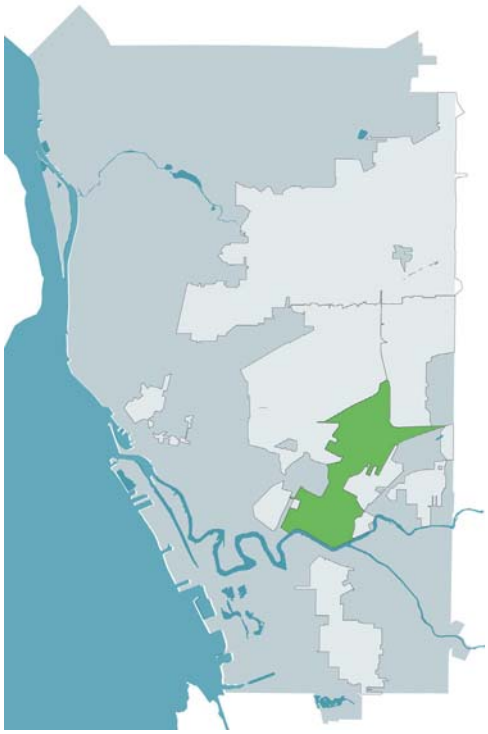

CSO27

When a drop of water lands at the intersection of Bailey Avenue and Clinton Street, it is joined by water from the neighborhoods of Babcock, Kaisertown, the Valley, and Broadway-Fillmore. During heavy wet weather, the rainwater combines with sewage and overflows into the Buffalo River at Combined Sewer Overflow 27 (CSO 27).

Community Benefits

- Workforce development
- Buffer between residential and industrial uses
- Tree planting programs
- Green Jobs
- Support of neighborhood revitalization efforts
- Access to the River
- Expanded canopy cover
- Clean up and revitalization of vacant land
- Traffic calming



CSO **Basin 27 at a glance...**

Green Infrastructure Opportunities

The goal for CSO Basin 27 is to manage stormwater from 73 acres of impervious surface. The majority of sites surveyed were commercial properties. The site analysis concluded that total acreage of commercial property surveyed greatly exceeds the management goal. High vacancy rates (both commercial and residential) provide the opportunity to implement distributed green infrastructure. There are also major corridors that pass through this CSO basin. In addition, many sites have significant paved areas and it may be effective to focus on impervious surface reduction in these industrial areas. Many of the commercial properties are large parcels, which may simplify implementation.

Urban Character

CSO Basin 27 is characterized by large industrial corridors, brownfield sites, and small areas of dense residential housing.

Environmental Systems

CSO Basin 27 has the lowest tree canopy cover of the six targeted CSO basins. Augmenting the tree canopy would contribute to stormwater runoff reduction and reducing urban heat island effect.

Focusing on complete streets and right of way improvements can increase the urban forest canopy, create habitat connectivity, create opportunities to network green infrastructures systems within the CSO basin, and provide a buffer between residential and industrial uses.

Equity Considerations

Neighborhoods have close proximity to high traffic corridors, so green infrastructure along corridors can provide a much-needed buffer to residential communities.

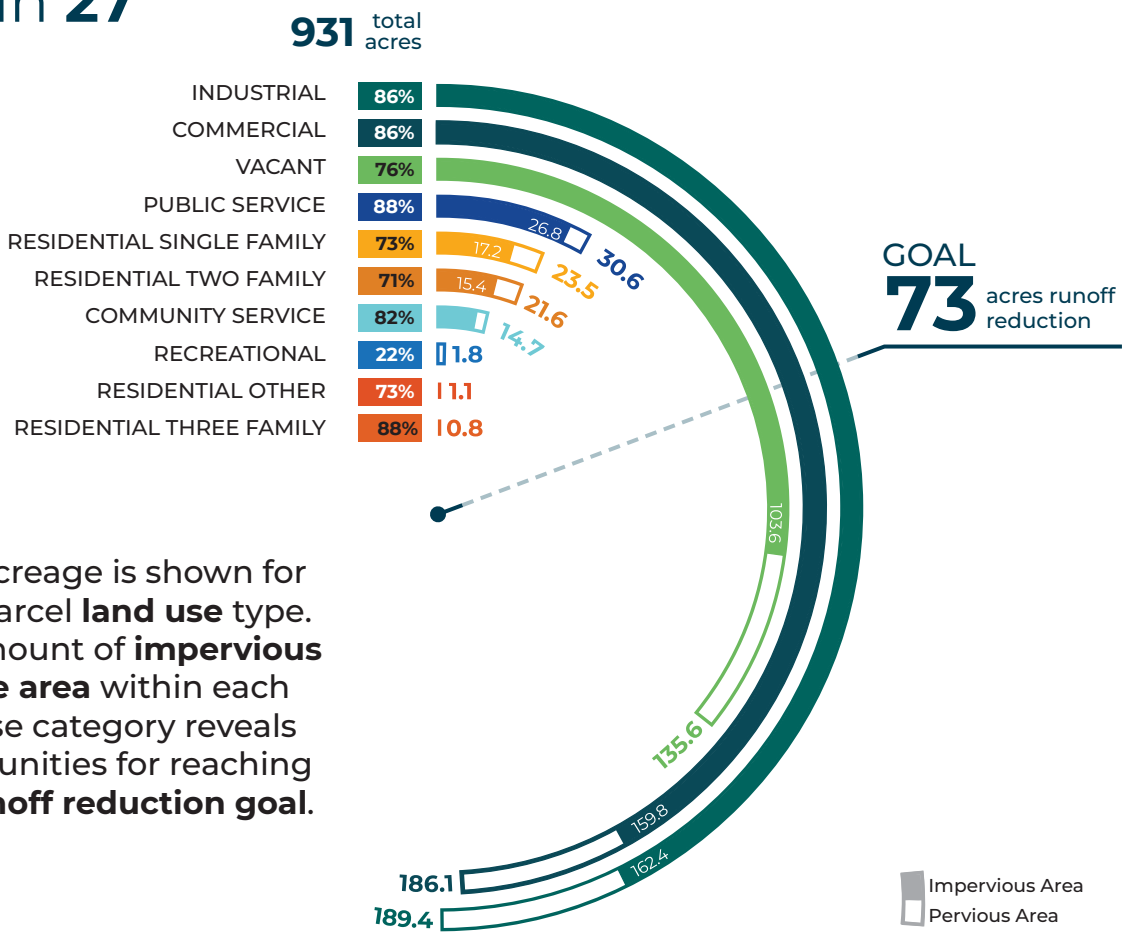
Because most properties are owner occupied there may be opportunities for residential green infrastructure or tree planting.

Unemployment in this area is higher than the City average so green infrastructure-related training and jobs would contribute to improving equity in this CSO basin.

BY THE NUMBERS...

