

WATER CAPTURE DISTRICTS

Across the watershed, Water Districts are where the city’s hard surfaces and hidden valleys intersect—places where stormwater challenges are most visible and where the greatest opportunities for change exist.

Structure and Issues

These districts include both the narrow valleys, where historic streams now run underground along collector roads, and the flatter East End Plateau neighborhoods characterized by extensive impervious cover. Many are commercial or mixed-use areas with large roofs, parking lots, and minimal green space. During heavy rainfall events, runoff exceeds the system’s capacity, leading to surface flooding and sewer backups that impact businesses and adjacent residential areas. The combination of low slopes, buried drainage routes, and high imperviousness creates chronic water management problems that degrade both public infrastructure and private property.

Green Stormwater Infrastructure Types

Opportunities within Water Districts range from localized, non-networked interventions—such as green roofs, rain gardens, and on-site detention—to networked systems that connect multiple sites through right-of-way improvements or shared open spaces. On public property, bioswales, tree trenches, and permeable pavements can capture and slow runoff

before it enters sewers. On private sites, retrofits such as parking lot basins or green courtyards can complement public systems. Together, these approaches can create layered water networks that restore some of the natural storage and conveyance once provided by the valley landscape.

Variables and Challenges

The potential for implementing these systems depends heavily on local conditions. In districts experiencing reinvestment or densification, redevelopment can support code-driven stormwater improvements and fund integrated systems. In areas with low market value or economic stress, large numbers of vacant parcels provide spatial opportunities but lack financial capacity for implementation. These areas will require significant public and philanthropic investment to ensure equitable outcomes. Across all contexts, cost, maintenance responsibility, and coordination among property owners remain key challenges—but also opportunities to demonstrate how water can shape more resilient, connected, and livable districts.

BELOW Neighbors making art at Dornbush Street Block Party event in East Hills (UpstreamPgh)

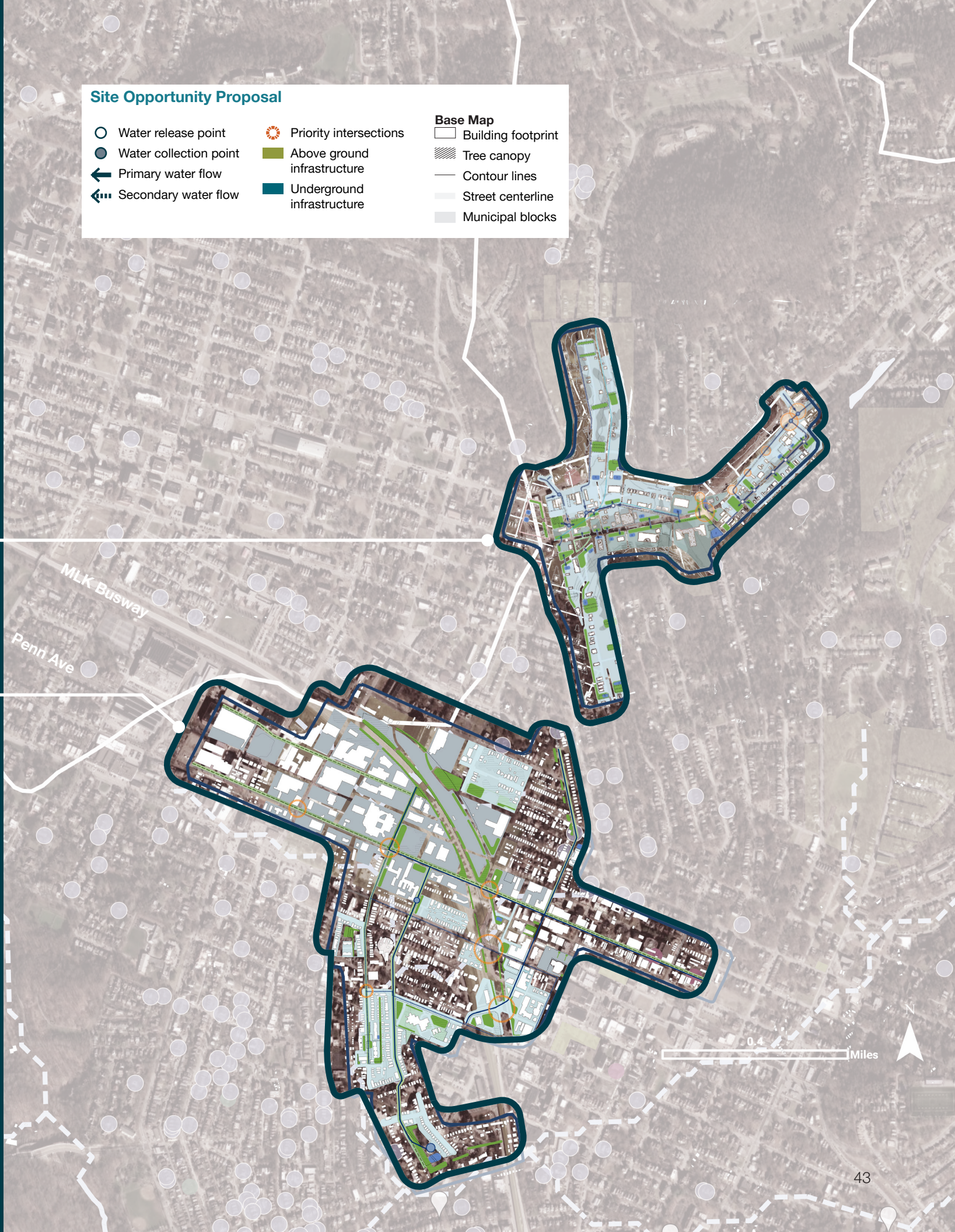


Frankstown-Bennett Water District

- Bennett Light Industrial
- Angoria Blackadore Street Stream Pairing
- Exley Way
- Conemaugh Street

Rockwell to Wilkinsburg Water District

- Park and Ride Rosedale Cluster
- Light Industrial District on lot GSI
- Whitney Park and Kelly School Micronetworks
- Light Industrial District Green Streets GSI
- Wilkinsburg Business District



Frankstown- Bennett Water District

What we heard

Many residents in this area reported water-related issues. Some spoke about flooding at the base of Blackadore Avenue and Frankstown Avenue, where there are storm drains packed with sediment. Others theorized that sediment washes off Parchment St, which is cobblestone. People noted small streams on Angoria Way and Wheeler St, with one person mentioning the stream on Wheeler smells like sewage. Residents were concerned about vacant lots, raccoons, cars speeding on Blackadore, and illegal dumping.

