BUFFALO
SEWER AUTHORITY

ATTACHMENT B

Buffalo Sewer Authority

Green Infrastructure Stormwater Management Practices for CSO Basins 6, 26, 27, 33, and 53

Environmental Assessment to Support the State Environmental Quality Review Act (SEQRA) Review

July 2025

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1 Introduction

The Buffalo Sewer Authority (BSA) Long Term Control Plan (LTCP) is a comprehensive, multi-year strategy designed to address combined sewer overflows (CSOs) into local waterways during rain and snowmelt events. BSA currently has 52 permitted CSO outfalls that are regulated under the Clean Water Act and permitted under the New York State issued State Pollutant Discharge Elimination System (SPDES) permit (Permit No. 002 8410). The LTCP was developed to comply with the U.S. Environmental Protection Agency's (EPA) national CSO Control Policy and revised water quality standards from CSOs.

BSA's LTCP, approved in 2014, aims to reduce overflows and protect water quality through a combination of traditional "gray" infrastructure and innovative "green" solutions. The LTCP includes a mix of in-line storage, off-line storage, real-time control systems, and green infrastructure stormwater management projects. These measures are designed to capture, store, and treat excess stormwater and wastewater before it overflows into Buffalo's lakes, rivers, canals, and tributaries.

Green infrastructure stormwater management (green infrastructure or GI) projects are a type of stormwater management technique that is designed to imitate nature by capturing and treating stormwater where it lands. The intent is to keep precipitation (rain and snow melt) clean by not allowing it to runoff over long distances and return it to the groundwater preventing the runoff from entering storm drains. This increases groundwater recharge in areas where this ecological function is impaired due to a large amount of impervious surfaces and stormwater systems designed to collect and carry stormwater to drains. It also reduces flooding by reducing runoff. GI practices slow stormwater flow which allows the wastewater treatment plant more time to treat incoming flows, and in turn, reduces the volume of diluted wastewater entering Buffalo's waterways after storm events.

BSA launched the Rain Check Program in 2015, a dedicated green infrastructure program which documents BSA's strategies for addressing goals outlined in the LTCP. As part of this program, six priority CSO basins were identified for green infrastructure improvements within Buffalo's East Side, downtown, and South Buffalo neighborhoods. These basins encompass a quarter of the City's land area and almost half of its population. The basins were chosen to have the greatest impact on water quality and public health in Buffalo, to improve basins with high numbers of combined sewer overflow events, to leverage other investments in the area, and to decrease impervious cover where its percentage is highest and tree cover is lowest.

For this phase of the Rain Check Program, BSA is focusing on GI practices in CSO Basins 6, 26, 27, 33, and 53. These areas were selected as these communities have high impervious surface coverage, low tree canopy cover, and socioeconomic vulnerability as they are historically underserved areas and can disproportionately experience pollution and flooding. These practices include GI retrofits on public property and within the public right-of-way (ROW). A total of 558 GI locations have been identified throughout the selected CSO basins. The GI locations are located within eight different parks, nineteen public schools, with the rest within street/utility ROWs. BSA is aiming to implement the GI practices by 2028.

BSA, as a public benefit corporation, is acting as the lead agency and undertaking an environmental assessment (EA) of the environmental effects associated with implementing the GI practices to comply with the State Environmental Quality Review Act (SEQRA). While according to NYCRR 617.5(c)(3), the retrofitting of an existing structure and its appurtenant areas to incorporate green infrastructure is considered a Type II Action under SEQRA; however, as the cumulative effects of this project involve the disturbance of over 10 acres of land and exceed the threshold for disturbance within designated historic districts, the project is being reviewed as a Type I Action under

SEQRA. On BSA's behalf, JM Davidson Engineering, D.P.C (JMD) with Stantec Consulting Services (Stantec) performed this environmental assessment to supplement the SEQRA Full Environmental Assessment Form (FEAF) due to the geographical size and scope of the GI stormwater management practices. Neither the Short EAF, nor the FEAF alone would appropriately capture the environmental review undertaken of the project, nor the site-specific information for all of the planned GI locations. This environmental assessment report documents the methods used to identify environmental resources at and adjacent to each GI practice site, the steps taken to verify each resource, and the consultation with each interested and involved agency. Furthermore, this EA documents the anticipated impacts and effects from the GI practices.

1.1 Project Description

The implementation of GI practices as part of the LTCP and Rain Check Program serve to achieve national and local goals. The benefits are:

- Stormwater Management: Reduces runoff and CSO events, protecting water quality in the Niagara River, Lake Erie, and their tributaries.
- Environmental Justice: Prioritizes investments in neighborhoods with lower tree canopy cover and higher impervious surface, addressing equity concerns.
- Climate Resilience: Helps mitigate urban heat island effects, increase biodiversity, and adapt to increased precipitation due to climate change.
- Economic and Social Benefits: Creates jobs, beautifies neighborhoods, and improves quality of life for residents.

1.1.1 Practice Locations

The specific GI practices selected, and their locations are a result of a GIS-based analysis using soils (infiltration properties), topography, and land use. Furthermore, site suitability was further refined based on the following criteria:

- Contributing drainage area of at least 4,500 square feet,
- Consideration of existing features and improvements such as newly poured sidewalks, curb ramps, and trees,
- Private utility locations as to not interfere with private sewer and water lateral locations,
- Public utility locations were considered with a minimum horizontal separation distance of five (5) feet from sewer laterals and mains, 10 feet from water laterals and water mains, and 15 feet from utility poles,
- A minimum setback of 10 feet from buildings and five (5) feet from property lines, and
- A minimum area size of five (5) feet wide and no longer than 150 feet.

The GIS analysis identified potential locations, and the design team met with the City of Buffalo Public Works staff and performed site visits to ensure the selected practices and sites were feasible. Bundles of GI practices were separated into packages (Packages 1-14) based on proximity to each other and disseminated to various engineering consultants for detailed design. The packages will be put out to bid for contractors to be awarded packages for construction. **Appendix A** contains maps of the practice locations separated by package number. Most of the GI practices will be placed within roadway and utility ROWs. However, GI practices will also be placed on nineteen public school properties and eight park locations.

1.1.2 GI Practices to be Implemented

The specific GI practices selected are stormwater tree trenches, porous asphalt pavement, rain gardens, infiltration trenches, curb extensions, stormwater tree trenches with a bump out combination, pavement removal, stormwater planters, and underground storage. These practices were selected and designed based on the *NYS Stormwater Management Design Manual* and their suitability for the sites within the City of Buffalo. **Appendix B** contains the standard detail drawings of the GI practices described below. Other GI practices may be integrated, like bioswales, when site specific design is completed. The following generally describes each practice type.

Stormwater Tree Trench: This GI is a below-grade trench system comprised of stone storage that is situated adjacent to the roadway under the sidewalk and adjacent to landscaped areas. Trees can be planted in the landscaped areas within an engineered soil that is designed to enhance the natural filtration properties of soil and plants to remove pollutants and store runoff.

Porous Asphalt Pavement: Porous pavement is a type of pavement that is a mixture of aggregates and a bituminous binder designed to allow stormwater to flow freely through the asphalt surface into a subsurface stone drainage layer.

Bioretention Basin/Rain Garden: These are engineered small depressional areas designed to collect runoff. They include an engineered soil that is a mixture of soil, sand, and gravel which allows water to temporarily pond and infiltrate into the ground. The practices promote infiltration and enhance groundwater recharge in areas with high amounts of impervious surfaces. The depressional area is planted with a mixture of herbaceous plants and shrubs to encourage nutrient uptake and transpiration.

Underground Storage: This practice is designed to store runoff beneath the surface in a series of a large diameter perforated pipes and a gravel storage bed encouraging runoff to infiltrate into the ground or delay its release.

Curb Extensions: Curb extensions, also known as bump outs, are retrofitted into existing streets and narrow the roadway and shorten the pedestrian crossing distances. As a result, they slow down vehicle speed and enhance pedestrian safety at intersections and crosswalks. The added areas behind the new curb extensions can be designed as bioretention areas to capture, filter, and infiltrate stormwater runoff from streets. Openings in the curb direct runoff into the vegetated area.

Infiltration Trench: Infiltration trenches are similar to bioretention basins, however, rather than engineered soil rely on only stone as subsurface storage. The surface may remain stone or be covered with a thin layer of topsoil and grass.

Stormwater Planter: This GI practice places bioretention areas within box-like structures with vertical sides adjacent to sidewalks and streetscapes. They have engineered soil to filter stormwater and flow is diverted into the planters. Planters can be connected below ground by underdrains or be connected to underground storage.

Pavement Removal: Pavement removal is a simple way to decrease impervious surface in an area and restore natural soil and vegetation to decrease runoff and allow for infiltration naturally.

Presently, there are 558 GI practice locations planned, encompassing 37.02 acres, based on preliminary estimates of the practice's footprint. Table 1 summarizes the number of each GI practice to be installed as part of the project.

Table 1: GI Practice Summary		
GI Practice	Number to be Installed	Total Area (Acres)
Stormwater Tree Trench	453	8.99
Porous Asphalt Pavement	31	25.78
Rain Garden (Bio Retention Basin)	17	0.36
Underground Storage	10	0.65
Pavement Removal	2	0.26
Stormwater Tree Trench-Bump Out Combination	11	0.20
Stormwater Planter	22	0.48
Infiltration Trench	7	0.21
Bump Out	5	0.09
Total	**558**	**37.02**

1.1.3 Interested and Involved Agencies

SEQRA requires coordination with interested and involved agencies. The definition of an interested agency is a state or local public agency that does not have jurisdiction over the action but wishes to participate in the SEQRA review because of its expertise or specific concerns regarding the action. Interested agencies do not have approval or regulatory authority but are encouraged under SEQRA to participate in an advisory role, make recommendations, or provide expertise relevant to the review. Involved agencies are those that have jurisdiction by law to fund, approve, or directly undertake all or part of an action. Federal agencies cannot be classified as interested and involved agencies under SEQRA because the regulations are specific to state or local public bodies. BSA is planning on conducting a coordinated review and has initiated consultation with several interested and involved agencies. **Appendix C** contains correspondence to date with interested and involved agencies. Table 2 lists the identified interested and involved agencies.

Table 2: List of Interested and Involved Agencies	
Agency	Consultation/Permit/Partnership Status
Involved Agencies	
City of Buffalo Department of Public Works-Engineering Department	Street Cut Permit to place the GI practices within ROWs and properties under the authority of DPW
City of Buffalo Department of Permit and Inspection Services	Floodplain Development Permit

Table 2: List of Interested and Involved Agencies	
Agency	**Consultation/Permit/Partnership Status**
Buffalo Municipal Housing Authority	Occupancy of the GI practices on properties under the authority of BMHA
City of Buffalo Public Schools	Occupancy of GI practices on Buffalo Public School property
New York State Department of Education	Occupancy of GI practices on Buffalo Public School property
New York State Department of Transportation	Occupancy of GI practices within NYSDOT ROW. Permit to be obtained prior to construction.
Interested Agencies	
New York State Department of Environmental Conservation	GI practices are within 0.5 mile buffer area of state-listed species. Consultation has been initiated.
State Historic Preservation Office	GI practices within the vicinity of cultural resources. Consultation has been initiated.
Erie County Planning Board	Advisory review under GML §239-m

In addition to the interested and involved agencies, BSA has been and will continue to have active public involvement regarding the proposed project. The following is a list of community groups engaged or anticipated to be engaged for this project.

- Buffalo Council Districts
  - Delaware District
  - Ellicott District
  - Fillmore District
  - Lovejoy District
  - Masten District
  - University District
- Buffalo Olmstead Parks Conservancy

2 Environmental Assessment

The environmental assessment was conducted using available data layers from public data sources, BSA's own internal information, and field data collected to conduct a GIS analysis. The project area is a cityscape with little natural areas such as forests and wetlands. The natural vegetation that does exist is in the form of maintained lawns of residences, parkland, street trees, vacant lots, street medians, and green space. Scajaquada Creek is a waterway that runs through the City of Buffalo and bisects the project area. Some data layers show it in different locations such as NYSDEC's stream classification layer. Through the entire project area, Scajaquada Creek is enclosed, which is referred to as the "Scajaquada Drain". This enclosed portion is maintained by BSA; therefore, BSA's data on the

location of this waterway was used. Some fieldwork was undertaken to verify the existence of select natural resources such as wetlands, historic properties, and recreational facilities.

The following subsections list the natural resources evaluated and if the resource is present and to what extent.

2.1 Land Use

The project area is within an urbanized area; therefore, it has been fully developed with little vacant or unused land. Land use controls are governed by zoning regulations and provide an accurate representation of the land use patterns the GI practices have been sited within. A review of current aerial photography, zoning maps, and field visits identified that the GI practices have been sited primarily in residential neighborhoods or mixed-use areas. The mixed uses allowed are residential with commercial uses supportive of residential neighborhoods such as restaurants, corner stores, and boutiques. Section 2.2 is a more in-depth discussion on zoning. The actual location of the GI practices is mainly within the secondary street or utility ROW through the residential and mixed-use neighborhoods. There are several primary streets where GI practices are planned that pass through retail strip and light industrial areas but to a minor extent. Within the residential and mixed-use neighborhoods, several public-school properties, parks, and green spaces will host GI practices.

In broader terms, the GI practices are located within land uses of street and utility ROWs, parks, green space, residential campus complexes operated by the Buffalo Municipal Housing Authority, and Buffalo Public School property. Table 3 below summarizes the number of GI practices on each property type and the following sections further describe the work anticipated on each land use type.

Table 3: Project Land Use Summary

Property/Land Use Type	Number of GI Practices	Total Area (Acres)
Street, Roadway, & Utility ROW	503	10.09
Buffalo Public Schools	34	9.12
Parks & Greenspace	12	1.86
Residential Campus (Buffalo Municipal Housing Authority)	11	15.95
Total	**558**	**37.02**

2.1.1 Buffalo Public Schools

BSA has been working closely with the Buffalo Public Schools (BPS) and NYS Department of Education (NYSDOE) to work out a plan to implement GI practices at 19 schools and school properties. Table 4 below summarizes the proposed GI practices at each school or school property. Stantec has taken the lead on consulting with SHPO on behalf of BSA to expedite the NYSDOE permitting process. The schools proposed for GI practices that have not been previously assessed for eligibility for the National or State List of Historic Places have been reviewed. BSA worked with BPS to provide SHPO with information on those properties not previously assessed for listing eligibility. Table 4 indicates SHPO's determination from this assessment on those properties. In addition, SHPO made a determination that the GI practices will not have an adverse impact on historic or archaeological resources (See **Appendix C**).

Table 4: Buffalo Public School GI Practice Summary			
School	National/State List of Historic Places	Green Infrastructure Type (s)	System Footprint Area (Square Feet)
PS 90: Early Childhood Center (50 A Street)	Not Previous Assessed for Eligibility, Determined to be Not Eligible for listing	Rain Gardens, Stormwater Tree Trench, Porous Asphalt	34,278
PS 92: New B.U.I.L.D Community School (340 Fougeron Street)	Registered: National Register Number 22NR00041	Stormwater Tree Trench	1,593
PS 80: Highgate Heights (600 Highgate Ave)	Listed on State List	Stormwater Tree Trench	700
PS 99: Stanley M. Makowski Early Childhood Center (1097 Jefferson Ave)	Not Previous Assessed for Eligibility	Porous Asphalt	41,107
PS 17: Early Childhood Center (1045 West Delevan Ave)	Not Eligible	Porous Asphalt	27,811
PS 192: Buffalo Academy for Visual & Performing Arts (450 Masten Ave)	Not Eligible	Rain Garden	1,650
PS 97: Harvey Austin School (1405 Sycamore Ave)	Eligible	Porous Asphalt, Stormwater Tree Trench	22,911
PS 309: East Community High School (820 Northhampton St)	Eligible	Porous Asphalt, Rain Gardens,	36,951
PS 33: Bilingual Center (157 Elk St)	Not Eligible	Porous Asphalt	21,569
PS 31: Harriet Ross Tubman School (212 Stanton St)	Eligible	Porous Asphalt	8,805
1409 East Delevan Ave (BPS Property)	Not Eligible	Porous Asphalt	5,257
PS 8: Leonardo Da Vinci High School (167 E Utica St)	Eligible	Porous Asphalt, Rain Garden	25,289
PS 301: Burgard High School (400 Kensington Ave)	Not Eligible	Rain Gardens	1,505
PS 82: Ronald Peoples School of Scholars (230 Easton Ave)	Eligible	Porous Asphalt, Rain Gardens	39,443

Table 4: Buffalo Public School GI Practice Summary			
School	National/State List of Historic Places	Green Infrastructure Type (s)	System Footprint Area (Square Feet)
PS 61: Arthur O. Eve School of Distinction (453 Leroy Ave)	Eligible	Porous Asphalt, Rain Garden	7,928
PS 89: Dr. Lydia T. Wright School of Excellence (106 Appenheimer Ave)	Not Previous Assessed for Eligibility, Determined to be Not Eligible for Listing	Porous Asphalt, Stormwater Tree Trench	79,227
PS 74: Hamlin Park Claude & Ouida Clapp Academy (126 Donaldson Rd)	Listed	Porous Asphalt	15,194
1448 East Delevan Ave	Not Previous Assessed for Eligibility	Porous Asphalt	9,566
PS 53: Community School (329 Roehrer Ave)	Eligible	Porous Asphalt	16,328
TOTAL			**397,112 sq ft/ 9.12 acres**

2.1.2 Parks

There are many parks throughout the City of Buffalo, and they occur as large parcels of land for recreation including public pools, to small plots of land maintained as greenspace in angled street intersections and within traffic circles. The City of Buffalo Department of Public Works (DPW) Division of Parks and Recreation maintains all 190 city park properties. The City of Buffalo Interactive Parks Map[1] was used to screen the proposed GI locations for intersections with Buffalo parks. BSA has identified eight parks where GI practices are slated to be placed. These parks are Genesee Gateway Triangle Park, Hennepin Park, Lincoln Park, Martin Luther King Jr. Park, Glenny Park, Mary Jean Sloan Park Hank Nowak Park, and Agassiz Circle (See **Appendix C** for Cultural Resource Maps). A total of 1.86 acres of GI practices will be placed within parkland. Table 5 summarizes the GI practices and area of GI practices in each of the parks. BSA will maintain the GI practices within these parks and is coordinating with the City of Buffalo DPW to work out a memorandum of agreement for access and maintenance. There are also 19 GI practices located within the ROW areas adjacent to parks. These facilities are summarized in Section 2.5.4. BSA is consulting with SHPO regarding potential effects to the parks both directly and indirectly impacted.

