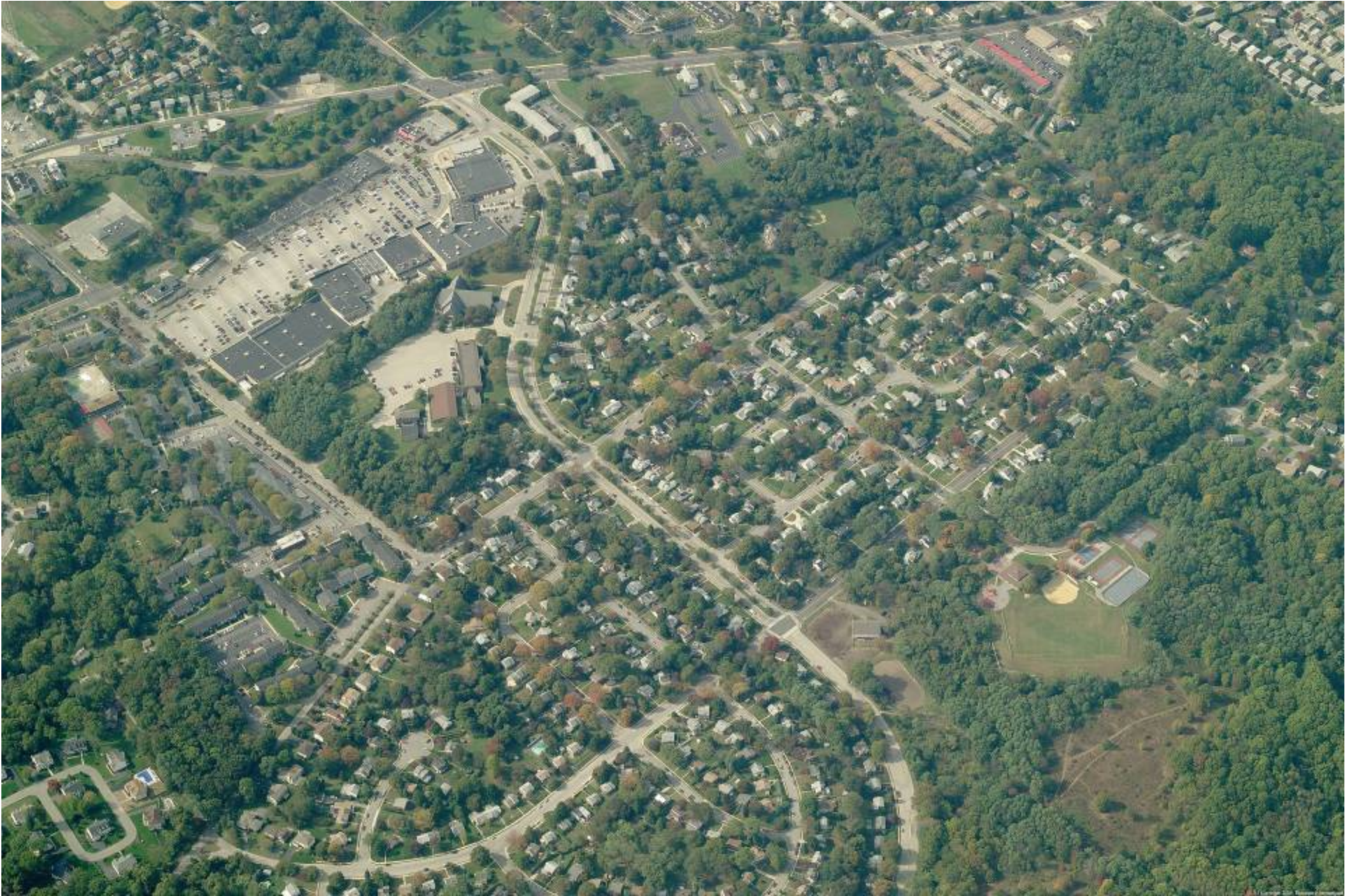


Green Infrastructure...



