

An aerial photograph of a city neighborhood, showing a mix of residential housing, commercial buildings, and green spaces. A dark teal rectangular overlay is positioned in the top-left corner, containing the text 'CSO28' in white. The city features a grid of streets, numerous houses with varied roof colors, and several larger commercial or industrial structures. There are also green fields, a baseball field, and a river or canal winding through the lower portion of the image.

CSO28

When a drop of water lands at the intersection of Hopkins Street and South Park Avenue, it is joined by water from the neighborhoods of Abbott McKinley, South Abbott, South Park, Tiffy, and Triangle. During heavy wet weather, the rainwater combines with sewage and overflows into the Buffalo River at Combined Sewer Overflow 28 (CSO 28).

CSO Basin 28 at a glance...

Community benefits

- Tree planting programs
- Public parks and community amenities
- Improving the quality of the public realm
- Active commuting (biking or walking to work)
- Buffer between Industrial and residential uses.
- Walkability
- Expanded canopy cover
- Traffic calming
- Support for neighborhood revitalization efforts
- Downspout disconnection programs



Green Infrastructure Opportunities

The goal for CSO Basin 28 is to manage stormwater from 27 acres of impervious surface. Based on the site analysis, this goal cannot be met in any one category, but will require a combination of commercial properties, parking lots and right of way improvements.

Urban Character

CSO Basin 28 is characterized by dense residential with adjacent open space and industrial uses.

Environmental Systems

The canopy cover in CSO Basin 28 is similar to the City average. Because the basin is more residential, there are more trees, many of which are street trees and older, larger trees. There are some large patches of habitat, but little connectivity. Enhancing the urban canopy, particularly along corridors, would create greater connectivity.

Equity Considerations

Green infrastructure improvements in the public realm—streets and sidewalks—could encourage more biking and walking by residents and provide buffers between residential and industrial zones, for example Hopkins street. Green infrastructure can be a tool for residents and other community stakeholders to connect to one another and with public officials about community priorities. Green infrastructure could enhance livability and promote physical activity of residential community surrounded by industrial uses.

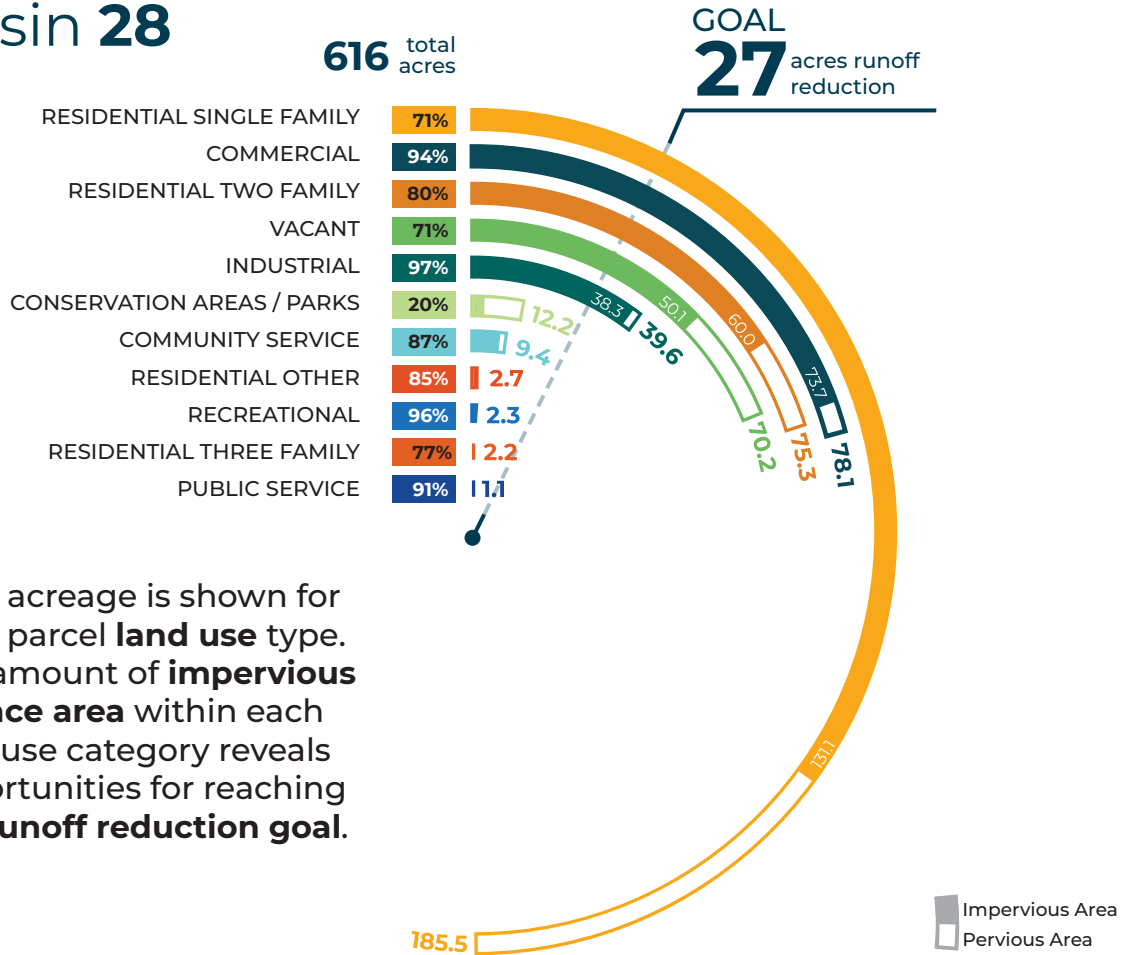
Green infrastructure at public parks and community amenities could support creative placemaking at focal points and Buffalo Sewer might explore strategies and incentives to cultivate resident and community stewardship of projects.

For a number of reasons, CSO Basin 28 has the lowest overall need for green infrastructure investment as measured by the green infrastructure equity index.

BY THE NUMBERS...

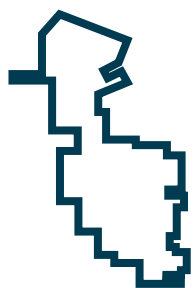
Land Use Opportunity and Impervious Surfaces by Area

Basin 28



Total acreage is shown for each parcel **land use** type. The amount of **impervious surface area** within each land use category reveals opportunities for reaching the **runoff reduction goal**.