The GI practices will not remove greenspace or recreational areas and were sited to complement the parkland. Rain gardens have been selected to be placed in Genesee Gateway Triangle Park, Lincoln Park, Agassiz Circle, and Martin Luther King Jr. Park. Rain gardens will supplement the existing landscape by enhancing the vegetation with flowering plants and shrubs. Underground storage will be placed in Hennepin Park, Glenny Park, Mary Jean Sloan, and Hank Nowak Park. Other than a new storm drain at the ground surface, the aboveground area will be restored to preconstruction conditions. Finally, porous asphalt pavement will be placed within Humboldt Parkway and on

[1] https://gis.buffalony.gov/portal/apps/webappviewer/index.html?id=594c95209a6744038c9eff70594a820d)

the northern access road to Martin Luther King Jr. Park where traditional pavement currently exists. Installing this GI practice will result in no change in the use or visual character of these areas within Martin Luther King Jr. Park.

Table 5: GI Practices in Parkland Summary			
Park Name	**ID**	**GI Practice(s)**	**Area (square feet)**
Genesee Gateway Triangle Park	DPW-003	Rain Garden	348
	DPW-004	Rain Garden	257
Hennepin Park	DPW-005	Underground Storage	13,447
Lincoln Park	DPW-008	Rain Garden	232
Martin Luther King Jr. Park	DPW-009	Porous Asphalt	36,783
	DPW-010	Rain Garden	3,190
	DPW-011	Porous Asphalt	18,322
Glenny Park	DPW-015	Underground Storage	1,570
Mary Jean Sloan	DPW-024	Underground Storage	1,518
	DPW-025	Underground Storage	1,071
Hank Nowak Park	DPW-027	Underground Storage	3,057
Agassiz Circle	ROW-142	Rain Garden	1,184
Total			**80,981 square feet/ 1.86 acres**

2.1.3 Buffalo Municipal Housing Authority

Buffalo Municipal Housing Authority (BMHA) owns and operates 29 housing developments and other sites throughout the City of Buffalo. BSA is proposing to remove pavement, install porous pavement, and disconnect external roof leaders and direct runoff to subsurface stone at the Kenfield-Langfield Homes development as well as the Ferry Girder Apartments. The 11 GI practices proposed on BMHA property encompass approximately 15.95 acres. BSA is working directly with BMHA to develop a memorandum of understanding to outline the frequency of access to GI practices, a maintenance schedule, and a defined maintenance area. BSA will be responsible for maintaining the GI's on BMHA property.

2.1.4 Right-of-Ways

Existing utility and street ROWs will be used to implement 82% of the GI practices. The majority of those GI practices located in ROWs will be placed within the utility and street ROW where the owner and maintenance responsibility

is the City of Buffalo DPW. A total of 484 GI practices will be placed with the City of Buffalo's DPW's ROW comprising 8.26 acres.

Ten GI practices will be placed within the NYS Department of Transportation's (NYSDOT) ROW according to NYSDOT Maintenance Jurisdiction mapping[2] Table 6 presents the GI practices within NYSDOT ROW. There are also several state routes such as Route 62/Bailey Ave that are owned by NYSDOT but maintained by the City of Buffalo. Table 7 lists these ten GI practices where the ownership and maintenance responsibility are different. BSA is in discussions with NYSDOT about placing the GI's within their ROW and retrofitting storm drains that drain into BSA's sewer system. All applicable permits and authorizations will be obtained prior to construction. Only ten GI practice locations encompassing 0.24 acres will be placed within NYSDOT's ROW while another ten GI practice locations encompassing 0.15 acres will be placed in the ROW of state routes but maintained by the City of Buffalo DPW.

Table 6: GI Practices Located in NYSDOT ROW

GI Practice	Location	ROW Ownership or Maintenance Jurisdiction	Area (square feet)
Rain Garden (ROW-141)	State Route 198 & Humboldt Parkway West	State Route 198- NYSDOT Humboldt Parkway- City of Buffalo	759
Stormwater Tree Trench (ROW-184)	768 Broadway	NYSDOT	1,513
Stormwater Planter (ROW-198)	1349 Broadway St/NY 130	NYSDOT	885
Stormwater Tree Trench (ROW-225)	723 Broadway St/NY-130	NYSDOT	694
Stormwater Tree Trench (ROW-292)	1270 Broadway St/NY 130	NYSDOT	1,368
Stormwater Planter (ROW-293)	1261 Broadway St/NY-130	NYSDOT	718
Stormwater Tree Trench (ROW-8004)	1073 Broadway St/NY-130	NYSDOT	1,320
Stormwater Tree Trench (ROW-8012)	687 Broadway St/NY-130	NYSDOT	609
Stormwater Tree Trench (ROW-8013)	716 Broadway St/NY-130	NYSDOT	1,108
Stormwater Tree Trench (ROW-8014)	615 Broadway St/NY-130	NYSDOT	1,300
Total			**10,274 square feet/ 0.24 acres**

[2] https://gis.dot.ny.gov/hostingny/rest/services/Geocortex/HDSV/MapServer).

Table 7: GI Practices in Potentially NYSDOT Property with City of Buffalo Maintenance Jurisdiction		
GI Practice	**Location**	**Area (Square Feet)**
Stormwater Tree Trench (ROW-2020)	3070 Bailey Ave/State Route 62	447
Stormwater Tree Trench (ROW-114)	2502 Bailey Ave/State Route 62	733
Stormwater Tree Trench (ROW-068)	2426 Bailey Ave/State Route 62	668
Stormwater Tree Trench (ROW-1018)	2216 Bailey Ave/State Route 62	455
Stormwater Tree Trench (ROW-1019)	2206 Bailey Ave/State Route 62	584
Stormwater Tree Trench (ROW-1033)	2151 Bailey Ave/State Route 62	501
Stormwater Tree Trench (ROW-246)	1237 Clinton St/State Route 354	905
Stormwater Tree Trench (ROW-306)	1220 Clinton St/State Route 354	613
Stormwater Tree Trench (ROW-8009)	570 Clinton St/State Route 354	1,020
Stormwater Tree Trench (ROW-230)	1800 Main St/State Route 5	711
Total		**6,636 square feet/ 0.15 acres**

2.2 Zoning

The City of Buffalo's zoning regulations are governed by the Unified Development Ordinance (UDO), also known as the Buffalo Green Code, which was adopted in 2017 as a comprehensive overhaul of the City's zoning and development laws. The Green Code emphasizes mixed-use, walkable neighborhoods, and incorporates modern standards for building types, land use, and sustainability. It also has a green infrastructure mandate for projects disturbing over 0.25 acres. The Green Code requires stormwater management facilities utilize green infrastructure where practicable for development in all zoning districts. As a result, BSA's implementation of GI practices within CSO basins is consistent with the intent of the City of Buffalo's zoning regulations.

A review of the GI practices that have been sited on parcels, meaning not within ROWs, was conducted to determine the zoning of the parcels involved in the project. Table 8 summarizes the results of the review. GI's will be placed in zoning districts D-OG, D-OS, D-R, N-2C, N-2R, N-3E, N-3R and N-3R/N-3E. The zoning code generally allows community gardens and certain green accessory structures in all these zones.

Table 8: Zoning Districts Where GI Practices Have Been Sited			
Zoning District	**Allowed Uses**	**GI Practice**	**Area**
D-OG (Green)	Primary use is limited to parks, greenspace, and similar open spaces. Emphasis on landscaping and trees, designed for passive use, framed by landscape or building facades.	**Porous Asphalt** (BPS-032, DPW-009, DPW-011) **Stormwater Tree Trench** (BPS-033) **Rain Garden** (DPW-003, DPW-004, DPW-008, DPW-010) **Underground Storage** (DPW-005, DPW-015, DPW-021, DPW-027)	159,460 sqft/ 3.66 acres
D-OS (Open Space)	Permits uses related to open space and recreation such as parks, playgrounds, outdoor recreational facilities, community gardens, trails and paths, and accessory structures.	**Stormwater Tree Trench** (ROW-171)	2,875 sqft/ 0.07 acres
D-R (Residential Campus)	This zone is for large-scale residential developments to accommodate a variety of residential living arrangements often with shared open space and amenities.	**Porous Asphalt** (BMHA-001, BMHA-002, BMHA-003, BMHA-004, BMHA-005, BMHA-007, BMHA-008, BMHA-009, BMHA-011) **Pavement Removal** (BMHA-006, BMHA-010)	694,958 sqft/ 15.95 acres
N-2C (Neighborhood 2, Mixed-Use Center)	This district is designed for walkable mixed-use in some of the City's most compact, traditional neighborhoods. It allows for a blend of residential, commercial, and civic uses.	**Porous Asphalt** (BPS-052)	27,811 sqft/ 0.64 acres
N-2R (Neighborhood 2, Residential)	This district is designed for compact, walkable residential neighborhoods and allows certain civic and limited commercial uses under specific conditions.	**Rain Garden** (BPS-019)	1,650 sqft/ 0.04 acres
N-3E (Neighborhood 3, Mixed-Use Edge)	N-3E zone is designed for transitional areas at the edges of more intense mixed-use centers featuring a blend of homes and stores.	**Porous Asphalt** (BPS-013)	9,566 sqft/0.22 acres

Table 8: Zoning Districts Where GI Practices Have Been Sited			
Zoning District	**Allowed Uses**	**GI Practice**	**Area**
N-3R (Neighborhood 3, Restricted)	The N-3R zone is primarily residential use with limited opportunities for mixed-use at certain corners. It is designed for moderately compact residential blocks, typically beyond streetcar neighborhoods.	**Rain Garden** (BPS-001, BPS-002, BPS-015, BPS-024, BPS-025, BPS-041, BPS-042, BPS-047, **Porous Asphalt** (BPS-003, BPS-016, BPS-026, BPS-029, BPS-030, BPS-031, BPS-048, BPS-055, BPS-060, BPS-067, BPS-068, BPS-069, BPS-071, BPS-072) **Stormwater Tree Trench** (BPS-004, BPS-008, BPS-035, BPS-056, BPS-057, BPS-070)	271,948 sqft/6.24 acres
N-3R/N-3E	Both these districts are primarily residential but allow a mix of housing types. N-3R is more restrictive on commercial use but may allow small-scale commercial use such as a restaurant with a special use permit.	**Porous Asphalt** (BPS-012)	5,257 sqft/0.12 acres

The practices that have been sited within ROWs throughout the project area are adjacent to parcels with 29 different zoning codes. These areas are mainly zoned for residential use, mixed-uses, or retail strip. As the Green Code promotes the use of green infrastructure in all districts and allows for community gardens and landscaping in all districts, the proposed project is consistent with the goals and objectives of the zoning code.

2.3 Comprehensive Plan

The City of Buffalo's Comprehensive Plan, titled, *Queen City in the 21st Century*, was adopted in February 2006. The plan places a strong emphasis on sustainable practices and green infrastructure as a core strategy for the City's future development. The Plan's vision is to create a "green, prosperous and accessible city," with explicit policies to protect and restore the urban environment, implement an Environmental Management System, and prioritize capital investments in water, sewer, and streets infrastructure, including green infrastructure components. The Comprehensive Plan cites BSA's Rain Check program as one of the major projects and green initiatives.

2.3.1 Erie County Planning Board GML Section 239-m Referral

A Section 239-m review by the Erie County Planning Board is required when a city, town, or village entity in Erie County considers certain planning or zoning actions that may have inter-municipal or county-wide impacts. Referrals are required to the Erie County Planning Board before final local approval of an action if the property involved is within 500-ft of any of the following:

- A municipal boundary
- The ROW of an existing or proposed county or state road
- The boundary of a farm operation within a state-certified agricultural district.
- County or state parks or recreation areas
- County of state-owned land on which a public building or institution is located.

Reviews and referrals are mandated by New York State General Municipal Law (GML) Section 239-m. This project involves placing GI practices within the ROW of state roads and within 500-ft of the City of Buffalo boundary; therefore, a referral to the Erie County Planning Board is required. BSA will coordinate with the Erie County Planning Board for review of the project.

2.4 Critical Environmental Area

A Critical Environmental Area (CEA) is a location designated by a local or state agency because it possesses exceptional or unique environmental characteristics. Under SEQRA, the lead agency must consider impacts on the unique characteristics of the CEA. Currently, the City of Buffalo does not have any designated CEAs.

2.5 Cultural Resources

Cultural resources exist as archaeological sites where artifacts have been found or have the potential to be found. They also exist as buildings, sites, and districts that are listed on the National or State Register of Historic Places or have eligibility to be listed. Cultural resources are also places important to a community for gathering, recreating, and practicing traditions. The State Historic Preservation Office (SHPO) under the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) maintains a database of these sites or sites that have been previously evaluated. The Cultural Resource Information System (CRIS) is SHPO's online system for project proponents to screen their project area for cultural resources.

BSA initiated consultation for this project with SHPO on a Pre-Application Coordination Call on January 28, 2025 (See **Appendix C** for the meeting minutes). SHPO provided some guidance on how BSA could submit information regarding this project due to the number of sites to be evaluated. Consultation and SHPO's evaluation is ongoing. It is anticipated that the GI practices will not have an adverse effect on cultural resources. Section 2.5.1 through 2.5.4 describe the cultural resources identified near proposed GI practices. **Appendix D, Figure 2.5-1** shows an overview of where the cultural resources are located within the project area.

2.5.1 Archaeological Resources

The City of Buffalo has several areas mapped by SHPO as archaeologically sensitive areas. The data layer represents buffer areas around recorded archaeological resources. Locations within these areas may not be archaeologically sensitive, and locations outside these areas may be archaeologically sensitive. SHPO's Archaeology Unit reviewers evaluate sensitivity based on a variety of factors, so these buffer areas are suggestive. As a result, BSA is currently consulting with SHPO regarding the potential to encounter artifacts during construction of these GI practices. Table 9 summarizes the GI practices within archaeologically sensitive areas. Those GI practices that are located on Buffalo Public School property have already been reviewed by SHPO and SHPO determined in a letter dated, March 13, 2025, (See **Appendix C**) that implementing the GI practices at those locations will not have an adverse effect on archaeological resources. Most of the remaining GI practices are sited within street and underground utility ROWs. These areas have previous ground disturbance. If artifacts were present in these ROWs, they would likely have been previously uncovered or destroyed. BSA will relocate any GI practice that has the potential to have an adverse effect on archaeological resources. If, during construction, an unanticipated discovery is made, work will stop immediately and SHPO will be contacted. No further action except to secure the site will be taken until clear direction is given from SHPO.