Land Use Opportunity and Impervious Surfaces by Area

Basin **27**



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

931 acres
TOTAL BASIN AREA

2,425
RESIDENTS

$30,286
MEDIAN HOUSEHOLD INCOME

67 acres
OF CANOPY AREA

17 acres
OF PARK AREA

132 acres
OF RIGHT OF WAY

59 acres
OF ROAD AREA

122 acres
OF BUILDING AREA

68 acres
OF PARKING LOTS

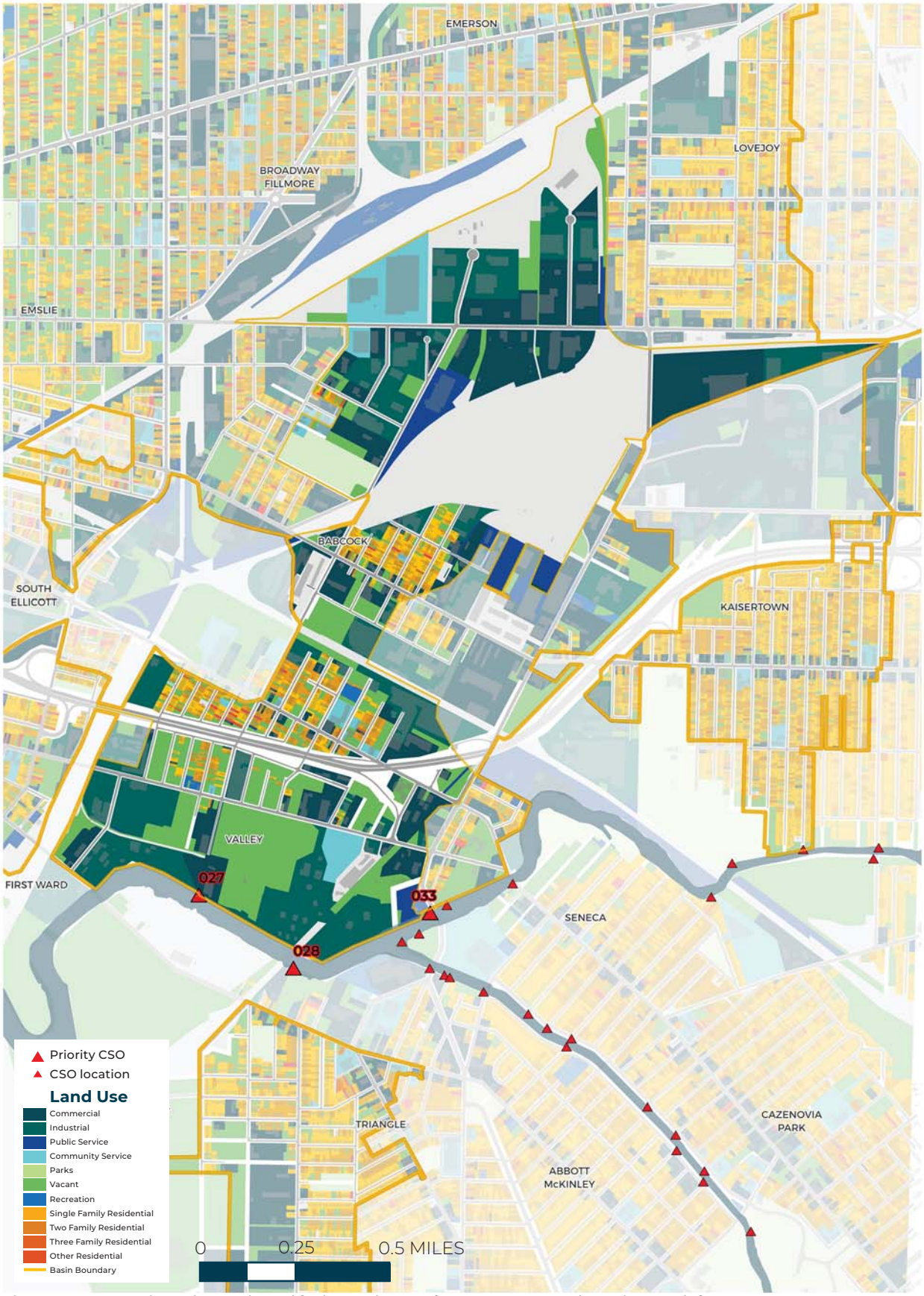
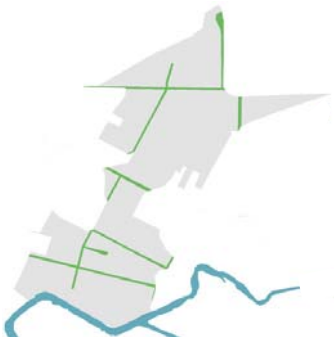


Figure 27.1: CSO Basin 17 Sites evaluated for impervious surface management through green infrastructure.

Opportunity Sites & Networks



Corridors

New Babcock, Bailey, Clinton, William, Elk, and Seneca Streets cover much of the basin, creating the armature for a green infrastructure network connecting significant sites as well as adjacent CSO basins, including Basin 33 to the east, Basin 26 to the northwest. Focusing on green infrastructure in these corridors can improve walkability and in some cases provide buffers between residential neighborhoods and industrial properties and high traffic roadways.

Sites

Important opportunity sites for green infrastructure retrofit in CSO Basin 27 are primarily large warehouse, manufacturing and distribution services that have large parking lots and impervious area. There are two large clusters of such sites along Elk and William Streets. Reducing impervious area on these properties will make a significant contribution to addressing the stormwater challenge in this basin. Also, adding green infrastructure to these sites will help address the low canopy cover and low access to green space that exists in this basin.

Clusters and Networks

Grouping these sites into clusters and networks along key corridors can improve the effectiveness of green infrastructure at reducing stormwater runoff to the sewers as well as increasing canopy cover in the basin. Since unemployment is high in this basin, the jobs created by the implementation of large-scale green infrastructure would contribute to reducing unemployment, particularly if paired with green infrastructure job training.

Key Corridors

- Elk Street
- Seneca Street
- Bailey Avenue
- William Street
- Clinton Street
- New Babcock Street

Key Parking Lots

1. US Post Office
2. American Douglas Metals
3. Food Bank of WNY
4. Niagara Frontier Transit Authority
- Industrial Locations (various)