People noted that water collects in an alley behind Seagirt St (which is also behind Crescent School) and is directed towards homes, causing major issues during heavy rainfall. Water running off the steep slopes around Haverhill street is also a concern. People flagged the intersection of Seagirt, Bricelyn, and Tokay as very dangerous, especially given its proximity to a school.

Residents noted water flooding at the base of Wilkinsburg Ave, off Frankstown Ave, and down Bricelyn St. Some of the contributing factors are clogged storm drains on Wilkinsburg Ave and the lack of a street gutter on parts of Bricelyn Street. Residents were concerned about the abandoned vehicles, illegal dumping, and the lack of tree pruning and maintenance.

At the open house, residents asked to plan GSI up around Nimick Place, Haverhill St, and Fahnestock.

BELOW UpstreamPgh's green stormwater infrastructure at Batavia Street can be expanded in a networked system.





ABOVE Bennett Street at Oakwood Street

Frankstown Avenue and Bennett Street travel through a mixed use district that was home to many small streams and seasonal runs.

Water in the Frankstown-Bennett water district can be managed through networked infrastructure in the public right-of-way as well as with on-lot GSI installations.

Bennett Street On-lot GSI.

Located along the southern edge of the district, this area includes several commercial and auto-related properties with large impervious surfaces. Runoff from these sites contributes to localized flooding and sewer backups. Introducing on-lot and vacant-lot GSI could intercept runoff and improve both hydrological performance and neighborhood character.

Angoria Way Street-Stream Pairing. Angoria Way follows a buried stream corridor where runoff currently accumulates with limited conveyance. The right-of-way and adjacent vacant parcels could be reconnected through visible green infrastructure that restores natural drainage patterns.

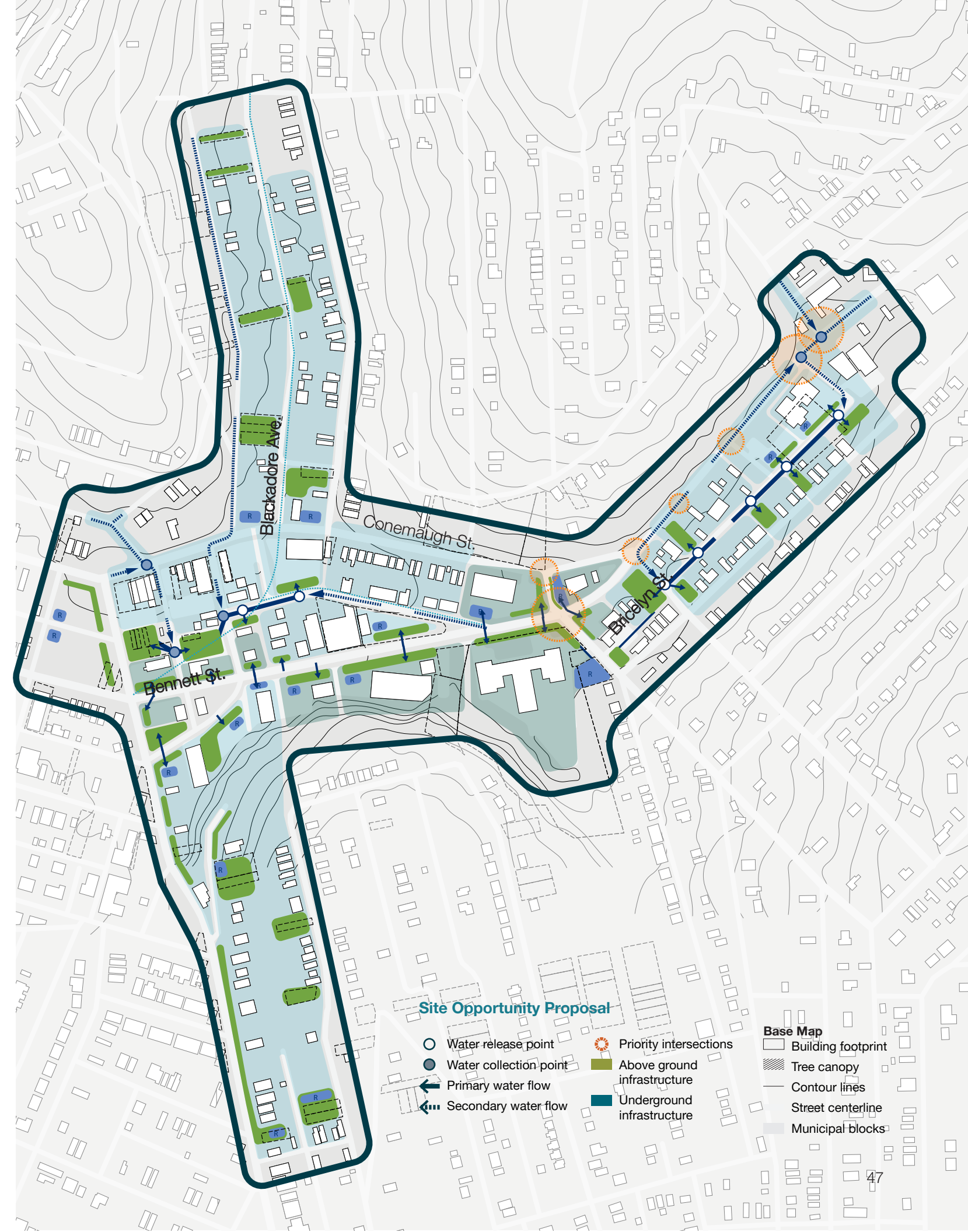
Conemaugh Street-Stream Pairing. Conemaugh Street traces another historic stream alignment, offering a corridor for distributed stormwater management. Existing runoff and flooding issues suggest strong potential for integrated public-private strategies.