Basin Overview



616 acres
TOTAL BASIN AREA

16,369
RESIDENTS

\$44,174
MEDIAN HOUSEHOLD INCOME

70 acres
OF CANOPY AREA

15 acres
OF PARK AREA

134 acres
OF RIGHT OF WAY

63 acres
OF ROAD AREA

106 acres
OF BUILDING AREA

13 acres
OF PARKING LOTS

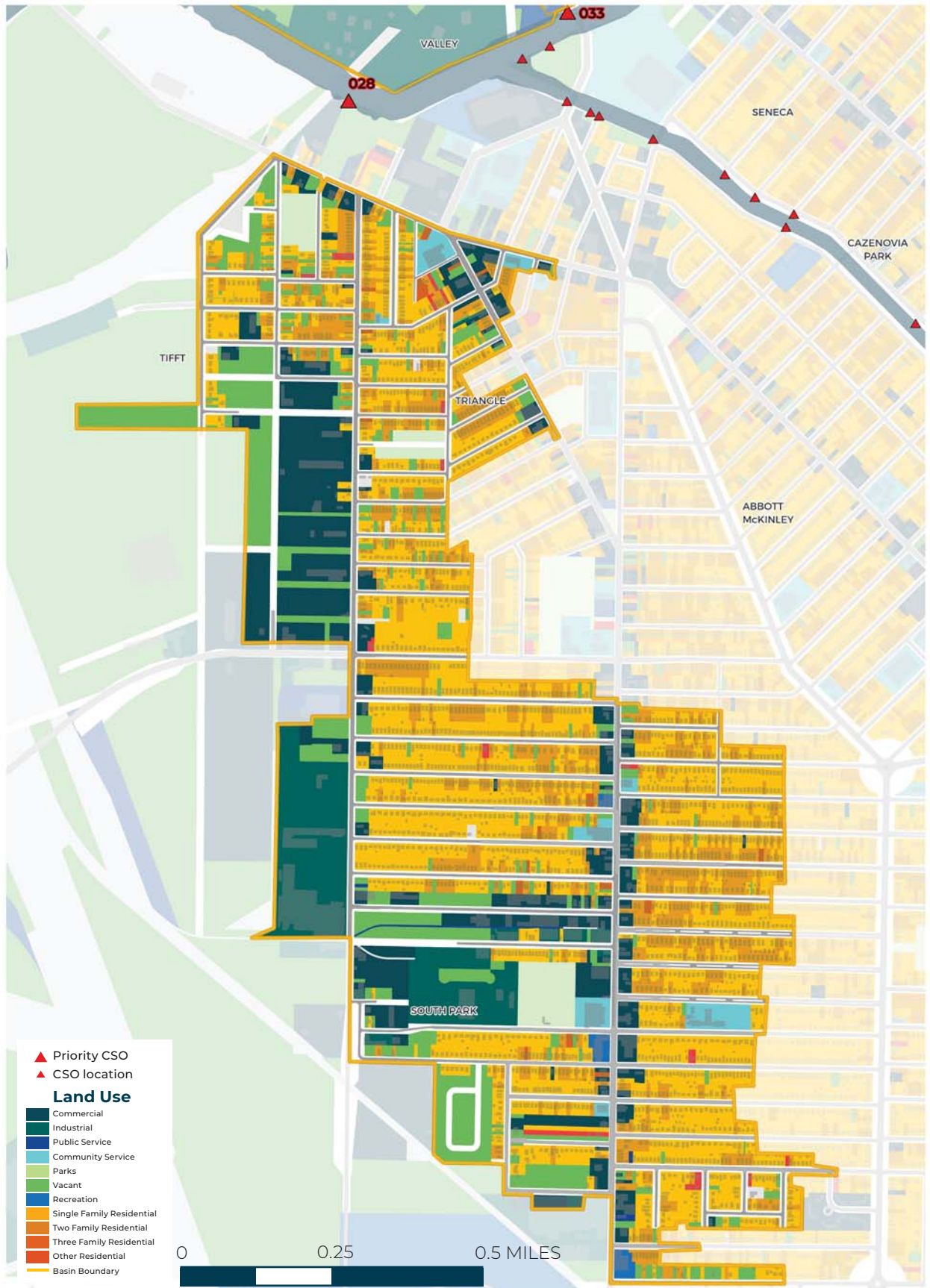
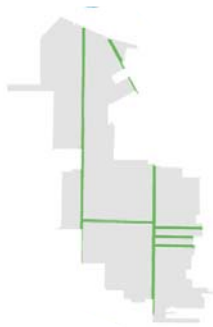


Figure 28.1: CSO Basin 28 Sites evaluated for impervious surface management through green infrastructure.

Opportunity Sites & Networks



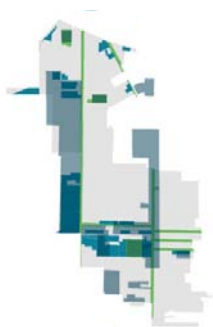
Corridors

Hopkins Street and South Park Avenue provide the basis for a networked green infrastructure system and are also current or potential neighborhood centers. Existing medians at Harding, Culver and Ridgewood roads provide opportunities for local networks of green infrastructure that could tie in residential properties and connect to a larger neighborhood network along South Park Avenue.



Sites

The sites analyzed in CSO Basin 28 naturally organize along corridors. Small mid-block parks and open space in the basin and adjacent to it provide additional opportunities for green infrastructure both at their perimeter and below grade. Combining green infrastructure with open space and parks enhances the public realm and provides greater access to green space.



Clusters and Networks

The large cluster of primarily industrial properties surveyed can be combined with corridors into larger clusters or networks. These can be combined with institutions and parks in and adjacent to the basin. Such clusters are based on both physical proximity and programmatic synergies. Program synergies could include, for example, workforce development programs centered around schools or community centers that will assist with the implementation of green infrastructure city-wide.

CORRIDORS are networked, physically connected systems around a road or right-of-way

OPPORTUNISTIC SITES are stand alone sites with a high opportunity for green infrastructure

CLUSTERS have an anchor institution or are groups of parcels that can implement similar strategies

NETWORKS are larger systems of capture and treatment incorporating many sites

Key Corridors

- Hopkins Street
- South Park Avenue
- Residential streets with existing medians (Harding, Culver, Ridgewood)

Key Institutions

- 1 South Park High School
- 2 South Buffalo Food Pantry
- 3 Buffalo Police Department
- 4 South Buffalo Irish Center
- 5 Holy Family Catholic Church
- 6 St. Ambrose Church

Industrial/Commercial

- 7 Niagara Fiberglass, Inc.
- 8 Mobile Mini
- 9 Price Trucking
- 10 Rite Aid

Key Parks

- 1 Boone Park
- 2 Heacock Park
- 3 Durant Street Playground
- 4 Mulroy Park
- 5 South Buffalo Charter School Playground
- 6 Buffalo and Erie County Botanical Gardens

14
26
27
28
33
53



Figure 28.2: CSO Basin 28 Green Infrastructure Opportunity Sites

Green Infrastructure Opportunity

South Park Avenue Green Network

CSO Basin 28 is the second smallest of the 6 priority CSO basins and has the highest number of overflows in the system. The predominant land use is residential. Meeting the goal in this basin will require working with homeowners as well as other types of property, including the public right-of-way. South Park Avenue is an important commercial corridor with several parks and public institutions along it. South Park Avenue provides the potential armature for a networked system of the green infrastructure that could incorporate a large percentage of the basin area.

The streets of Ridgewood, Culver, Harding, and Reading and their intersection with South Park Avenue provide an opportunity to showcase green infrastructure along these wider streets with existing landscaped medians. These streets in residential areas could be the basis for connecting disconnected residential downspouts into a larger green infrastructure network. Because they intersect with South Park Avenue they can be networked into a system of green infrastructure along South Park Avenue. These projects could demonstrate to residents the benefits of implementing green infrastructure on their own properties. These streets can also contribute to beautification and pollution reduction along South Park Avenue, which has a high volume of traffic and many businesses.