Table 9: GI Practices in Archaeologically Sensitive Areas		
Practice ID	Practice Type	Area (square feet)
*BPS-019	Rain Garden	1,650
*BPS-020	Stormwater tree trench	1,980
*BPS-021	Stormwater tree trench	700
*BPS-022	Stormwater planter	1,005
*BPS-023	Porous asphalt	1,320
*BPS-029	Porous asphalt	6,511
*BPS-030	Porous asphalt	9,589
*BPS-031	Porous asphalt	5,468
*BPS-032	Porous asphalt	78,761
*BPS-033	Stormwater tree trench	466
*BPS-041	Rain garden	996
*BPS-042	Rain garden	509
*BPS-044	Stormwater tree trench	890
*BPS-052	Porous asphalt	27,811
DPW-015	Underground storage	1,570
DPW-019	Underground storage	1,149
DPW-020	Underground storage	1,150
DPW-021	Underground storage	3,026
DPW-022	Underground storage	1,099
DPW-023	Underground storage	1,119
ROW-023	Stormwater tree trench	657
ROW-042	Stormwater tree trench	925
ROW-062	Stormwater tree trench	796
ROW-063	Stormwater tree trench	975
ROW-064	Stormwater tree trench	1,146
ROW-065	Stormwater tree trench	484
ROW-072	Stormwater tree trench	450
ROW-073	Stormwater tree trench	450
ROW-074	Stormwater tree trench	640
ROW-075	Stormwater tree trench	813
ROW-076	Stormwater tree trench	550
ROW-077	Stormwater tree trench	504
ROW-078	Stormwater tree trench	431
ROW-079	Stormwater tree trench	810
ROW-080	Stormwater tree trench	472
ROW-081	Stormwater tree trench	679
ROW-1004	Stormwater tree trench	572
ROW-1023	Stormwater tree trench	485

Table 9: GI Practices in Archaeologically Sensitive Areas		
Practice ID	Practice Type	Area (square feet)
ROW-1024	Stormwater tree trench	1,257
ROW-1025	Stormwater tree trench	610
ROW-1026	Stormwater tree trench	467
ROW-1027	Stormwater tree trench	1,242
ROW-1028	Stormwater tree trench	823
ROW-1029	Stormwater tree trench	558
ROW-1030	Stormwater tree trench	629
ROW-1031	Stormwater tree trench	828
ROW-1032	Stormwater tree trench	489
ROW-121	Stormwater tree trench	1,201
ROW-122	Stormwater tree trench	494
ROW-141	Rain Garden	759
ROW-142	Rain Garden	1,184
ROW-143	Stormwater tree trench	455
ROW-144	Stormwater tree trench	897
ROW-145	Stormwater tree trench	748
ROW-146	Stormwater tree trench	712
ROW-148	Stormwater tree trench	900
ROW-158	Stormwater tree trench	726
ROW-192	Infiltration trench	464
ROW-2023	Stormwater tree trench	1,501
ROW-2041	Stormwater tree trench	363
ROW-2042	Stormwater tree trench	1,607
ROW-2043	Stormwater tree trench	1,361
ROW-2045	Stormwater tree trench	626
ROW-2060	Stormwater tree trench	970
ROW-230	Stormwater tree trench/bump out	711
ROW-231	Stormwater planter	796
ROW-232	Stormwater tree trench	750
ROW-233	Stormwater planter	1,094
ROW-246	Stormwater tree trench	905
ROW-247	Stormwater tree trench	1,354
ROW-250	Stormwater tree trench	1,436
ROW-256	Stormwater tree trench	466
ROW-257	Stormwater tree trench	887
ROW-258	Stormwater tree trench	753
ROW-259	Stormwater tree trench	643
ROW-260	Stormwater tree trench	475
ROW-261	Stormwater tree trench	796

Table 9: GI Practices in Archaeologically Sensitive Areas		
Practice ID	Practice Type	Area (square feet)
ROW-263	Stormwater tree trench	410
ROW-265	Stormwater tree trench	950
ROW-266	Stormwater tree trench	648
ROW-296	Stormwater tree trench	946
ROW-297	Stormwater tree trench	1,065
ROW-298	Stormwater tree trench	651
ROW-299	Stormwater tree trench	792
ROW-300	Stormwater tree trench	453
ROW-416	Stormwater tree trench	1,033
ROW-418	Stormwater tree trench	473
ROW-419	Stormwater tree trench	758
ROW-800	Stormwater tree trench	1,221
ROW-8009	Stormwater tree trench	1,020
ROW-801	Stormwater tree trench	685
ROW-802	Stormwater tree trench	782
ROW-803	Stormwater tree trench	2,065
ROW-804	Stormwater tree trench	857
ROW-805	Stormwater planter	599
ROW-806	Stormwater tree trench	877
ROW-813	Stormwater tree trench	924
ROW-814	Stormwater tree trench	386
ROW-819	Stormwater tree trench	1,598
ROW-820	Stormwater tree trench	795
ROW-822	Stormwater planter	860
ROW-823	Stormwater tree trench	799
ROW-824	Stormwater tree trench	955
ROW-827	Stormwater tree trench	593
ROW-828	Stormwater tree trench	900
ROW-829	Stormwater tree trench	978
ROW-836	Stormwater tree trench	1,462
ROW-839	Infiltration trench	1,700
ROW-840	Infiltration trench	1,752
ROW-841	Infiltration trench	870
Total		**222,402 sqft/ 5.11 acres**
*Denotes GI practices that have been reviewed by SHPO and determined these practices will not have an adverse effect on archaeological resources.		

2.5.2 Historic Districts, Buildings, and Sites

Buffalo is rich in history and its architectural, cultural, and economic heritage are preserved in 18 local historic districts and 162 local landmarks. Approximately 4% of the parcels within the City are encompassed by a historic district or contain a local landmark. Several historic districts are listed on the National Register of Historic Places and others are only state listed. Given the expanse of the project area where GI practices are proposed, it was likely that many practices would be within historic districts or located on or adjacent to historic properties.

An analysis was undertaken to identify the GI practices that are sited within historic districts or adjacent to local landmarks. **Appendix C** contains maps of the GI practices that occur within the boundaries of historic districts or directly adjacent to a historic property. Sixteen different historic districts were identified as having proposed GI practices as a result of the analysis. Table presents the historic districts identified and the GI practices that are planned for these areas. BSA is currently consulting with SHPO and the potential effects implementing GI practices may have on the historic character of these districts. It is anticipated that the GI practices that are located within the street and utility ROWs will have no adverse effects. GI practices that integrate trees and flowers such as rain gardens and stormwater tree trenches could enhance the aesthetic appeal to the surroundings within a historic district. BSA welcomes SHPO's comments regarding the project and will avoid and minimize impacts to historic resources as much as practicable.

Table 10: GI Practices Located in Historic Districts Summary

Historic District/Landmark	GI Practice(s)	Site Specific ID	Area (Square Feet)
Agassiz Circle Historic District	Rain Garden	ROW-141	759
Broadway Filmore Historic District	Stormwater Tree Trenches	ROW-174, ROW-8004, ROW-8017	4,478
Buffalo Public School #44 (PS 44)	Stormwater Planter	ROW-198	885
Buffalo Public School #92 (PS 92)	Stormwater Tree Trench	*BPS-008	1,593
Delaware Park - Front Park System	Rain Garden	ROW-142	1,184
Fougeron-Belt Line Historic District	Stormwater Tree Trenches & Bump Out	ROW-033, ROW-1008, ROW-1009, ROW-165	3,588

Table 10: GI Practices Located in Historic Districts Summary			
Historic District/Landmark	**GI Practice(s)**	**Site Specific ID**	**Area (Square Feet)**
Hamlin Park Historic District	Porous Asphalt, Underground Storage, Stormwater Planters, Stormwater Tree Trenches, Bump Outs, Infiltration Trenches	*BPS-060, DPW-015, ROW-043, ROW-072, ROW-073, ROW-074, ROW-075, ROW-076, ROW-255, ROW-819, ROW-821, ROW-822, ROW-823, ROW-837, ROW-838, ROW-839, ROW-840, ROW-841	32,777
Holy Name of Jesus RC Church Complex (Eligible)	Stormwater tree trench	ROW-204	1,155
Kensington Gardens Apartment Complex	Stormwater tree trenches	ROW-128, ROW-129, ROW-131, ROW-132	3,809
King, Martin Luther Jr., Park	Porous asphalt, Rain Garden, Stormwater Tree Trenches	DPW-009, DPW-010, DPW-011, DPW-012, DPW-013, DPW-014	62,380
Monroe Motor Car Company	Porous asphalt	*BPS-052	2,7811
New York Central Terminal	Stormwater tree trenches	ROW-171, ROW-172, ROW-273, ROW-274, ROW-275	6,997
Parkside Subdivision (East) Historic District	Stormwater tree trench	ROW-143, ROW144	1,352
Roman Catholic Church of the Transfiguration Complex	Stormwater tree trench	ROW-707	412
University Heights Summit Park Berkshire Terrace Historic District	Stormwater tree trenches	ROW-263, ROW-265, ROW-266	2,008
Winspear Extension Historic District	Stormwater tree trenches	*BPS-035, ROW-122, ROW-256	1,660
Total Area of GI Practices Located in Historic Districts			**152,848 square feet/ 3.51 acres**
*Denotes Buffalo Public School property in which SHPO has already conducted a review and determined the GI practice to have no adverse effect.			

2.5.3 National or State Register of Historic Places

The National Register of Historic Places (NRHP) is the official federal list of historic sites, buildings, districts, structures, and objects in the United States deemed worthy of preservation for their historical, architectural, archaeological, or cultural significance. It is maintained by the National Park Service under the U.S. Department of the Interior. New York State maintains its own official list of historic places, recognizing properties of significance in history, architecture, and culture across the state. This is the official state-level list of properties, districts, and sites significant in New York's history, architecture, engineering, and culture, administered by SHPO. It uses the same eligibility criteria as the National Register and provides recognition, eligibility for preservation grants, and tax credits for listed properties.

A total of six properties that are eligible for national or state listing on the register of historic places are within the vicinity of proposed GI practices. This effects nine GI practice locations totaling 8,366 square feet. There are two properties that are currently listed with three GI practices near them. A total of 5,397 square feet of GI practices are within the vicinity of the two listed properties. Table 11 lists the properties affected and their historic character. The GI practices and their relative locations are also summarized in the table. **Appendix C** contains maps depicting the location of the resources. BSA is currently consulting with SHPO regarding the potential effects to these historic places. Since the GI practices mainly have a natural appearance with trees and visually appealing herbaceous vegetation above ground, it is anticipated that the GI practices will not have an adverse effect on these historic places.

Table 11: Historic Places Summary

GI ID & Practice Type	GI Practice Size (Square Feet)	Historic Building Name Address & Listing Status	GI Location Relative to Historic Building	Historic Character
ROW-842 Infiltration Trench	1,184	Nu-Way Supermarket 1362 Jefferson Ave Eligible	GI is on Welker St, west of the building. Potentially not visible from the building.	Built in 1940, the building is an example of Modern architecture in Buffalo. The building has a flat roof and blonde birch veneer. Its first use was Nu-Way Grocery, an early chain of self-service grocery stores.
ROW-842 Infiltration Trench	1,184	Apollo Media Center 1346 Jefferson Ave Eligible	GI is on Welker St, west of the building and on the opposite side of the street.	The Apollo Theater is important for both its role in social history and its architecture. Opened in 1941 by the Basil Brothers, it became a key gathering spot and entertainment hub for Buffalo's Black community.

Table 11: Historic Places Summary				
GI ID & Practice Type	GI Practice Size (Square Feet)	Historic Building Name Address & Listing Status	GI Location Relative to Historic Building	Historic Character
ROW-1021 & ROW-1022 Stormwater Tree Trenches	1387	Jami Masjid Mosque and Islamic Community Center (Formerly Queen of Peace R.C. Church) 1955 Genesee St Eligible	ROW-1021 is on Forman St, at the southwestern corner of the property. ROW-1022 is on Block St further south of the property.	The building reflects the Gothic Revival Style with its pointed arches, tall spires and intricate stained-glass windows. The building is a significant landmark for its architecture and its role in the history of Buffalo's Polish-American Catholic community.
ROW-113, ROW-114, ROW-115 Stormwater Tree Trenches	2492	Gerard Place Community Center 2535 Bailey Ave Eligible	ROW-113 is west of the intersection of Bailey Ave and Kermit Ave, ROW-114 is south of the property on Bailey Ave and ROW-115 is south of the property on Ericson Ave.	Gerard Place Community Center contributes to the St. Gerard Church Complex. The building reflects the Italian Renaissance Style and has a limestone temple front with a stone foundation and quoins.
ROW-404 Stormwater Tree Trench	416	Kensington Evangelical Lutheran Church 983 Kensington Ave Eligible	The GI practice will be placed northeast of the property on Midvale Ave.	Built in 1926, Kensington Evangelical Lutheran Church reflects Gothic Revival Style with its pointed arches, tall spires and intricate stained-glass windows.
ROW-718 & ROW 719 Stormwater Tree Trenches	1703	Saint Adalbert's Roman Catholic Church 208 and 212 Stanislaus St Eligible	ROW-718 is south of the property and adjacent to it, ROW-716 is east of the property on Kosciusko St.	Saint Adalbert's Church reflects the Romanesque Revival style with rounded arches, intricate brickwork and intricate stained glass windows. It was a significant gathering space for the Polish American population
BPS-019 & BPS-020 Rain Garden	3630	Woodlawn Row House 75-81 Woodlawn Ave Listed	BPS-019 is north of the property on Michigan Ave and BPS-020 is north of the property on Woodlawn Ave.	The Woodlawn Row House is a unique example of wood row houses in Buffalo. Built in 1891, the building originally had 6 sections, three of which have been torn down. The building has slate tile mansard roof and dormers.

Table 11: Historic Places Summary				
GI ID & Practice Type	GI Practice Size (Square Feet)	Historic Building Name Address & Listing Status	GI Location Relative to Historic Building	Historic Character
ROW-812 Stormwater Tree Trench	1767	Michigan Row House 1335-45 Michigan Ave Listed	The GI practice will be on the west side of Michigan Ave across the street from the property.	The Michigan Row Housing is known for its Unique Queen Anne style wood row housing. Built in 1878, constructed with a flat roof and a two-story porch. Field verification revealed that this structure is no longer at this site. The property is currently vacant.

2.5.4 Parks & Cemeteries

Parks are considered a cultural resource because they are tangible places that commemorate significant historical events, embody distinctive landscape designs, or reflect patterns of recreation and community gathering. As a result, any potential visual impacts resulting from projects adjacent to parkland must be evaluated and mitigated if necessary. Section 2.1.2 discusses the parks where GI practices are planned. In summary, eight parks will have GI practices implemented effecting 1.77 acres. However, GI practices will be implemented in street ROWs adjacent to other parks and green spaces. Table 12 identifies the parks that have GI practices proposed in the adjacent street ROW. **Appendix C** contains maps depicting the location of the resources. SHPO will be consulted on the potential effects the GI practices may have on the visual character and experience of park users. The effects are expected to be beneficial in the cases where stormwater tree trenches, stormwater planters, and rain gardens are planned since an increase in tree cover and vegetation in the hardscaped street with concrete curbing and sidewalks adjacent to the parks will soften the streetscape against the greenspace of the park. The underground storage GI practice will have no visible effects on the parkland since the only surficial feature is a storm drain that is generally flush with the ground.

Table 12: GI Practices Adjacent to Parkland			
Park Name	GI Practice ID	Practice Type	Area (Square Feet)
Bickford & Alice Triangle Park (12 Alice Avenue)	ROW-019	Stormwater Tree Trench	1,490
Westminster & Stockbridge Triangle Park (571 Stockbridge Avenue)	ROW-414	Stormwater Tree Trench	702
Westminster & Amherst Triangle Park (798 E Amherst Street)	ROW-415	Stormwater Tree Trench	426
Dewey Park (388 Dewey Ave)	ROW-513	Stormwater Tree Trench	1,525
Eddie Dawson Park	DPW-001, DPW-002	Stormwater Tree Trenches	2,383

Table 12: GI Practices Adjacent to Parkland			
Park Name	GI Practice ID	Practice Type	Area (Square Feet)
Kensington Pool and Splash Pad	ROW-071, ROW-082	Stormwater Tree Trenches	2,304
Lang Weber Park	ROW-069	Stormwater Tree Trench	1,216
Schiller Park	DPW-019, DPW-020, DPW-021, DPW-022, DPW-023	Underground Storage	7,043
Mary Jane Sloan Park/Sleu Park	DPW-024, DPW-025	Underground Storage	2,589
Lincoln Park	DPW-006, DPW-007	Stormwater Tree Trenches	1,357
Emerson Park	ROW-189	Stormwater Tre Trench	456
MLK Jr. Park	DPW-012, DPW-013, DPW-014	Stormwater Tree Trenches	4,082
Beverley Median	ROW-839, ROW-840	Infiltration Trench, Infiltration Trench	3,452
Total			**29,025 square feet/ 0.66 acres**

One cemetery has been identified adjacent to the project area on the east-northeast side. The parcel is a part of the St. Stanislaus Roman Catholic Cemetery. It is parcel 90.16-1-1 in the City of Buffalo; however, the parcels belonging to the Cemetery that contain graves are in Town of Cheektowaga. This parcel is currently vacant land but classified as cemetery by the City. The property has been identified to SHPO as a potential cemetery as part of the consultation for cultural resources. Table 13 identifies the GI practices that are adjacent to the cemetery parcel.

Table 13: GI Practices in Vicinity of Cemetery Parcel		
GI Practice ID	GI Practice Type	Area (Square Feet)
ROW-104	Stormwater Tree Trench	805
ROW-105	Stormwater Tree Trench	896
ROW-2011	Stormwater Tree Trench	661
ROW-039	Stormwater Tree Trench	1,285
Total		**3,647 square feet/0.08 acres**

2.6 Wetlands

Wetlands are those areas where water is present for some period during the growing season to support plants that are adapted or tolerant to the saturated or inundated conditions and as a result, develop hydric soils. They are unique for their hydrologic conditions and their role as an ecotone between terrestrial (dry) areas and fully aquatic ecosystems such as streams, lakes, and rivers. The in-between land and water position allows wetlands to perform valuable ecosystem services that play a vital role in water quality, flood control, erosion and sediment control, groundwater replenishment, habitat and biodiversity, and carbon sequestration and other nutrient biogeochemical cycling.

Wetlands, because of the role that they play in the health of the environment, are regulated under various federal and state laws. The federal Clean Water Act protects and regulates "Waters of the U.S." (WOTUS). WOTUS are defined as all waters currently used or used in the past, in interstate or foreign commerce, all interstate waters, and wetlands, intrastate waters where their use of destruction could affect interstate or foreign commerce, tributaries to all these waters previously mentioned, and wetlands directly adjacent to all these waters. In other words, WOTUS defines the waters and wetlands subject to federal protection and regulation under the Clean Water Act, focusing on their connection to navigable waters and interstate commerce.

NY state regulates freshwater wetlands under Article 24 of the New York State Environmental Conservation Law, known as the Freshwater Wetlands Act. Currently, Article 24 protects wetlands at least 12.4 acres in size or those that qualify as "Unusually Important". Wetlands that meet the criteria to be considered unusually important are protected regardless of their size. Furthermore, Article 24 states that all state protected wetlands have a regulated adjacent area surrounding the wetland boundary. Typically, the regulated adjacent area extends 100-ft from the wetland boundary but may be extended depending on the characteristics of the wetland. Any ground disturbance and tree removal within a state regulated wetland or the regulated adjacent area requires a permit from NYSDEC.