Exley Street-Stream Pairing.

Exley Way provides another opportunity to manage stormwater along a buried stream corridor. Distributed interventions could reconnect small parcels and improve water storage and infiltration.

Frankstown and Bennett Street Improvements. The intersection of Frankstown and Bennett Streets offers a prime opportunity to integrate stormwater management with mobility and streetscape upgrades. Green infrastructure here could also improve safety and community identity.

Bennett and Oakwood Networked GSI. The intersection of Oakwood and Bennett Streets includes multiple vacant and tax-delinquent parcels suitable for a connected GSI network. Linking public and private sites here could demonstrate the benefits of distributed, multi-owner stormwater management.





WATER CAPTURE DISTRICT FRANKSTOWN BENNETT
Bennett Street On-lot GSI

Time Frame
short term

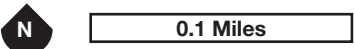
Location
Primarily on Bennett Street and the southern edge of the district, including commercial and light industrial properties, as well as a school property.

GSI Strategy
Private parcel GSI, Vacant Lot GSI

UpstreamPgh's Role
support, advocate

Potential Partners
business owners, business district group, East Hills and Homewood community, Pittsburgh Public Schools, ALCOSAN

Further Investigation
Engage the community to understand how they perceive these properties. Investigate if there is a district business group.



LEFT Streetview of Bennet Street looking toward Conemaugh Street (Google Maps)

WATER CAPTURE DISTRICT FRANKSTOWN BENNETT

Bennett Street On-lot GSI

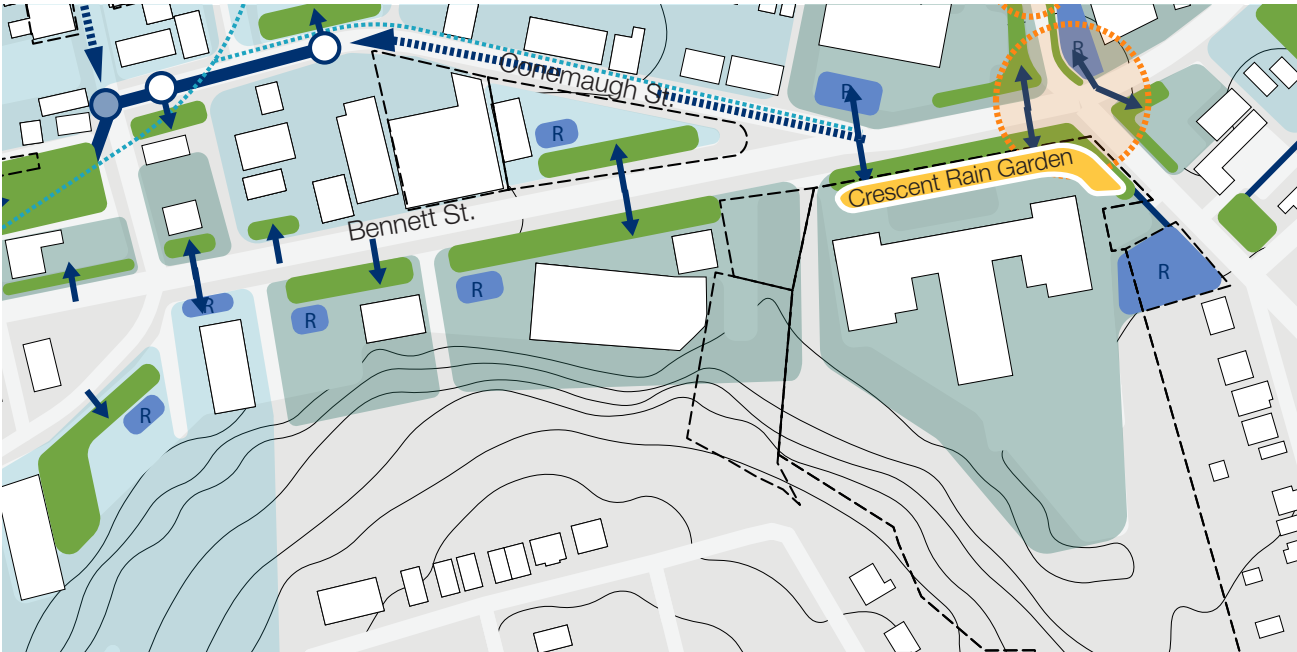
Integrated GSI could improve the visual character of the neighborhood and make it more walkable.

Infrastructure Opportunities

- Water release point
- Water collection point
- Primary water flow
- Secondary water flow
- Priority intersections
- Above ground infrastructure
- Underground infrastructure
- Previous Projects

Base Map

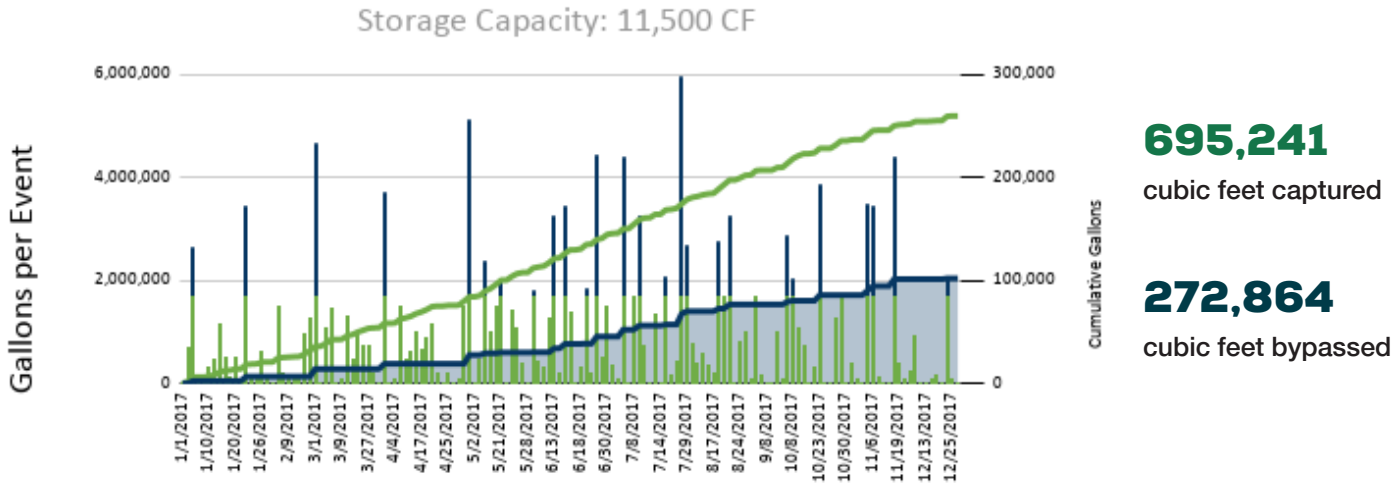
- Building footprint
- Tree canopy
- Contour lines
- Street centerline
- Municipal blocks