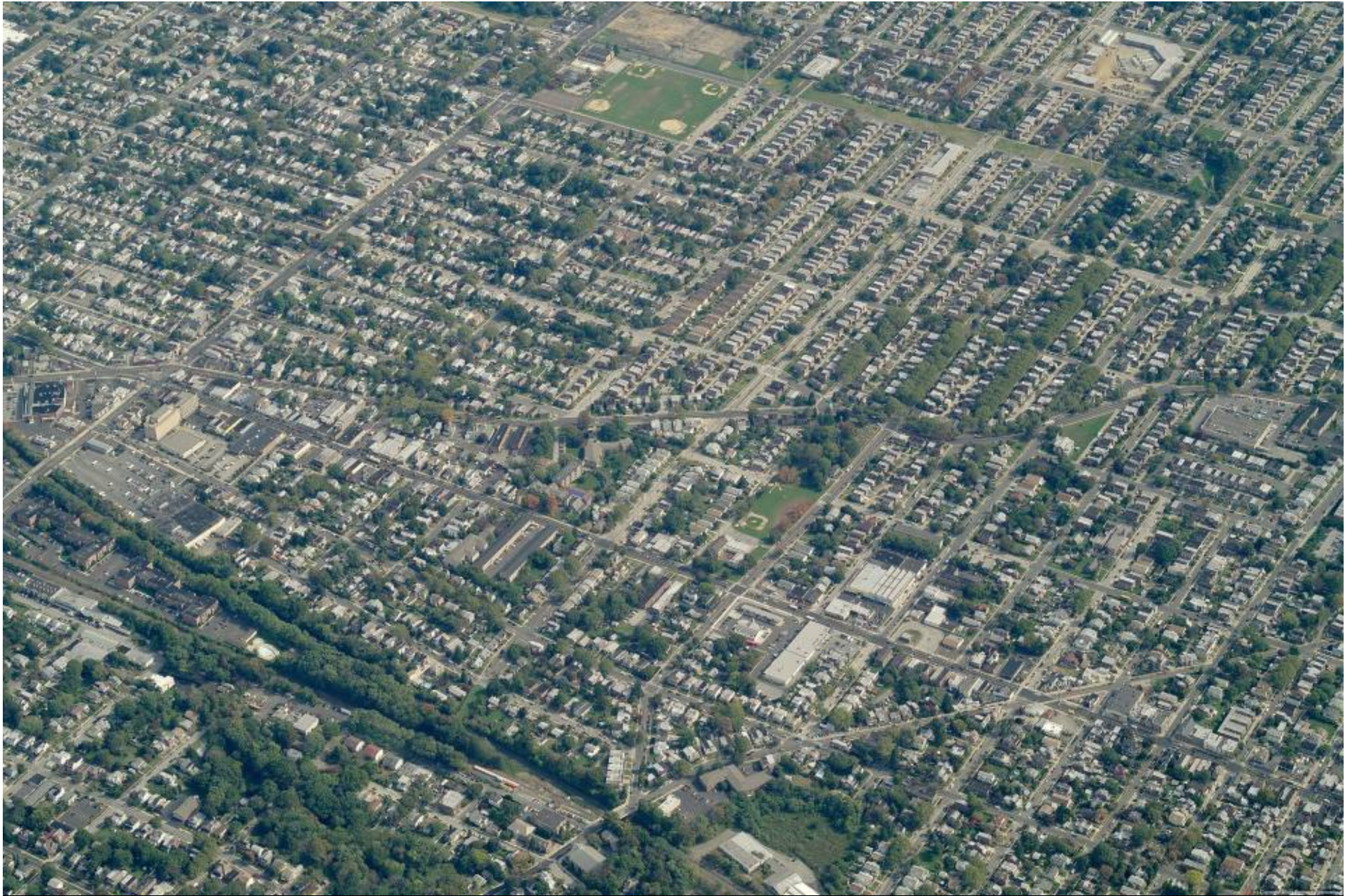
Wissahickon – 26%



Pennypack – 40%



Tookany-Tacony Frankford – 58%



Tookany-Tacony Frankford – 58%



Schuylkill (Tidal) – 58%

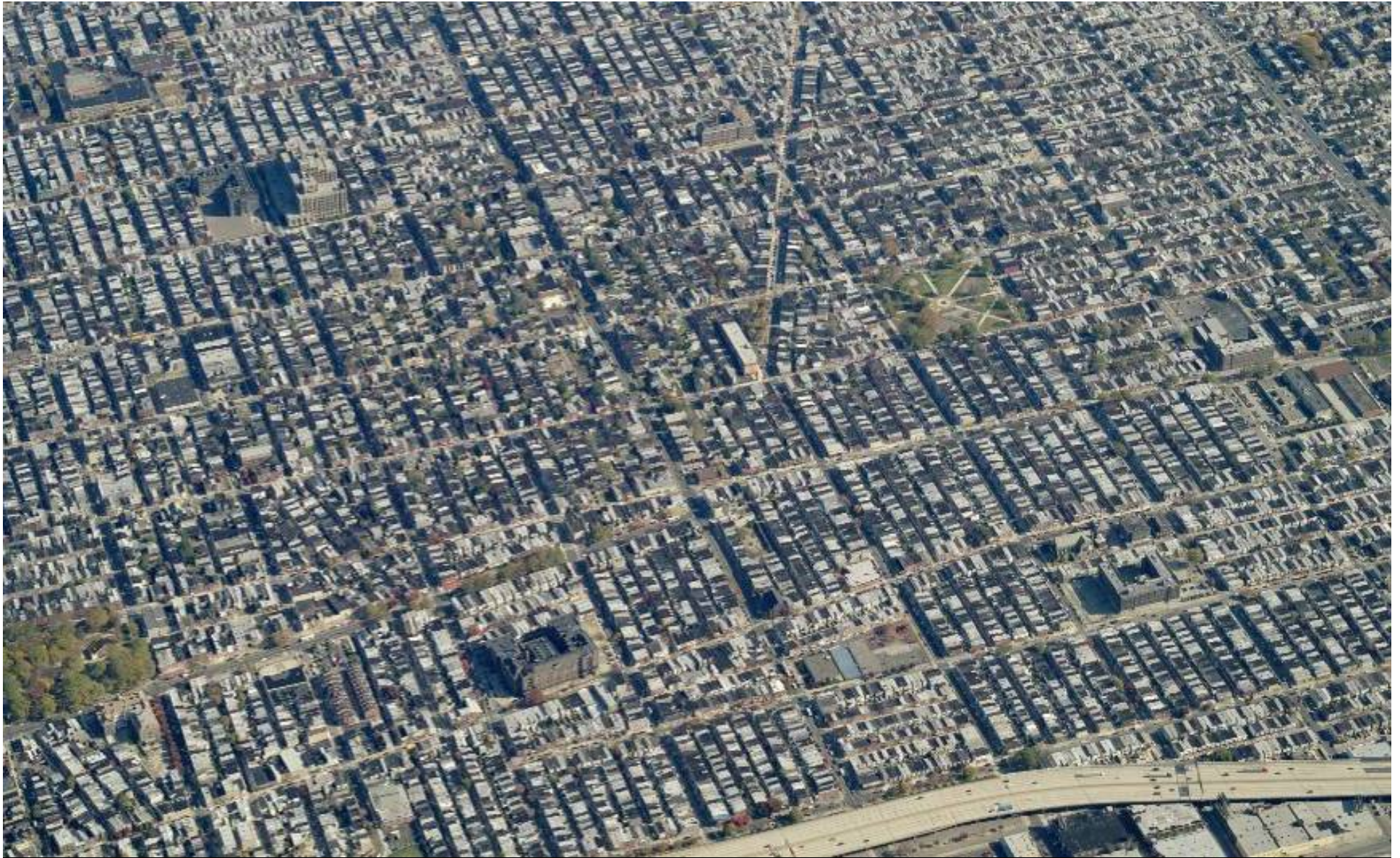


Cobbs – 67%



Delaware Watershed (North) – 69%

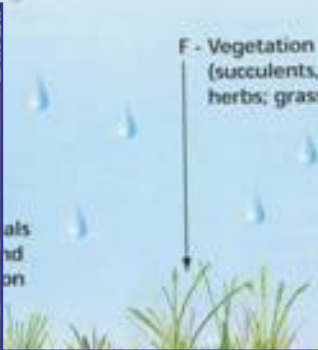




Delaware Watershed (South) – 81%

# Green Roofs

(Philadelphia, PA)