There are a number of small parks and public open spaces in CSO Basin 28 that are also adjacent to South Park Avenue. These spaces could be utilized for stormwater detention and infiltration from adjacent properties and roadways and could also be connected into a larger networked system. This could also include use of porous paving for alley ways and sidewalks.

Strategies

- **Green streets**
- **Commercial building green roof**
- **Residential downspout disconnections**
- **Parking lot bioswales**
- **Convey and detain in park**

Potential Partners

- **Department of Public Works**
- **Division of Parks and Recreation**



Figure 28.3: Mulroy Park in South Buffalo



Figure 28.4: Harding Road in South Buffalo



Placemaking Opportunity with Green Infrastructure

Creating a neighborhood scale green infrastructure network not only assists in managing stormwater, but is also an opportunity to make great places within a neighborhood and support broader neighborhood revitalization goals. In CSO basin 28 this could take the form of an enhanced public realm with vacant land used for stormwater and community amenities, improvements to public streets and parks, and increased tree planting, all of which provide environmental and health benefit and increase property values.



Figure 28.5: Rendering of South Park Avenue Green Network

ANALYSIS

Urban Character

CSO Basin 28 boundaries intersect with several City of Buffalo planning neighborhoods in South Buffalo, including Abbott McKinley, South Abbott, South Park, Tiff, and Triangle. CSO Basin 28 neighborhoods are predominantly residential communities bordered by industrial land uses to the west and Cazenovia Creek and the Buffalo River to the north. The area is home to several schools and churches, and a number of public parks and open spaces including Heacock Park, Mulroy Park, and South Park.

Investment in green infrastructure in CSO Basin 28 will support a number of broader planning efforts, including the Local Waterfront Revitalization Program, which includes the Buffalo River, the Buffalo River Corridor Brownfield Opportunity Area, and the Buffalo Green Code. CSO Basin 28 borders neighborhood centers along Abbot Road and South Park Avenue and green infrastructure investment along these corridors can support the revitalization of these areas.

The Hopkins Street area is currently bordered by industrial uses on the west side, but is zoned mixed use under the green code. Investment in green infrastructure along Hopkins Street could both provide a buffer between industrial and residential uses in the short-term and support the growth of mixed use development along that corridor in the future.

Because this CSO basin is dominated by residential communities, downspout disconnection programs will likely play an important role here. The South Park area in CSO Basin 28 is seeing heavy residential development per square mile based on building permits.



Figure 28.6: Auto parts, scrap yards, and other outdoor industrial depots on the south end of Hopkins St in CSO Basin 28.

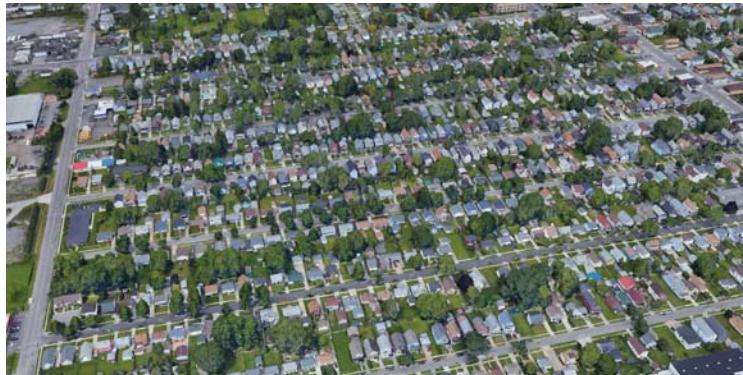


Figure 28.7: Dense single family detached housing comprises much of CSO Basin 28 seen here between Hopkins St and South Park Ave.



Figure 28.8: Industry, commercial, and brownfields line The Buffalo River along the north end of the CSO Basin.



Figure 28.9: Along Hopkins and Abby street light industry borders the residential community and creates a barrier to open space to the west.