Many of the Bennett Street parcels store vehicles and other industrial equipment, some of which appears to be abandoned. Vehicles are often parked on the sidewalk and it is in poor condition, making the area less inviting for walking and driving. The area is attractive to uses relying on low land-values, making costly improvements unlikely without assistance.

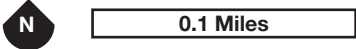
The water could best be managed with on-lot infrastructure. If properties remain in their current use, below-grade tanks could capture water and possibly filter for oils and other contaminants. If the properties change use, below grade storage and above grade GSI could improve the visual character. Public right-of-way improvements are unlikely to succeed with the current uses.

The Crescent School / Faison Annex already has a GSI demonstration project, which could be expanded to capture more of the on-lot area. Curb bump-outs could make the intersection safer for pedestrians and create an entry into the district.



Subshed Structures

- Subshed Structure Area
- Nodes
- Connections



Null outcomes stem from data scarcity or the complete absence of information on the site.

Water Capture Opportunities

within a 5-minute walk of this project

3
Vacant lots
75,344
Impervious area (sqft)
1,176
Streetscape (ft)

0
Parks & open space
0
Parking lots
2
Parcels in Public Ownership

Environmental Justice Considerations

within a 5-minute walk of this project

Null
Employment
Null
Renter/ Homeowner
Null
Median Income
Null
of Residents
Null
% of Area Historically Redlined
Null
Cost Burdened



WATER CAPTURE DISTRICT FRANKSTOWN BENNETT

Angoria-Blackadore Street-Stream Pairing



Time Frame
Mid term

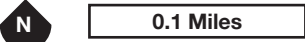
Location
Angoria Way conveyance and storage, capture on Blackadore Ave., and Wheeler St.

GSI Strategy
Public Right-of-Way Improvements, Vacant lot GSI, Private parcel GSI

UpstreamPgh's Role
Advocate, partner

Potential Partners
Adjacent property owners, directly affected property owners, City of Pittsburgh, PGH20, ALCOSAN

Further Investigation
Confirm prevalence of flooding and sewer backup conditions to prioritize investment.



LEFT Street view on Blackadore Avenue (Google Maps)

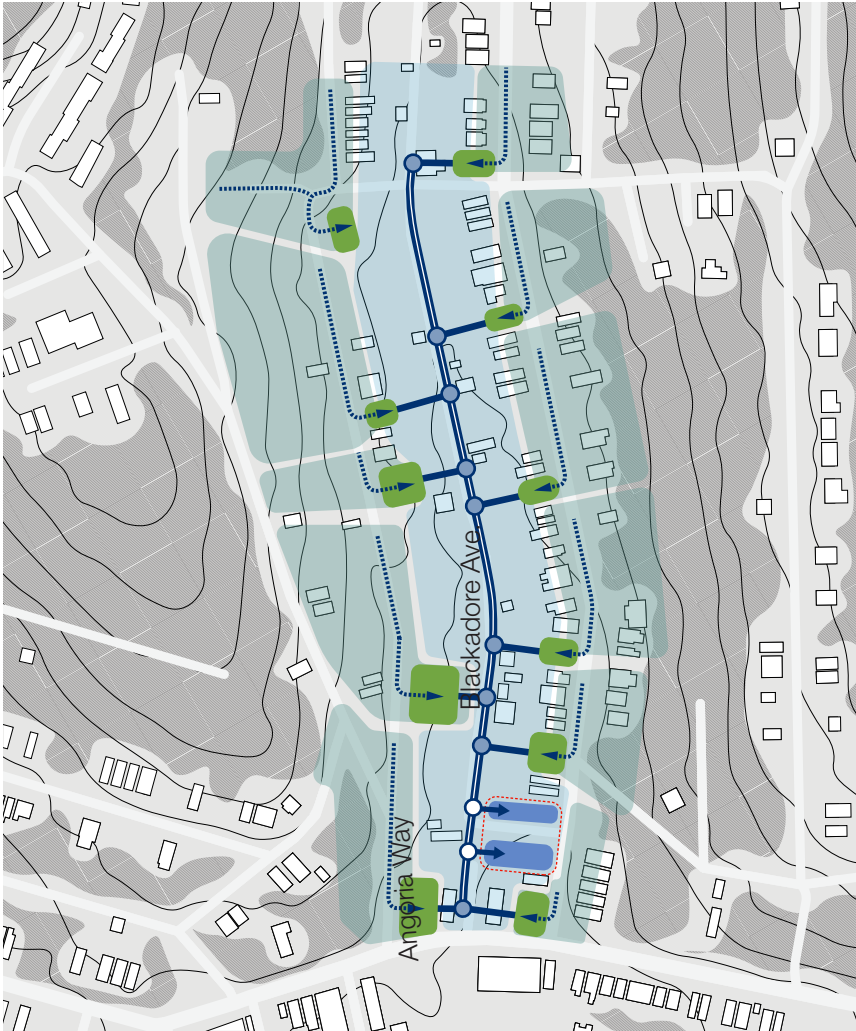
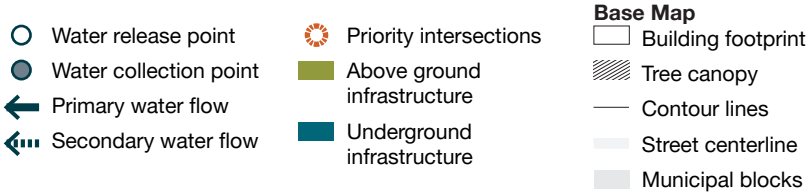
WATER CAPTURE DISTRICT
FRANKSTOWN BENNETT

Angoria-
Blackadore
Street-Stream
Pairing

The area overlays a historic drainage channel and includes a mix of residential and vacant parcels.