# Green Roofs

(Chemung County, NY)



# Green Roofs

(NYC, NY)



# Green Roofs

(Philadelphia, PA)



# Green Roofs

(Monroe County Civic Center, Rochester NY)



# Green Roofs

(Monroe County Civic Center, Rochester NY)



# Green Roofs

(Monroe County Civic Center, Rochester NY)







Monroe County Civic Center Roof Rendering



Philadelphia Water Department and WRT

# Green Alleys

(Chicago, IL)



# Bioretention and Urban Streetscape

(Portland, OR)



# Bioretention and Urban Streetscape

(Portland, OR, and Queens, NY)



# Green Streets

(NYC, NY)



# Green Streets

(Brooklyn, NY)



NYC Dept of Parks and Recreation

# Green Streets

(Utica, NY)

Shohreh's  
slide.... Street  
trees...



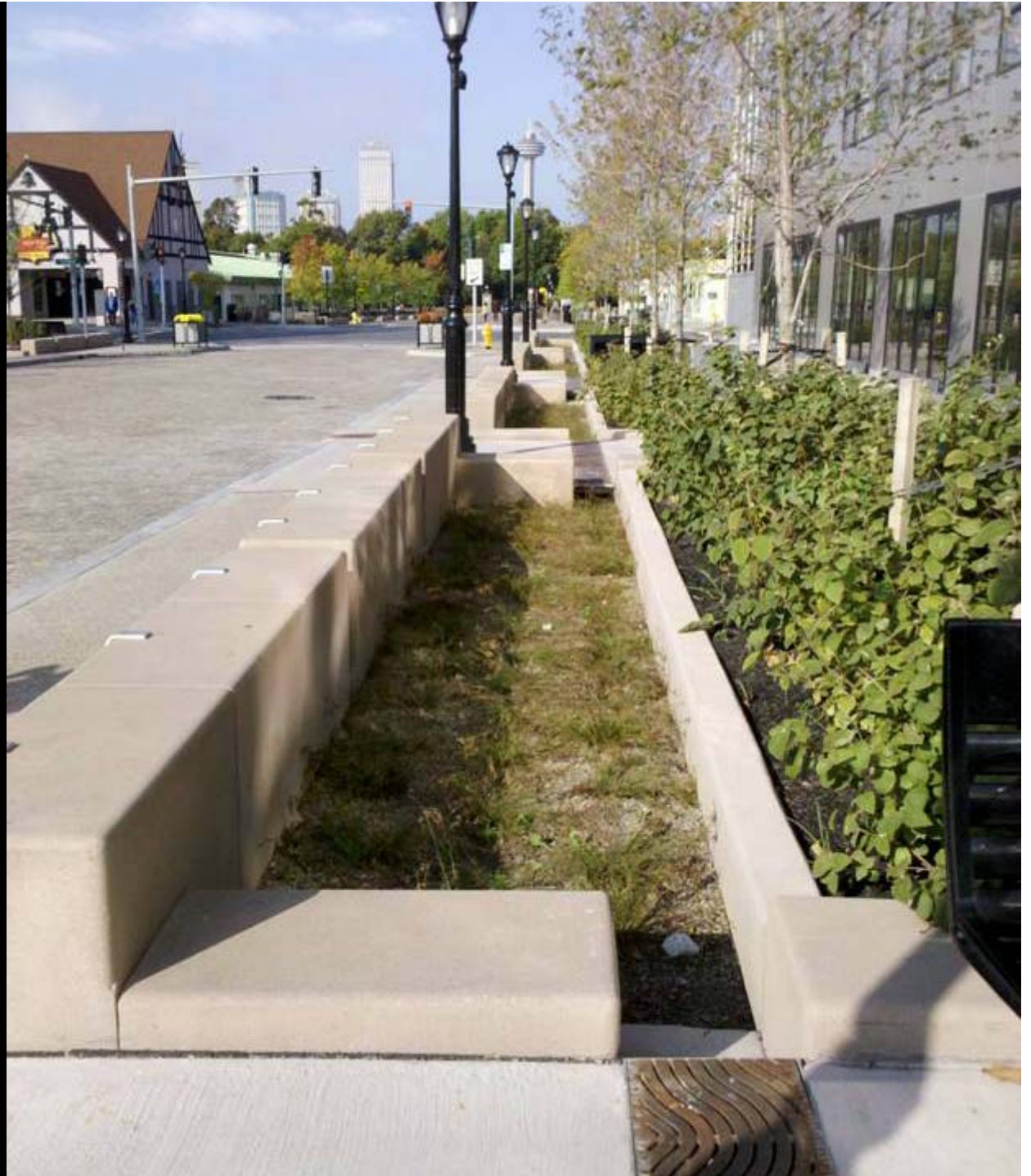
# Green Streets

(Niagara Falls, NY)



# Green Streets

(Niagara Falls, NY)