Key Businesses

5. UPS Customer Center
6. R&R Salvage
7. Comet Flasher, Inc.
8. Robinson Home Products
- Warehouse Properties (various)

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

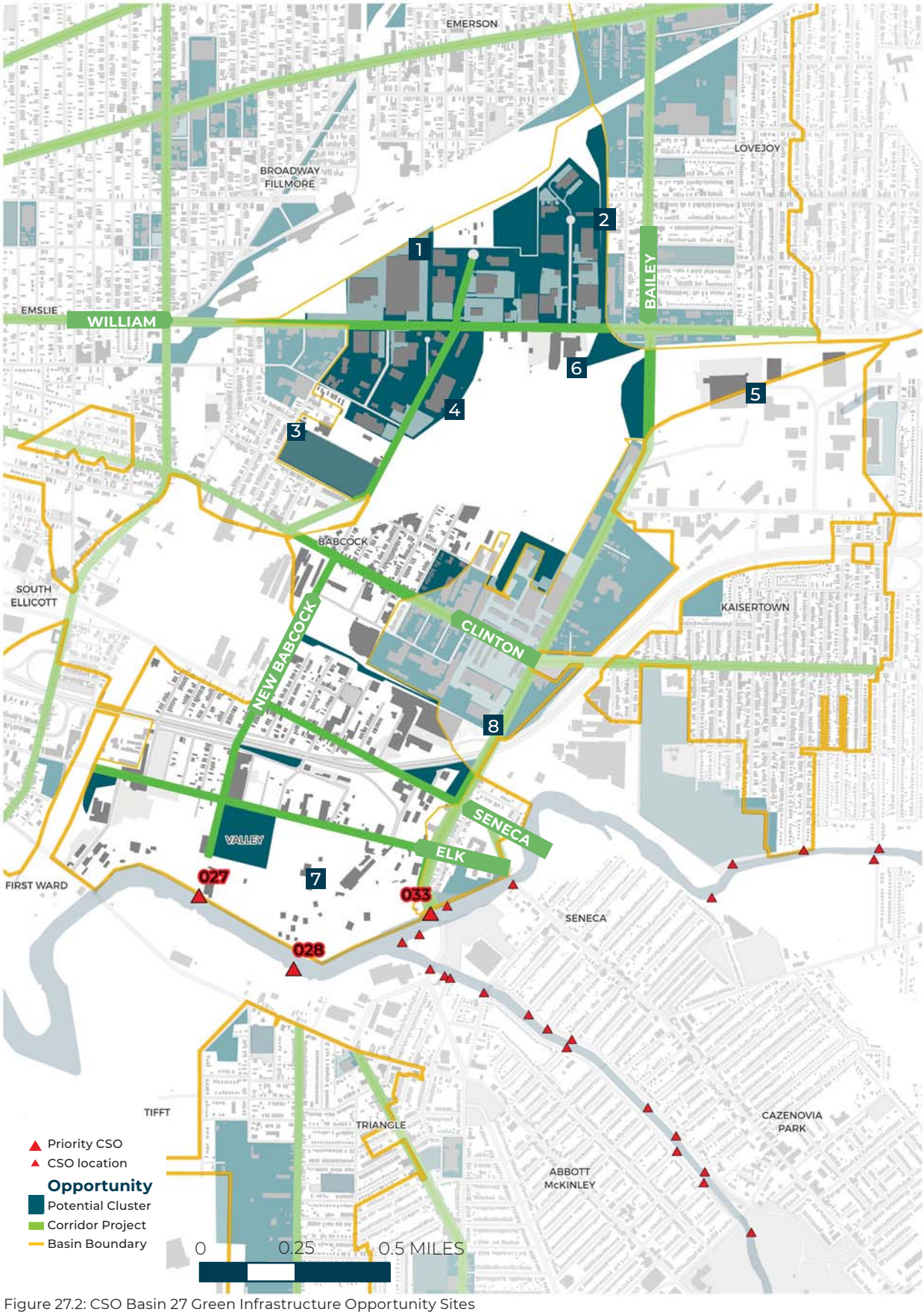


Figure 27.2: CSO Basin 27 Green Infrastructure Opportunity Sites

Green Infrastructure Opportunity
William Street Industrial Green Zone

The neighborhoods of CSO 27 have clear geographic boundaries defined by the Buffalo River, I-190 Highway and railroads. Within this bounded CSO basin the land is mostly dedicated to industrial and commercial activity, which surrounds the small neighborhoods of the Valley and Babcock. The large commercial and industrial uses provide the largest opportunity for runoff reduction while also enabling streetscape beautification and expansion of the large habitat corridors that follow the river and railways.

The William Street corridor provides a case study of this approach. Large industrial and commercial buildings with larger impervious parking lots adjacent to the railroad line could be retrofitted with green infrastructure. Porous paving could be used in parking lots, some buildings may be able to be retrofitted with green roofs, and the use of bioswales in and surrounding large surface parking lots can reduce stormwater runoff, help reduce urban heat island effect, and provide additional canopy cover. Buffalo Sewer could make use of the high rate of vacancy within CSO Basin 27 to develop networked green infrastructure that directs runoff to undeveloped parcels adjacent to key partners like that of US Postal Service and Niagara Frontier Transit Authority. Finally the use of green infrastructure along streets can also help reduce urban heat island effect, improve walkability, and calm traffic.

Strategies

- **Porous paving**
- **Green roofs**
- **Downspout Disconnections**
- **Tree planting**

Potential Partners

- **Commercial property owners**
- **Goodwill Industries**
- **US Postal Service (USPS)**
- **Niagara Frontier Transit Authority (NFTA)**
- **New York State DOT**
- **Buffalo Division of Parks and Recreation**
- **Food Bank of Western NY**

Figure27.3: Nearby neighborhood mural by artist Vinny Alejandro

Figure 27.4: Slow Roll Buffalo bikeing event. Photo by Clay Davies

Placemaking Opportunity with Green Infrastructure

The implementation of green infrastructure on existing properties along the William Street corridors could provide many neighborhood benefits in addition to stormwater runoff reduction. Green infrastructure along streets can help buffer residential communities from truck traffic. By putting vacant land to productive use and adding green space, green infrastructure can support neighborhood revitalization efforts.

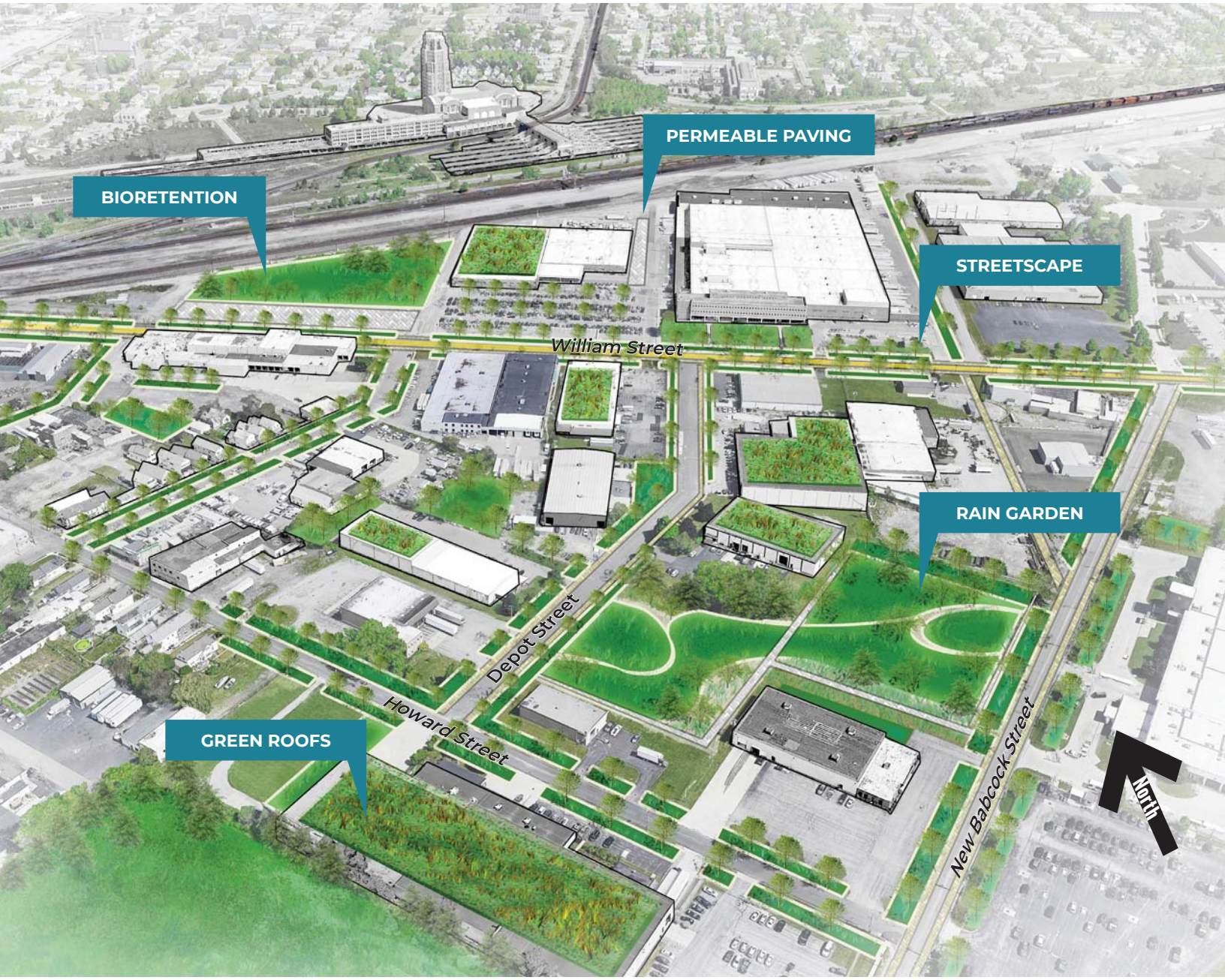


Figure 27.5: Rendering of Williams Street Corridor Cluster with Green Infrastructure

