Pittsburgh Water & Sewer Authority

THOMAS AND MCPHERSON GREEN INFRASTRUCTURE PROJECT

Point Breeze North and Point Breeze Neighborhoods

May 23, 2019

AGENDA

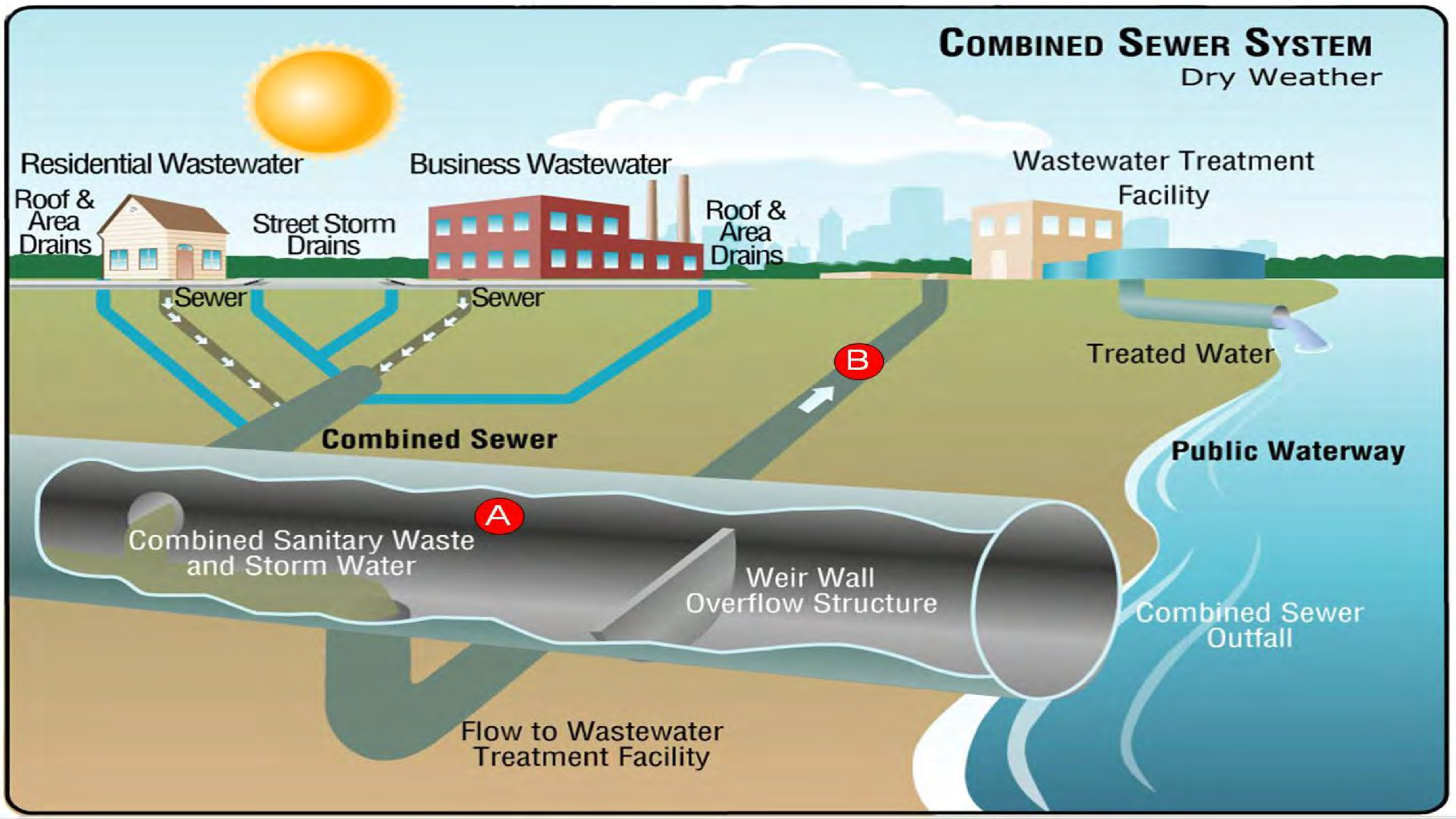
- Background
- Project Goals
- Review Preliminary Design Findings
- Questions and Answers

