



Pittsburgh
Water & Sewer
Authority

**THOMAS AND MCPHERSON GREEN
INFRASTRUCTURE PROJECT**
North Point Breeze Neighborhood

February 19, 2019

AGENDA

- Background
- Project Goals
- Review Preliminary Design Findings
- Breakout Session with Design Team
- Selection of Preferred Alternatives

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

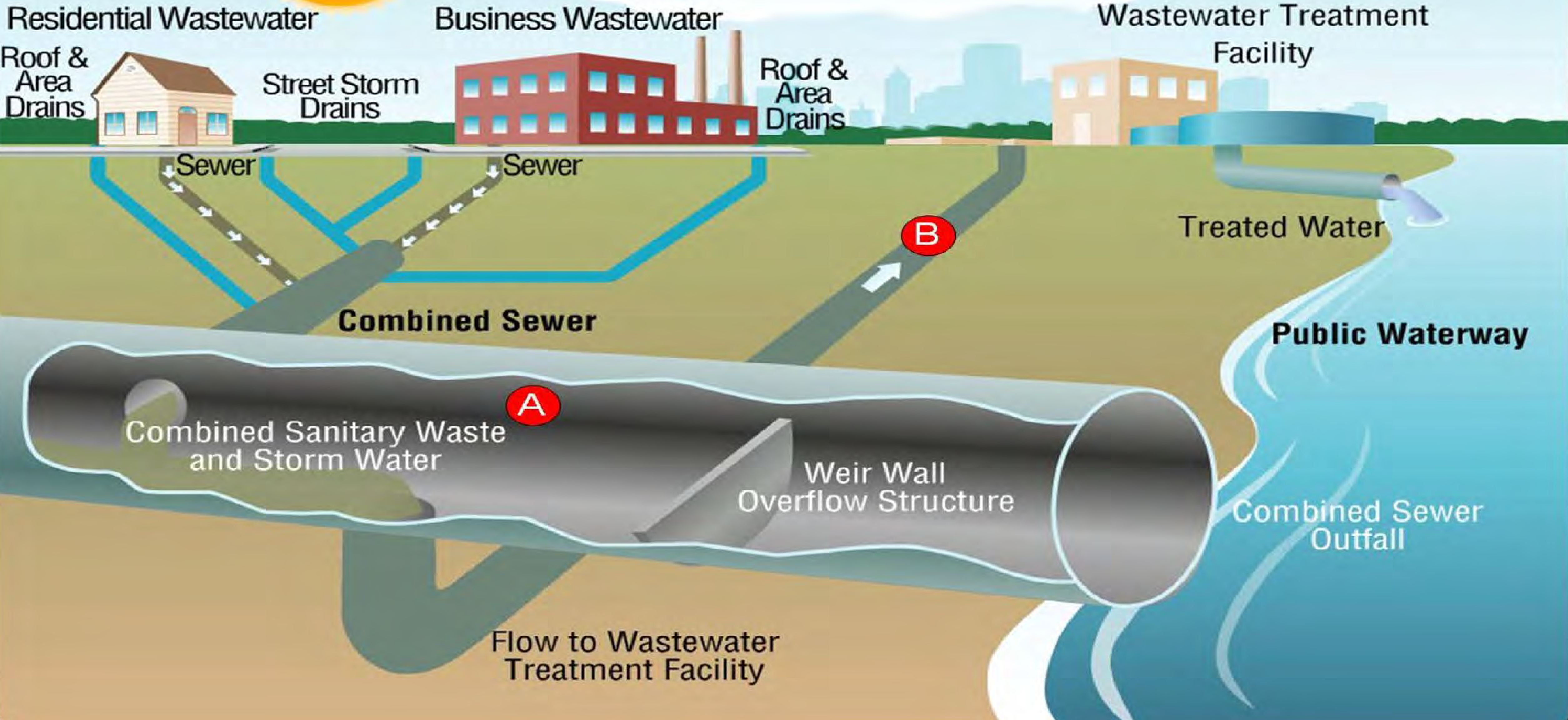
- Averages 38 inches of rain a year
 - Rainfall no longer falls evenly across the year
 - More severe storms dump more rain quicker
- Aging stormwater infrastructure was built for a different time, less population, and communities that had more green space and less pavement