There are no maps that depict the location of all federally and state protected wetlands. Site specific surveys by a qualified wetland scientist are the only definitive way to determine if wetlands are present. There are remote data sources that can be used to screen sites for the likelihood of the presence of wetlands. These sources were consulted to determine the potential for wetlands within or nearby the GI practice locations. These sources include U.S. Geographical Survey (USGS) topographic maps, aerial photography, NYSDEC Informational Freshwater Wetlands Data Layer, NYSDEC's Previously Mapped Wetlands Layer, the US Fish & Wildlife Service's (USFWS) National Wetland Inventory (NWI) mapping, and the US Department of Agriculture's (USDA) Soil Survey Geographic (SSURGO) Database and Hydric Soil Ratings. This information provided an expectation of the conditions at the GI locations. The project area is urbanized with a high percentage of impervious surface cover and the expectation of this analysis was that very few areas would be suspected of containing wetlands. None of the GI practices were co-located with any NWI wetland or NYSDEC wetlands (See **Figure 2.6-1** in **Appendix D**). Those GI practices that were located on vacant land or on greenspace were field verified for wetlands in the spring of 2025. No GI practices are located on wetlands and no federal or state wetland permits are required to implement the project.

2.7 Surface Waterbodies

The City of Buffalo's economic heritage is linked to its proximity to Lake Erie and shipping channels of the Great Lakes. The Buffalo River and the Black Rock Canal are other waterways used for shipping and receiving goods during Buffalo's great industrial era. Scajaquada Creek is a smaller waterway that flows west from its headwaters in the Town of Lancaster, approximately 10 miles east, and flows approximately 3 miles through the City before emptying into the Niagara River (See **Figure 2.7-1** in **Appendix D**). Scajaquada Creek is shallow and therefore not

useful for shipping. During the development of the City, the Creek became a problem for the City due to flooding, sewage dumping by residents, industrial pollutants, and from the nuisance of mosquitoes. In the early 1920's, the City of Buffalo undertook the "Scajaquada Creek Drain Project" in which approximately 3.7 miles of Scajaquada Creek would be buried in a concrete drainage system from the city border with Cheektowaga to Forest Lawn Cemetery. Enclosing the creek solved the public demand for action about the polluted waterbody that wound through East Side neighborhoods that also flooded. This portion of Scajaquada Creek is known today as the Scajaquada Drain.

The Scajaquada Drain is a part of BSA's combined sewer system. The Scajaquada Drain was designed to handle significant water flow from storm events and runoff making the drain a major conduit for stormwater management on the East Side. Since the Scajaquada Drain carries Scajaquada Creek, there is much interest in reducing the amount of combined sewer discharge into the drain. NYSDEC has classified Scajaquada Creek as a Class C stream up to and through the Scajaquada Drain. Article 15 Protection of Water permits are not required to disturb the bed or banks of Class C streams. The daylighted stream is classified as a Class B stream at Forest Lawn Cemetery west to the confluence with the Black Rock Canal. Class B streams are protected under Article 15 of New York State Environmental Conservation Law. Furthermore, Scajaquada Creek is an impaired waterway on the Section 303(d) List. Section 303(d) of the federal Clean Water Act gives impaired waterways resources to develop total maximum daily load (TMDL) standards and reduce the amount of pollutants to the receiving waterbody. The main pollutants identified for Scajaquada Creek are fecal coliform, phosphorus, and lack of dissolved oxygen linked to sewage and urban runoff. BSA's GI project contributes to the reduction of pollutants to Scajaquada Creek to assist in the federal, state, and local efforts to increase water quality in the waterbody.

Since the Scajaquada Drain is a major part of BSA's combined sewer system, several GI practices have been sited over the drain. The GI practices may or may not directly drain into the Scajaquada Drain. That will be determined once site specific engineering of each GI practice is completed. **Figure 2.7-1** in **Appendix D** is an overview map of Scajaquada Creek and Scajaquada Drain relative to the project area and location of GI practices. Table 14 lists the specific GI practices and the size of the practice that is located over the drain. Approximately 0.2 acres of GI will be placed over the Scajaquada Drain. Three hundred seventy-one of the 558 proposed GI practices result in 28.40 acres of GI placed within the Scajaquada Creek watershed. Overall benefits to Scajaquada Creek are expected to be realized over time with less combined sewer being discharged into the surface waterbody.

Table 14: GI Practices Located Over the Scajaquada Drain

ID	Nearest Parcel Address	GI Practice Type	GI Practice Location	Area (Square Feet)
ROW-015	75 Stevens Ave	Stormwater Tree Tench	Scajaquada St ROW	654
ROW-016	68 Stevens Ave	Stormwater Tree Tench	Scajaquada St ROW	931
ROW-025	75 Stevens Ave	Stormwater Tree Tench	Scajaquada St ROW	382
ROW-1003	77 Hagen St	Stormwater Tree Tench	Kerns Ave ROW	748
ROW-1004	2078 Genesee St	Stormwater Tree Tench	Kerns Ave ROW	572

Table 14: GI Practices Located Over the Scajaquada Drain				
ID	Nearest Parcel Address	GI Practice Type	GI Practice Location	Area (Square Feet)
ROW-1006	78 Hagen St	Stormwater Tree Tench	Kerns Ave ROW	692
ROW-1016	181 Zenner St	Stormwater Tree Tench	Scajaquada St ROW	807
ROW-1017	164 Wende St	Stormwater Tree Tench	Scajaquada St ROW	892
ROW-2046	75 Grider St	Stormwater Tree Tench	Scajaquada St ROW	800
ROW-2047	61 Grider St	Stormwater Tree Tench	Scajaquada St ROW	697
ROW-2048	74 Carl St	Stormwater Tree Tench	Scajaquada St ROW	609
ROW-2053	74 Carl St	Stormwater Tree Tench	Scajaquada St ROW	1,045
Total Area of GI Practices Over the Scajaquada Drain				**8,829 square feet/ 0.02 acres**

2.7.1 Stormwater Management

The entire project area is located within the City of Buffalo's Municipal Separate Storm Sewer System (MS4) District. The majority of the City of Buffalo is served by a combined sewer system which collected both surface runoff and sanitary sewer, which is ultimately conveyed to BSA's Bird Island Wastewater Treatment Plant (WWTP). There are numerous locations throughout the city where, when the combined system becomes overwhelmed during large storm events, combined sanitary and storm runoff will discharge directly to adjacent surface water bodies without being treated. These areas are referred to as combined sewer overflows (CSOs). The flow from the WWTP and the CSOs is regulated by NYSDEC via State Pollutant Discharge Elimination System (SPDES) permits held by BSA.

BSA is identified as the MS4 administrator within the City of Buffalo, as they are required to implement measures throughout the city so that they can meet the discharge limitations of their SPDES permits. The City regulates these control measures through the Green Code, which gives BSA plan review authority, requires green infrastructure, and the development of Stormwater Pollution Prevention Plans (SWPPPs) at lower thresholds than that of the NYSDEC.

As the entire scope of the project is to provide green infrastructure stormwater management, the GI project is in compliance with this component of the Green Code and the MS4 regulations. The project will ultimately help reduce the runoff quantity reaching the combined system during peak runoff events and help slow the flow to further reduce the peaks. Additionally, the reduced flow will help to ease the burden of treatment at the Bird Island WWTP.

Each construction project will be required to provide appropriate erosion and sediment control measures during construction to minimize pollution as a result of the construction activities. As the MS4 administrator, BSA may additionally require one or more SWPPPs be prepared for the proposed work.

2.8 Rare, Threatened, and Endangered Species

New York State's rare, threatened, and endangered species are tracked by NYSDEC's Natural Heritage Program (NHP). Rare species or species with special concern are a ranking the NHP denotes to species where their populations are low in numbers or declining but not at levels that warrant protection under the New York State Endangered Species Act (6 NYCRR Part 182). The NHP records the locations where rare, threatened, and endangered species have been observed. The site-specific information is not publicly available but a buffer area around the general area is shown on the NYSDEC's Environmental Resource Mapper (ERM) (https://dec.ny.gov/nature/animals-fish-plants/biodiversity-species-conservation/biodiversity-mapping/environmental-resource-mapper). If a project sponsor's project area overlaps with a buffer of a protected species, the project sponsor is directed to contact NYSDEC Division of Permits to determine the need for an incidental take permit or if avoidance and mitigation measures can be implemented to avoid an adverse impact on the species. The analysis and consultation BSA is undertaking regarding state listed species is discussed in Section 2.8.1.

The federal Endangered Species Act is administered by U.S. Fish and Wildlife Service (USFWS) for terrestrial and freshwater plants and animals. Those species that are federally listed are automatically listed on the state list under 6 NYCRR Part 182. The USFWS depends on the state NHP to maintain site specific data and oversees activities within a federally listed species' range. Consultation with USFWS is required by federal agencies prior to the agency taking an action such as issuing a permit or for project sponsors whose activities may effect the habitat or species directly.

2.8.1 State Listed Species

The project area was screened using the ERM to determine if there were any records of known occurrences of rare, threatened, and endangered species within the project area. The ERM revealed three buffer areas overlapped with the project area. The buffers have a 0.5-mile radius and the ERM indicates that American peregrine falcon (*Falco peregrinus anatum*), a state endangered species, can be found within the buffer. Each buffer is shown on **Figures 2.8-1** through **2.8-3** in **Appendix D.**

Peregrine falcons are closely associated with their nesting territory and foraging areas. They hunt in the air by attacking flying birds from above and chasing them from behind. As falcons, they are known to fly at high speeds, but what makes a peregrine falcon different from most other birds of prey is their behavior of dive and strike in mid-air killing their prey with a sharp blow (Recovery Plan 1982). Peregrine falcons nest on cliffs and high ledges. The nest is unimpressive as they don't build a stick nest but prefer gravel or rock surfaces. Peregrine falcons require only a few basic elements in their habitat: a high vantage point for nesting and an open area with abundant prey. This has allowed the peregrine falcon to become adapted to city life by nesting high on buildings and feeding on pigeons (*Columba livia*), European starlings (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and other birds tolerant of urban environments. Nesting pairs of peregrine falcons in the City of Buffalo are known on the MacKay Heating Plant Tower at the University of Buffalo South Campus and the Statler Building in downtown. Both locations have had live cameras broadcasted online for public viewing. Two of the buffers overlapping with the project area are centered around these locations. The third is centered over the Central Terminal.

There are 32 GI practices that occur with the buffer area around each nesting site or known location of peregrine falcon. Table 15 lists the GI practices and the distance of the center of the buffer. BSA is currently consulting with NYSDEC to determine if any construction timing restrictions or other mitigation methods would be necessary to avoid disturbance to nesting peregrine falcons. The birds are accustomed to vehicular traffic and the normal commotion of a cityscape. The GI practices will be at ground level and would require small area construction and

noise levels are not anticipated to increase background levels by much. There would be no work conducted at the buildings or on the buildings themselves with the known nests or on the streets immediately around the nest locations. The closest GI practice is 995 ft away while most of the locations are at over 1,500 ft. A total of 0.75 acres of GI practices fall within the buffer areas of the peregrine falcon. All the GI practices proposed in the 0.75 acres contain tree plantings. Increasing the tree cover throughout the city will provide more habitat for urban tolerant birds resulting in a positive secondary benefit to peregrine falcons that feed on city dwelling birds.

Table 15: GI Practices within 0.5-mile of Peregrine Falcon Nest/Location				
GI Practice ID	Nearest Parcel Address	GI Practice Type Proposed	Distance from the Center of Buffer	Area (Square Feet)
DPW-006	Lincoln Park	Stormwater Tree Tench	2,566 ft	719
DPW-007	Lincoln Park	Stormwater Tree Tench	2,360 ft	638
ROW-161	612 Howard St	Stormwater Tree Tench	2,483 ft	1,614
ROW-163	82 Peck St	Stormwater Tree Tench	2,556 ft	896
ROW-169	612 Filmore Ave	Stormwater Tree Tench	2,418 ft	2,174
ROW-171	111 Memorial Dr	Stormwater Tree Tench	1,388 ft	2,875
ROW-172	Peckham St & Curtiss St	Stormwater Tree Tench	1,264 ft	1,870
ROW-174	1094 Broadway St	Stormwater Tree Tench	1,955 ft	653
ROW-175	1164 Broadway St	Stormwater Tree Tench	1,865 ft	803
ROW-199	60 Ashley St	Stormwater Tree Trench/Bump Out	1,837 ft	789
ROW-200	66 Grimes St	Stormwater Tree Trench/Bump Out	1,591 ft	1,125
ROW-201	65 Grimes St	Stormwater Tree Trench/Bump Out	1,511 ft	760
ROW-202	96 Grimes St	Stormwater Tree Trench/Bump Out	1,862 ft	734
ROW-223	389 Peckham St	Stormwater Tree Trench	2,503 ft	1,436

Table 15: GI Practices within 0.5-mile of Peregrine Falcon Nest/Location				
GI Practice ID	Nearest Parcel Address	GI Practice Type Proposed	Distance from the Center of Buffer	Area (Square Feet)
ROW-231	49 E Ferry St	Stormwater Tree Trench	2655 ft	796
ROW-232	47 E Ferry St	Stormwater Tree Trench	2,502 ft	750
ROW-258	479 Lisbon Ave	Stormwater Tree Trench	2,267 ft	753
ROW-259	3365 Bailey Ave	Stormwater Tree Trench	1,661 ft	643
ROW-260	3251 Bailey Ave	Stormwater Tree Trench	2,585 ft	475
ROW-263	193 Lisbon Ave	Stormwater Tree Trench	1,214 ft	410
ROW-265	192 Lisbon Ave	Stormwater Tree Trench	1,123 ft	950
ROW-272	34 Memorial Dr	Stormwater Tree Trench	2,436 ft	632
ROW-273	59 Memorial Dr	Stormwater Tree Trench	2,320 ft	644
ROW-274	20 Memorial Dr	Stormwater Tree Trench	2,520 ft	698
ROW-275	114 Memorial Dr	Stormwater Tree Trench	1,776 ft	910
ROW-292	1270 Broadway St	Stormwater Tree Trench	2,132 ft	1,368
ROW-293	1261 Broadway St	Stormwater Tree Trench	2,043 ft	718
ROW-302	81 Ashley St	Stormwater Tree Trench	1,890 ft	459
ROW-8002	384 Curtiss St	Stormwater Tree Trench	995 ft	714
ROW-8003	1132 Broadway St	Stormwater Tree Trench	1,985 ft	1,004
ROW-8004	1073 Broadway St	Stormwater Tree Trench	1,898 ft	1,320
ROW-8017	964 Broadway St	Stormwater Tree Trench	2,656 ft	2,505
Total Area of GI Practices within 0.5 miles of Peregrine Falcon Occurrence				**32,837 square feet/**

Table 15: GI Practices within 0.5-mile of Peregrine Falcon Nest/Location				
GI Practice ID	Nearest Parcel Address	GI Practice Type Proposed	Distance from the Center of Buffer	Area (Square Feet)
				0.75 acres

2.8.2 Federally Listed Species

The USFWS maintains the Information for Planning and Consultation (IPaC) online project planning tool designed to streamline the environmental review process for projects that might affect federally protected species and habitats. IPaC helps users quickly identify species that are protected or being considered for protection under the federal Endangered Species Act (ESA) that may be impacted by a proposed project. It also allows users to obtain documentation to initiate or complete consultation under Section 7 of the ESA. Note that species information is based on the range of a species and not based on known occurrences. USFWS advises that project proponents consult with the NYSDEC Natural Heritage Program to obtain site specific data. As such, species that are on the Official Species List derived from IPaC are an identification of the listed species whose ranges overlap with the project area and are not an account of species in the project area.

An Official Species List was obtained for the project area and is included in **Appendix C**. Species identified by the Official Species List include:

- Northern Long-eared bat (*Myotis septentrionalis*)- Endangered
- Salamander Mussel (*Simpsonaias ambigua*)- Proposed Endangered
- Monarch Butterfly (*Danaus plexippus*)- Proposed Threatened

An evaluation of NYSDEC's ERM found no known occurrences of northern long-eared bat within or nearby the project area. Northern long-eared bat habitat consists of expansive forests and these areas are over 10-miles from project area. Within IPaC, the USFWS's *Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key* was completed for the project and yielded a determination of "No Effect" for the species. No further consultation is required for the project regarding this species.

The remaining species are not yet listed; they are proposed for listing. There are no protections for proposed species, only that federal agencies consider if their actions could jeopardize the continued existence of the species. Salamander mussel is unique in that it requires mudpuppy salamander (*Necturus maculosus*) as a host for the larval stage, known as glochidia. All other freshwater mussels require fish as a host for glochidia. NYSDEC maintains a list of streams and stream segments where freshwater mussels are likely to be found. Scajaquada Creek is not a mussel screening stream and the water quality in Scajaquada Creek is insufficient to host mudpuppy salamander and the salamander mussel; as such, the project is not anticipated to have any impact on the salamander mussel. Monarch butterfly may be found incidentally within the City of Buffalo wherever there are foraging flowers and milkweed (*Asclepias spps.*). Overall, increasing vegetative cover in the city will increase the availability of pollinator habitat where very little currently exists. The project will not have a negative impact on monarch butterfly.