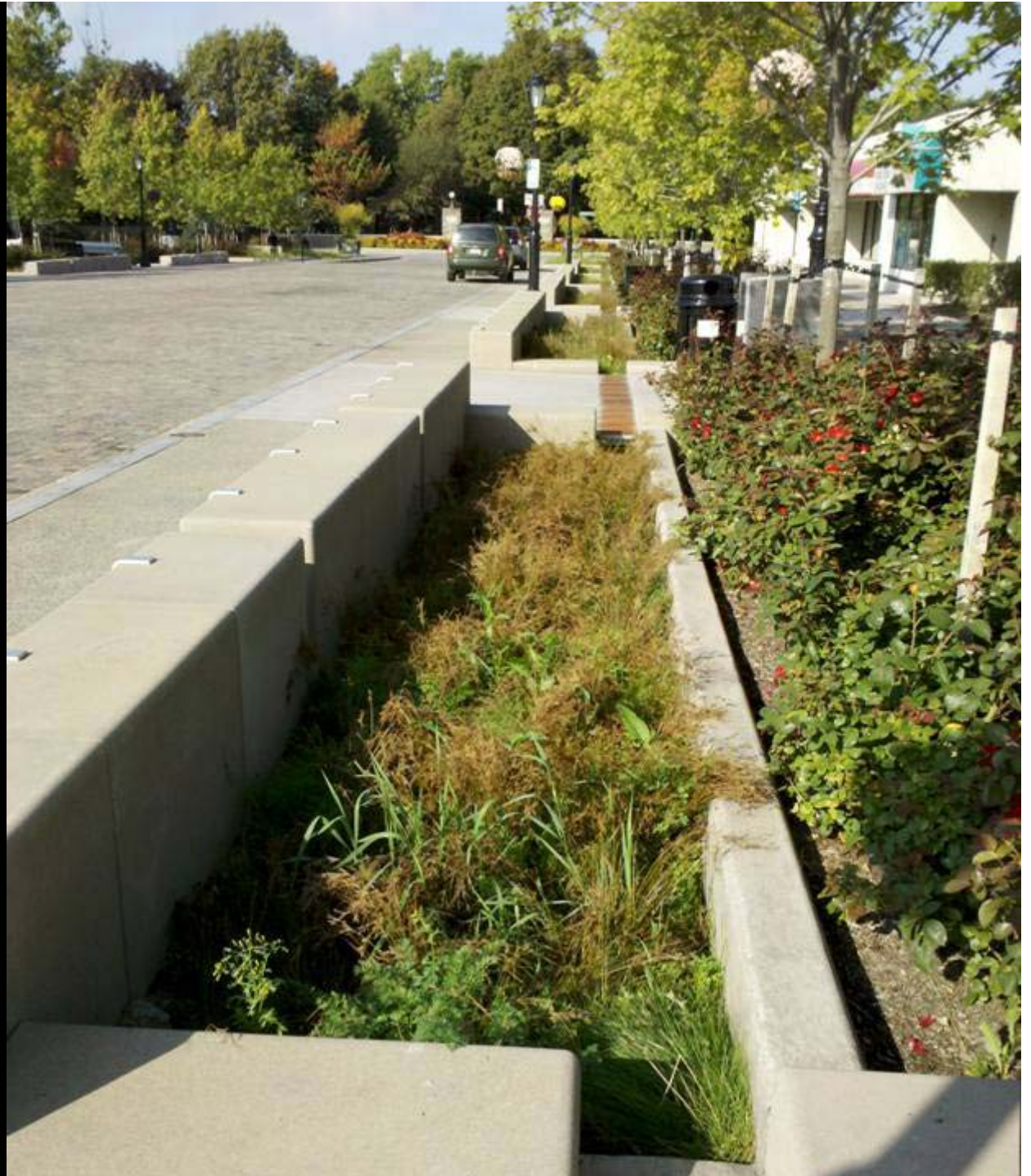
# Green Streets

(Niagara Falls, NY)



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(Niagara Falls, NY)



# Green Streets

(Niagara Falls, NY)



# Green Streets

(Niagara Falls, NY)