Angoria Way is the location of the former stream (Angoria Run) and serves few active properties. Blackadore is a secondary street (compared to Frankstown). Wheeler is a tertiary street with few houses. The area experiences illegal dumping. Blackadore is narrow enough that cars park on the sidewalk and Wheeler’s sidewalks are overgrown or missing, making this an unsafe area for pedestrians. Stormwater infrastructure should be part of a broader renewal strategy.

Infrastructure Opportunities



Green stormwater infrastructure can be done incrementally, but the networked system offers greater performance.

[1] Capture Blackadore on a series of non-networked vacant lots. This incremental implementation needs to be managed as a collection of lots. It offers the opportunity to enhance the neighborhood’s sense of place.

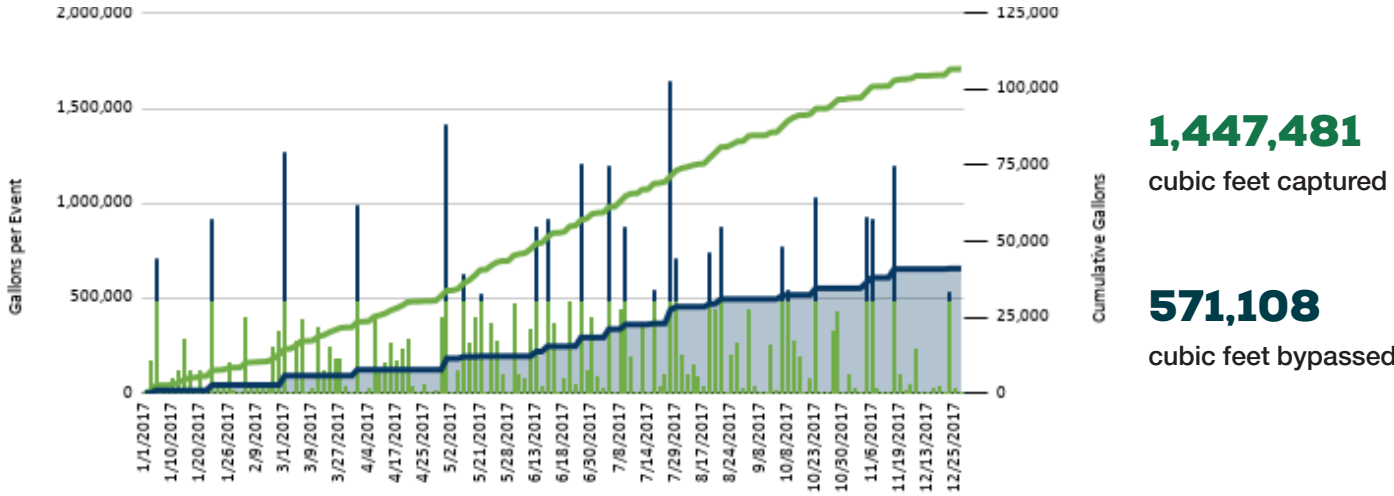
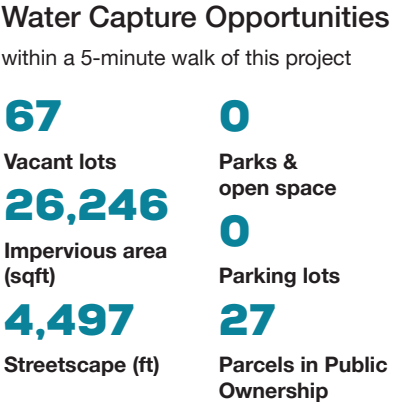
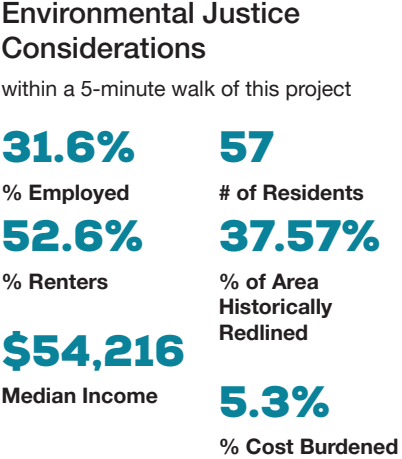
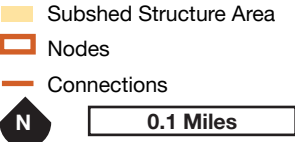
[2] Capture Blackadore and Wheeler and convey to a rebuilt Angoria Way. Collect water in the tanks below grade at Rod Way.

This capture and conveyance requires significant investment in the public ROW and coordination among property owners, but offers greater storage opportunities.

[3] Vacate Angoria Way or provide limited access. Create a surface, bioswale-based conveyance and storage system. This is a multiyear strategy and ultimately needs to be led by the City.

This system would be most effective with more properties connected to the system.

Subshed Structures





WATER CAPTURE DISTRICT FRANKSTOWN BENNETT
Conemaugh Street-Stream Pairing

Time Frame mid term	UpstreamPgh's Role lead, partner
Location Conemaugh Street	Potential Partners adjacent property owners, directly affected property owners, City of Pittsburgh, PGH20, ALCOSAN
GSI Strategy Public Right-of-Way Improvements, Vacant Lot GSI, Private parcel GSI	Further Investigation Confirm slope and flow. Confirm prevalence of flooding and backup.



LEFT Streetview from Conemaugh Street looking towards the intersection at Bennett Street (Google Map)

WATER CAPTURE DISTRICT FRANKSTOWN BENNETT

Conemaugh Street-Stream Pairing

The area overlays a historic drainage channel and includes a mix of residential and vacant parcels.