2.9 Floodplains

A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) reveal that one GI practice is located within a flood zone. A Stormwater Tree Trench with ID of ROW-296 is within Zone AE for the

Buffalo River with a regulatory floodway. Zone AEs are detailed studies that provide published regulatory base flood elevations and discharges. **Figure 2.9-1** in **Appendix D** depicts the GI location relative to the FEMA floodway/Zone AE. The floodway is located along the Buffalo River, and this GI practice is located in the southern portion of the project area on Littell Ave. The Stormwater Tree Trench will be 946 square feet and located in the ROW of the street. The addition of trees and below ground piping will not have any adverse effect on the regulatory floodway. As the project is located within a FEMA floodplain, the project will require a Floodplain Development Permit from the City of Buffalo.

2.10 Remediation Sites

Buffalo, New York, has numerous remediation sites due to its industrial past, which led to significant environmental contamination, particularly along the Buffalo River. Programs like the Brownfield Cleanup Program have been crucial in transforming Buffalo's industrial landscape by providing incentives for developers to remediate and redevelop contaminated land. The NYSDEC oversees various remediation efforts, including the cleanup of contaminated sites and spills. They maintain public databases, and these were screened to determine if any of the GI practices were within the proximity of any contaminated sites where coordination with NYSDEC to determine a potential risk during construction would be required. Six GI practices are located adjacent to parcels identified by NYSDEC as contamination sites. **Figures 2.10-1** through **Figure 2.10-5** in **Appendix D** depict the location of these practices. Four of the six have been remediated to NYSDEC's satisfaction; therefore, the GI practices adjacent to these sites are considered low risk of encountering contamination during construction. The remaining two have a Classification of N and require no further action currently. The GI practices will be placed within the street ROW and it is assumed that any residual contamination that might be at these locations is restricted to the parcel. Construction documents for these identified parcels will include language directing the contractor to stop work if any signs of contaminated materials are identified, at which additional investigation may be required, and contaminated materials will be disposed of in accordance with all state and federal regulations. Table 16 summarizes the remedial sites found adjacent to proposed GI practices.

Table 16: GI Practices Adjacent Remedial Sites Summary

GI Practice ID / Type	Area (Square Feet)	Nearest Parcel Address / Site Name	Clean Up Status	Owner
ROW-023 Stormwater Tree Trench	657	17 Pauline St Brownfield Cleanup Program - 240 Kensington Avenue BCP Site	Classification Code: N (No Further action at this time) Brownfield Cleanup agreement was terminated due to lack of funding	City Of Buffalo

Table 16: GI Practices Adjacent Remedial Sites Summary				
GI Practice ID / Type	Area (Square Feet)	Nearest Parcel Address / Site Name	Clean Up Status	Owner
ROW-2020 Stormwater Tree Trench	447	3070 Bailey Ave Brownfield Cleanup Program - Bailey and Kensington	Classification Code: N (No Further action at this time) Environmental condition of site is under review and will be revised as more information becomes available	The Evergreen Foundation of Western New York, Inc.
ROW-2025 Stormwater Tree Trench	507	William L Gaiter Parkway Kensington Ave - Environmental Restoration Program	Classification Code: C (Remediation has been satisfactorily completed under a remedial program)	Safetec International LLC
ROW-2037 Stormwater Tree Trench	1,131	895 Kensington Ave Kensington Avenue - Environmental Restoration Program	Classification Code: C (Remediation has been satisfactorily completed under a remedial program)	Safetec International, LLC
ROW-250 Stormwater Tree Trench	1,436	542 Elk St Mobil Oil Corporation - State Superfund Program & ExxonMobil Oil Former Buffalo Terminal - Brownfield Cleanup Program	Classification Code: C (Remediation has been satisfactorily completed under a remedial program)	Modern Real Estate, LLC
ROW-829 Stormwater Tree Trench	978	1157 Michigan Ave Brownfield Cleanup Program - Michigan-Best Development	Classification Code: C (Remediation has been satisfactorily completed under a remedial program)	Michigan & Best LLC

Table 16: GI Practices Adjacent Remedial Sites Summary				
GI Practice ID / Type	Area (Square Feet)	Nearest Parcel Address / Site Name	Clean Up Status	Owner
Total				**5,156 square feet /0.12 acres**

2.11 Disadvantaged Communities & Potential Environmental Justice Areas

NY's Climate Justice Working Group (CJWG) developed criteria to identify disadvantaged communities (DAC) to ensure that frontline and otherwise underserved communities benefit from the state's transition to cleaner, greener sources of energy, reduced pollution and cleaner air, and economic opportunities with the passage of the Climate Leadership and Community Protection Act. A New York State Disadvantaged Community (DAC) is defined as a community that:

- Bears burdens of negative public health effects, environmental pollution, and impacts of climate change,
- Meets certain socioeconomic criteria or has high concentrations of low- and moderate-income households.

The purpose of DAC is to prioritize state investments, benefits, and pollution reduction in communities most affected by climate and environmental hazards. DAC communities in NY were identified by using Census tracts that were scored based on 45 different indicators, and those with higher scores relative to others in the state are designated as DACs. Approximately 35% of New York's census tracts are currently identified as disadvantaged communities. DAC mapping data is available from New York State Energy Research and Development Authority (NYSERDA).

Potential Environmental Justice Areas (PEJA) are similar in that these communities may face more disproportionate environmental burdens, but they differ in their criteria, purpose, and how they are applied. The purpose of PEJAs is to guide environmental justice reviews under SEQRA and focus on areas that may experience disproportionate adverse environmental impacts. They are based on Census data with block groups with high percentages of minority residents and/or residents with low income.

On January 29, 2025, NYSDEC announced draft amendments to SEQRA that incorporated what is known as the Environmental Justice Siting Law (EJSL) or the Cumulative Impacts Bill (Chapter 840 of the Laws of 2022). The EJSL mandates environmental justice concerns be considered in SEQRA review process and NYSDEC state permit approval process. The draft amendments to SEQRA are implementing this requirement and NYSDEC is expected to release additional changes to comply with how permits will be issued from the EJSL. The amendments are not yet in effect. However, BSA has been proactive in considering EJ and DAC issues in their approach with planning and implementing this project because it reflects BSA's dedication to help strengthen all communities in Buffalo in becoming climate resilient and environmentally sustainable. The Rain Check Plan included a Community Strength Plan on how implementing the project would provide economic benefits, potentially increase property values, create job opportunities and realize improvements in the local economy.

Nonetheless, this environmental assessment supports BSA's SEQRA review of the GI project for the targeted CSO's and the social resources in the project area were evaluated. **Figure 2.11-1** in **Appendix D** depicts PEJA and DAC areas related to the project area. The majority of the project area is a PEJA and the entire project area is DAC. BSA acknowledges that the project area is located within both. This location was intentionally chosen to ensure that the

project directly benefits communities that have historically faced disproportionate environmental burdens and to support ongoing efforts toward environmental justice and equitable resource allocation. The site selection for the GI practices integrated a Green Infrastructure Equity Index (GI Equity Index) that considered environmental, economic, and social factors onto the engineering approach when evaluating opportunities for green infrastructure. GI can be a tool for neighborhood transformations by creating green space, adding vegetation, and upgrading aging infrastructure. BSA undertook efforts for inclusive outreach and public engagement when planning for the project. BSA continues to engage residents, community-based organizations, and other stakeholders to inform them about the project's progress. Overall, the GI project in this project area will have environmental and social benefits in many historically disinvested areas with disproportionate environmental burdens.

3 Impacts

The CSO Green Infrastructure Project is a part of BSA's LTCP to reduce CSO discharge events and improve water quality of local waterways during rain and snowmelt events. Implementation of the LTCP will comply with EPA's National CSO Control Policy and revised water quality standards from CSOs and BSA's SPDES permit. The project will involve placing GI practices in CSO Basins 6, 26, 27, 33, and 53. These areas were selected as these communities have high impervious surface coverage, low tree canopy cover, and socioeconomic vulnerability as they are historically underserved areas and can disproportionately experience pollution and flooding. In addition, these basins have roughly half the City of Buffalo's population on a quarter of the land area. The project area evaluated in this environmental assessment is 8,977 acres in size with 558 GI practice locations spread throughout.

The natural resources evaluated in this environmental assessment to support the SEQRA review include:

- Land Use
- Zoning
- City of Buffalo's Comprehensive Plan
- Critical Environmental Areas
- Cultural Resources
- Wetlands
- Surface Waterbodies
- Rare, Threatened, and Endangered Species
- Floodplains
- Remediation Sites
- DACs & PEJAs

Table 17 summarizes the resources, the number of GI practices identified to potentially affect the resources, the total area of effect, and a conclusion on the potential impacts on the resource. The most apparent issues are the potential effects the GI practices could have on the rich and numerous cultural resources within the project area. BSA is consulting with SHPO to garnish SHPO's comments on the project and render a determination. SHPO has already reviewed the proposed GI practices at the public-school properties and determined that no adverse effects would occur to the cultural resources located on those properties. The GI practices were sited to enhance the aesthetics of the surroundings or be underground and have no effect on the surrounding area within parks or within historic districts or adjacent historic properties. It is anticipated that the GI practices will have no adverse effects on these resources or BSA will reevaluate those practice locations that could have an impact to reduce their effect.

Another issue that will be resolved through consultation with the NYSDEC is the GI practices that are within 0.5 miles of the known or historical locations of peregrine falcon nesting sites. Peregrine falcons nest high on the ledges of buildings within cities and disturbance to the outside of buildings high in elevation when nesting pairs are present could cause the falcons to abandon the nest or disturb the nestlings. Peregrine falcons also forage midair near their nesting sites therefore work on the outside of buildings is a potential concern. The GI practices are all ground level and no practice is located around the base of the building where a nesting site is located. It is anticipated that the proposed project will not have an adverse effect on nesting peregrine falcons. BSA will work with NYSDEC to make a determination on this state endangered bird that is found within the project area.

Finally, the project area is within mapped DAC and PEJA areas. These communities are vulnerable to adverse effects from climate change and disproportionately experience environmental burdens. The GI project is designed to avoid adverse environmental impacts and enhance the environment of the project area. Improvement to water quality, reduction in flooding, improvements to the surrounding aesthetics, and improvements to pedestrian safety in these communities are expected to improve the quality of life for residents, increase property values, and economic investments and opportunities. Overall, these are the objectives of the project, and the benefits will be realized first in these communities that typically are not targeted for these types of improvements.

Table 17: Project Impact Summary

Resource Evaluated	Number of GI Practices Effecting the Resource	Total Area of Effect	Impact Conclusion on Resource
Land Use			
Street/Utility ROW Public Schools Parks & Greenspace Residential Campus (BMHA)	503 34 12 11	10.09 acres 9.12 acres 1.86 acres 15.95 acres	The GI practices are small in size and have been sited to have minimal impact on the operation and usage of the overall site locations.
Zoning			
	56	26.94 acres	The City of Buffalo's Green Code mandates Green Infrastructure for new development in all districts. BSA's GI project is an allowable use in these districts.
Comprehensive Plan			
	558	37.02 acres	BSA's GI project is consistent with the City of Buffalo's Comprehensive Plan.
Critical Environmental Areas			
	0	0	There are no designated Critical Environmental Areas within the project area.
Cultural Resources			

Table 17: Project Impact Summary			
Resource Evaluated	**Number of GI Practices Effecting the Resource**	**Total Area of Effect**	**Impact Conclusion on Resource**
Archeologically Sensitive Areas Historic Districts National/State Listed National/State Eligible Parks (directly) Parks (adjacent) Cemetery Property	110 56 3 9 12 19 4	5.11 acres 3.51 acres 0.12 acres 0.19 acres 1.86 acres 0.59 acres 0.08acres	BSA is currently consulting with SHPO to make a final determination on how the project will affect cultural resources. It is anticipated that the GI practices will not have an adverse effect since vegetation is used in most of the GI practices and will soften the hardscape surrounding these resources.
Wetlands			
	0	0	The project will not impact wetlands.
Surface Waterbodies			
Scajaquada Drain Buffalo MS4 District / Combined Sewer District	12 558	0.02 acres 37.02 acres	The GI practices will be placed on the surface where the Scajaquada Drain holds Scajaquada Creek below the ground. As a result, the project will not have a direct impact on surface waterbodies. The goal of the project is to reduce runoff that is received by the City's combined sewer system and reduce CSO discharge to improve water quality in receiving waterbodies such as Scajaquada Creek.
Rare, Threatened, Endangered Species			
State Endangered Peregrine Falcon	32	0.75 acres	The project is not anticipated to have an adverse impact on the state-listed peregrine falcon. BSA is currently consulting with NYSDEC to confirm this conclusion.
Federally/State Endangered Northern Long-eared bat	0	0 acres	The *Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key* was completed for the project and yielded a determination of "No Effect". No further consultation is required for the project.
Floodplains			

Table 17: Project Impact Summary			
Resource Evaluated	**Number of GI Practices Effecting the Resource**	**Total Area of Effect**	**Impact Conclusion on Resource**
Buffalo River	1	0.02 acres	A stormwater tree trench is proposed within the FEMA defined floodplain for the Buffalo River. The project is located outside of the designated floodway and will have no impact to base flood elevations.
Remediation Sites			
	6	0.12 acres	Installation of GI practices within the street ROW adjacent to parcels where a cleanup has been conducted has a low risk potential. Those sites where no further action is required at this time are assumed to pose no risk.
DAC/PEJA			
	558	37.02 acres	All sites are intentionally located within identified DAC and/or PEJA areas. The project seeks to provide water quality and environmental improvements to areas that have historically suffered adverse effects from climate change and disproportionately experience environmental burdens. The projects will positively impact these communities.

Appendix A: Package Maps

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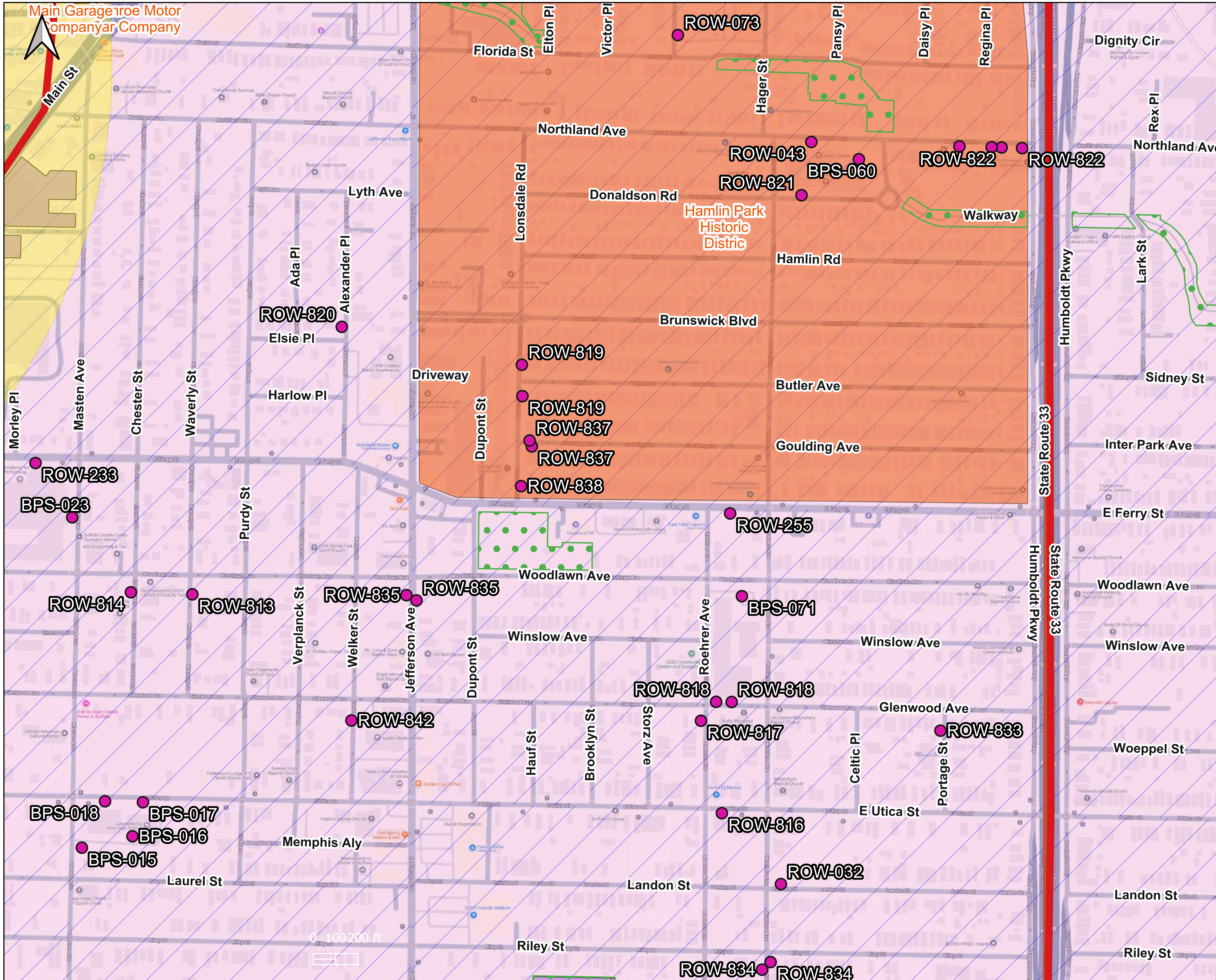
BSA Green Infrastructure Package 1 Map 1

Legend

- BSA Project Location Points - Package 1
- Package 1 Outline
- Package 2 Outline
- Package 5 Outline
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