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

COMBINED SEWER SYSTEM

Dry Weather



COMBINED SEWER SYSTEM

Wet Weather



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**

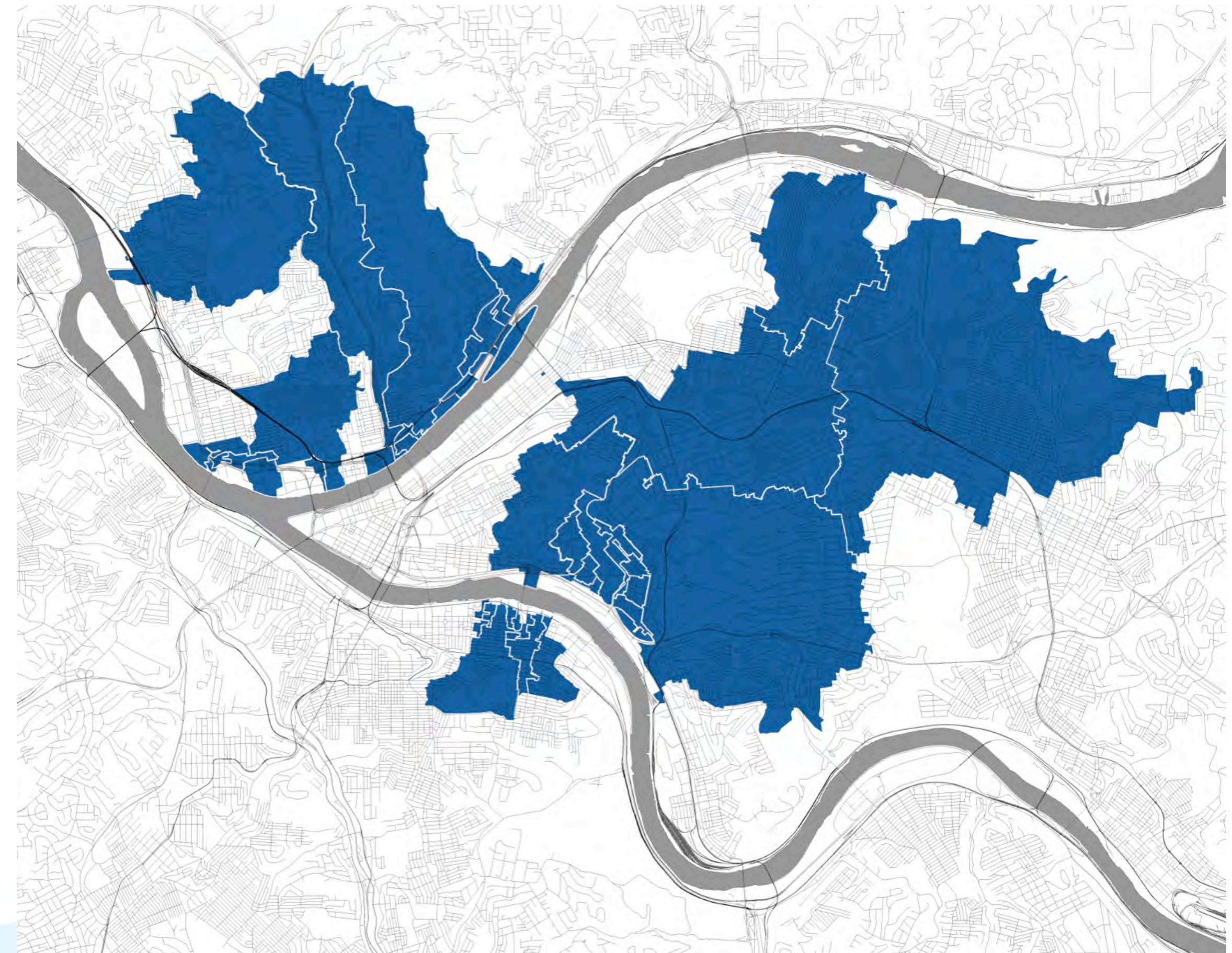


LOCAL CHANGES TO MANAGE STORMWATER

- 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.