ANALYSIS

Urban Character

CSO Basin 27 intersects a small cluster of neighborhoods in Southeast Buffalo, including Babcock, Kaisertown, the Valley, and Broadway-Fillmore. CSO Basin 27 neighborhoods are dominated by large industrial land uses and truck traffic characteristic of the wholesale trade. CSO Basin 27 has a population of only about 2,400. Commercial properties dominate the sites inventoried for green infrastructure retrofit and those sites have significant paved surfaces. CSO Basin 27 includes several large industrial sites on the northern bank of the Buffalo River as well as a large rail yard area. The William Street corridor passes through CSO 27 and is dominated in that stretch by large logistical warehouses and truck traffic.

Investment in green infrastructure in CSO Basin 27 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. Important corridors such as William Street, Seneca Street, and Clinton Street are focuses of revitalization efforts through the Buffalo Green Code and are also opportunity sites for green infrastructure. Clinton Street and Seneca are important neighborhood centers. Green infrastructure investment in these neighborhood centers will support implementation of the Buffalo Green Code and neighborhood revitalization efforts.

CSO Basin 27 is seeing the least amount of overall development per square mile of all the priority CSO basins, but has the highest concentration of industrial permits in the last 2 years. The Kaisertown neighborhood, which is partially located in CSO Basin 27, has one of the highest projected increases in home values according to Zillow.

Figure 27.6: Brownfield and industrial sites along Elk Street cut off the Valley neighborhood from the Buffalo River to the south.

Figure 27.7: The north end of CSO Basin 27 is characterized by large commercial and industrial sites flanking William Street with large flat roofed buildings and big parking lots.

Figure 27.8: CSO Basin 27 has several small residential blocks that are isolated by rail corridors and industrial zones. This example is in the Babcock neighborhood along Clinton Street.

Figure 27.9: CSO Large openspace around current and former rail yards.

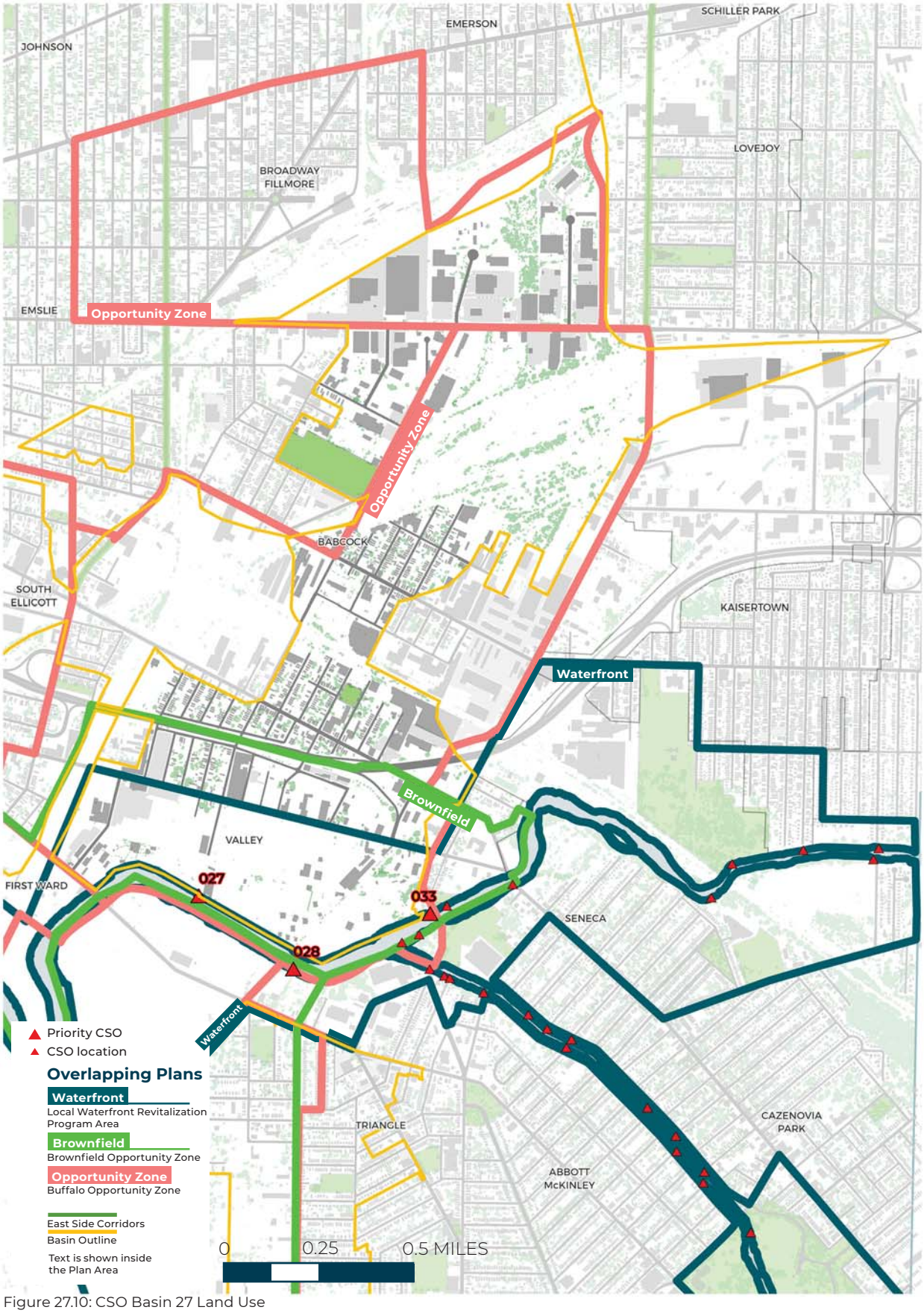


Figure 27.10: CSO Basin 27 Land Use

ANALYSIS

Equity Analysis

There is a small community of about 2,400 residents, the overwhelming majority of whom are White. Most households are owner-occupied, and median household incomes and poverty rates largely reflect the City as a whole. However, CSO Basin 27 stands out for a few environmental indicators of green infrastructure need. The basin has the highest vacancy rates, both commercial (16%) and residential (24%), of the six targeted CSO basins, along with a relatively high share of vacant land (15%). CSO Basin 27 also has the lowest tree canopy coverage of any targeted basin—7.4%, which is half that of the City as a whole. Also, as Interstate 190 runs through the basin, neighborhoods in CSO Basin 27 have a notably high proximity to heavy volumes of traffic. The highway and other barriers, including the predominant industrial land uses, railroads, and the Buffalo River, contribute to this geographic isolation, raising a number of equity considerations for the residential community.

Although the basin is one of the smallest and least diverse areas prioritized by Rain Check 2.0, green infrastructure installations could contribute to placemaking in residential areas, create attractive buffers between residences and surrounding industrial land uses, and also promote healthier environments for workers of major employers in the area. However, given the area's industrial heritage and neighborhood identities, consideration should be given to what types of green infrastructure practices can maintain or promote the neighborhood character that residents value. With the majority of households being owner-occupied, there may be potential interest in and capacity to maintain green infrastructure on private property.