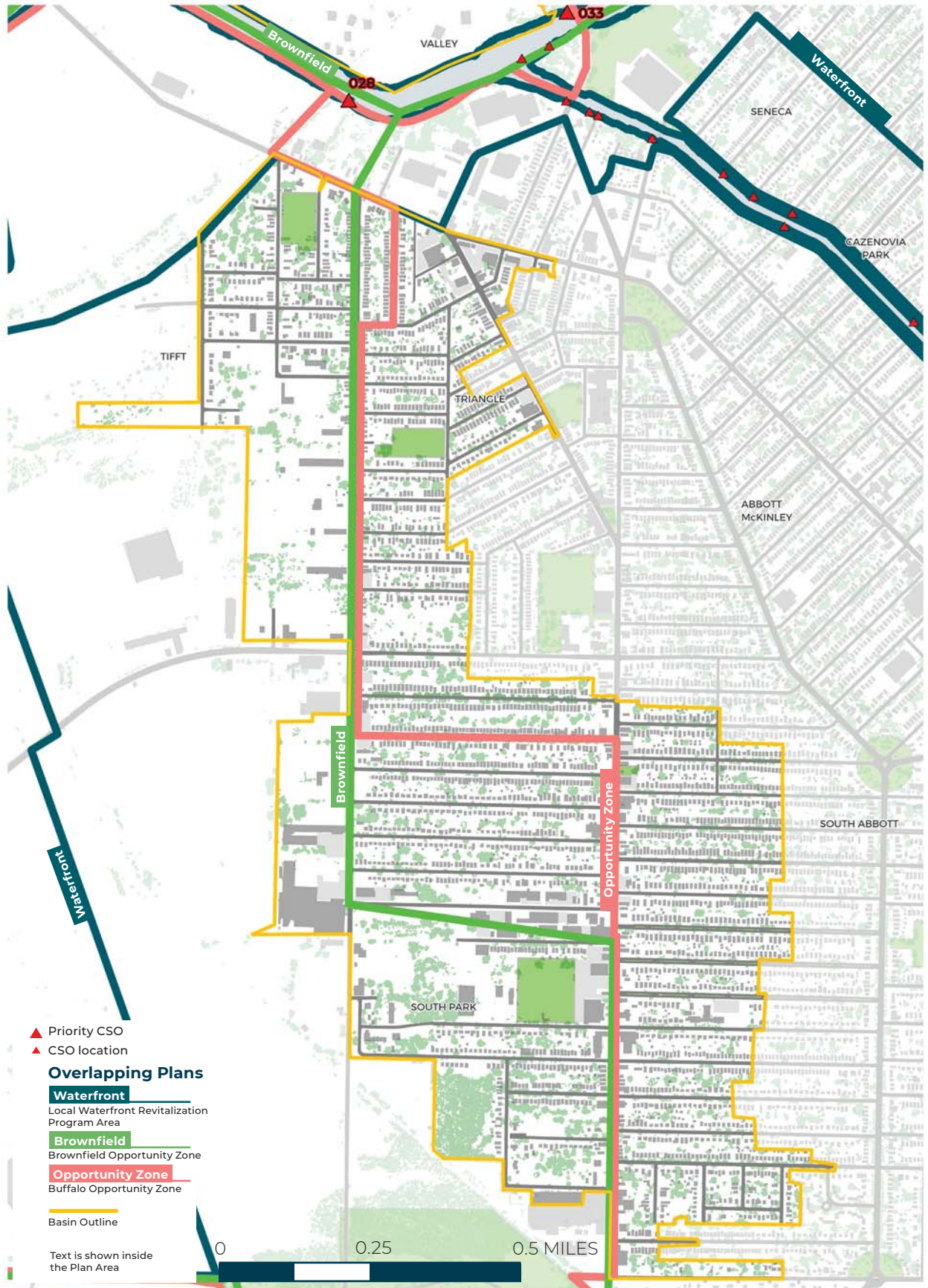


Figure 28.10: CSO Basin 28 intersecting Plans

ANALYSIS

Equity Analysis

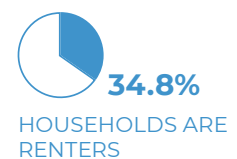
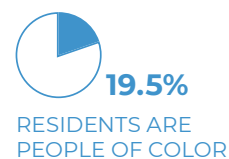
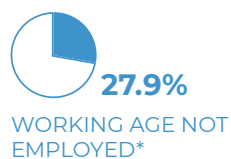
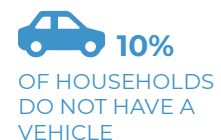
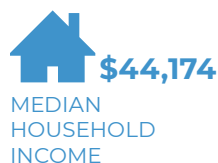
The population of about 16,400 people is predominantly White and relatively better off than other priority areas and the City overall on measures of economic well-being and connectedness. The median household income for households in CSO Basin 28 neighborhoods is higher than the City overall, and unemployment and poverty rates for residents are lower compared to the City. CSO Basin 28 neighborhoods may offer good opportunities for targeting private property owners for engagement, installation, and maintenance of green infrastructure. Two thirds of housing units are owner occupied and only one quarter of households spend more than 30% of monthly income on housing costs.

CSO Basin 28 also ranks positively in terms of environmental concerns—it has the lowest impervious surface coverage (53%) and residential vacancy rate (5%) of all the targeted basins. It also has a relatively high tree canopy coverage (16%) and a low share of vacant land area (11%). Due to these advantages, CSO Basin 28 has the lowest overall need for green infrastructure investments as measured by the GI equity index (see Appendix A). Some opportunities for green infrastructure investments may

be highly feasible in this area, such as strategies that engage residents, since neighborhoods here are well-intact with plenty of owner-occupied housing.

There may also be opportunities for green infrastructure practices to promote more active and healthy communities in CSO Basin 28 neighborhoods. Over 90% of households have access to a vehicle and 88% of workers commute via car. There could be potential for green infrastructure to improve the quality of the public realm, for example along roads and sidewalks to and from the many parks and open spaces in the area, to encourage more biking and walking among residents living in the area.

Neighborhood Profile Snapshot



The data presented is for census tracts located within or that intersect the CSO basin boundaries, as an approximation of neighborhoods (see Appendix A for more details and methods)
*Includes those that are unemployed or out of the labor force.

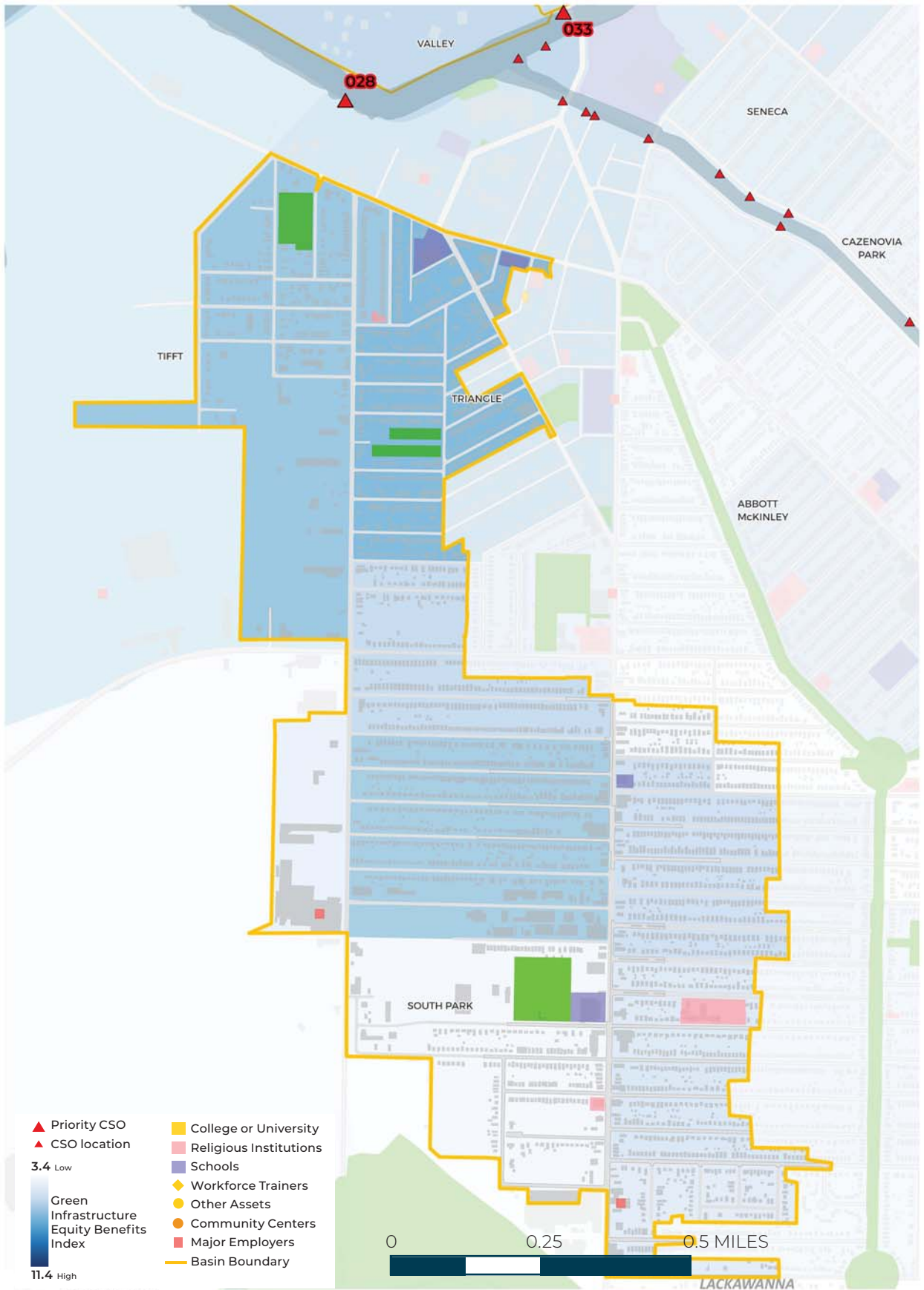


Figure 28.11: CSO Basin 28 and GI Equity Index

ANALYSIS

Environmental Systems

Waterways

CSO Basin 28 is located south of Cazenovia Creek and the Buffalo River and discharges to the river. A band of industrial properties are located on the shore of the river, but are not in the CSO basin. These industrial properties prohibit access to the Buffalo River from the neighborhood, but have helped to bolster a riverside habitat corridor where vacant industry plots have been left fallow. The community has access to Cazenovia Creek through Cazenovia Park, but downstream the connection is less pleasant due to channelization and barrier fences.

