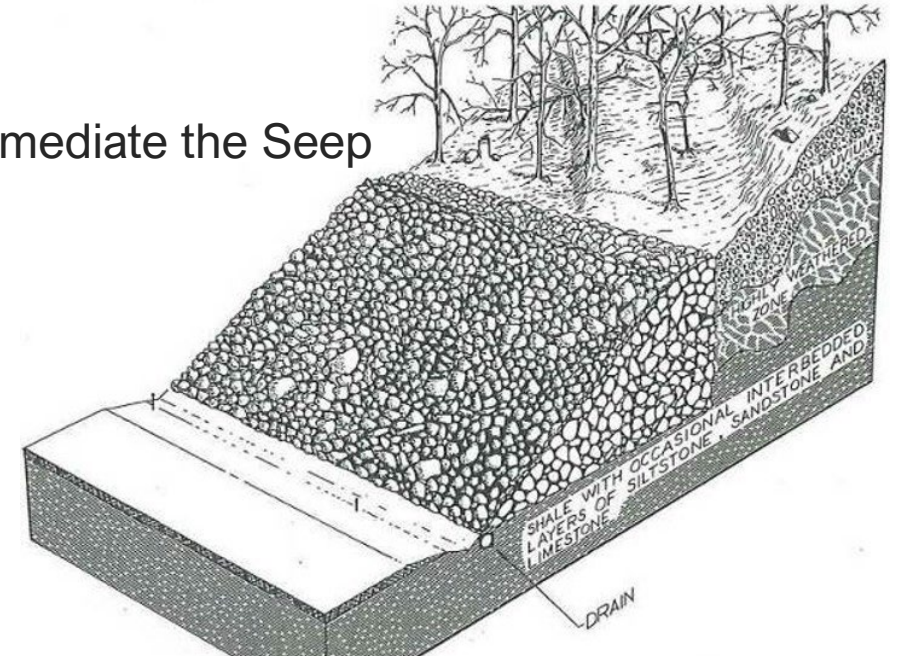
OAKWOOD & BATAVIA GSI

Intended Outcomes

Haverhill
Preliminary
Design



Remediate the Seep



Project Contacts

Design Questions:

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Design Project Manager

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General Project Questions:

Elaine Hinrichs

Education & Outreach Associate

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Thank you

For more information, please visit
www.pgh2o.com/haverhill