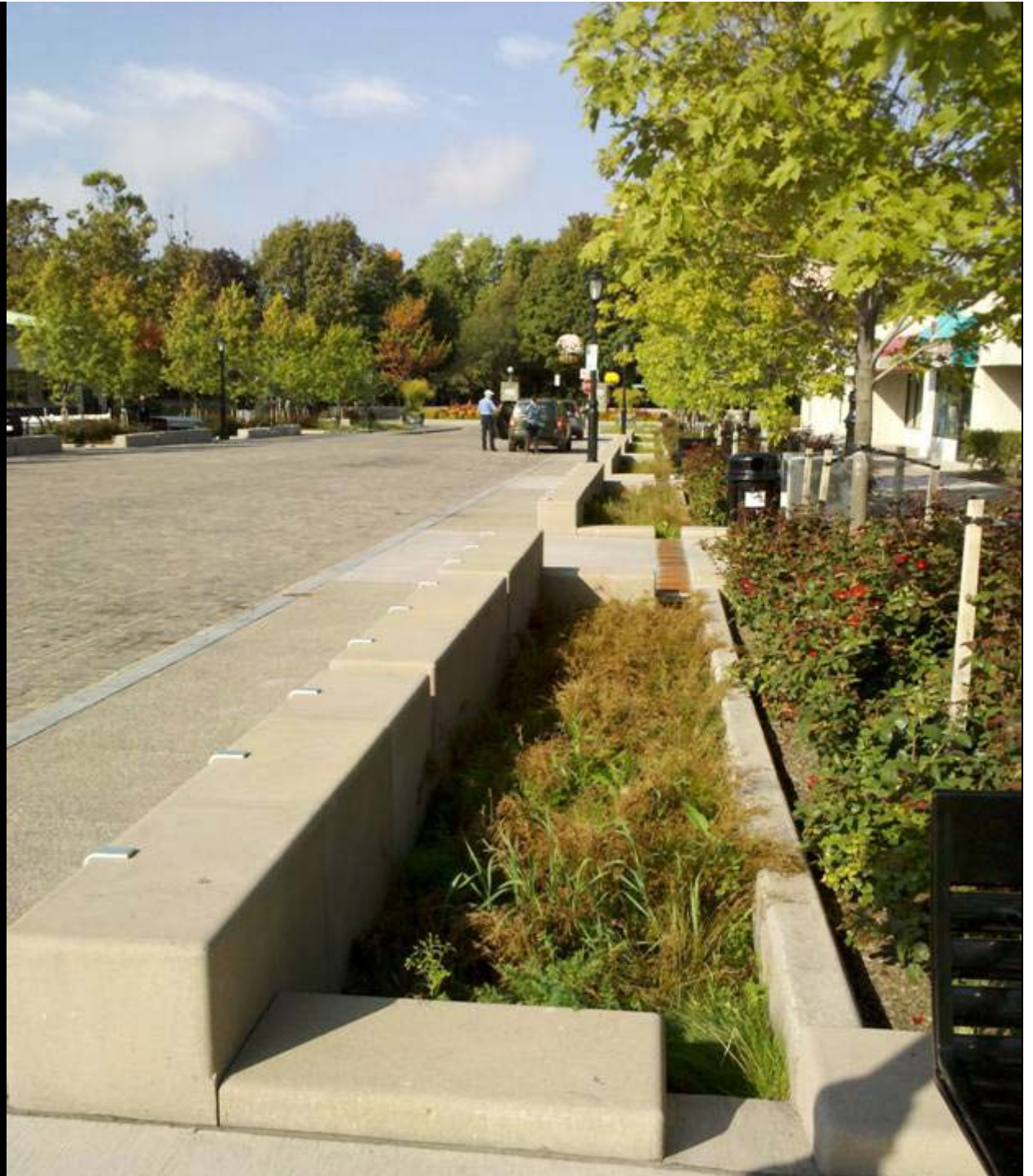
# Green Streets

(Niagara Falls, NY)



# Green Streets

(Niagara Falls, NY)







## Green Streets



## Green Streets



## Green Streets



## Green Streets



## Green Streets



## Green Streets



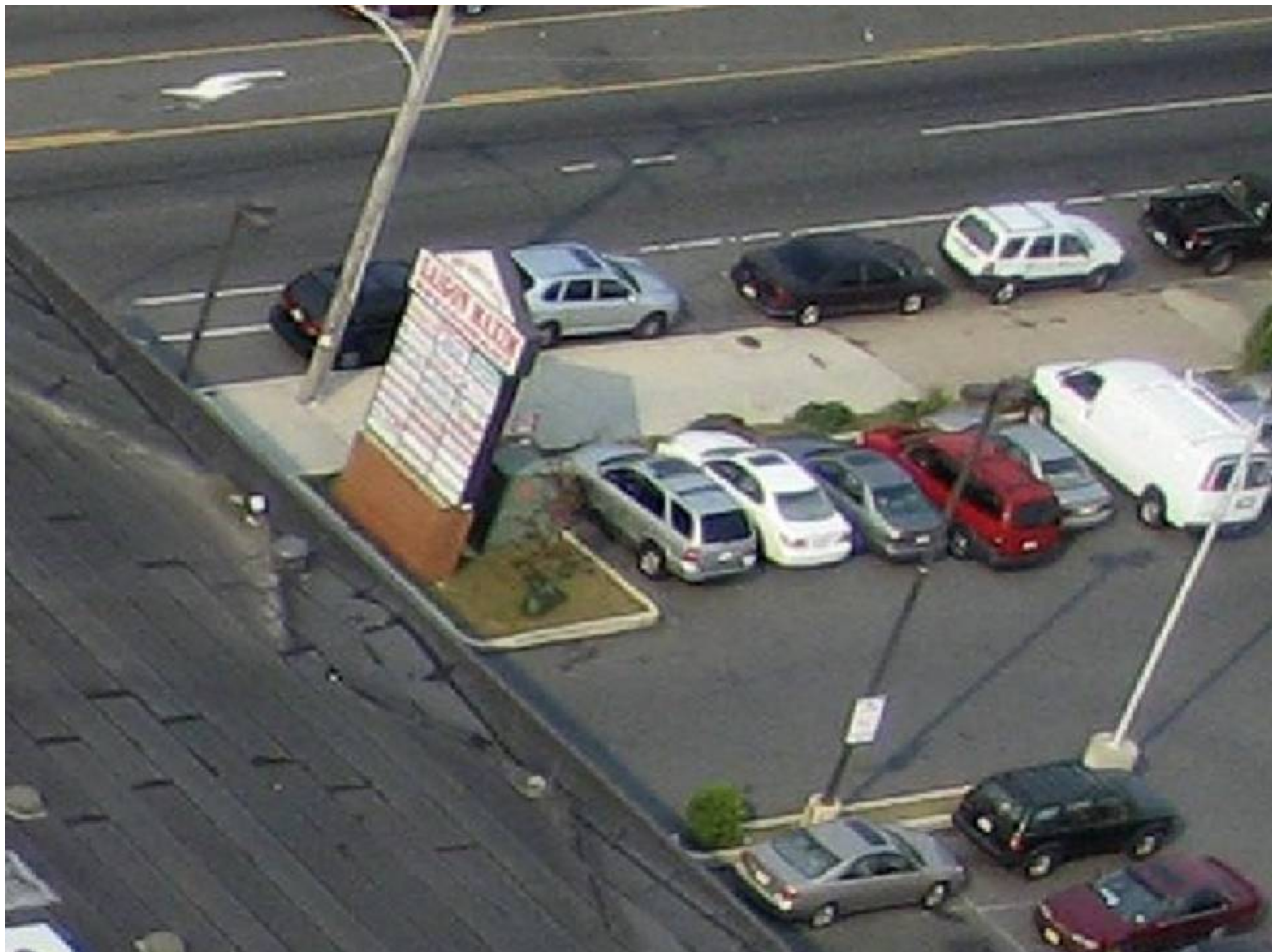
## Green Streets













# Green Parking Lots

(Lindenhurst, NY)

LI & REGION

A23



Peter Ward, director of Lindenhurst library, calls new lot "amazing."

## Despite rain, library's parking lot flood-free

BY JENNIFER SMITH  
jennifer.smith@newsday.com

The rain sloshing down on Long Island yesterday flooded roads and turned driveways into lakes.

But no water pooled in the new lot at Lindenhurst Memorial Library — even during the worst of the storm.

The parking lot is made of permeable paving stones atop a bed of absorbent gravel that soaks up excess water that would otherwise eventually end up in the Great South Bay. The lot was built last summer with the help of \$200,000 in federal stimulus money.

"It's amazing the way this thing sucks up water," said Peter Ward, the library's director. "Every time it rains like this I always check the parking lot."