Although industrial sites within the CSO basin may present the greatest opportunities to reduce stormwater runoff, residents may still benefit from installations on these properties. The proportions of residents employed in manufacturing and wholesale trade are triple the rates for the City overall, so residents employed in these industries may work at the employers located in the area. While income and poverty levels are on par with the City as a whole, the unemployment rate is nearly double the rate of the City overall. Furthermore, levels of educational attainment are relatively low, including a significant share of youth who are neither enrolled in school nor working. Job training programs could be targeted towards students, unemployed and underemployed young people living in the area, as well as workers in trade industries. There are a number of community centers in the area that could be potential partners for workforce training initiatives, as well as community outreach and engagement activities.

Neighborhood Profile Snapshot

2,425
RESIDENTS

$30,286
MEDIAN HOUSEHOLD INCOME

95.4%
ATTAIN LESS THAN A BACHELOR'S DEGREE

$29,800
MEDIAN VALUE OF OWNER-OCCUPIED HOMES

30.2%
OF HOUSEHOLDS DO NOT HAVE A VEHICLE

-22.9%
2000–2016
POPULATION CHANGE

25.9%
RESIDENTS LIVING IN POVERTY

43.8%
WORKING AGE NOT EMPLOYED*

19.9%
RESIDENTS ARE PEOPLE OF COLOR

43.3%
HOUSEHOLDS ARE RENTERS

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 27.11: CSO Basin 27 and GI Equity Index

Environmental Systems

Waterways

CSO Basin 27 sits along the north shore of, and discharges to, the Buffalo River. The properties bordering the river are large industrial sites and there is no riparian buffer. A number of these sites are currently vacant or fallow, and prevent riverside access by residents. This area has been identified as a brownfield opportunity zone, and any future development would improve upon community resources by increasing neighborhood access to the river and restoring the riparian zone.

Tree Canopy Cover

CSO Basin 27 has the lowest canopy cover of any of the priority CSO Basins, with only half as much canopy cover as the City overall. There are many vacant tree spaces and the acreage of canopy cover is small compared to the available plantable acres.

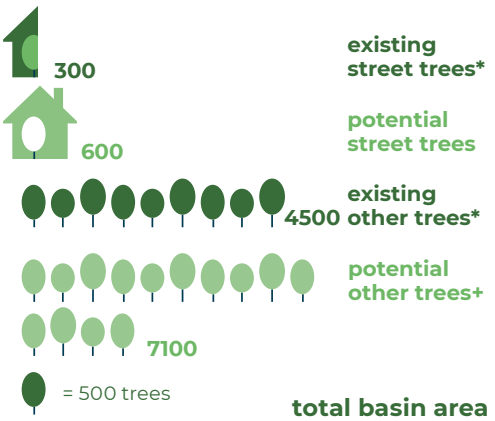
Habitat Connectivity

The overall lack of canopy cover and the large industrial uses limit habitat connectivity. There is a large patch owned by the railroad that could have canopy increased to serve as a large habitat patch. The I-190 highway and industrial sites currently cause significant discontinuity in the network but this could be remedied by strategically developing tree canopy or habitat corridors along rail lines and vacant lots as habitat stepping stones.

Figure 27.12: Potential for Habitat Connectivity in CSO Basin 27

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

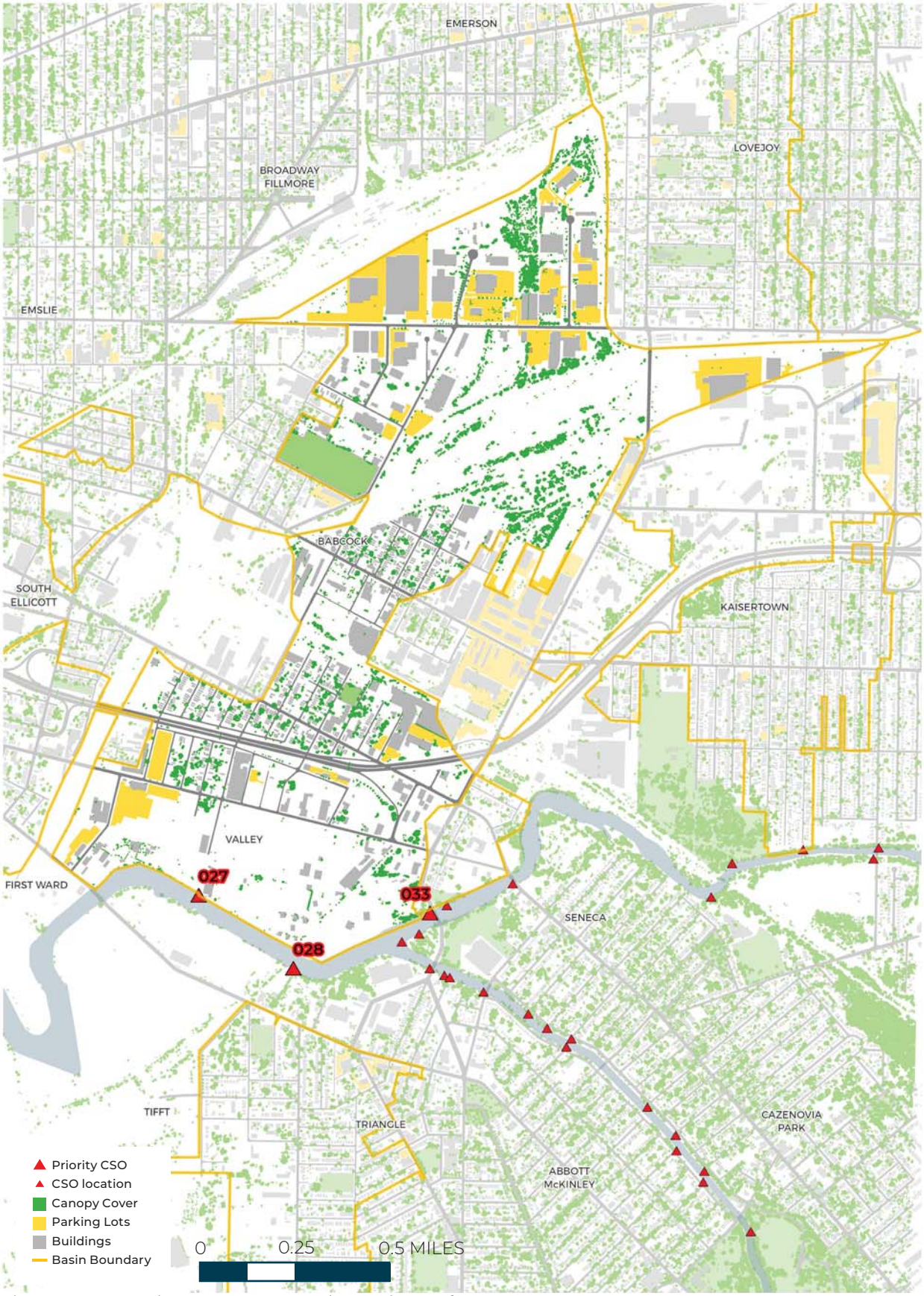


Figure 27.13: CSO Basin 27: Canopy Cover and Impervious Surfaces

ANALYSIS

Site Analysis

CSO Basin 27 is dominated by warehouses for manufacturing and distribution centers. Industrial and commercial uses to the north and south isolate residential neighborhoods. The Erie Railroad cuts through the area and comprises a large land area.