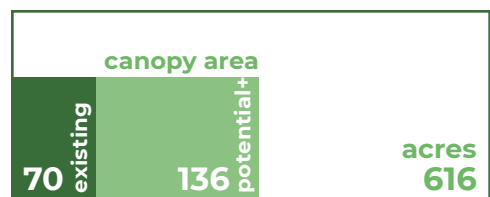
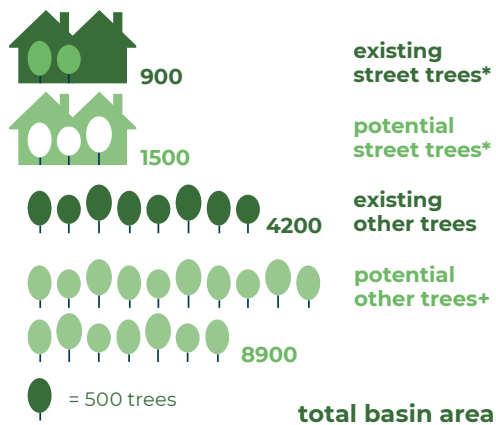
Tree Canopy Cover

The canopy cover in CSO Basin 28 is higher than the overall City. Because the basin is more residential, there are more trees, many of which are street trees and older, larger trees, which have high value for stormwater management and other environmental services.

Large planted parcel to the south could be sinks for stormwater. This CSO basin is adjacent to large open (green) spaces.

Tree Canopy Summary

NUMBER OF TREES IN BASIN



Sources: *City of Buffalo MyTreeKeeper data, +U.S. Forest Service protocol with input from the Tree Technical Advisory Committee. For detailed description of methodology, see Appendix C

Habitat Connectivity

Habitat in this CSO basin consists primarily of isolated patches with larger areas of open space to the south, and east, the Buffalo River corridor to the north, and the Tifft Nature Preserve to the east. The biggest opportunity to improve upon the habitat network in this basin would be to stitch together the isolated patches. Establishing tree canopy within the right of way could help to improve interconnectivity. Often new connections would only need to span several blocks to integrate the isolated mid-size patches into the larger network.



Figure 28.12: Potential for Habitat Connectivity in CSO Basin 28

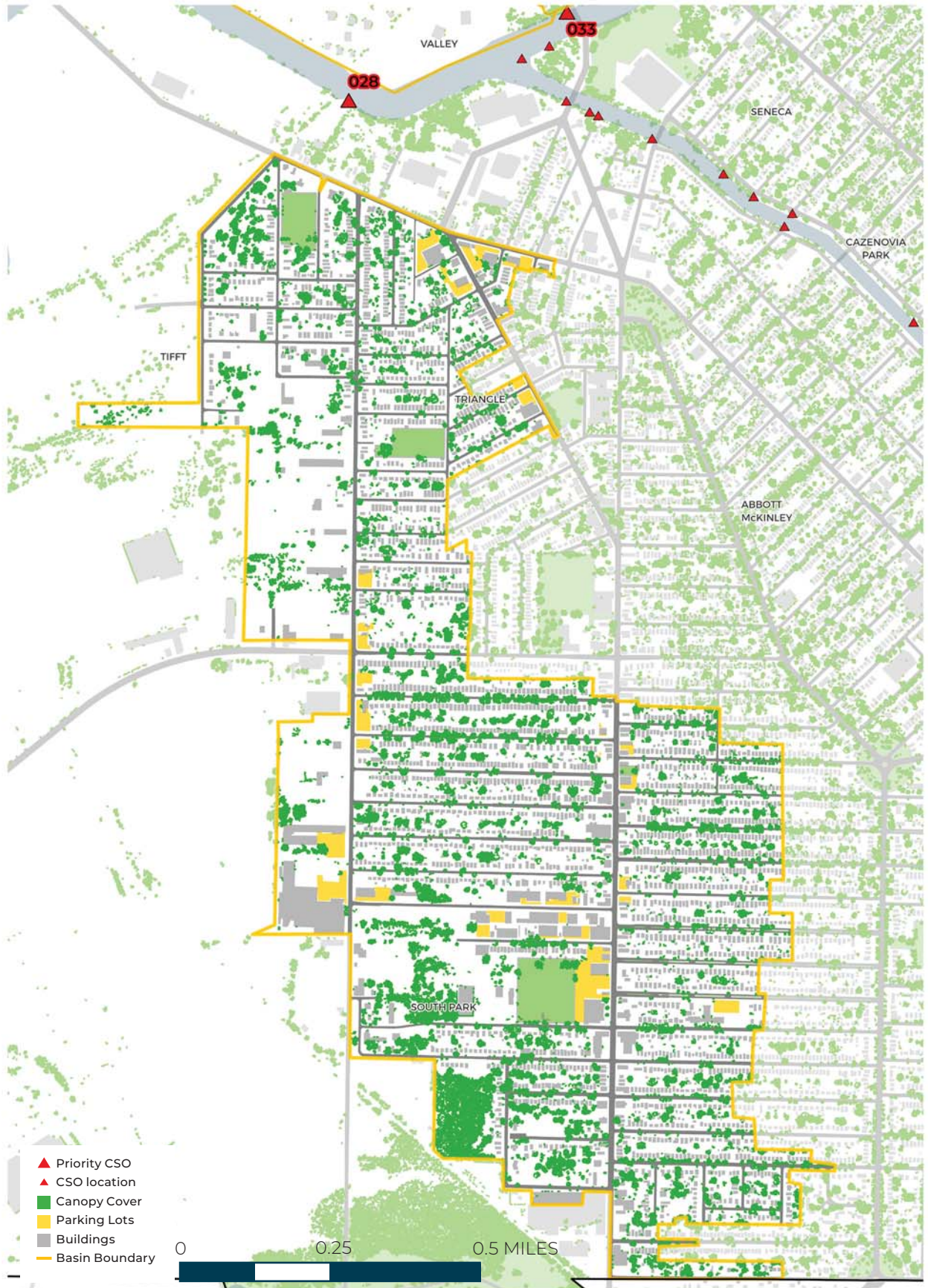


Figure 28.13: CSO Basin 28: Canopy Cover and Impervious Surfaces

ANALYSIS

Site Analysis

The CSO Basin 28 impervious surface reduction goal is 27 acres managed, which is about 4% of the CSO basin area. Because of the largely residential nature of this CSO basin, the few commercial parcels, mostly to the southeast, make up the majority of the sites selected for retrofit analysis. This analysis focused on sites that were highly impervious, such as commercial lots with large parking lots and roofs. Targeting these sites will be critical to meeting area objectives. However, these lots will also need to be combined with some residential and with green infrastructure in the right of way in order to meet the CSO basin goal.