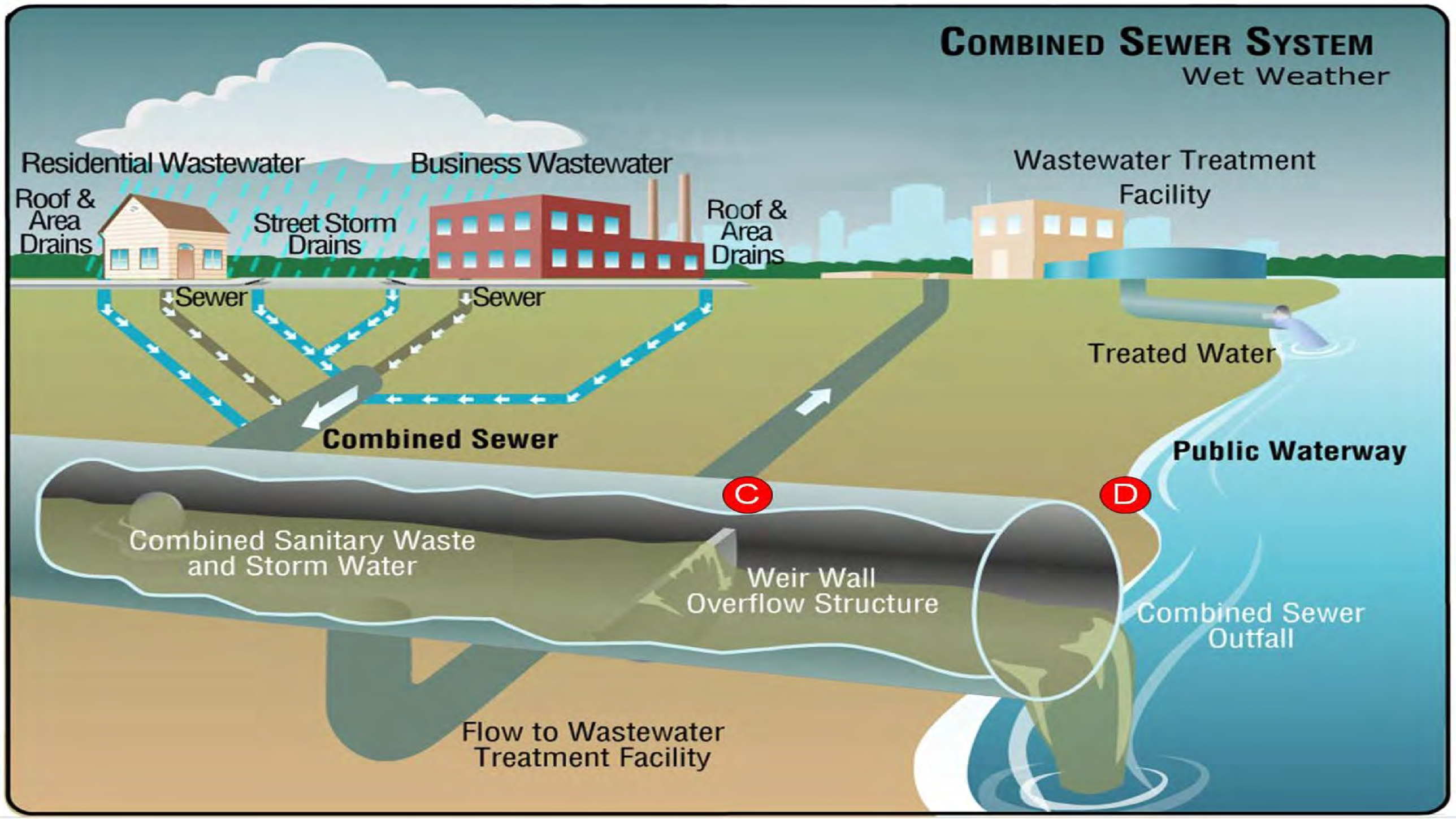
At the turn of the 20th century, Pittsburgh embarked on its biggest infrastructure improvement campaign, building sewers, water lines, roads, and power lines that created the city we know today.