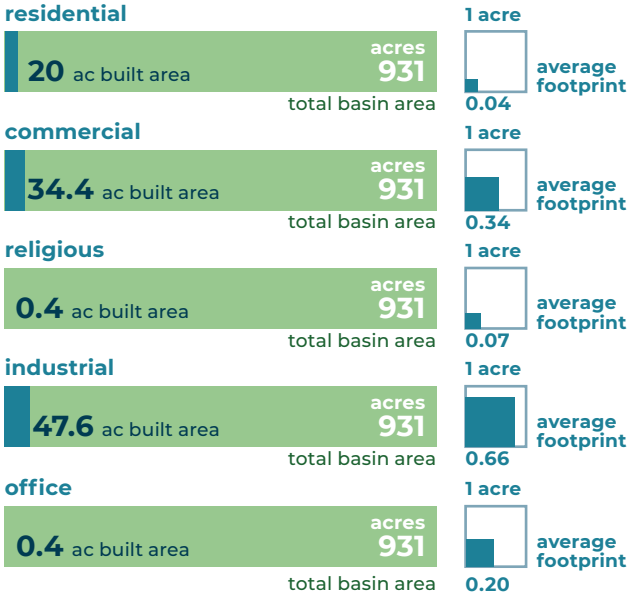
Many of the buildings have large footprints and paved areas for loading bays that, when combined with large access roads, cause this basin to have a very large percentage of impervious surfaces. The impervious surface reduction goal is 73 acres, approximately 7% of the total area. The site analysis process focused on large parcels. Because sites are so large, fewer owners would need to be engaged, possibly simplifying the implementation of green infrastructure. The sites inventoried capture about half of the total area, and are mostly concentrated along Elk Street and William Street.

The land use distribution is dominated by active commercial properties that require large driving surfaces. Porous paving may be a good option for these parcels. Along the Buffalo River there is opportunity for infiltration; however impacted soils may need remediation, and contamination may limit the feasibility of these sites for infiltration.

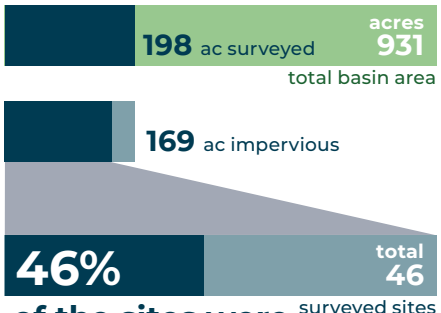
In underutilized or vacant properties along the river, there may be opportunity for green infrastructure to tie into long term redevelopment goals for the area. Green infrastructure can be designed into streetscape improvements along visible areas and improved open space should incorporate stormwater management technologies.

Built Area by Land Use

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



The site analysis reviewed 21% of the basin and found 26.5 acres of potential drainage area.



46% of the sites were suitable for green infrastructure.