It may be the first parking

**NOW ONLINE**  
Watch director of Lindenhurst library talk about the library's sustainable parking lot.  
[newsday.com/li](http://newsday.com/li)

lot of its kind on Long Island. Nassau and Suffolk plan to build similar test sites this spring at county facilities.

It's one of the newer approaches to dealing with storm water runoff, which environmental officials say is one of the biggest pollution problems facing U.S. waters today.

Storm water is a particular problem along densely populated stretches of the South Shore, where pavement has replaced open space and storm sewers funnel rainwater to creeks and

estuaries. Excess water that would normally be soaked up by Long Island's sandy soils washes off roads and construction sites, picking up contaminants along the way that can lead to beach closures and prevent safe shellfish harvesting.

At the Lindenhurst library lot, the permeable paving stones themselves absorb some water; more is drained through the gravel that surrounds them. Precipitation trickles down through three progressively finer grades of gravel that help filter out pollutants before the rainwater reaches the soil, according to Bob Retnauer of RDA Landscape Architects in St. James, which designed the lot.

"We already have a great natural resource that has been severely compromised by storm water," Ward said. "This parking lot shows an alternative that is, in some part, an answer to a long-standing problem."

PHOTO BY DANIELLE FINKELSTEIN

# Green Parking Lots

(Lindenhurst Library, NY)



# Green Parking Lots

(North Tonawanda, NY)



# Green Parking Lots

(North Tonawanda, NY)





# Green Parking Lots Retrofit

(Amherst, NY)



# Green Parking Lots Retrofit

(Amherst, NY)



# Green Parking Lots Retrofit

(Amherst, NY)



# Green Parking Lots Retrofit

(Amherst, NY)



# Green Parking Lots

(Saratoga State Park, NY)

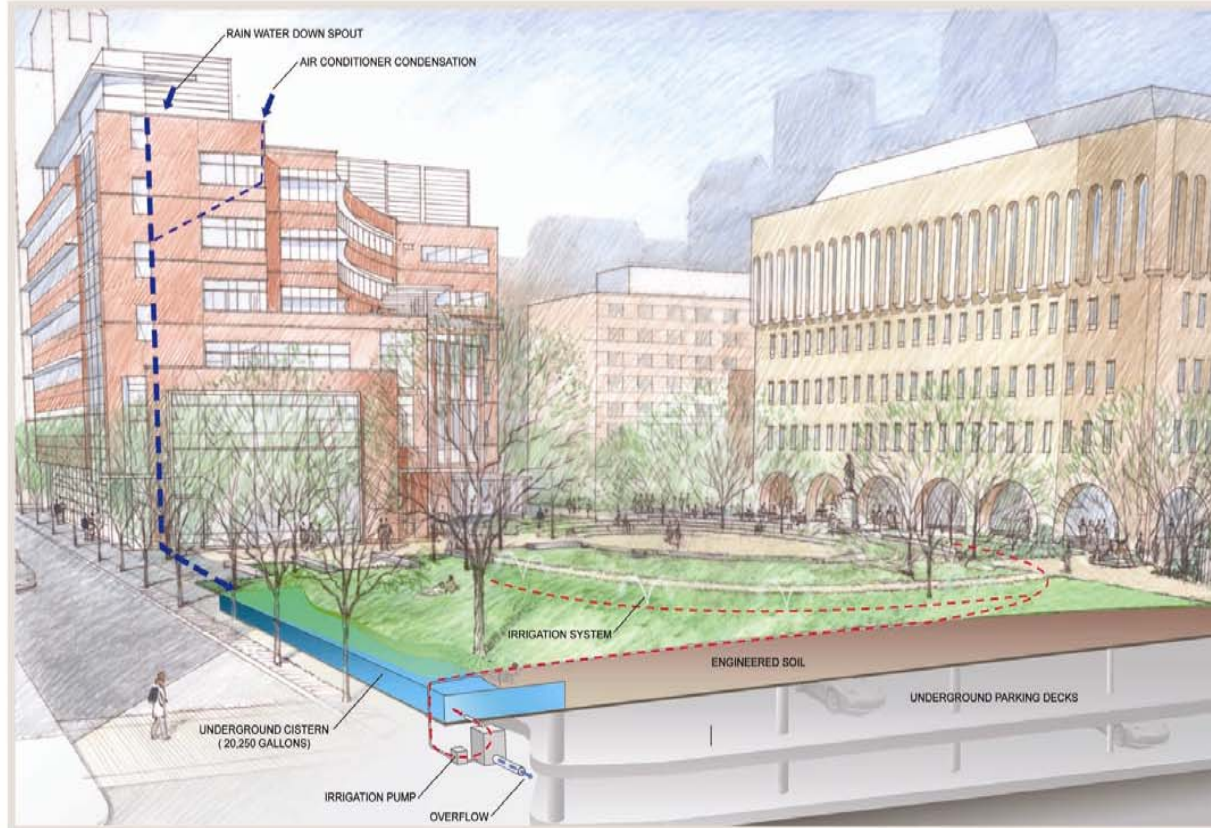


# Green Parking Lots

(Saratoga State Park, NY)



# simple, sustainable, urban : a project for the 21<sup>st</sup> century



## PROJECT CONTRIBUTIONS:

The plaza & green will add 1.3 acres of open space to the city fabric while promoting water conservation

Greening Philadelphia: A 1.8 acre project site, formerly 7% pervious, becomes 40% pervious

Landscape integrated stormwater management system reduces stormwater volume & delays peak flow discharge through storage & re-use for irrigation

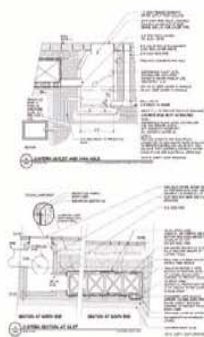
Enhances Water Quality: "First Flush" is captured and filtered by plants and soils

Contributes to the elimination of combined sewer overflow discharge to the Delaware River.