PITTSBURGH HAS A STORMWATER MANAGEMENT PROBLEM

- Averages 38 inches of rain a year
  - Rainfall no longer falls evenly across the year
  - More severe storms dump more rain quicker
- Aging stormwater infrastructure was built for a different time, less population, and communities that had more green space and less pavement

"Heavy Rains Cause Flash Flooding Across Western, PA Region," CBS Pittsburgh, June 20, 2018 at 4:36 pm


COMBINED SEWER SYSTEM
Dry Weather
Residential Wastewater
Roof & Area Drains
Street Storm Drains
Business Wastewater
Roof & Area Drains
Wastewater Treatment Facility
Sewer
Sewer
Treated Water
B
Combined Sewer
Public Waterway
A
Combined Sanitary Waste and Storm Water
Weir Wall Overflow Structure
Combined Sewer Outfall
Flow to Wastewater Treatment Facility


COMBINED SEWER SYSTEM
Wet Weather
Residential Wastewater
Business Wastewater
Wastewater Treatment Facility
Roof & Area Drains
Street Storm Drains
Roof & Area Drains
Sewer
Sewer
Treated Water
Combined Sewer
Public Waterway
C
D
Combined Sanitary Waste and Storm Water
Weir Wall Overflow Structure
Combined Sewer Outfall
Flow to Wastewater Treatment Facility

WE HAVE A STORMWATER MANAGEMENT PROBLEM

- Poor water quality
- CSOs/SSOs
- Illicit discharges – sewage in storm sewers
- Surface flooding
- Basement sewage flooding
- Sewers that are 80 – 100+ years old

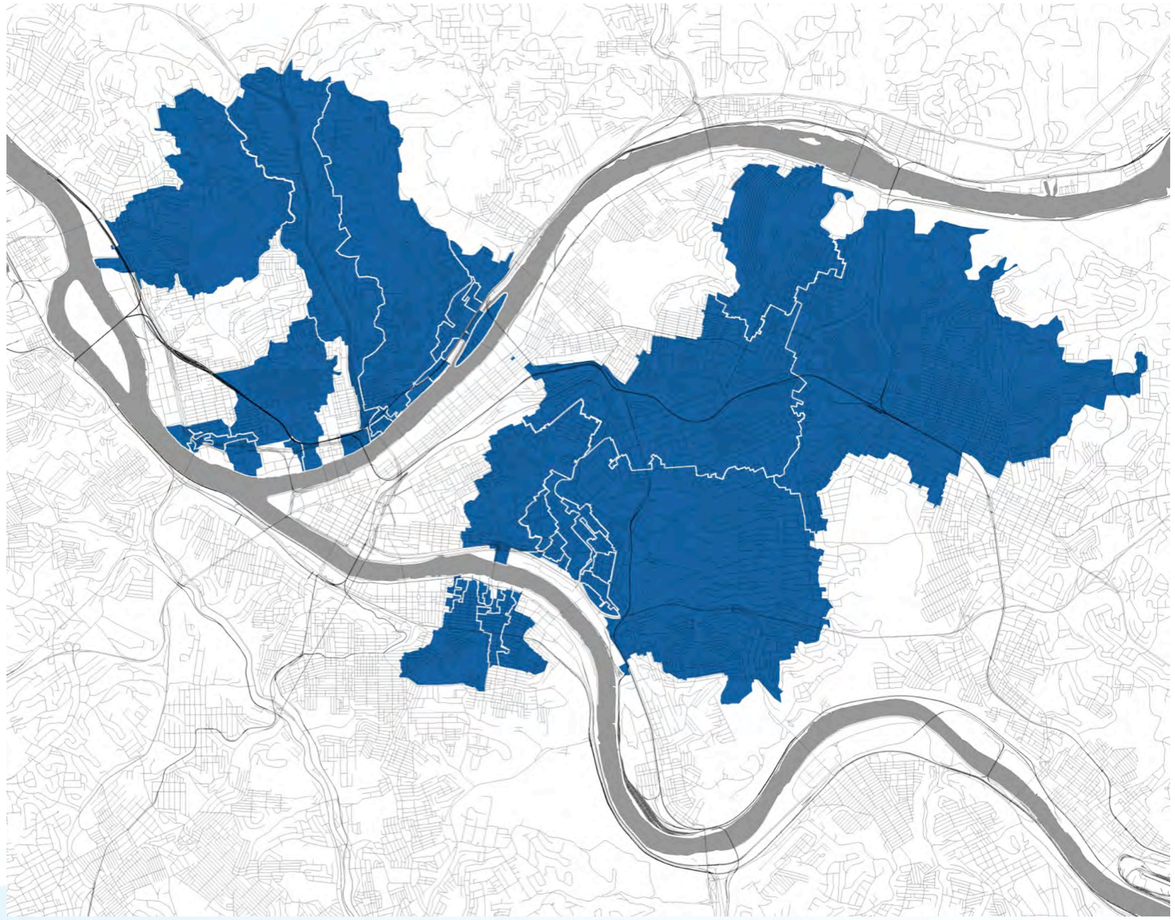
We need an AFFORDABLE PLAN to address ALL OF THESE ISSUES

LOCAL CHANGES TO MANAGE STORMWATER

- Pennsylvania and Allegheny County's Stormwater Ordinance – Act 167
- In Pittsburgh, no one agency is responsible for stormwater
- PWSA is assuming stormwater responsibilities from City and forming a Stormwater Division
- Pittsburgh's stormwater ordinances need to change

GREEN FIRST PLAN - ENGINEERED

We need to keep rainwater out of the system. We can be most effective by focusing efforts on the sheds that contribute the most to the system.