87% of sites are in full sun

26% of sites are highly visible

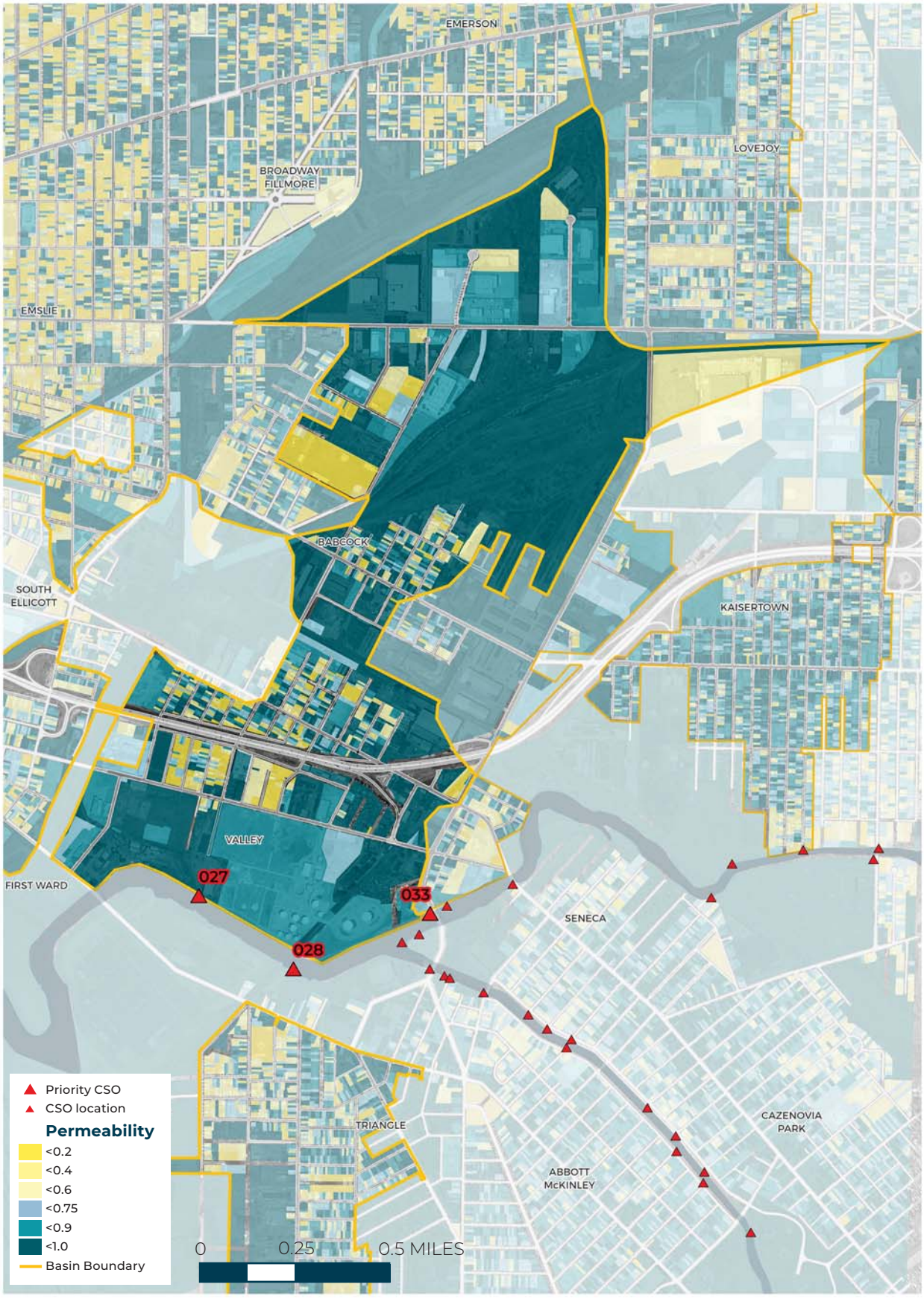


Figure 27.14: CSO Basin 27: Percent Impervious by Parcel

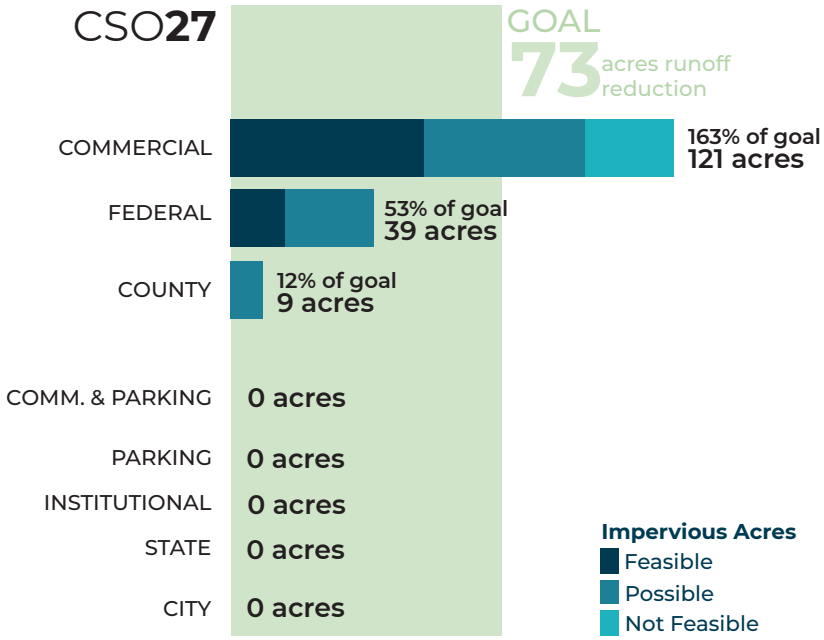
ANALYSIS

Site Analysis: Surveyed Properties

Figure 27.15: Image of sites where field work was conducted

Surveyed Properties by Land Use and Ownership

GIS sources: Erie County data, Buffalo Sewer Authority data



LARGEST PROPERTY OWNERS BY LAND USE AND OWNERSHIP

COMMERCIAL

UPS Customer Center
14.8 Imperv. acres

R&R Salvage, Inc.
11.5 Imperv. acres

Comet Flasher, Inc.
8.9 Imperv. acres

Warehouse Property
6.8 Imperv. Acres

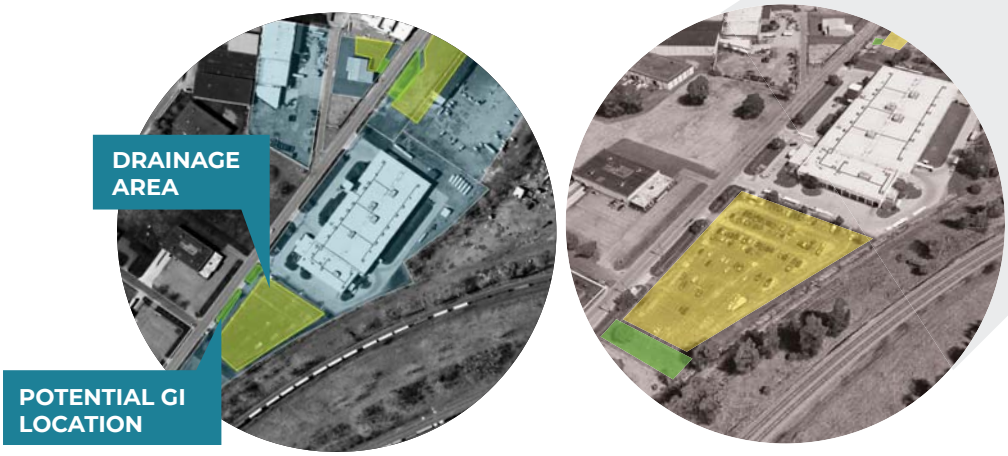
Robinson Home Products
6.4 Imperv. acres

FEDERAL

USPS William Street Site
23.8 Imperv. acres

A number of institutions and large properties were surveyed in CSO Basin 27 during this process.

This information helped the team understand that many have campuses or sizable properties that can be managed as a series of smaller green infrastructure installations or as a networked system.



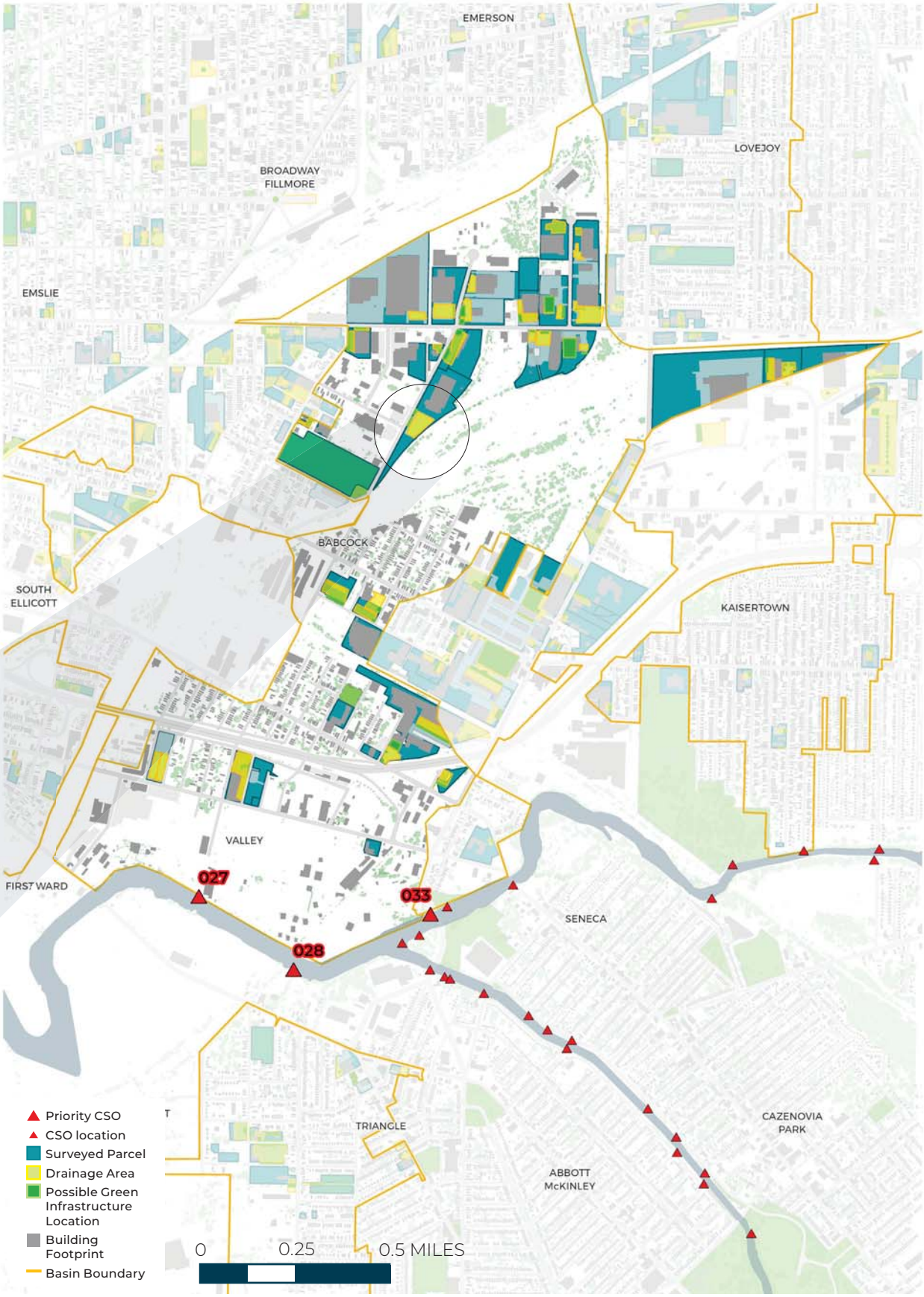


Figure 27.16: CSO Basin 27: Sites analyzed showing parcels, drainage areas and potential green infrastructure.