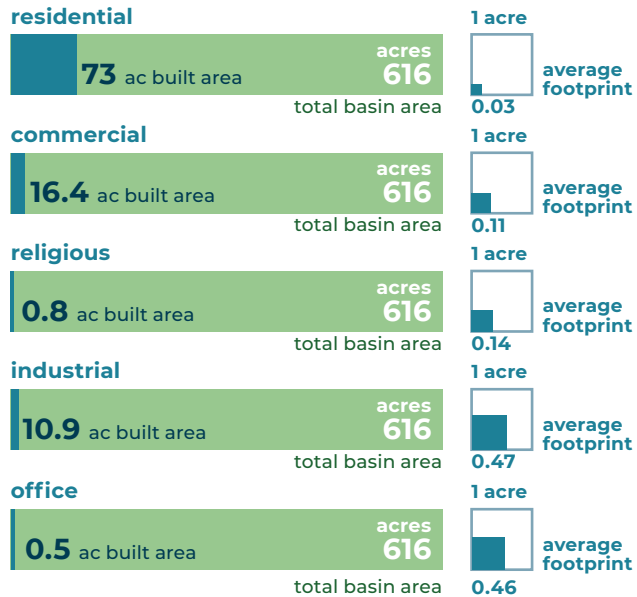
Residential properties comprise a significant area within this CSO, though none were surveyed given the uniformity of most residential parcels with regard to stormwater conditions. Conducting a mail in or online survey where residents may evaluate their own properties may be an effective way to promote residential stormwater reduction, or assess what potential green infrastructure practices are most suitable for this neighborhood.

Streets are also a significant portion of this CSO basin with 22% of land area in the right of way. Several streets were surveyed for green infrastructure opportunity, most notably the collection of Harding Rd, Culver Rd, and Ridgewood Rd, which all have potential for their green median to become stormwater retention areas.

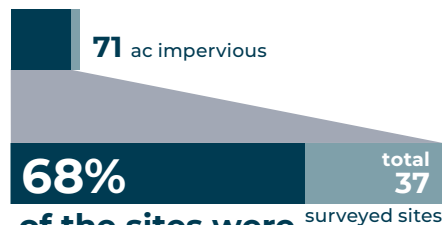
Several parks and institutions lay just outside the basin boundaries. They were not surveyed but could provide good demonstration projects and be a point of contact with the wider neighborhood in the promotion of green infrastructure.

Built Area by Land Use

Full Basin Area, GIS sources: Erie County data, Buffalo Sewer Authority data



The site analysis reviewed 13% of the basin and found **25.9 acres of potential drainage area.**



of the sites were suitable for green infrastructure.



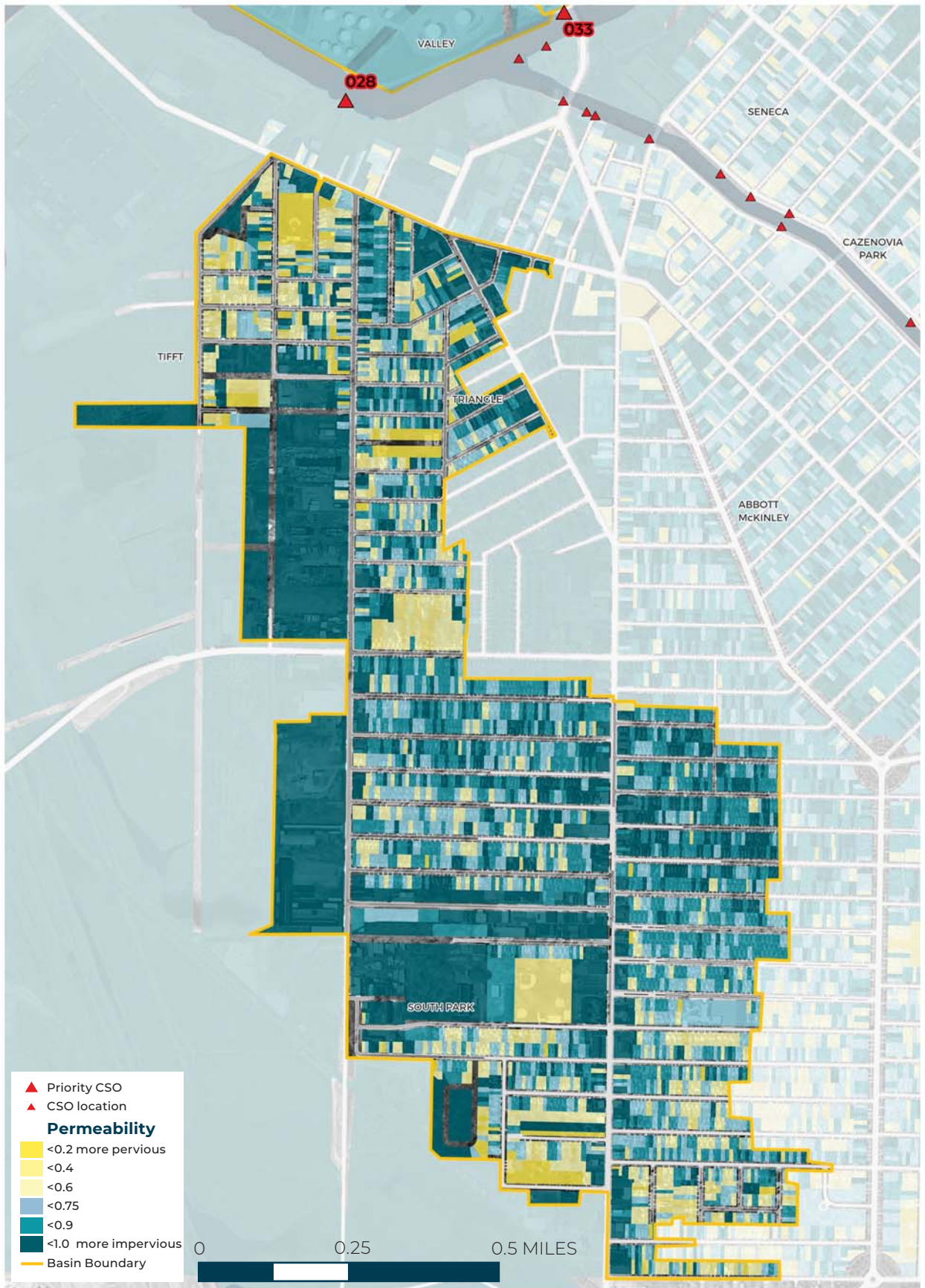


Figure 28.14: CSO Basin 28 Percent Impervious by Parcel

ANALYSIS

Site Analysis: Surveyed Properties

Surveyed Properties by Land Use and Ownership

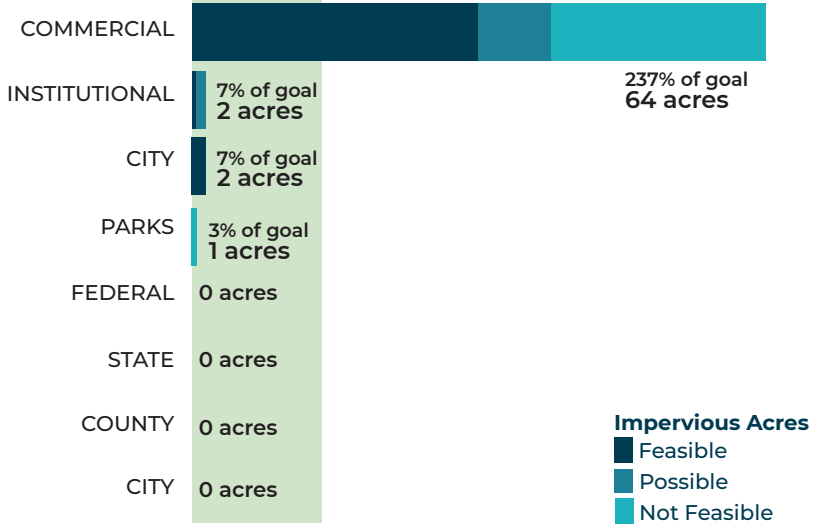
Data: Erie County GIS, Buffalo Sewer Authority GIS, field survey