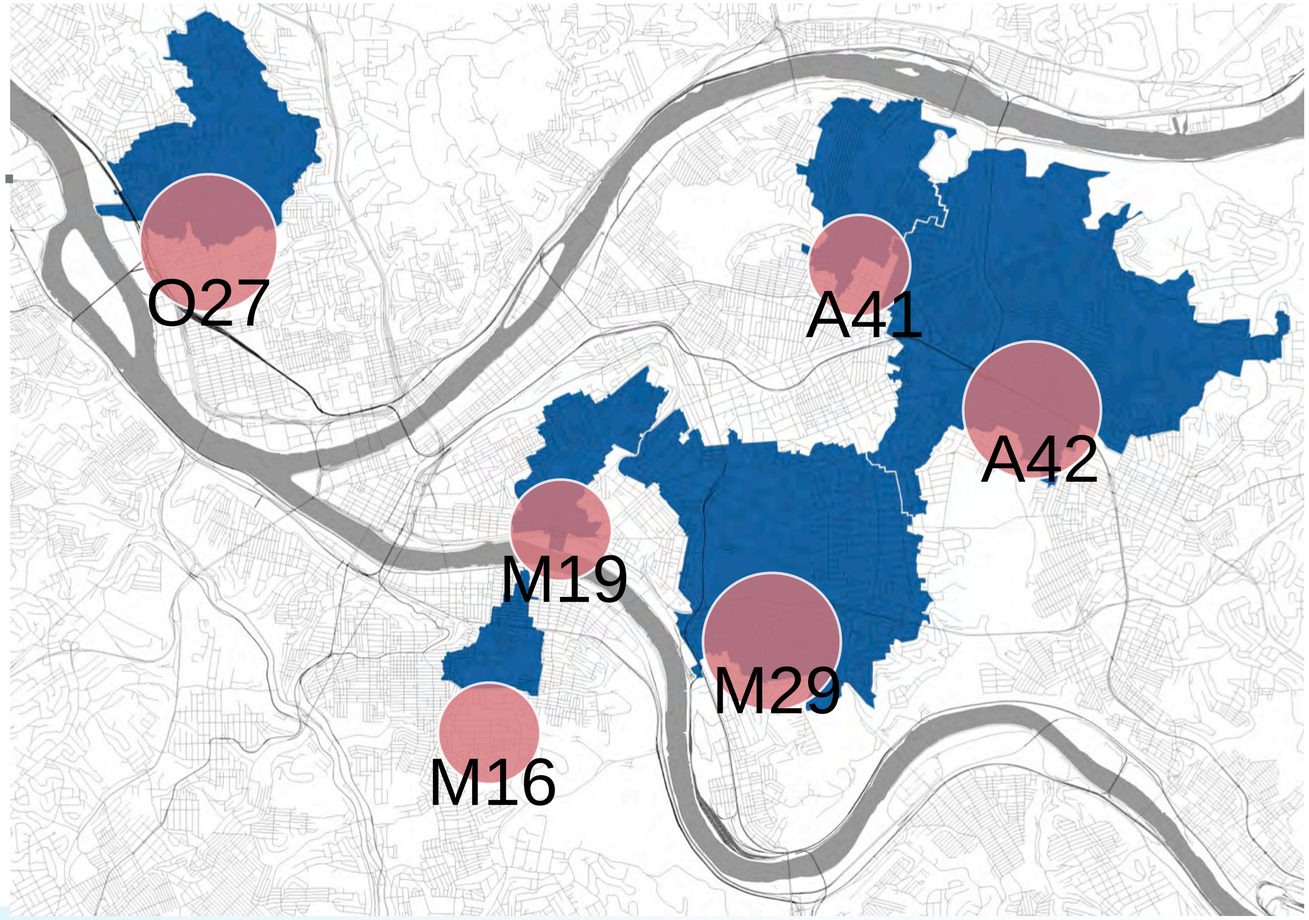
GREEN FIRST PLAN - PROCESS

Identified the top 30 sheds and overlaid other criteria…

RISK	LOWER RISK
OPPORTUNITY	EASY TO IMPLEMENT
DEVELOPMENT	HIGH ACTIVITY
SYNERGIES	MULTIPLE BENEFITS