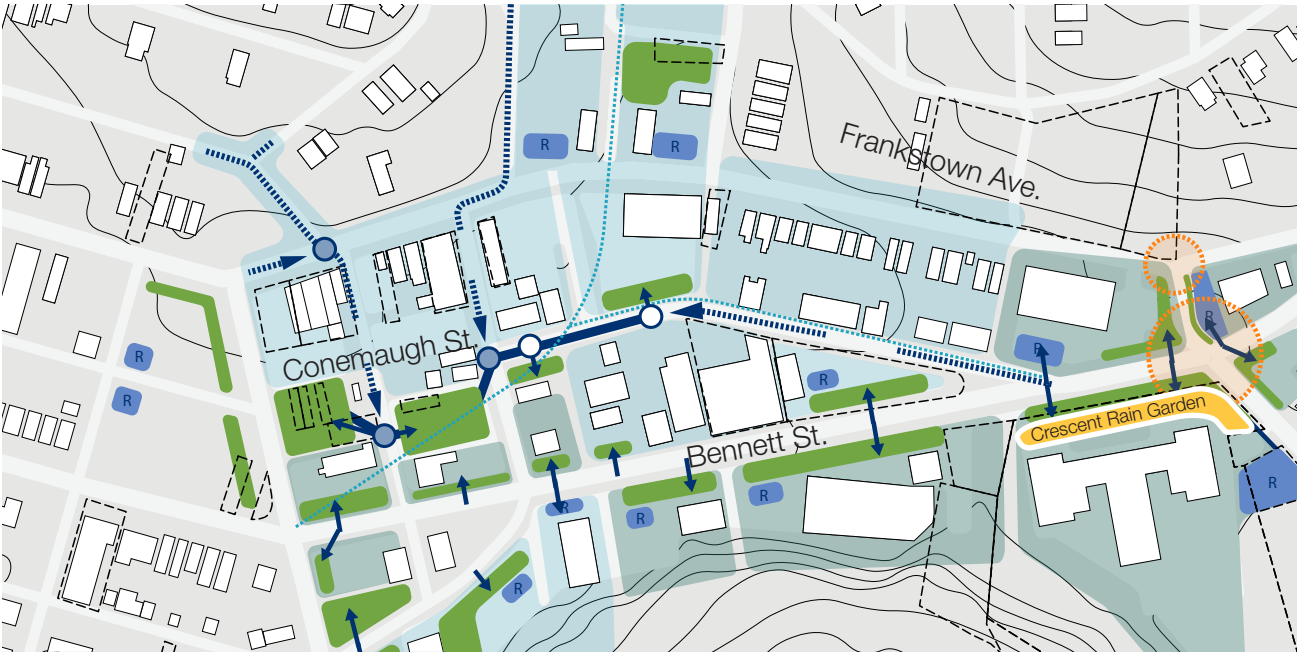
Infrastructure Opportunities

- Water release point
- Water collection point
- Primary water flow
- Secondary water flow
- ⊙

Priority intersections
- Above ground infrastructure
- Underground infrastructure
- Previous Projects

- Base Map
- Building footprint
- ▨

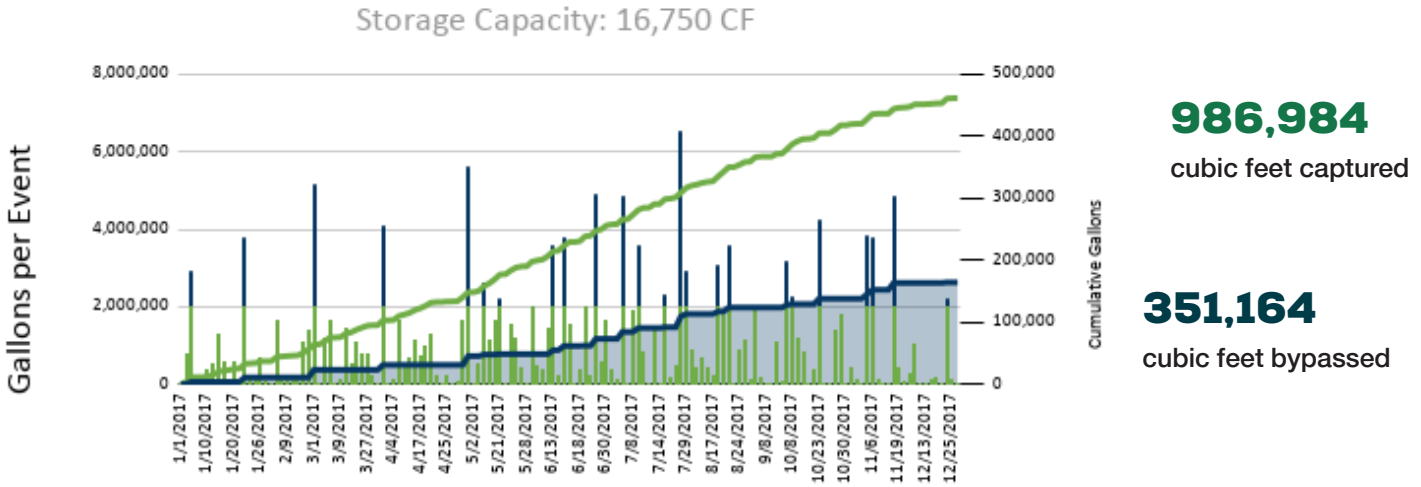
Tree canopy
- Contour lines
- Street centerline
- Municipal blocks



Conemaugh Street follows a historic stream and serves as an alleyway to businesses and homes that front both Bennett St and Frankstown Avenue. Conemaugh is bounded by residential properties with little opportunity for capture, and commercial properties, some of which could capture and store water on site.

The residential properties to the north of Conemaugh Street are sloped and space-limited, with no catchment areas at the low parts of the properties. These properties, as well as the public ROW, could shed water to a green street retrofit that surface conveys water to a

property at the intersection with Wheeler. The catchment property could serve as a privately owned open space, a shared parking area, or other district facility. This system would be most effective with more properties connected within.