## PROJECT WATERSHED:



This urban watershed produces 95 million gallons of stormwater per year with an average of 29 overflow events

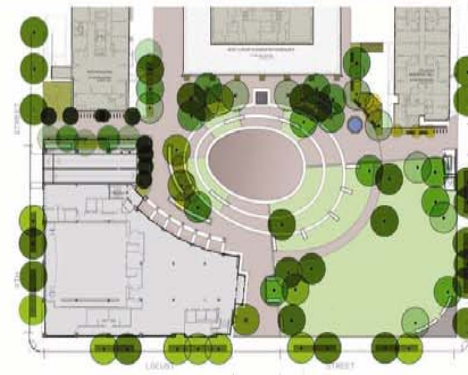


## PROJECT TECHNICAL FEATURES:

Capacity to store & re-use over 20,000 gallons of storm water and air conditioner condensate for irrigation

Gravity-fed cistern, easy to drain and maintain

Engineered soils to hold up to 11,500 gallons of water per each % organic matter at 12" depth



Evapotranspiration further reduces stormwater volume with over 55 canopy trees & nearly 1 acre of lawn



Jefferson

DORRANCE H. HAMILTON BUILDING AND PLAZA

BURT, HILL

andropogon  
landscape architecture  
ecological planning & design

# Green Schools

(Philadelphia, PA)





# Green Schools

(Philadelphia, PA)



# Wissahickon Charter School

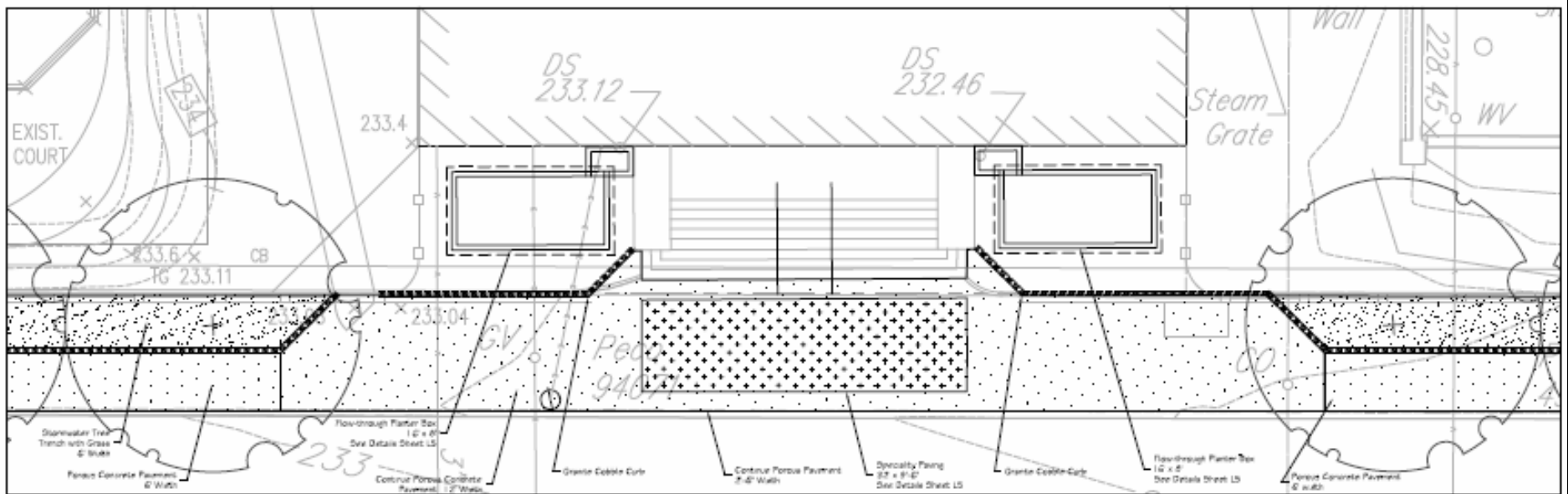
(Philadelphia, PA)



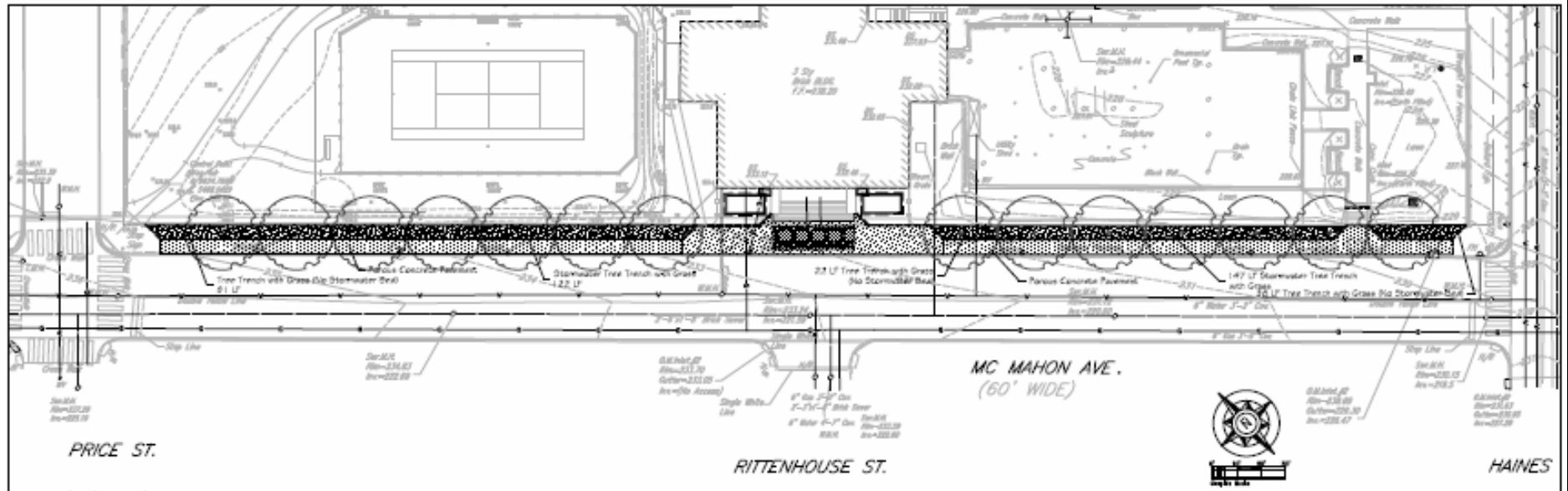
# Green Parks

(Philadelphia, PA)