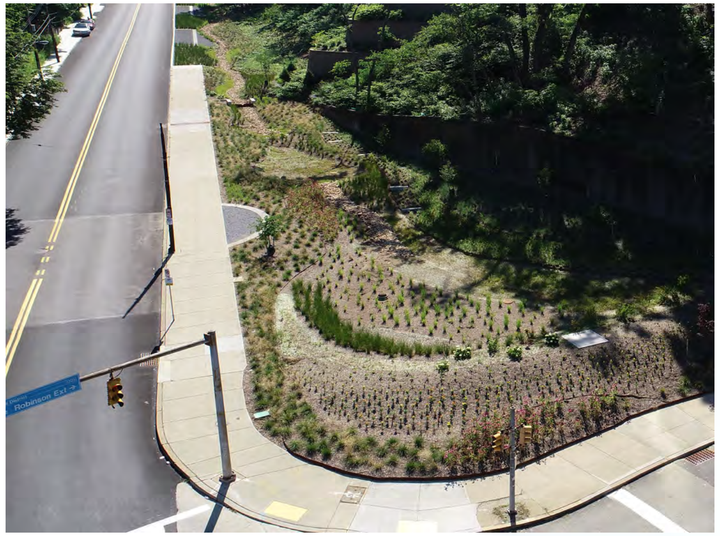
and chose 6 priority sheds

Goal: Comprehensive watershed-scale solutions

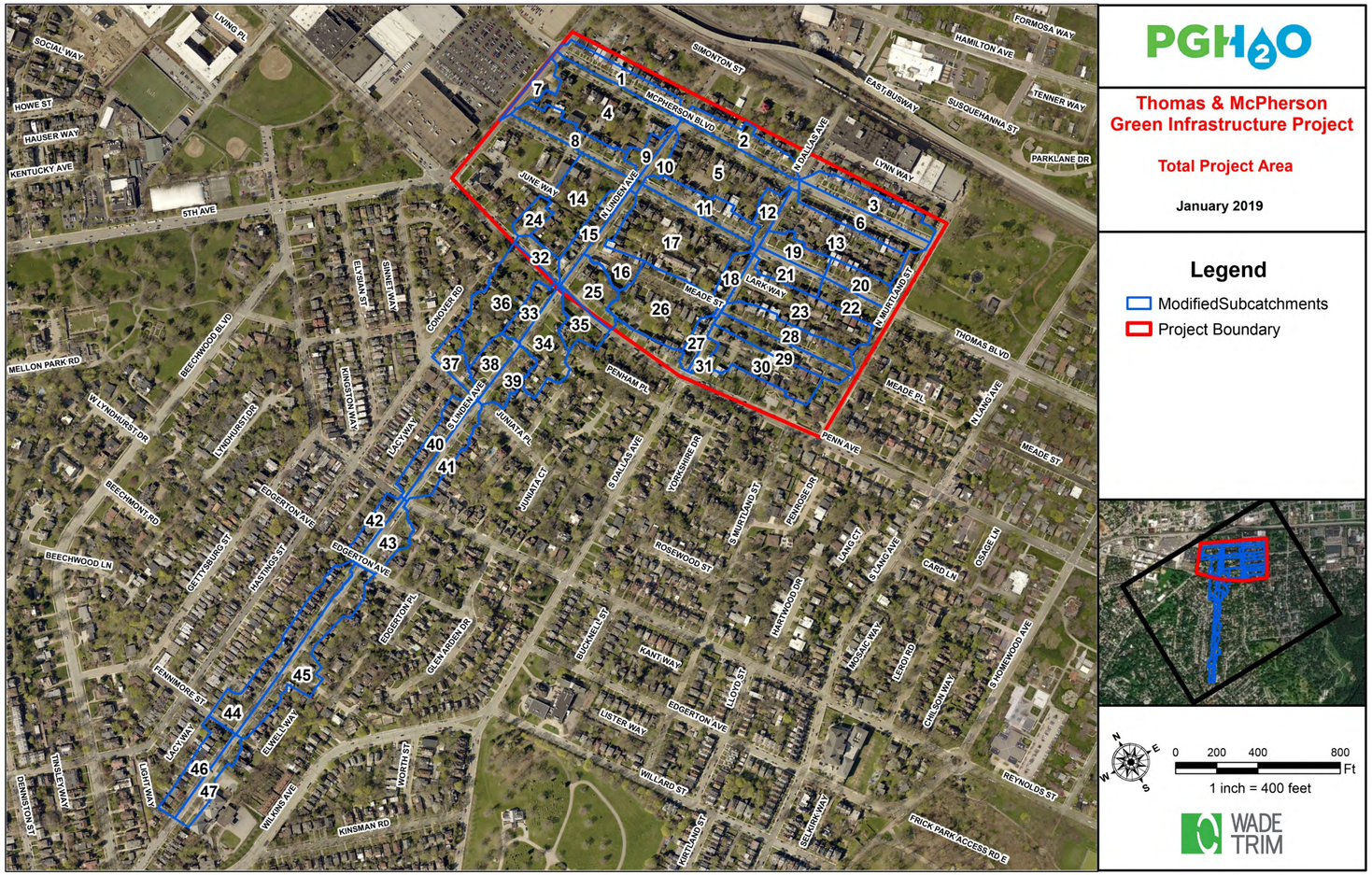


WHAT IS GREEN STORMWATER INFRASTRUCTURE?