Park Rd
Meadowview Pl
Delaware Park - Front Park System
Woodward Ave
Florence Ave
Parkside Subdivision (East) Historic District
E Oakwood Pl
Canton Aly
Halbert St
Dewey Ave
Unnamed Street
Burbank Dr
Agassiz Circle Historic District
ROW-142
Robie St
Crescent Ave
ROW-143
Driveway
W Humboldt Pkwy
ROW-144
State Route 198
Parking Lot
Driveway
Unnamed Street
Kensington Ave
ROW-145
Humboldt Pkwy
Glendale Pl
ROW-801
ROW-800
Shelbourne Pl
Trinidad Pl
Loring Ave
ROW-802
Eastwood Pl
ROW-076
Loring Ave
ROW-823
ROW-823
Hughes Ave
ROW-824
State Route 198 Eastbound to State Route 33 Eastbound
Gillette Ave
State Route 198
State Route 33
Delaware Park
Unnamed Street
Main St
Blaine Ave
Hedley Pl
Jefferson Ave
Meech Ave
Hamlin Park Historic Distric
Oakgrove Ave
ROW-075
ROW-075
W Delavan Ave
ROW-836
ROW-074
E Delavan Ave
BPS-052
ROW-230
Main Garage Company
Monroe Motor Car Company
Lafayette Ave
Spillman Pl
ROW-839
ROW-840
Pleasant Pl
ROW-841
Hager St
Pansy Pl
Viola Park
Daisy Pl
Regina Pl
ROW-073
State Route 33
State Route 198 Westbound
0 100 200 ft



Main Garage
Monroe Motor Company
Main St
Florida St
Elton Pl
Victor Pl
ROW-073
Hager St
Pansy Pl
Daisy Pl
Regina Pl
Dignity Cir
Rex Pl
Northland Ave
ROW-043
BPS-060
ROW-821
ROW-822
Lyth Ave
Lonsdale Rd
Donaldson Rd
Hamlin Park Historic Distric
Walkway
Hamlin Rd
Humboldt Pkwy
Lark St
Ada Pl
Alexander Pl
ROW-820
Elsie Pl
Brunswick Blvd
ROW-819
Driveway
Harlow Pl
Butler Ave
Sidney St
Morley Pl
Masten Ave
Chester St
Waverly St
Dupont St
ROW-837
Goulding Ave
State Route 33
Inter Park Ave
ROW-233
BPS-023
ROW-838
Purdy St
E Ferry St
ROW-255
Woodlawn Ave
ROW-814
ROW-813
ROW-835
BPS-071
Verplanck St
Welker St
Jefferson Ave
Winslow Ave
Roehrer Ave
ROW-818
ROW-842
ROW-817
Glenwood Ave
ROW-833
Hauf St
Brooklyn St
Storz Ave
Celtic Pl
Portage St
Woeppel St
BPS-018
BPS-017
BPS-016
BPS-015
Memphis Aly
E Utica St
ROW-816
Laurel St
ROW-032
Landon St
Riley St
ROW-834
0 100 200 ft

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BSA Green Infrastructure Package 1 Map 2

Legend

- BSA Project Location Points - Package :
- Package 1 Outline
- Package 2 Outline
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-842
ROW-818
ROW-818
ROW-817
ROW-833
BPS-018
BPS-017
BPS-016
BPS-015
ROW-816
ROW-032
ROW-834
ROW-834
ROW-815
ROW-815
ROW-001
ROW-011
ROW-832
ROW-831
ROW-002
ROW-034
ROW-003
ROW-012
ROW-830
ROW-830
ROW-006
ROW-045
Masten Park
Martin Luther King Jr. Park
BPS-072
0 100 200 ft

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BSA Green Infrastructure Package 1 Map 3

Legend

- BSA Project Location Points - Package 1
- Package 1 Outline
- City of Buffalo Parks
- Historic District
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

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BSA Green Infrastructure Package 1 Map 4

Legend

- BSA Project Location Points - Package 1
- Package 1 Outline
- City of Buffalo Parks
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-254
ROW-030
BPS-018
BPS-017
BPS-016
BPS-015
ROW-812
ROW-812
ROW-811
ROW-811
ROW-008
ROW-001
ROW-013
ROW-011
ROW-808
ROW-808
ROW-809
ROW-003
ROW-012
ROW-806
ROW-803
ROW-803
ROW-805
ROW-004
ROW-005
ROW-829
ROW-828
ROW-827
ROW-827
W Utica St
E Utica St
Laurel St
Riley St
Eaton St
Northampton St
Southampton St
Dodge St
Best St
Edna Pl
Barker St
Coe Pl
Summer St
Bryant St
Saint Paul Mall N
Saint Paul Mall
Holloway Blvd
Memphis Aly
Masten Park
Delaware Ave
Linwood Ave
Main St
Ellicott St
Driveway
Holland Pl
Michigan Ave
Masten Ave
Purdy St
Verplanck St
Fosdick St
Orange St
Peach St
Grape St
0 100 200 ft

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 1 Map 5

Legend

- BSA Project Location Points - Package 1
- Package 1 Outline
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-231
BPS-022
ROW-233
ROW-232
BPS-023
BPS-021
BPS-019
ROW-820
ROW-819
ROW-819
ROW-837
ROW-837
ROW-838
ROW-813
ROW-814
ROW-835
ROW-835
ROW-229
ROW-031
ROW-842
ROW-254
ROW-030
BPS-018
BPS-017
BPS-016
BPS-015
ROW-812
ROW-812

W Balcom St
E Balcom St
Harvard Pl
Oxford Ave
Linwood Ave
W Ferry St
Main St
Otis Pl
Morley Pl
Masten Ave
Chester St
Waverly St
E Ferry St
Purdy St
Jefferson Ave
Lyth Ave
Ada Pl
Alexander Pl
Elsie Pl
Harwood Pl
Hamlin Park Historic Distric
Lonsdale Rd
Driveway
Butler Ave
Harlow Pl
Woodlawn Ave
Emerson Pl
Verplanck St
Welker St
Winslow Ave
Dupont St
Glenwood Ave
Michigan Ave
Driveway
W Utica St
E Utica St
Hauf St
Memphis Aly
Laurel St
Landon St
Riley St
0 100 200 ft

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 2 Map 1

Legend

- Package 2
- Package 2 Outline
- City of Buffalo Parks
- Historic District
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-009

ROW-2040

ROW-027

ROW-028

ROW-029

Hamlin Park Historic Distric

Fougeron-Belt Line Historic District

0 100 200 ft

JMDavidson
Engineering, D.P.C.

BSA Green Infrastructure Package 2 Map 2

Legend

- Package 2
- Package 2 Outline
- City of Buffalo Parks
- Historic District
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

DPW-015
Glenny Park
BPS-032
BPS-033
ROW-2045
ROW-2060
ROW-2057
ROW-2058
ROW-086
ROW-096
ROW-085
ROW-2056
ROW-2056
ROW-158
ROW-148
ROW-2043
ROW-2043
ROW-2042
ROW-146
ROW-2041
ROW-147
ROW-094
ROW-2049
ROW-093
ROW-054
ROW-2050
ROW-2050
Hamlin Park Historic Distric
ROW-009
ROW-2046
ROW-2047
ROW-2048
ROW-2053
ROW-025
ROW-015
ROW-2040
0 100 200 ft

ROW-148
ROW-158
ROW-085
ROW-2056
ROW-2056
ROW-147
ROW-094
ROW-2049
ROW-093
ROW-054
ROW-2051
ROW-092
ROW-2050
ROW-2050
ROW-2052
ROW-2052
ROW-2054
ROW-2046
ROW-2047
ROW-2048
ROW-2053
ROW-025
ROW-016
ROW-015
ROW-015
ROW-056
0 100 200 ft

JMDavidson
Engineering, D.P.C.

BSA Green Infrastructure Package 2 Map 3

Legend

- Package 2
- Package 2 Outline
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

JMDavidson
Engineering, D.P.C.

BSA Green Infrastructure Package 2 Map 4

Legend

- Package 2
- Package 2 Outline
- City of Buffalo Parks
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-087
ROW-066
ROW-066
ROW-095
ROW-095
ROW-095
ROW-2057
ROW-2058
ROW-086
ROW-096
ROW-097
ROW-085
ROW-2056
ROW-2056
ROW-158
ROW-148

JMDavidson
Engineering, D.P.C.

BSA Green Infrastructure Package 3 Map 1

Legend

- Package 3
- Package 3
- City of Buffalo Parks
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

Alma Ave
Proctor Ave
Dorris Ave
Arden Ave
Schreck Ave
Gerald Ave
Langmeyer Ave
Kermit Ave
E Delavan Ave
Kirkpatrick St
Wecker St
Barnett Pl
Northland Ave
Lang Ave
Norfolk Ave
Unnamed Street
Olympic Ave
Herbert Ave
Bailey Ave
Ericson Ave
Roebling Ave
Suffolk St
Texas St
Roslyn St
Newburgh Ave
Hagen St
Courtland Ave
Hazelwood Ave
Floss Ave
Wilkes Ave
Unnamed Street

ROW-112
ROW-149
ROW-113
ROW-114
ROW-115
ROW-115
ROW-117
ROW-070
ROW-1007
ROW-116
ROW-119
ROW-119
ROW-120
ROW-041
ROW-1005
ROW-1001
ROW-061
ROW-060
ROW-068
ROW-1002

0 100 200 ft

JMDavidson
Engineering, D.P.C.

BSA Green Infrastructure Package 3 Map 2

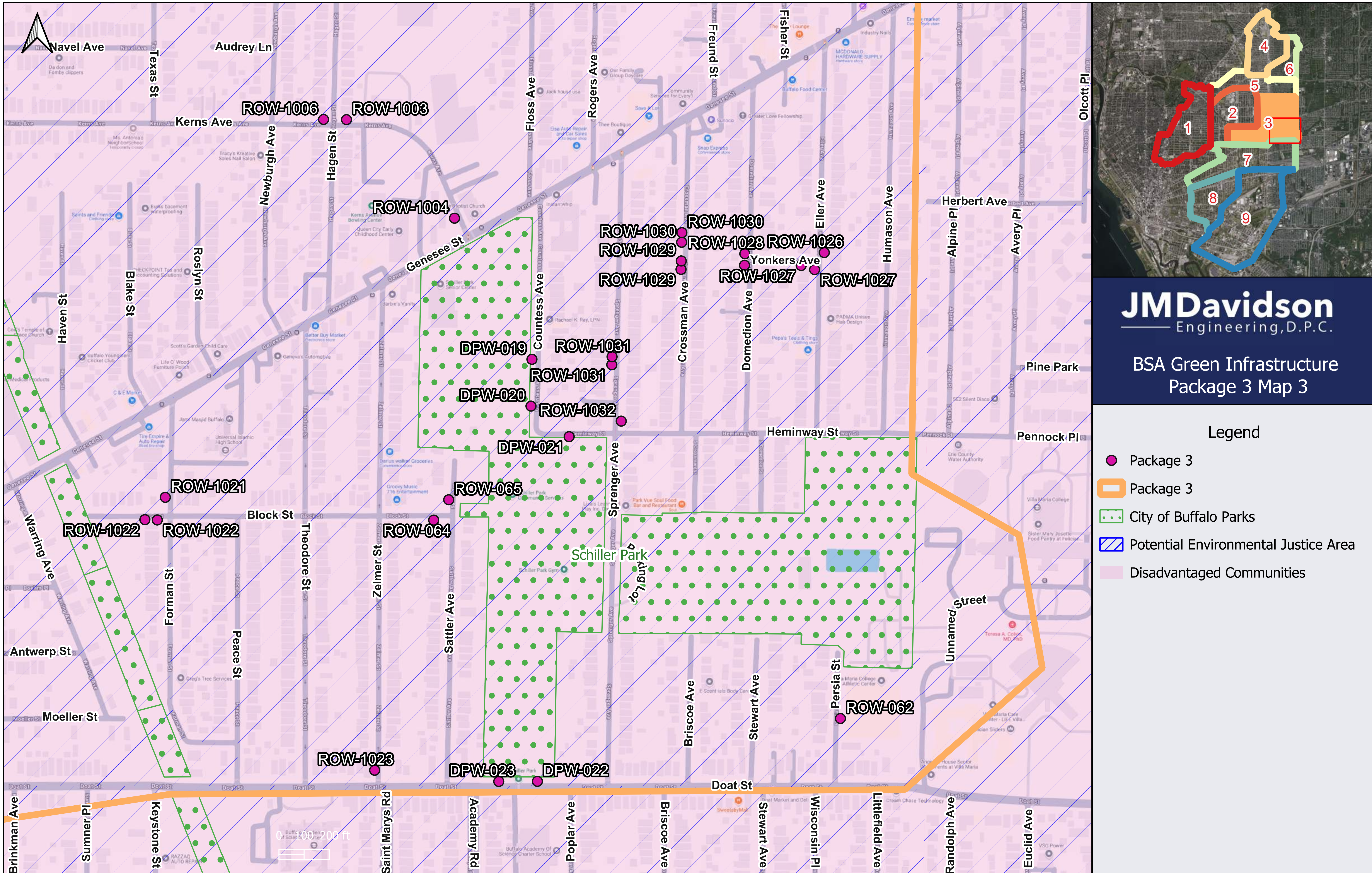
Legend

- Package 3
- Package 3
- City of Buffalo Parks
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

Proctor Ave
Arden Ave
Gerald Ave
Suffolk St
Roslyn St
Newburgh Ave
Courtland Ave
Hazelwood Ave
Wilkes Ave
Harriet Ave
Edison Ave
Roma Ave
Wright Ave
Eggert Rd
Ivanhoe Rd
Driveway
E Delavan Ave
Atwood Pl
East End Ave
Barbara Pl
Genesee St
Alpine Pl
Avery Pl
Ericson Ave
Roebling Ave
Texas St
Hagen St
Floss Ave
Weber Ave
Freund St
Fisher St
Erb St
Rogers Ave
Wecker St
Lang Ave
Navel Ave
Audrey Ln

ROW-112
ROW-115
ROW-115
ROW-117
ROW-116
ROW-1007
ROW-061
ROW-060
ROW-119
ROW-119
ROW-120
BPS-013
ROW-041
BPS-012
ROW-069
ROW-1002
ROW-063

0 100 200 ft



ROW-1006
ROW-1003
ROW-1004
ROW-1030
ROW-1030
ROW-1029
ROW-1028
ROW-1026
ROW-1029
ROW-1027
ROW-1027
DPW-019
ROW-1031
ROW-1031
DPW-020
ROW-1032
DPW-021
ROW-1021
ROW-065
ROW-1022
ROW-1022
ROW-064
Schiller Park
ROW-062
ROW-1023
DPW-023
DPW-022
Navel Ave
Audrey Ln
Texas St
Kerns Ave
Hagen St
Newburgh Ave
Floss Ave
Rogers Ave
Freund St
Fisher St
Genesee St
Countess Ave
Crossman Ave
Domedion Ave
Eller Ave
Humason Ave
Yonkers Ave
Herbert Ave
Alpine Pl
Avery Pl
Olcott Pl
Pine Park
Heminway St
Pennock Pl
Haven St
Blake St
Roslyn St
Block St
Waring Ave
Forman St
Theodore St
Zelmer St
Sattler Ave
Sprenger Ave
Peace St
Antwerp St
Moeller St
Briscoe Ave
Stewart Ave
Persia St
Unnamed Street
Doat St
Brinkman Ave
Sumner Pl
Keystone St
Saint Marys Rd
Academy Rd
Poplar Ave
Wisconsin Pl
Littlefield Ave
Randolph Ave
Euclid Ave
1
2
3
4
5
6
7
8
9

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 3 Map 3

Legend

- Package 3
- Package 3
- City of Buffalo Parks
- Potential Environmental Justice Area
- Disadvantaged Communities

JMDavidson
Engineering, D.P.C.