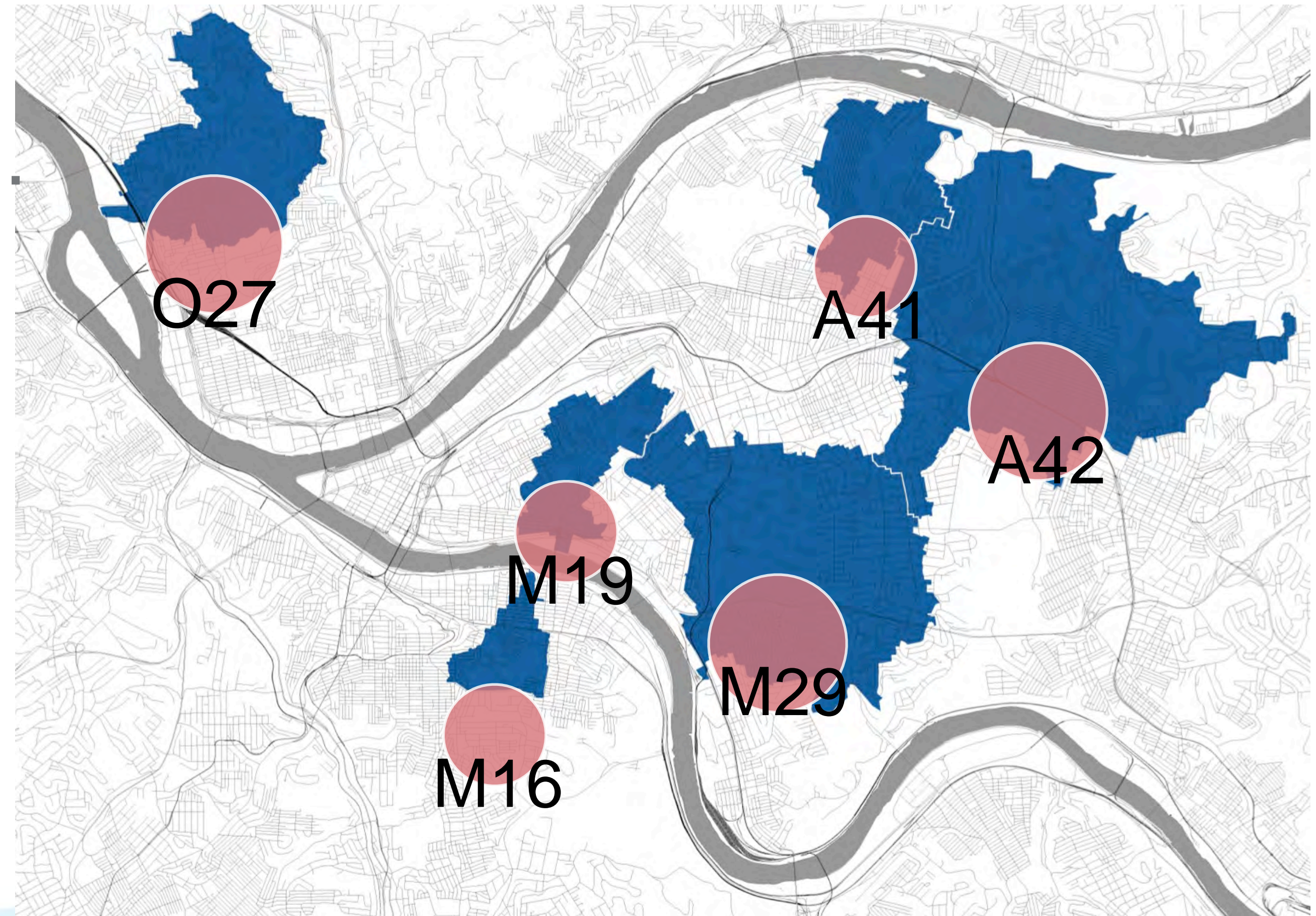
GREEN FIRST PLAN - PROCESS

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



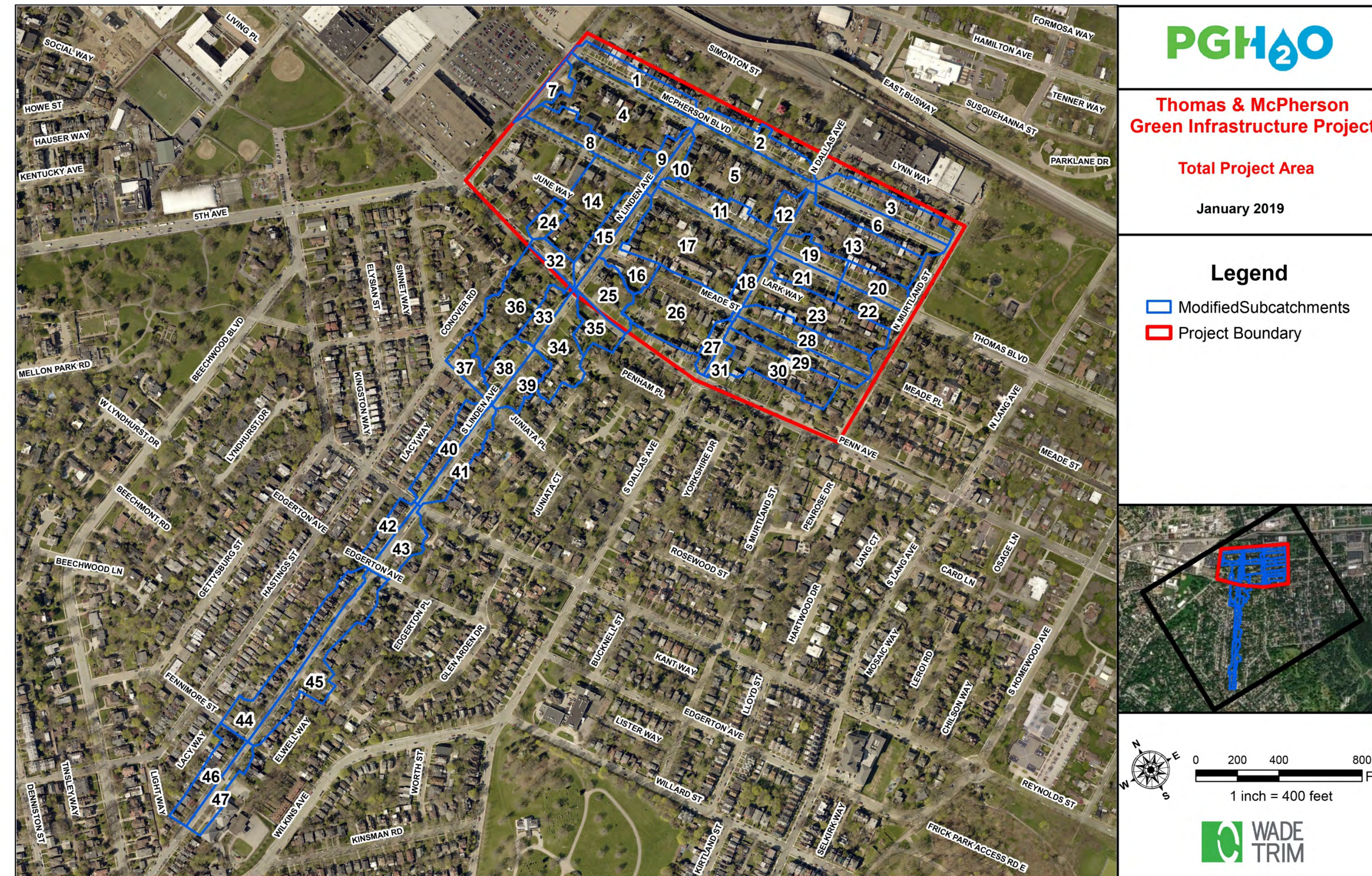
WHAT IS GREEN STORMWATER INFRASTRUCTURE?



GREEN STORMWATER INFRASTRUCTURE



PROJECT BACKGROUND



- 47 sub-basins
- Total DA 63.6 acres
- Project goals
 - Manage 6-12 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.