GREEN STORMWATER INFRASTRUCTURE



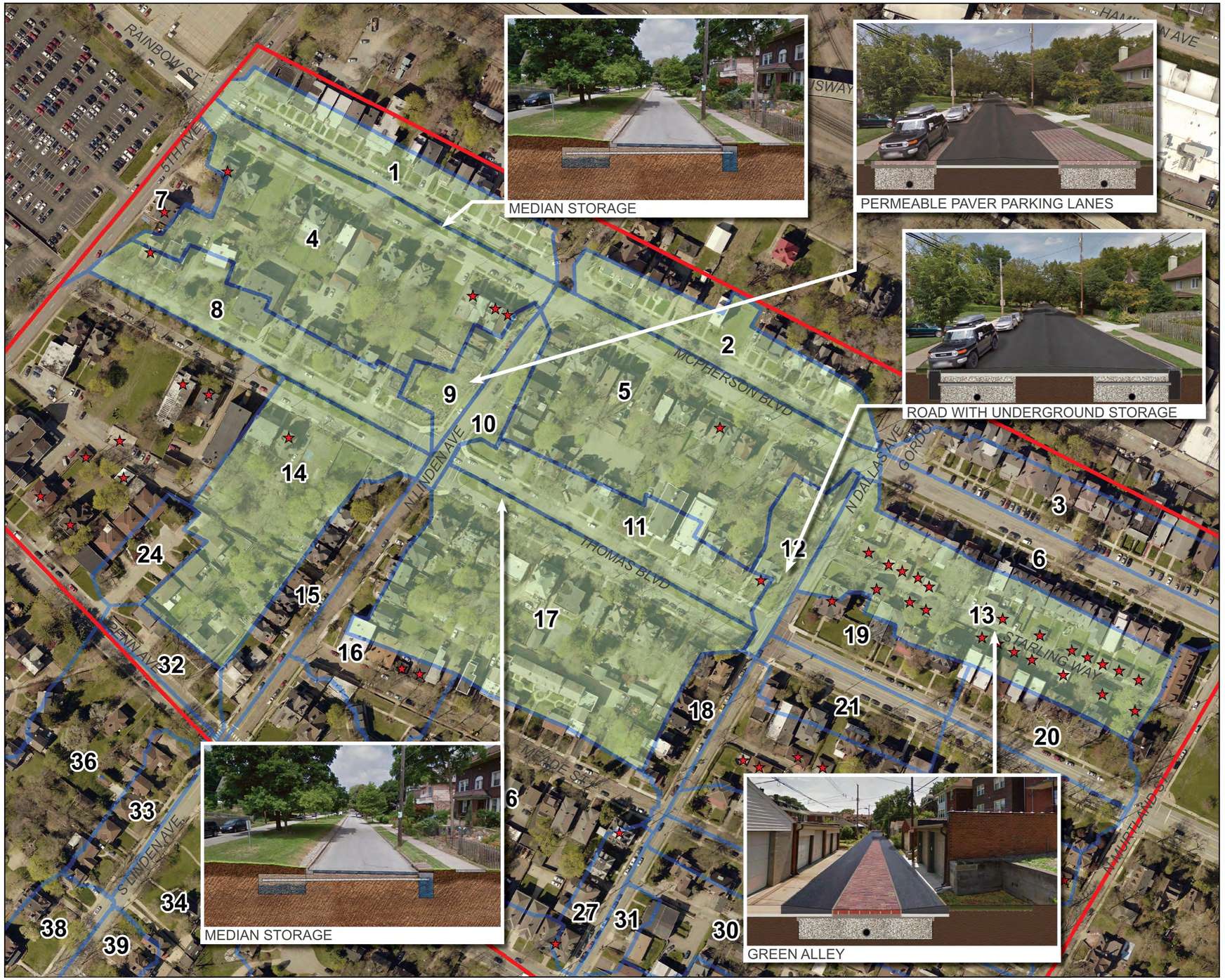
PROJECT BACKGROUND



- 47 sub-basins
- Total DA 63.6 acres
- Project goals
  - Manage 18 acres
  - Capture 1.5” of runoff
  - 41% impervious

North Border: McPherson Blvd.
East Border: N. Murtland St.

South Border: Penn Ave.
West Border: Fifth Ave.



PGH2O

Thomas & McPherson
Green Infrastructure Project

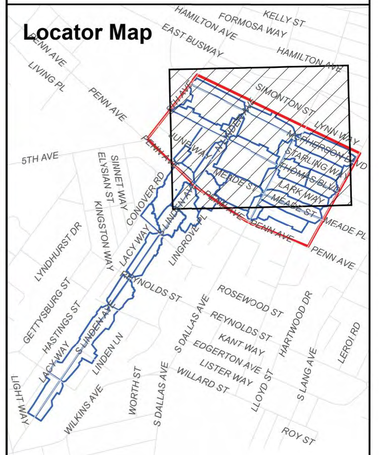
Phase One Project Area Recommendations

April 26, 2019

Legend

- Disconnected Downspouts
- Primary Project Area
- Sub-Catchment Drainage Area
- Phase One Project Drainage Area