1 Entry, Flow-Through Planters and Paving  
Scale: 1" = 5'



2 Street Tree Spacing and Utilities  
Scale: 1" = 20'

# Green Parks

(Philadelphia, PA)



# Green Parks

(Philadelphia, PA)



# Green Parks

(Philadelphia, PA)



# Green Parks

(Philadelphia, PA)





# Porous Pavements – Recreation







# Green Street Using Public Spaces

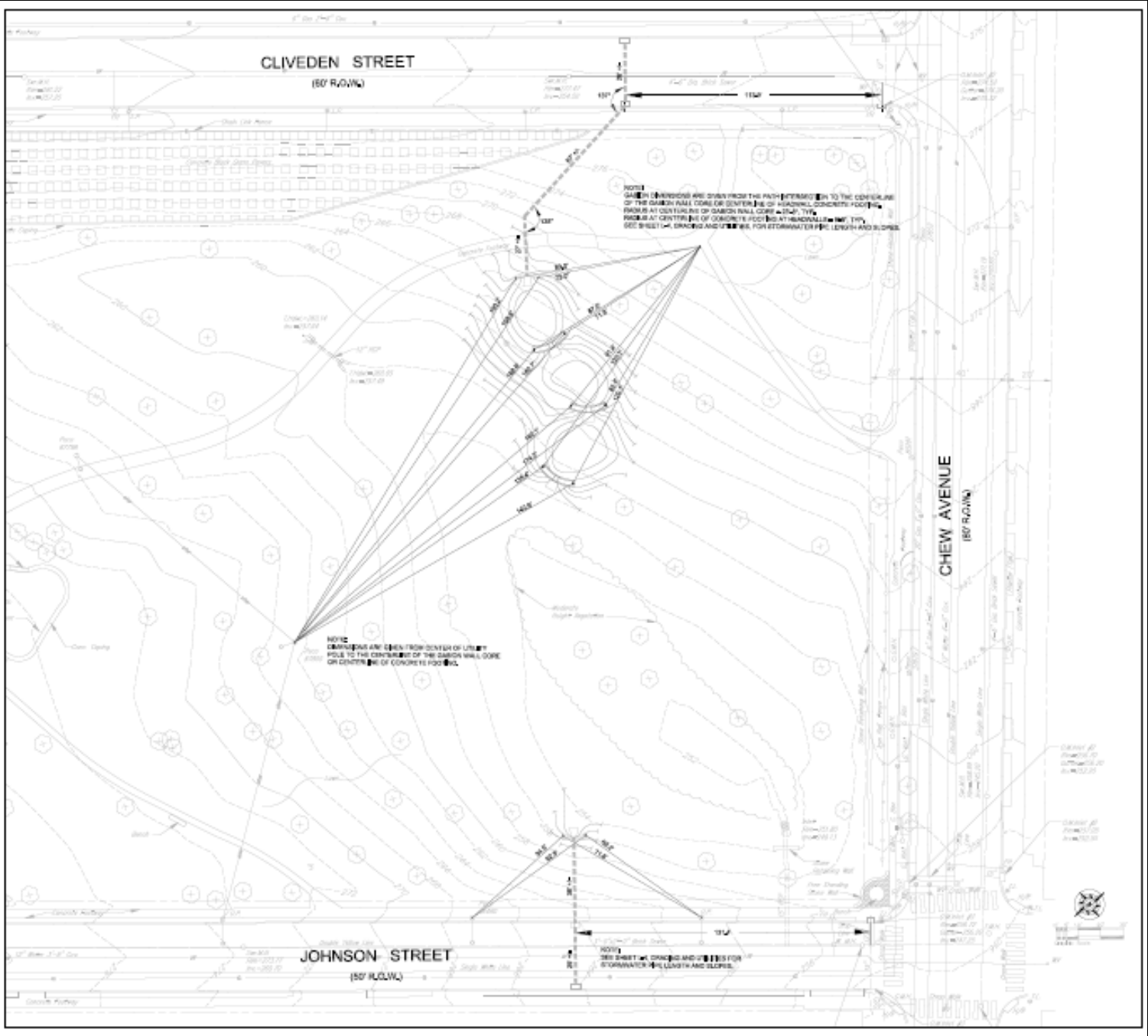
(Philadelphia, PA)



New Inlets to Divert Street Runoff



Garden Walls Under Construction



CLIVEDEN STREET  
(80' ROW)

JOHNSON STREET  
(80' ROW)

CHEW AVENUE  
(80' ROW)

NOTE:  
DIMENSIONS ARE TAKEN FROM THE PATH ENTRY POINT TO THE CENTERLINE OF THE BASIN WALL (CORE OR CENTERLINE OF REINFORCED CONCRETE FOOTING) DIMENSIONS AT CENTERLINE OF BASIN WALL CORNER SHALL TAKE DIMENSIONS AT CENTERLINE OF CONCRETE FOOTING AT HEADWALLS ONLY. THIS SEE SHEET FOR BRACKING AND DIMENSIONS FOR STORMWATER PIPE LENGTH AND SLOPES.

NOTE:  
DIMENSIONS ARE TAKEN FROM CENTER OF UTILITY PIPES TO THE CENTERLINE OF THE BASIN WALL CORE OR CENTERLINE OF CONCRETE FOOTING.

NOTE:  
SEE SHEET FOR BRACKING AND DIMENSIONS FOR STORMWATER PIPE LENGTH AND SLOPES.



SCALE  
1" = 40' 0" Dia

# Green Street Using Public Spaces

(Philadelphia, PA)



# Green Street Using Public Spaces

(Philadelphia, PA)



# Green Street Using Public Spaces

(Philadelphia, PA)





# Green Streets Using Public Spaces

(Philadelphia, PA)