EXISTING CONDITIONS



ROADWAY TYPOLOGIES

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



Boulevard



Frontage/Connector



Residential Side
Street

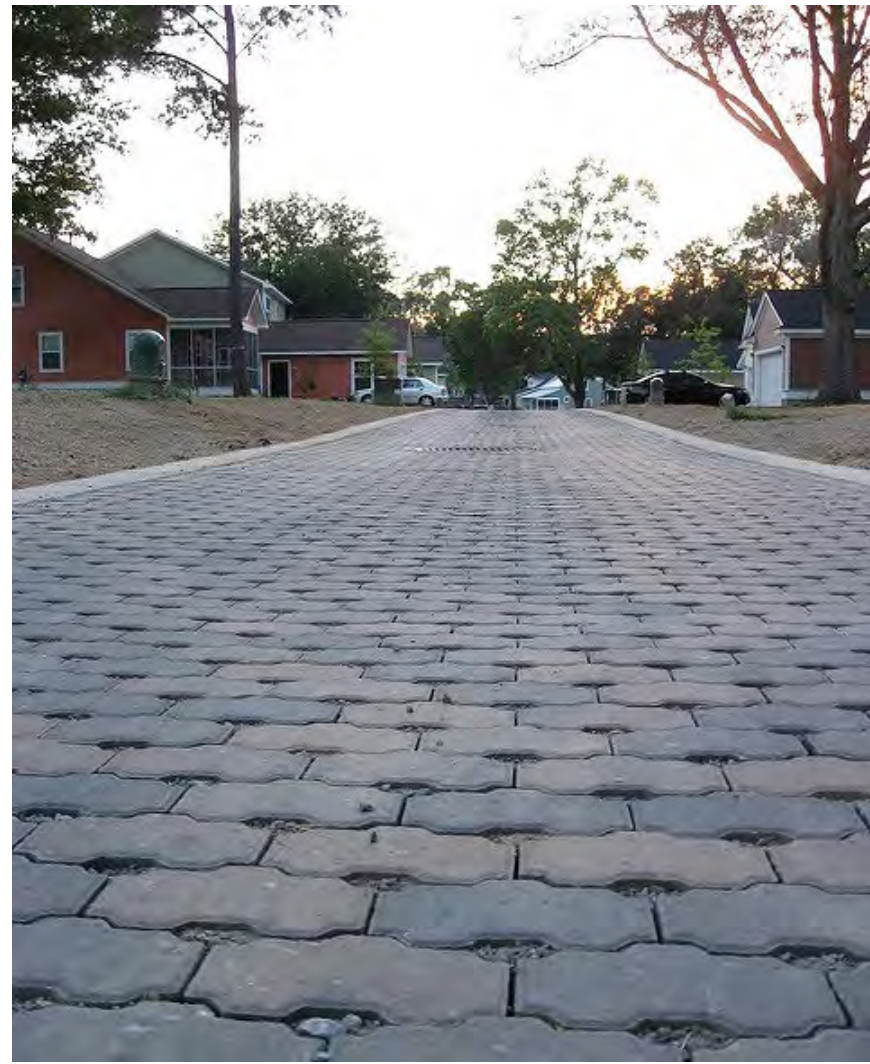


Green Alley/Way

ROADWAY TYPOLOGIES BY STREET NAME

| TYPOLGY | 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

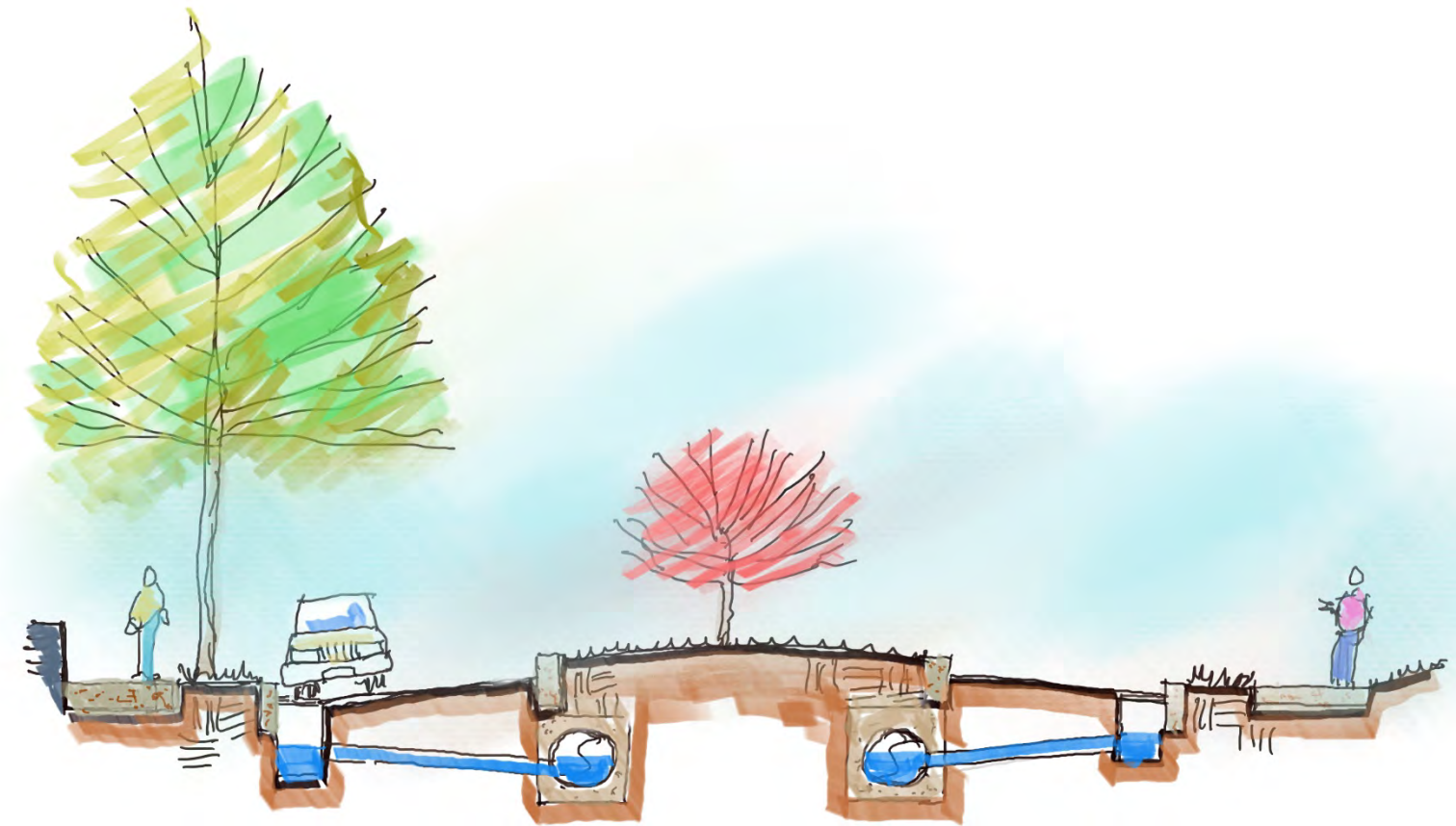


Underground Storage

PROJECT AREA GREEN STORMWATER INFRASTRUCTURE SOLUTIONS

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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

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FRONTAGE/CONNECTOR TYPOLOGY: UNDERGROUND STORAGE ALTERNATIVE



South Linden (Before)



South Linden (After)

FRONTAGE/CONNECTOR TYPOLOGY: PERMEABLE PAVER ALTERNATIVE



South Linden (Before)



South Linden (After)

FRONTAGE/CONNECTOR TYPOLOGY: BIOSWALE ALTERNATIVE



South Linden (Before)



South Linden (After)