Figure 28.15: Image of sites where field work was conducted

CSO28

GOAL
27 acres runoff reduction
rounded to whole acres

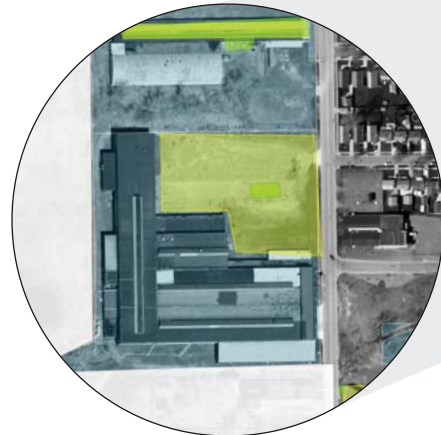
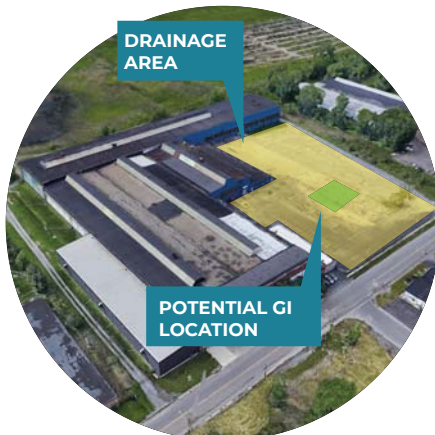


LARGEST PROPERTY OWNERS BY LAND USE AND OWNERSHIP

COMMUNITY PARTNERS	COMMERCIAL
Okell Park	Niagara Fiberglass Inc. 7.4 Imperv. acres
South Park High School	Mobile Mini 4.1 Imperv. acres
St. Agatha RC Church	ServiceMaster Restoration 3.0 Imperv. acres
	Price Trucking 2.6 Imperv. acres
	Rite Aid 1.9 Imperv. acres

Commercial corridors flanked by retail and industrial properties are strong areas of opportunity in CSO Basin 28.

Most of the light industrial properties in CSO Basin 28 have large impervious areas. From the survey, the team determined that many properties slope to internal portions of the site and may have significant vehicular traffic that constrains the use of green infrastructure. Additional investigation is needed to better understand pavement requirements, traffic patterns, and possible sources of pollution.