BSA Green Infrastructure
Package 3 Map 4

Legend

- Package 3
- Package 3
- City of Buffalo Parks
- Historic District
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-1016
ROW-1017
ROW-055
ROW-1000
ROW-083
ROW-057
ROW-1018
ROW-1019
ROW-1015
ROW-021
ROW-017
ROW-1033
ROW-1021
ROW-1022
ROW-1022
ROW-1014
ROW-1013
ROW-1012
ROW-1013
ROW-1012
ROW-1010
ROW-058

Scajaquada St
Kerns Ave
Moselle St
Wyoming Ave
Cambridge Ave
Cornwall Ave
Northumberland Ave
Newburgh Ave
Roslyn St
Blake St
Haven St
E Ferry St
Kilhoffer St
Leslie St
Zenner St
Wende St
Colorado Ave
Bailey Ave
Block St
Warring Ave
Forman St
Peace St
Boehm Pl
Antwerp St
Moeller St
Burgard Pl
Rawlins Ave
Genesee St
Doat St
May St
Goembel Ave
Brinkman Ave
Sumner Pl
Keystone St
Hazel Pl
Moselle St
Bissell Ave
Goodyear Ave
Nevada Ave
Montana Ave
Koons Ave
Rustic Pl
Rapin Pl
Lansdale Pl

Concordia Cemetery
Holy Name of Jesus RC Chruch Complex

0 100 200 ft

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 3 Map 5

Legend

- Package 3
- Package 3
- City of Buffalo Parks
- Historic District
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

Parking Lot
Chelsea Pl
Dutton Ave
Grider St
Carl St
Schuele Ave
Stevens Ave
Moselle St
Wyoming Ave
Cambridge Ave
Cornwall Ave
Northumberland Ave
E Ferry St
ROW-1000
ROW-055
Woodlawn Ave
E Woodlawn Ave
Ernst Ave
Winslow Ave
BMHA-011
ROW-021
ROW-017
Donovan Dr
Glenwood Ave
Frankfort Ave
Nevada Ave
Kehr St
Box Ave
ROW-007
ROW-007
ROW-007
French St
Bissell Ave
Goodyear Ave
ROW-033
ROW-033
ROW-1009
ROW-1008
Urban St
Josephine St
Fougeron-Belt Line Historic District
Buffalo School #92
ROW-1010
BPS-008
Genesee St
Fougeron St
Barthel St
Koons Ave
E Parade Ave
Louisen St
Saint Louis Ave
Northampton St
Marshall St
Rohr St
Ivy St
Frederick Pl
0 100 200 ft

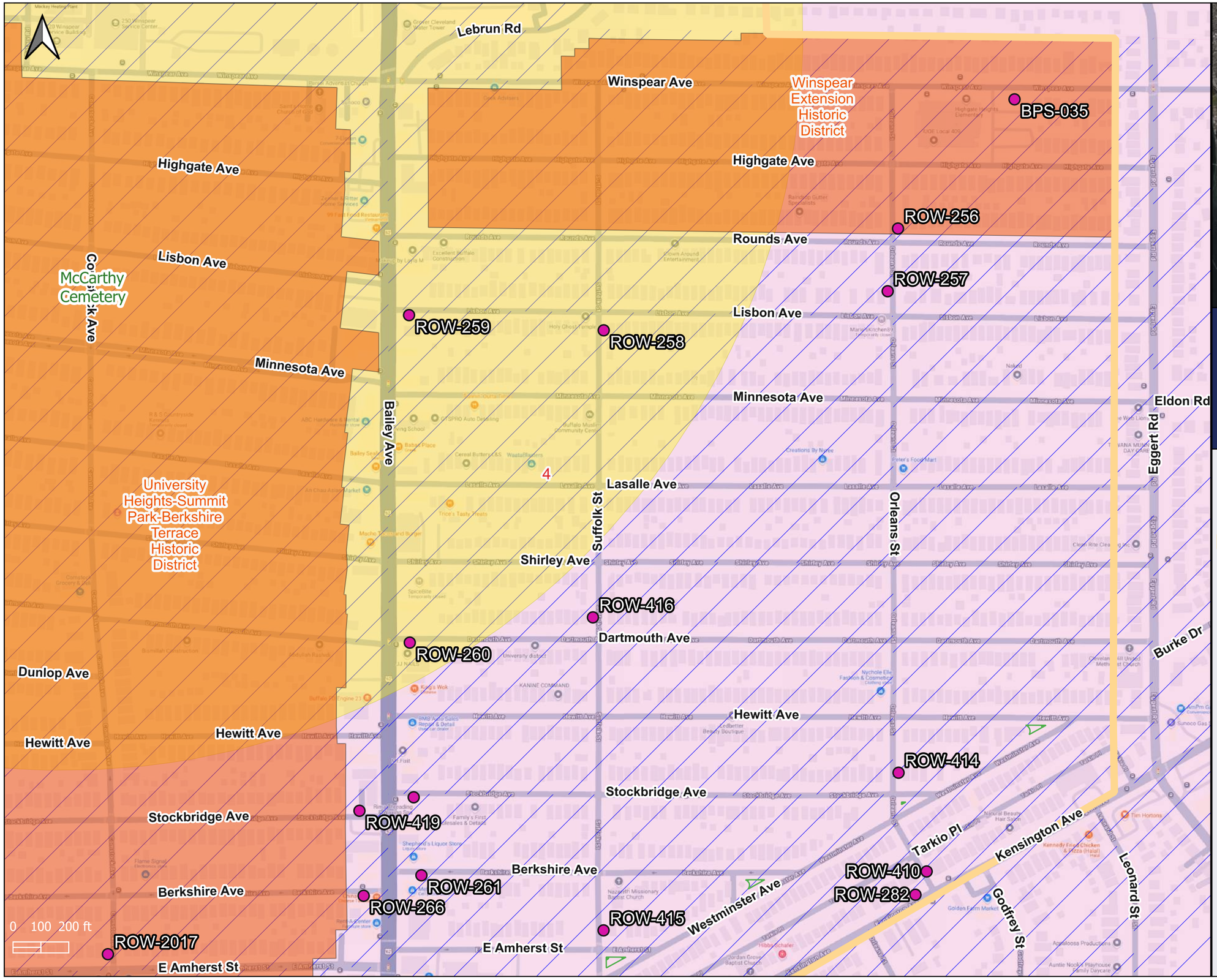
JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 4 Map 1

Legend

- Package 4
- Package 4
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

Dartmouth Ave
Dunlop Ave
University Heights-Summit Park-Berkshire Terrace Historic District
Hewitt Ave
Stockbridge Ave
Berkshire Ave
E Amherst St
Thornton Ave
Midway Ave
Hutchinson Ave
Collingwood Ave
Driveway
McCarthy Park
Parkridge Ave
Elmer Ave
Thatcher Ave
Comstock Ave
Clarence Ave
Poultney Ave
Clyde Ave
Liberty Ave
Norfolk Ave
Midvale Ave
Copsewood Ave
Freeman St
Bailey Ave
Suffolk St
Westminster Ave
Tarkio Pl
Kensington Ave
Bickford Ave
Fennimore Ave
Davidson Ave
Hastings Ave
Phyllis Ave
Millicent Ave
ROW-416
ROW-260
ROW-418
ROW-261
ROW-266
ROW-415
ROW-2017
ROW-270
ROW-2018
ROW-026
ROW-022
ROW-413
ROW-2019
ROW-2020
ROW-024
ROW-411
ROW-417
ROW-417
ROW-412
ROW-157
ROW-409
ROW-408
ROW-406
ROW-407
ROW-156
ROW-404
ROW-268
ROW-405
ROW-403
ROW-2028
ROW-267
ROW-401
0
200 ft



JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 4 Map 2

Legend

- Package 4
- Package 4
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Potential Environmental Justice Area
- Disadvantaged Communities

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 4 Map 3

Legend

- Package 4
- Package 4
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-265
ROW-263
ROW-259
ROW-258
ROW-416
ROW-260
ROW-419
ROW-261
ROW-266

Winridge Rd
Hayes Rd
Winspear Ave
Mona Dr
Lebrun Rd
Winspear Extension Historic District
Highgate Ave
Rounds Ave
Lisbon Ave
Minnesota Ave
Parkridge Ave
University Heights-Summit Park-Berkshire Terrace Historic District
Bailey Ave
Suffolk St
Lasalle Ave
Shirley Ave
Dartmouth Ave
Comstock Ave
Dunlop Ave
Hewitt Ave
Stockbridge Ave
Berkshire Ave
McCarthy Park

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Engineering, D.P.C.

BSA Green Infrastructure Package 5 Map 1

Legend

- Package 5
- Package 5 Outline
- City of Buffalo Parks
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-504
ROW-504
ROW-047
ROW-071
ROW-082
ROW-513
ROW-513
ROW-079
ROW-078
BPS-041
ROW-2023
ROW-2023
ROW-042
BPS-042
BPS-044
ROW-023
ROW-077
ROW-081
E Oakwood Pl
Canton Aly
Halbert St
Sanford St
Leroy Ave
Dewey Ave
Drexel Rd
Van Gorder St
Gesl St
Kenova Pl
Verdun Ave
Kensington Ave
Pauline St
Fillmore Ave
Norma Pl
Castle Pl
Worcester Pl
Warwick Ave
State Route 33 Eastbound to Grider St
State Route 33
Unnamed Street
Grider St
Parking Lot
Driveway
Sussex St
Trinidad Pl
Loring Ave
Gillette Ave
State Route 198
Glenny Dr
Unnamed Street
Driveway
Parking Lot
Driveway Exit
Birch Pl
0 100 200 ft

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 5 Map 2

Legend

- Package 5
- Package 5 Outline
- City of Buffalo Parks
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

Chalmers Ave
Wade Ave
Unnamed Street
Hill St
Central Park Plz
Rodney Ave
Holden St
Victoria Ave
Hill St
Richlawn Ave
Wakefield Ave
Jewett Ave
Marigold Ave
Manhattan Ave
Shawnee Ave
Federal Ave
Montclair Ave
Liberty Ave
Clyde Ave
Clarence Ave
Parkridge Ave
Poultney Ave
Kensington Ave
Northumberland Ave
ROW-505
ROW-048
ROW-505
ROW-2027
ROW-2022
ROW-2021
ROW-2029
ROW-050
ROW-2037
ROW-090
ROW-2025
ROW-091
ROW-088
Palos Pl
Wyoming Ave
William L Gaiter Pkwy
Leroy Ave
ROW-504
BPS-048
ROW-044
Castle Pl
Worcester Pl
ROW-047
Mendola Ave
ROW-089
ROW-071
ROW-082
ROW-2030
ROW-2035
ROW-2036
ROW-155
ROW-155
Colfax Ave
ROW-2031
Dewey Ave
ROW-513
ROW-513
Dewey Park
Kennsington Pool and Splash Pad
Warwick Ave
Grider St
Deerfield Ave
Drexel Rd
Norma Pl
Kensington Ave
ROW-512
ROW-510
Warwick Ave
State Route 33
State Route 33
State Route 33 Eastbound to Grider St
ROW-2023
ROW-2023
Pembroke Ave
ROW-042
Unnamed Street
Maple Ridge Ave
Maple Ridge Ave
Cambridge Ave
Cornwall Ave
0 100 200 ft

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 5 Map 3

Legend

- Package 5
- Package 5 Outline
- City of Buffalo Parks
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-402
ROW-501
ROW-502
ROW-154
ROW-153
ROW-253
ROW-106
ROW-103
ROW-508
ROW-035
ROW-040
ROW-036
ROW-037
ROW-038
ROW-151
ROW-150
ROW-109
ROW-108
ROW-053
ROW-152
ROW-506
ROW-110
ROW-111
ROW-2010
ROW-2013
ROW-2012
ROW-2014
BMHA-001
BMHA-002
BMHA-007
BMHA-006
BMHA-010
BMHA-009
ROW-046
BPS-026
BPS-025
BPS-024
Collingwood Ave
Andover Ave
Berwyn Ave
Burlington Ave
Millicent Ave
Martha Ave
Roosevelt Ave
State Route 33 Westbound to Suffolk St
Suffolk Street to State Route 33 Eastbound
State Route 33
Driveway
Oakmont Ave
Ruspin Ave
Cloverdale Ave
Warwick Ave
Connelly Ave
Erskine Ave
Decker St
Manhart St
Alma Ave
Proctor Ave
Dorris Ave
Arden Ave
Hempstead Ave
Langfield Dr
Langfield Service Rd
Weston Ave
Easton Ave
Norfolk Ave
Olympic Ave
Bailey Ave
Suffolk St
Orleans St
Tower St
Sun St
Hazelwood Ave
Courtland Ave
Newburgh Ave
Wilkes Ave
Unnamed Street
0 100 200

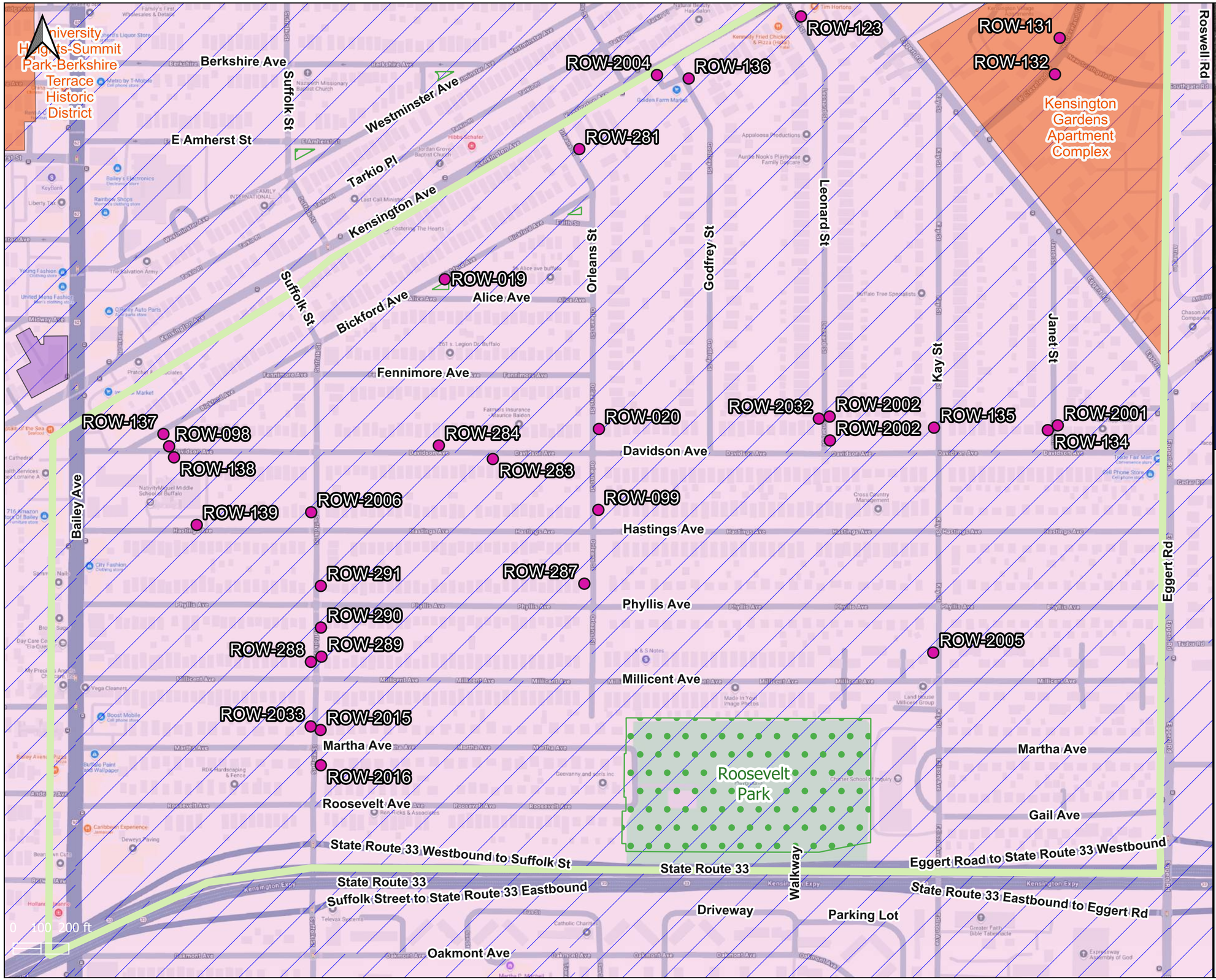
JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 5 Map 4

Legend

- Package 5
- Package 5 Outline
- City of Buffalo Parks
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

Millicent Ave
Martha Ave
Roosevelt Park
Roosevelt Ave
State Route 33 Westbound to Suffolk St
Suffolk Street to State Route 33 Eastbound
State Route 33
Eggert Road to State Route 33 Westbound
State Route 33 Westbound to Eggert Rd
State Route 33 Eastbound to Eggert Rd
Gail Ave
Saint Stanislaus Cemetery
Walkway
Driveway
Parking Lot
Oakmont Ave
Ruspin Ave
Tower St
Hempstead Ave
Sun St
Langfield Dr
Collins Walk
Beiter Walk
Eggert Rd
Edison Ave
Erskine Ave
Langfield Service Rd
Weston Ave
Easton Ave
Proctor Ave
Arden Ave
Suffolk St
Newburgh Ave
Courtland Ave
Hazelwood Ave
Wilkes Ave
Harriet Ave
Roma Ave
Wright Ave
Ivanhoe Rd
Marne Rd
Rowan Rd
Sugar Rd
Unnamed Street
BMHA-001
BMHA-002
BMHA-003
BMHA-004
BMHA-005
BMHA-006
BMHA-007
BMHA-008
BMHA-009
BMHA-010
ROW-103
ROW-508
ROW-035
ROW-040
ROW-036
ROW-037
ROW-038
ROW-2009
ROW-039
ROW-104
ROW-105
ROW-2011
ROW-109
ROW-506
ROW-2010
ROW-046
BPS-026
BPS-025
BPS-024
ROW-110
ROW-2013
ROW-2012
ROW-111
ROW-2014
ROW-2007
0 100 200 ft



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BSA Green Infrastructure Package 6 Map 1

Legend

- Package 6
- Package 6
- City of Buffalo Parks
- Historic District
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

Mona Dr
South Dr
Wansfell Rd
OwlDreamsCrochet
Winspear Ave
Treehaven Rd
Highgate Heights Elementary
IUOE Local 409
Highgate Ave
Raindrop Gutter Specialists
Rounds Ave
Clown Around Entertainment
Lisbon Ave
Marie's Kitchen
Naked
Little Tweety's Childcare
Pediatrics and Aquatic Therapy
Minnesota Ave
Eldon Rd
The Web Lions
TOWANA MUNN DAY CARE
Creations By Nynee
Peter's Food Mart
M&M smoke shop
Francois Fadell MD, FACP
Kids Capital Daycare Center
CAO Grace Academy
Marathon
Lasalle Ave
Clean Rite Cleaning Inc
Shirley Ave
St. Michael and All Angels
Tinasloesllc
Burke Dr
Kensington Ave
Cleveland Dr
Charlie's Food & Grill
Dartmouth Ave
Cleveland Hill United Methodist Church
Nychole Elle Fashion & Cosmetics
Central System Labs, Inc
Lady Garden Full body waxing
Hewitt Ave
Ledbetter Beauty Boutique
AmPm Gas Mart
Sunoco Gas Station
Buffalo Pharmacies, Inc
Kensington Pizza
Nickel City Laundromat
Klassic Cuts
Family Dollar
Stockbridge Ave
Westminster Ave
Natural Beauty Hair Salon
Tim Hortons
Kensington Village Apartments
Kennedy Fried Chicken & Pizza (Halal)
Kendale Rd
Berkshire Ave
Golden Farm Market
Southgate Rd
W Cleveland Dr
Eggert Rd
Orleans St
Century Rd