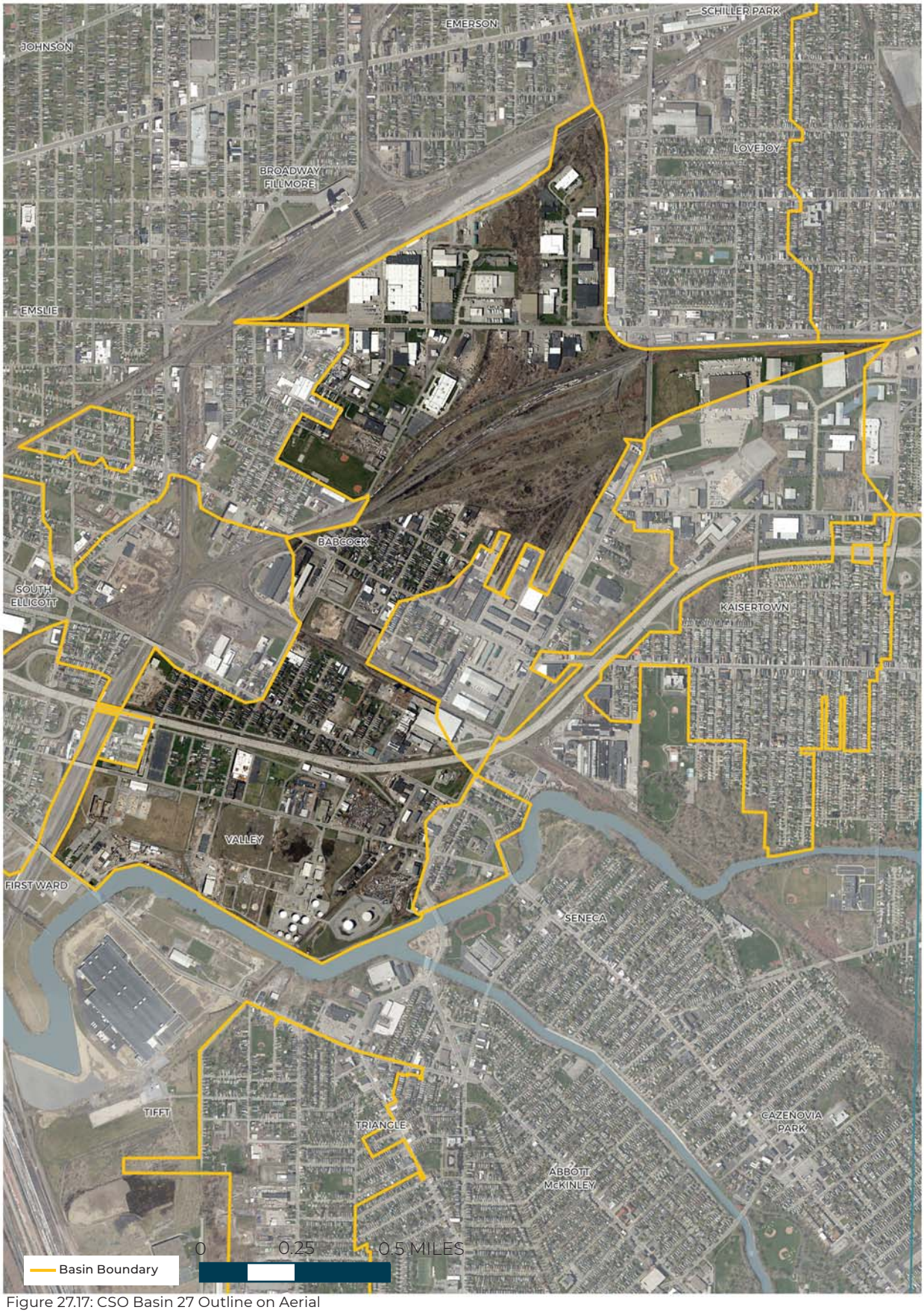


Figure 27.17: CSO Basin 27 Outline on Aerial

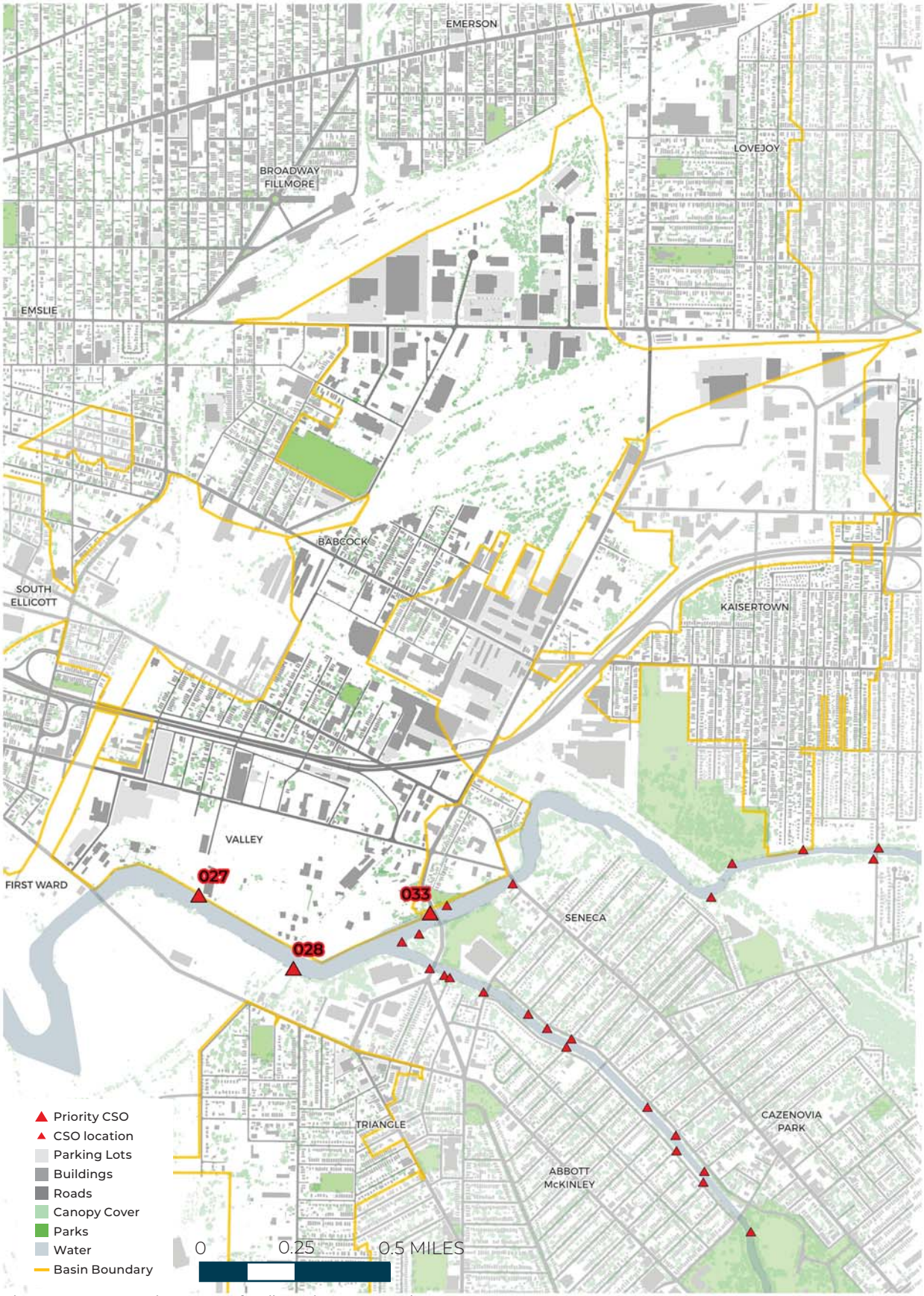


Figure 27.18 CSO Basin 27 Map of Built Environment and Tree Canopy