Locator Map



N 0 75 150 Ft
1 inch = 75 feet

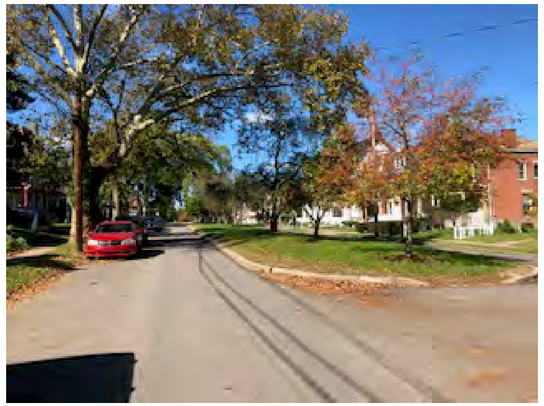
WADE TRIM

PGH2O

EXISTING CONDITIONS

ROADWAY TYPOLOGIES

Definition: Classification of places within its context according to its form, character or function.



Boulevard

Frontage/Connector

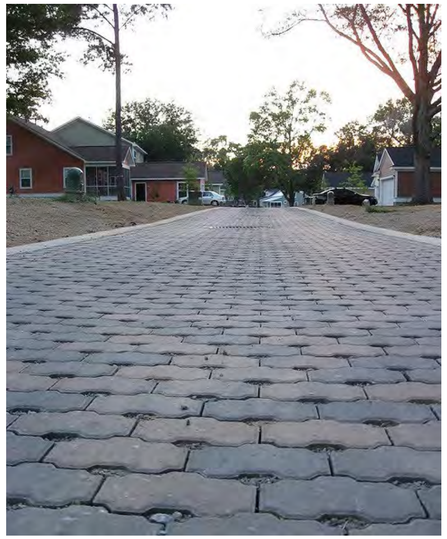
Residential Side Street

Green Alley/Way

ROADWAY TYPOLOGIES BY STREET NAME

TYPOLOGY	STREET NAME
Boulevard	Thomas, McPherson
Frontage/Connector	N. & S. Linden, N. Dallas
Residential Side-Street	Meade, North Point Breeze Court
Green Alley/Way	June Way, Wren Way, Lark Way, Starling Way