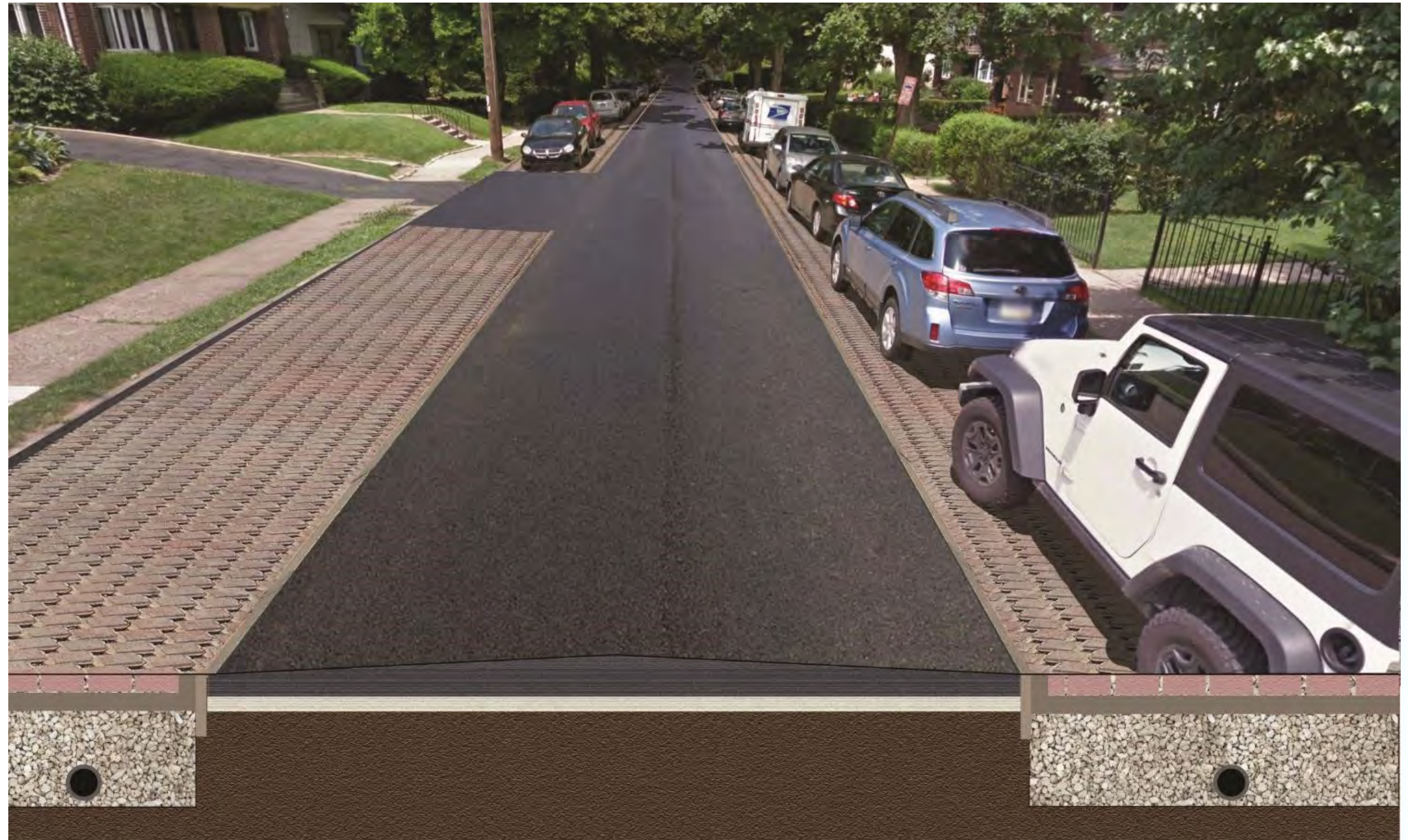
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RESIDENTIAL SIDE STREET: PERMEABLE PAVER ALTERNATIVE



Meade Street (Before)



Meade Street (After)

PROJECT AREA TYPOLOGIES

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GREEN ALLEY/WAY: PERMEABLE PAVER ALTERNATIVE



Starling Way (Before)



Starling Way (After)

CURRENT PROJECT DESIGN AND CONSTRUCTION SCHEDULE

- 60% Final Design Plans Complete June 2019
- Community Meeting #2 July 2019
- 90% Final Design Plans Complete August 2019
- Community Meeting #3 September 2019
- Community Meeting #4 February 2020

Construction Phase Estimated 2/2020 through 10/2020

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.



COMMENTS AND DISCUSSION

- Breakout Session
 - Provide feedback on the proposed projects, let us know if you experience basement backups, surface flooding, or localized street flooding in the area
- Selection of Preferred Alternative
 - Vote on your preferred alternative



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

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