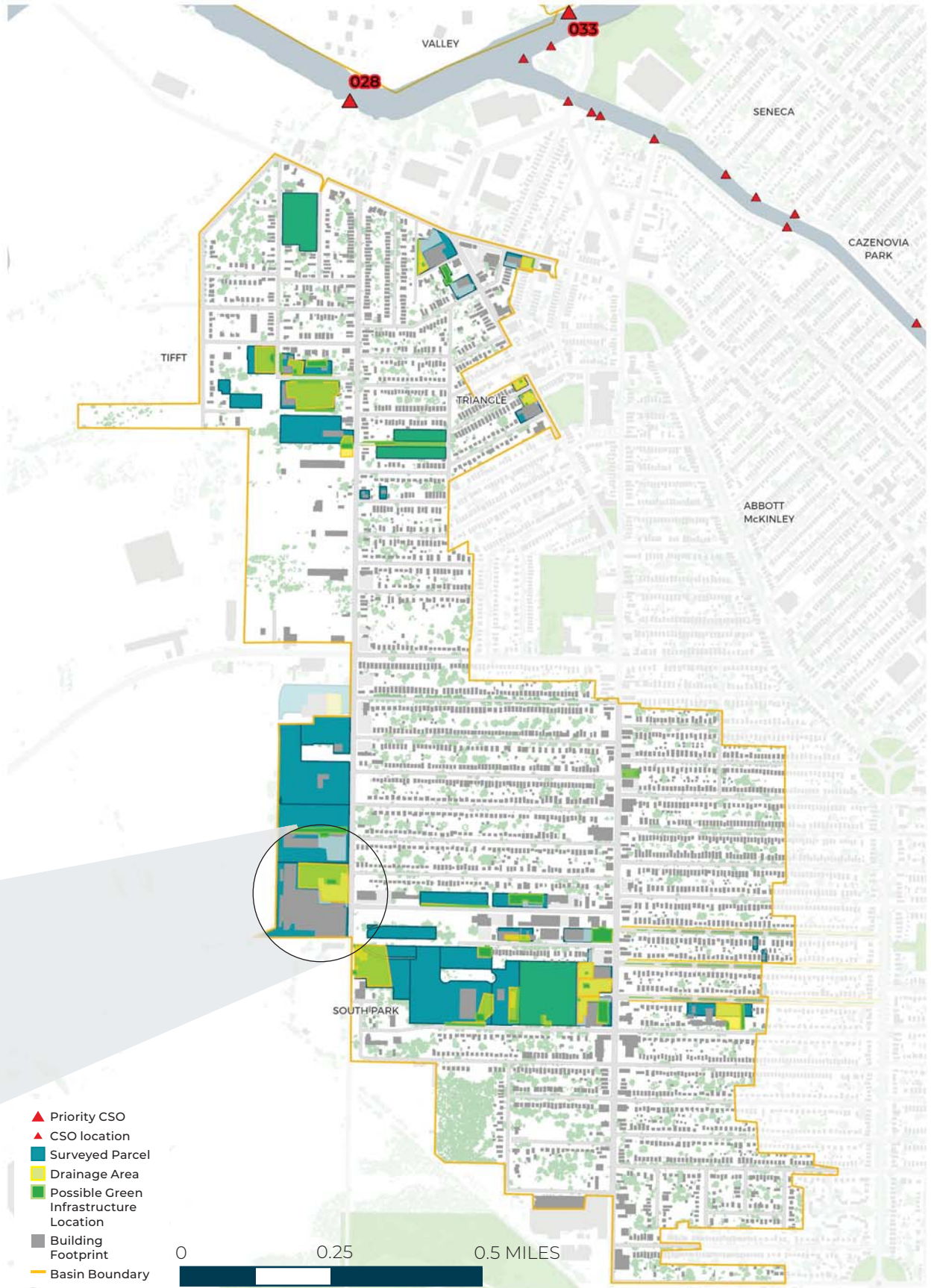


Figure 28.16: CSO Basin 28 Map of Built Environment and Tree Canopy

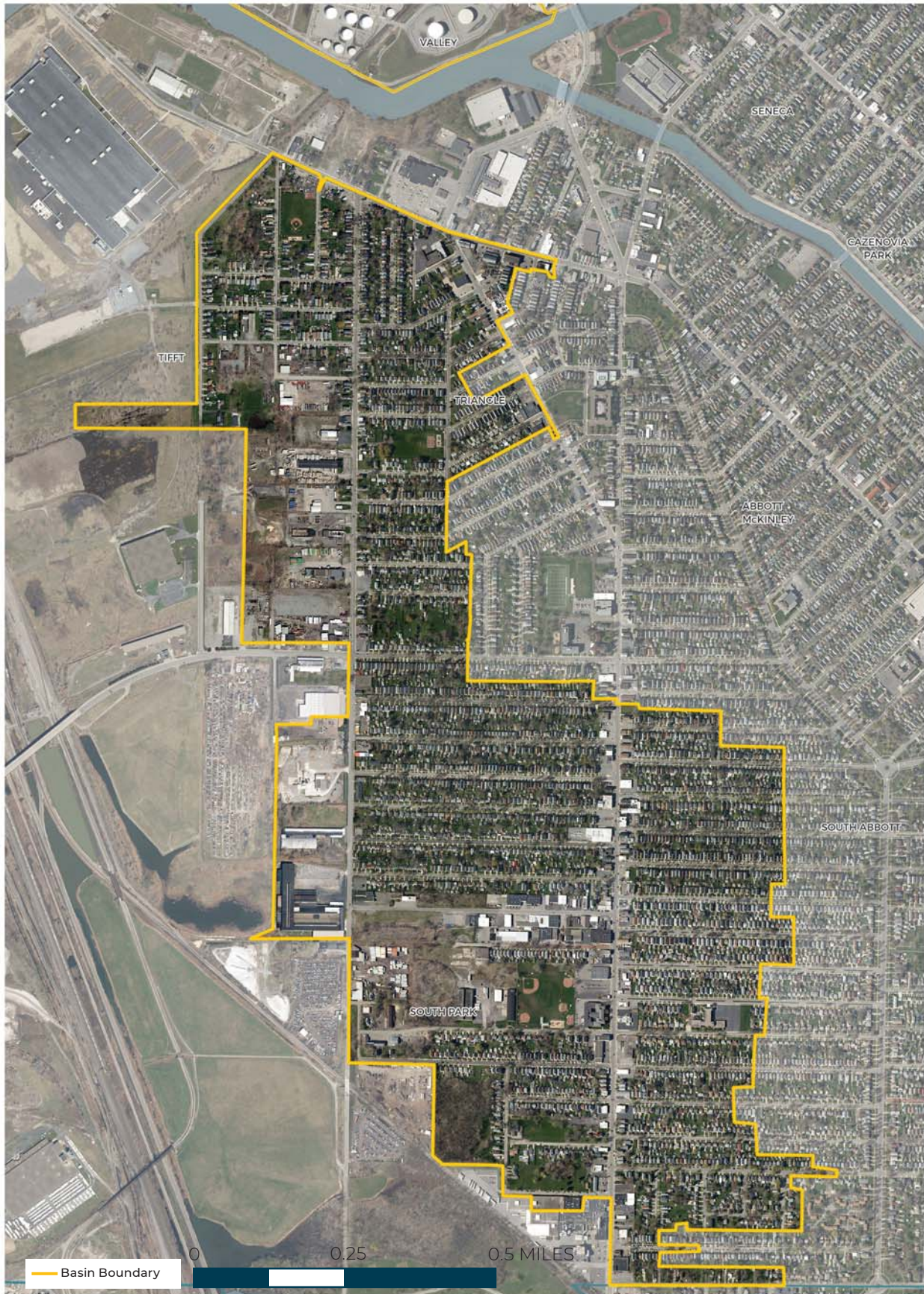


Figure 28.17: CSO Basin 28 Aerial Map

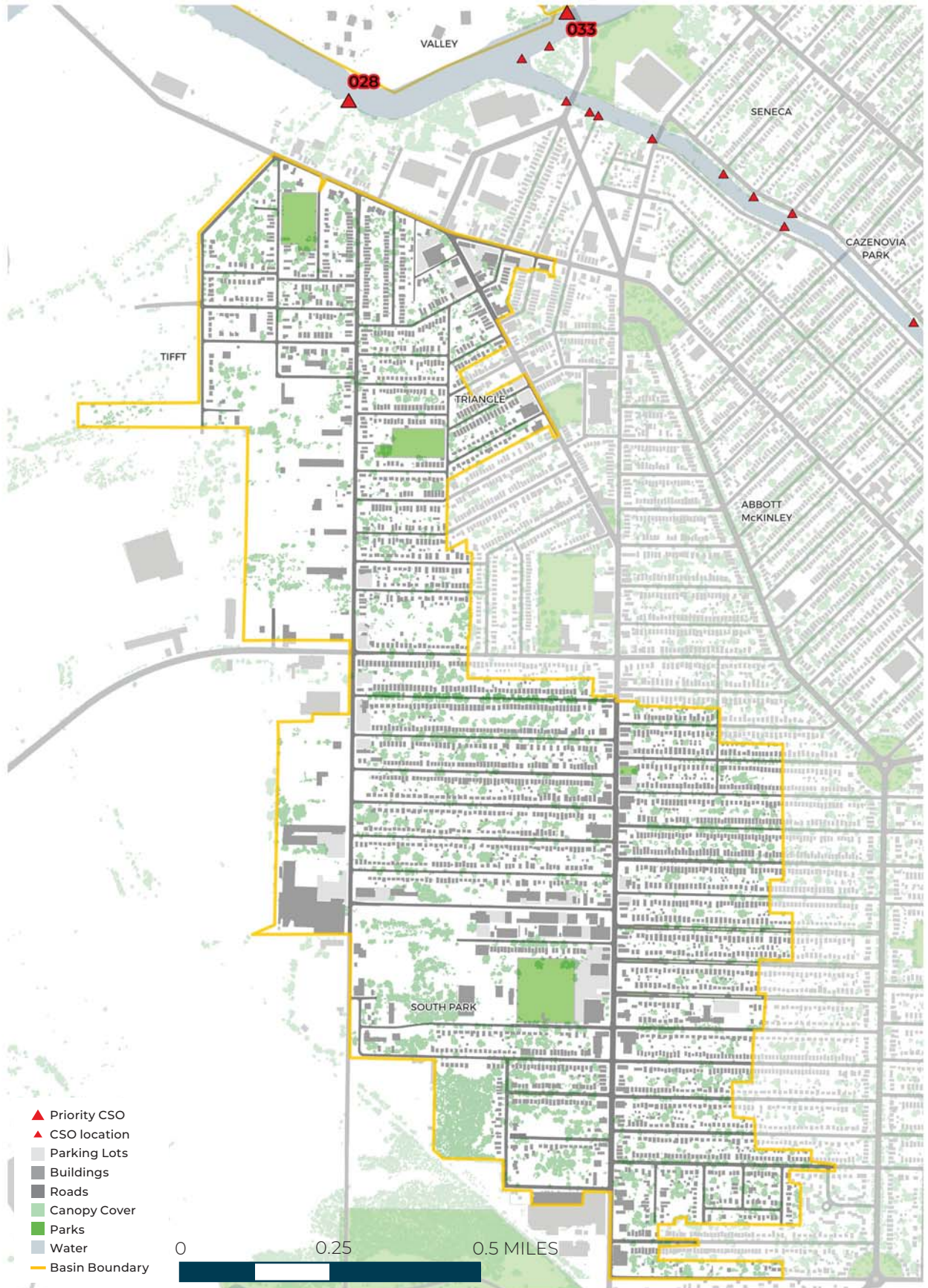


Figure 28.18: CSO Basin 28 Map of Built Environment and Tree Canopy