Subshed Structures

- Subshed Structure Area
- Nodes
- Connections

0.08 Miles

Water Capture Opportunities

within a 5-minute walk of this project

16
Vacant lots
256,097
Impervious area (sqft)
2,273
Streetscape (ft)

0
Parks & open space
0
Parking lots
3
Parcels in Public Ownership

Environmental Justice Considerations

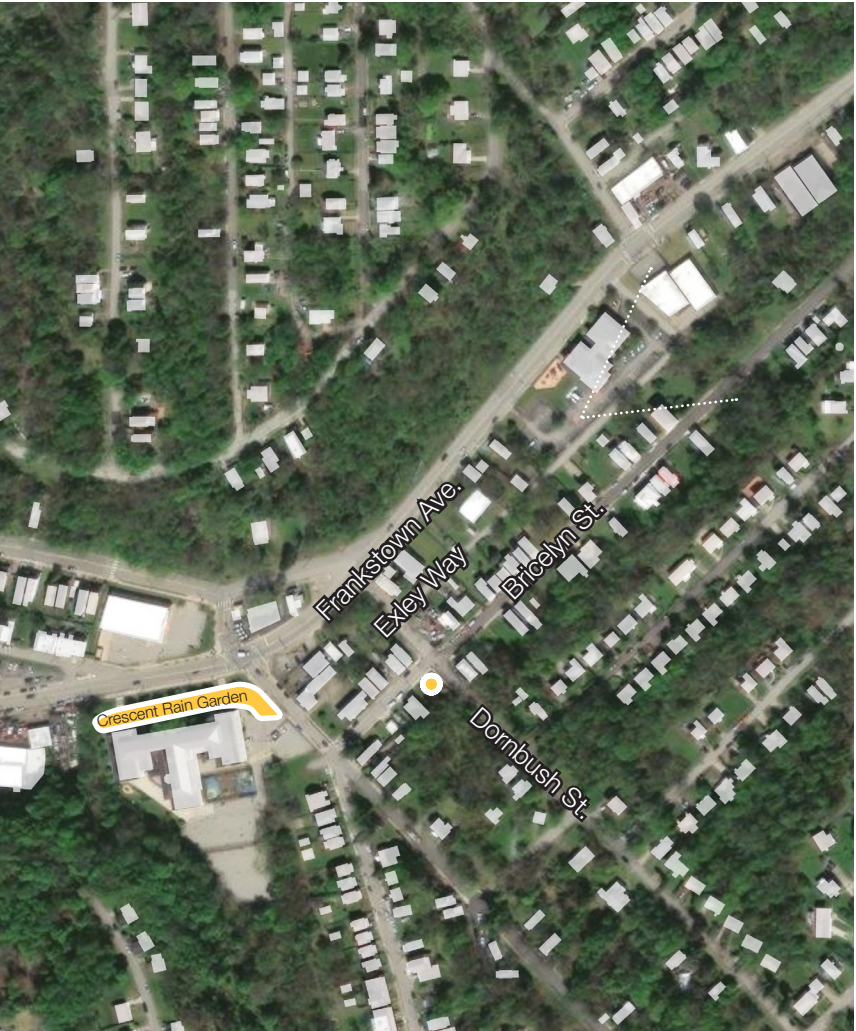
within a 5-minute walk of this project

34.3% % Employed	35 # of Residents
60.9% % Renters	100% % of Area Historically Redlined
\$22,500 Median Income	34.7% % Cost Burdened



WATER CAPTURE DISTRICT FRANKSTOWN BENNETT

Exley Street-Stream Pairing



UpstreamPgh's Role
lead, partner

Time Frame
mid term

Location
Exley Way

GSI Strategy
Public Right-of-Way Improvements, Vacant Lot GSI, Private parcel GSI

Potential Partners
adjacent property owners, directly affected property owners (e.g. A Second Chance), City of Pittsburgh, PGH20, ALCOSAN

Further Investigation
"Modeling will be essential. Likelihood of property owner participation."



LEFT Street view on Exley Way alleyway behind A Second Chance Inc. (Google Map)

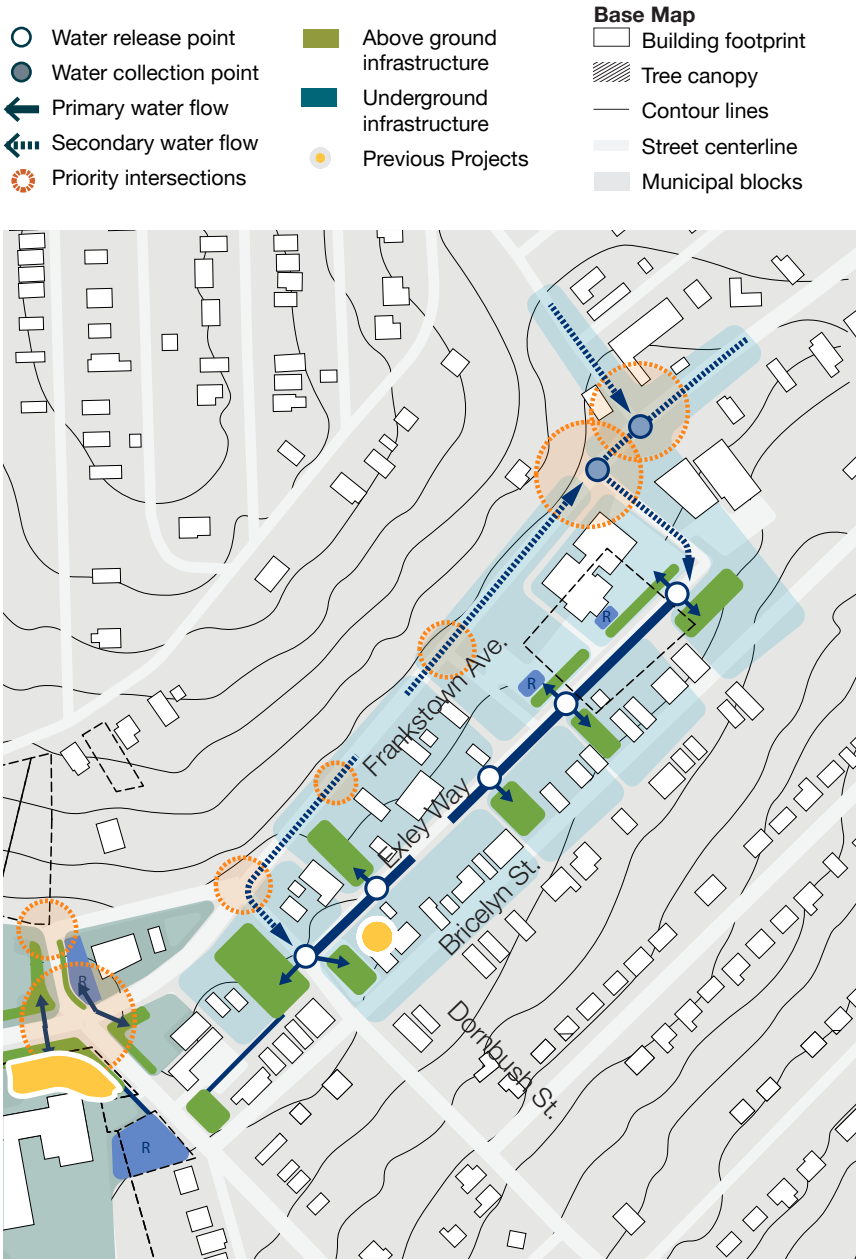
WATER CAPTURE DISTRICT
FRANKSTOWN BENNETT