IDENTIFICATION OF ALTERNATIVE GSI TECHNOLOGIES



Permeable Pavement

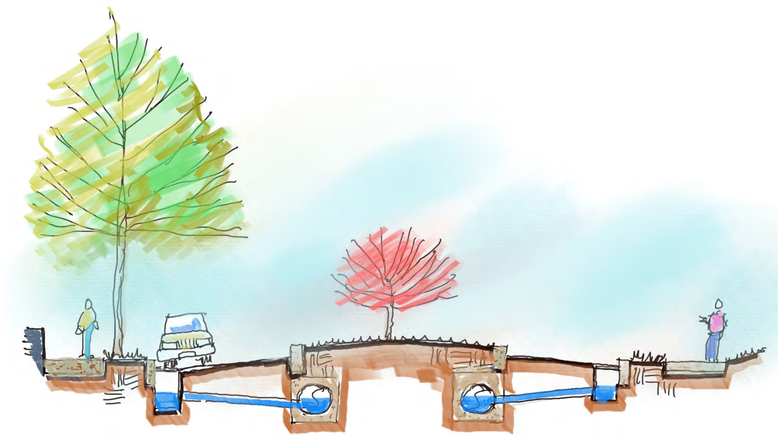
Bioretention

Underground Storage

PROJECT AREA GREEN STORMWATER INFRASTRUCTURE SOLUTIONS

TYPOLOGY	STREET NAME
Boulevard	Thomas, McPherson
Frontage/Connector	N. & S. Linden, N. Dallas
Residential Side-Street	Meade, North Point Breeze Court
Green Alley/Way	June Way, Wren Way, Lark Way, Starling Way

BOULEVARD TYPOLOGY: GSI ALTERNATIVE



Boulevard Typology
Alternative 1
Median Preserved-Edge Storage

BOULEVARD EXTENSION: GSI ALTERNATIVE

Thomas Boulevard (Before)

Thomas Boulevard (After)

PROJECT AREA TYPOLOGIES

TYPOLOGY	STREET NAME
Boulevard	Thomas, McPherson
Frontage/Connector	N. & S. Linden, N. Dallas
Residential Side-Street	Meade, North Point Breeze Court
Green Alley/Way	June Way, Wren Way, Lark Way, Starling Way

FRONTAGE/CONNECTOR TYPOLOGY: UNDERGROUND STORAGE ALTERNATIVE

Example on S. Linden (Before)

Example on S. Linden(After)

FRONTAGE/CONNECTOR TYPOLOGY: PERMEABLE PAVER ALTERNATIVE

Example on S. Linden (Before)

Example on S. Linden (After)

FRONTAGE/CONNECTOR TYPOLOGY: BIOSWALE ALTERNATIVE

Example (Before)

Example (After)

PROJECT AREA TYPOLOGIES

TYPOLOGY	STREET NAME
Boulevard	Thomas, McPherson
Frontage/Connector	N. & S. Linden, N. Dallas
Residential Side-Street	Meade, North Point Breeze Court
Green Alley/Way	June Way, Wren Way, Lark Way, Starling Way

RESIDENTIAL SIDE STREET: PERMEABLE PAVER ALTERNATIVE

Example on Meade Street (Before)

Example on Meade Street (After)

PROJECT AREA TYPOLOGIES

TYPOLOGY	STREET NAME
Boulevard	Thomas, McPherson
Frontage/Connector	N. & S. Linden, N. Dallas
Residential Side-Street	Meade, North Point Breeze Court
Green Alley/Way	June Way, Wren Way, Lark Way, Starling Way

GREEN ALLEY/WAY: PERMEABLE PAVER ALTERNATIVE

Example on Starling Way (Before)

Example on Starling Way (After)

CURRENT PROJECT DESIGN AND CONSTRUCTION SCHEDULE

- 60% Final Design Plans Complete — Summer 2019
- 90% Final Design Plans Complete — Fall 2019
- 100% Final Design Plans Complete — Winter 2019

Construction for Phase 1 Estimated Spring 2020 – Fall 2020

SHARED STORMWATER RESPONSIBILITIES

We are all in this together. There are civic and private responsibilities for managing stormwater. Collectively we can create flood prepared communities that are safer, healthier places to live.

Pittsburgh Water & Sewer Authority

Should you have any questions, do not hesitate to contact:

Ana Flores, EIT
Design Project Manager
412.255.8800 x 8035 or aflores@pgh2o.com

Rebecca Zito
Communications Project Manager
412.676.6684 or rzito@pgh2o.com

To receive project updates, leave your email on the sign-in sheet.