Exley Street- Stream Pairing

A narrow right-of-way within a residential setting provides a manageable scale for pilot GSI interventions.

Exley Street follows a historic stream and serves as an alleyway to businesses and homes that front Frankstown Avenue and Bricelyn Street. Exley Way is bounded by properties with little opportunity for on-site capture.

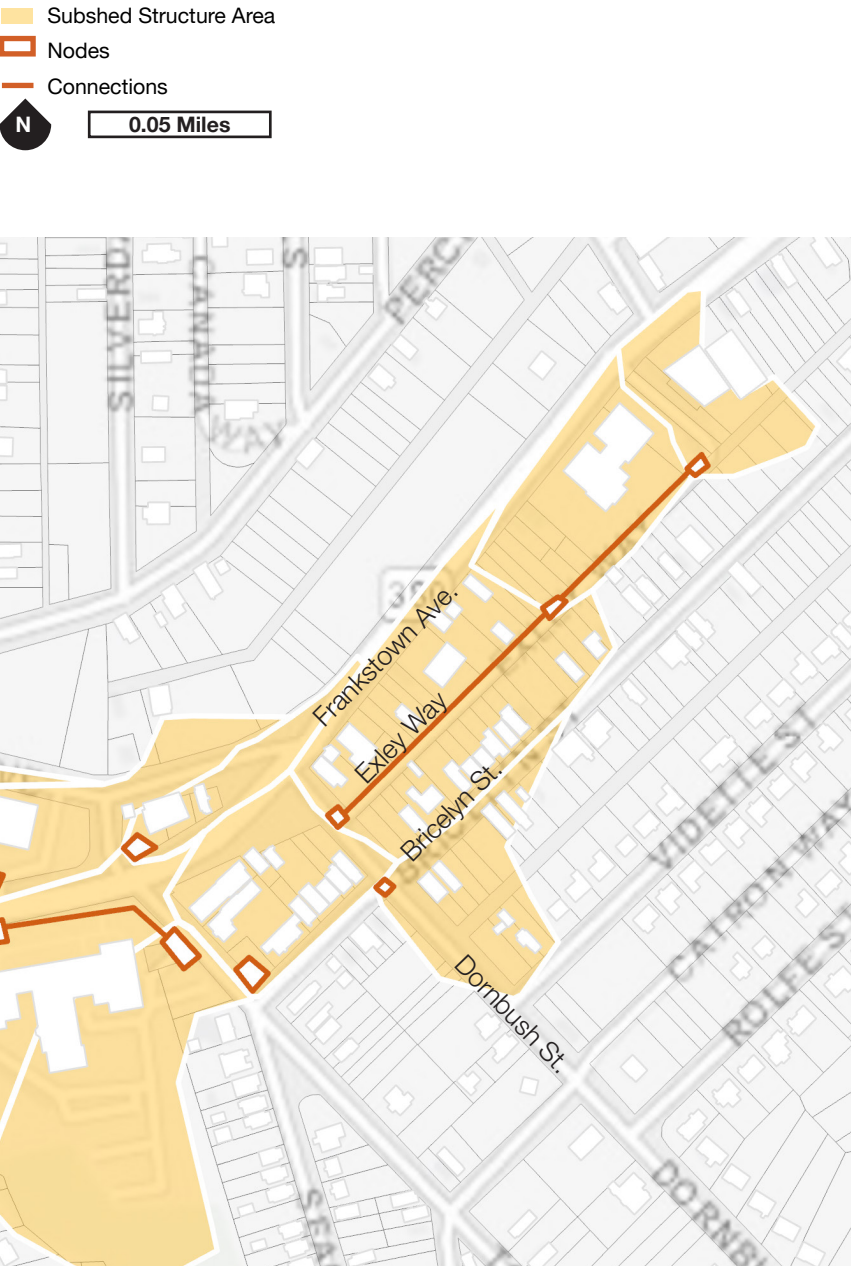
Infrastructure Opportunities



There are a few possible strategies with could be staged. The larger systems offer greater opportunities for capture and storage. [1] Capture water on a series of non-networked vacant lots. This incremental implementation needs to be managed as a collection of lots. It offers the opportunity to enhance the neighborhood’s sense of place. [2] Capture water and convey it to a rebuilt Exley Way. Collect water in the tanks below grade or above grade at Dornbush Street.

This capture and conveyance requires significant investment in the public ROW and coordination among property owners, but offers greater storage opportunities. This system would be most effective with more properties connected to the system. There are opportunities to connect with community uses at the historic school. There are opportunities to connect maintenance and use regimens with the existing GSI at Bricelyn and Dornbush.

Subshed Structures



Environmental Justice Considerations
within a 5-minute walk of this project

35.2% % Employed	54 # of Residents
58.8% % Renters	100% % of Area Historically Redlined
\$25,000 Median Income	47.1% % Cost Burdened

Water Capture Opportunities
within a 5-minute walk of this project

29 Vacant lots	0 Parks & open space
155,913 Impervious area (sqft)	0 Parking lots
3,005 Streetscape (ft)	9 Parcels in Public Ownership