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 7 Map 1

Legend

- Package 7
- Package 7
- City of Buffalo Parks
- Historic District
- Potential Environmental Justice Area
- Disadvantaged Communities

Doat St
Burgard Pl
Hazel Pl
Holy Name of Jesus RC Chruch Complex
Sumner Pl
Rohe St
ROW-204
Brinkman Ave
Bailey Ave
ROW-236
Keystone St
ROW-237
Walden Ave
Saint Marys Rd
ROW-238
Academy Rd
Felix Pl
Poplar Ave
Briscoe Ave
Stewart Ave
Wisconsin Pl
Littlefield Ave
ROW-1025
ROW-1024
Bakos Blvd
Parking Lot
Walden Park
Driveway
McCarthy Ave
Wood Ave
Wex Ave
Fay St
Scheu Park
DPW-025
DPW-024
ROW-206
ROW-205
ROW-725
ROW-724
ROW-234
ROW-235
W Shore Ave
0 100 200 ft

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 7 Map 2

Legend

- Package 7
- Package 7
- City of Buffalo Parks
- Historic District
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

Fougeron St
Fougeron-Belt Line Historic District
Buffalo School #92
Barthel St
ROW-704
Genesee St
Lansdale Pl
Hazel Pl
May St
Burgard Pl
Mckibben St
ROW-195
Bissell Ave
Goodyear Ave
Mosella St
Saint Louis Ave
Ivy St
Rapin Pl
Goembel Ave
Concordia Cemetery
Koons Ave
DPW-001
Roetzer St
DPW-002
Eddie Dawson Park
Wasmuth Ave
ROW-716
Walden Ave
BPS-070
ROW-196
BPS-069
Howlett St
ROW-715
ROW-197
Gittere St
Ruhland Ave
Oberlin St
Miller Ave
Titus Ave
ROW-189
Emerson Park
W Shore Ave
Saint Joseph Ave
Fay St
Scheu Park
Bailey Ave
Sycamore St
DPW-027
ROW-713
Hank Nowak Park
Liddell St
Wick St
Schutrum St
Hirschbeck St
Shepard St
Gatchell St
0 100 200 ft

JMDavidson
Engineering, D.P.C.

BSA Green Infrastructure Package 7 Map 3

Legend

Centroids

- Package 7
- Package 7
- City of Buffalo Parks
- Historic District
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

E Utica St
E Utica Street to State Route 33 Westbound
Landon St
French St
Riley St
Urban St
Humboldt Pkwy
State Route 33
Girard Pl
Fougeron St
Josephine St
Kehr St
Northampton St
Louisen St
BPS-056
BPS-057
BPS-055
ROW-193
ROW-191
ROW-166
ROW-723
ROW-722
ROW-165
N Parade Ave
W Parade Ave
DPW-012
DPW-013
Martin Luther King Park
Frederick Pl
ROW-173
ROW-721
Bardol St
Rohr St
Marshall St
Spiess St
E Parade Ave
Fillmore Ave
Martin Luther King Jr. Park
ROW-164
Roetzer St
DPW-014
Genesee St
Latour St
Kiefer St
DPW-002
Eddie Dawson Park
DPW-003
E Parade Cir
ROW-188
ROW-717
Walden Ave
Best St
Humboldt Pkwy S
Hermann St
Guilford St
Rich St
Sweeney St
Myers St
Mills St
Woltz Ave
Loepere St
Sweet Ave
Sobieski St
Rother Ave
Harmonia St
Lathrop St
Peterson St
BPS-004
0 100 200 ft

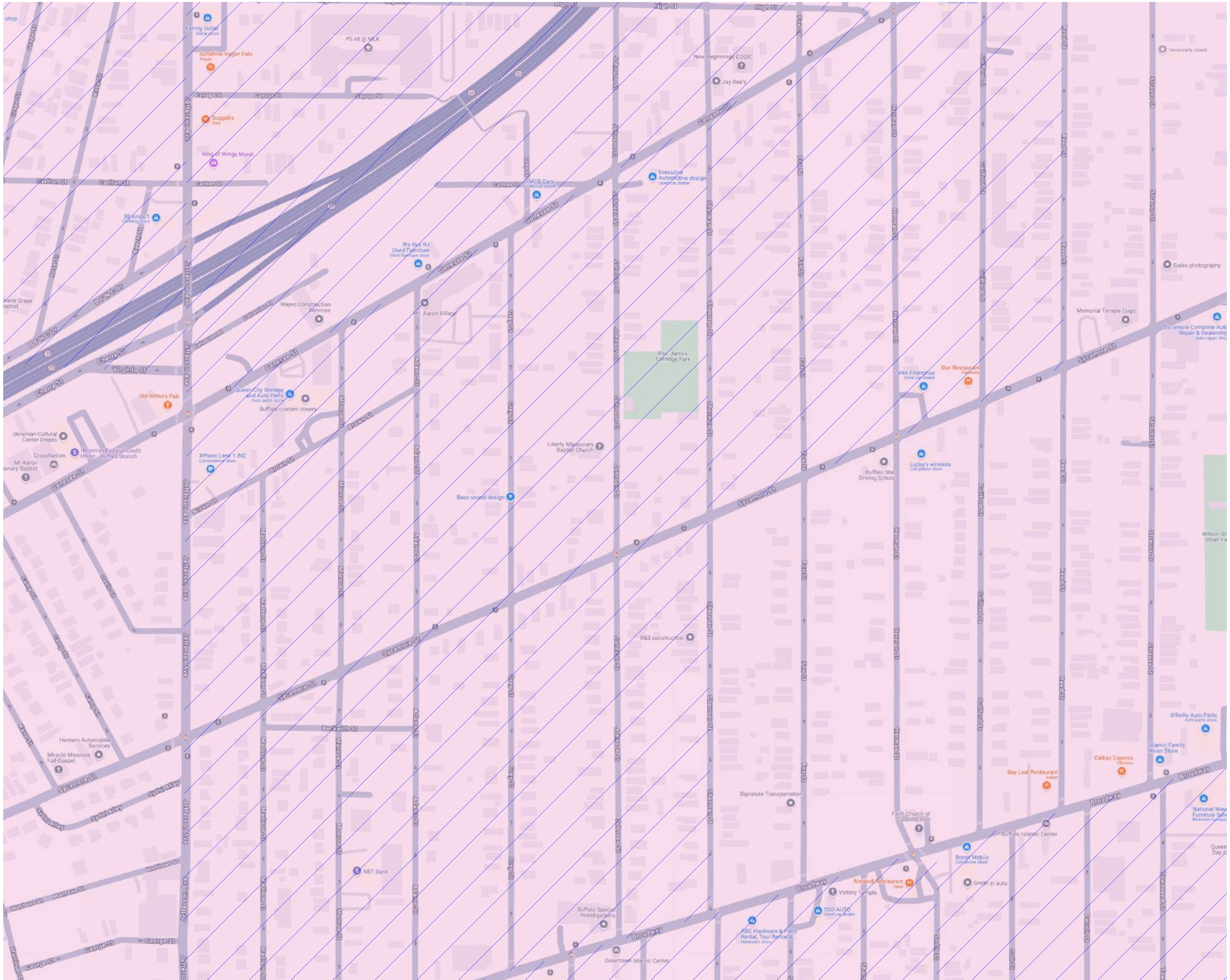
JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 7 Map 4

Legend

- Package 7
- Package 7
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

BPS-004
BPS-002
BPS-003
BPS-005
ROW-190
ROW-712
ROW-713
ROW-711
ROW-710
ROW-168
ROW-707
ROW-709
ROW-708
ROW-720
ROW-718
ROW-719
ROW-706
ROW-705
ROW-167
ROW-187
ROW-703
Genesee St
Peterson St
A St
B St
C St
Walden Ave
Harmonia St
Mills St
Woltz Ave
Loepere St
Sweet Ave
Sobieski St
Rother Ave
Lathrop St
Sycamore St
Stanislaus St
Kosciuszko St
Rich St
Sweeney St
Myers St
Guilford St
Reed St
Strauss St
Wilson St
Fillmore Ave
Gibson St
Beck St
Broadway
Roman Catholic Church of the Transfiguration Church Complex
Broadway Filmore Historic District
0 100 200 ft



High St
Cayuga St
Carlton St
Genesee St
Sycamore St
Broadway
Jefferson Ave
Johnson St
Sherman St
Fox St
Herman St
Guilford St
Reed St
Strauss St
Adams St
Monroe St
Madison St
Grey St
Brown St
Beckwith St
Cherry St
Virginia St
Matthews St
George St
Camp St
Davis St
Sydney Alley
Sunshine Vegan Eats
Family Dollar
PS 48 @ MLK
New Beginnings COGIC
Jay Bee's
King of Wings Mural
Executive Automotive design
We Buy RJ Used Furniture
Hayes Construction Services
Mt. Aaron Village
Rev. James Eldridge Park
Old Arthurs Pub
Queen City Storage and Auto Parts
Buffalo custom covers
Ukrainian Cultural Center Dnipro
XPress Lane 1 INC
Liberty Missionary Baptist Church
Bass sound design
Star Restaurant
Lucky's wireless
Buffalo Star Driving School
Memorial Temple Cogic
Gabix photography
B&S construction
Homers Automobile Services
Miracle Missions Full Gospel
Signature Transportation
Faith Church of God in Christ
Buffalo Islamic Center
Bay Leaf Restaurant
Cathay Express
O'Reilly Auto Parts
Boost Mobile
Victory Temple
SSD AUTO
Buffalo Special Investigations
Downtown Islamic Center
NBT Bank
Smith st auto

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 8 Map 1

Legend

- Package 8
- Package 8
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-8017
ROW-170
ROW-184
ROW-183
ROW-180
ROW-8013
ROW-225
ROW-8012
ROW-177
ROW-8016
ROW-8014
ROW-224
ROW-8015
ROW-194
ROW-8007
ROW-8008
ROW-169
BPS-067
BPS-068
ROW-223
ROW-223
ROW-8001
ROW-8010
ROW-219
ROW-220
ROW-220
ROW-221
ROW-8011
ROW-222
Broadway Filmore Historic District
Sperry Park
New York Central Terminal
Sycamore St
Beckwith St
Broadway
Paderewski Dr
William St
Peckham St
Jefferson Ave
Madison St
Monroe St
Adams St
Grey St
Johnson St
Watson St
Emslie St
Krettner St
Fox St
Herman St
Stanton St
Shumway St
Smith St
Coit St
Detroit St
Townsend St
Wilson St
Fillmore Ave
Guilford St
Reed St
Strauss St
0 100 200 ft

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 8 Map 2

Legend

- Package 8
- Package 8
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-170
ROW-8017
ROW-8004
ROW-8003
ROW-8003
ROW-175
ROW-174
ROW-8002
ROW-8008
ROW-169
ROW-223
ROW-223
ROW-172
ROW-171
ROW-275

Guilford St
Reed St
Strauss St
Mills St
Woltz Ave
Loepere St
Sobieski St
Rother Ave
Kosciuszko St
Lathrop St
Broadway
Broadway Filmore Historic District
Sweet Ave
Warren Ave
Houghton Ave
Brighton Ave
Memorial Dr
Dover St
Curtiss St
Geneva St
Kent St
Concord St
Wilson St
Fillmore Ave
Gibson St
Player St
S Market St
Lombard St
Clark St
Sears St
Newton St
Hilton St
Paderewski Dr
Paderewski Dr
Smith St
Coit St
Detroit St
Townsend St
Peckham St
New York Central Terminal

0 100 200 ft

JMDavidson
Engineering, D.P.C.

BSA Green Infrastructure Package 8 Map 3

Legend

- Package 8
- Package 8
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-8010
ROW-219
ROW-220
ROW-221
ROW-8001
ROW-222
ROW-8011
ROW-275
ROW-272
ROW-273
ROW-274
ROW-218
ROW-216
ROW-8005
ROW-214
ROW-8009
ROW-8009
ROW-215
ROW-227
ROW-8000
ROW-208
ROW-213
ROW-209
ROW-210
William St
Howard St
Pink St
Oneida St
Bristol St
Clinton St
Fritz Aly
San Domingo Aly
San Domingo Aly
Olga Pl
Steuben Aly
E Eagle St
N Division St
S Division St
Meteor Aly
Bass Aly
Swan St
Seymour St
Baltic Pl
James St
W Fleming St
Bender Ave
Metcalfe St
Madison St
Monroe St
Adams St
Watson St
Krettner St
Sherman St
Stanton St
Shumway St
Detroit St
Townsend St
Wilson St
Gibson St
Clark St
Coit St
John Paul Ct
Bond St
Smith St
Emslie St
Grosvenor St
Lord St
Montgomery St
Clare St
Fillmore Ave
Stetson St
New York Terminal
0 100 200 ft

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 9 Map 1

ROW-203
ROW-301
ROW-198
ROW-292
ROW-293
Buffalo School #44
ROW-199
ROW-302
ROW-163
ROW-160
ROW-295
ROW-162
DPW-006
Lincoln Park
DPW-008
DPW-007
ROW-200
ROW-202
ROW-201
New York Central Terminal
0 100 200 ft

Legend

- Package 9
- Package 9
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Potential Environmental Justice Area
- Disadvantaged Communities

JMDavidson
Engineering, D.P.C.

BSA Green Infrastructure Package 9 Map 2

Hennepin Park
DPW-005
ROW-207
ROW-207
ROW-294
ROW-309
ROW-308
ROW-307

0 100 200 ft

Legend

- Package 9
- Package 9
- City of Buffalo Parks
- Potential Environmental Justice Area
- Disadvantaged Communities

New York Central Terminal

ROW-239

ROW-161

ROW-244

ROW-159

ROW-242

ROW-242

ROW-243

ROW-226

ROW-228

ROW-217

Franczyk Park

0 100 200 ft

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 9 Map 3

Legend

- Package 9
- Package 9
- City of Buffalo Parks
- Historic District
- Rare Plants or Rare Animals
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

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BSA Green Infrastructure
Package 9 Map 4

ROW-306
ROW-246
ROW-247
ROW-297
ROW-298
ROW-299
ROW-299
ROW-249

0 100 200 ft

Legend

- Package 9
- Package 9
- City of Buffalo Parks
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

ROW-249

ROW-251

ROW-251

ROW-250

ROW-296

0 100 200 ft

JMDavidson
Engineering, D.P.C.

BSA Green Infrastructure Package 9 Map 5

Legend

- Package 9
- Package 9
- City of Buffalo Parks
- Remediation Parcels

FEMA Flood Hazard Zones

- Potential Environmental Justice Area
- Disadvantaged Communities

JMDavidson Engineering, D.P.C.

BSA Green Infrastructure Package 9 Map 6

ROW-300
ROW-212
ROW-211
ROW-192
ROW-192
BPS-030
BPS-029
BPS-031
Red Jacket River Front Park
0 100 200 ft

Legend

- Package 9
- Package 9
- City of Buffalo Parks
- Rare Plants or Rare Animals
- Remediation Parcels
- Potential Environmental Justice Area
- Disadvantaged Communities

Appendix B: GI Practice Standard etail

GREEN
INFRASTRUCTURE
STANDARD DETAILS

BUFFALO
SEWER AUTHORITY

BUFFALO
SEWER AUTHORITY
STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

COVER SHEET

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SHEET INDEX	
DRAWING NO.	SHEET TITLE
GI–00	COVER SHEET
GI–01	INDEX SHEET
GI–02	POROUS ASPHALT PAVING
GI–03	BIORETENTION BASIN
GI–04	STORMWATER TREE TRENCH
GI–05	BIOSWALE
GI–06	STORMWATER PLANTER (PART 1 OF 4)
GI–07	STORMWATER PLANTER (PART 2 OF 4)
GI–08	STORMWATER PLANTER (PART 3 OF 4)
GI–09	STORMWATER PLANTER (PART 4 OF 4)
GI–10	UNDERGROUND STORMWATER STORAGE SYSTEM (PART 1 OF 2)
GI–11	UNDERGROUND STORMWATER STORAGE SYSTEM (PART 2 OF 2)
GI–12	CURB CUT AND ENERGY DISSIPATER
GI–13	CURB CUT WITH WHEEL GUARD AND ENERGY DISSIPATER
GI–14	TRENCH DRAIN WITH WHEEL GUARD AND ENERGY DISSIPATER
GI–15	GI CATCH BASIN
GI–16	STONE APRON OUTLET PROTECTION
GI–17	OVERFLOW STRUCTURE WITH UNDERDRAIN CONNECTION
GI–18	JUNCTION BOX WITH UNDERDRAIN CONNECTION
GI–19	CLEANOUT
GI–20	PIPE PENETRATION DETAILS
GI–21	OBSERVATION WELL
GI–22	PLANTINGS (PART 1 OF 3)
GI–23	PLANTINGS (PART 2 OF 3)
GI–24	PLANTINGS (PART 3 OF 3)

BUFFALO
SEWER AUTHORITY
STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS
INDEX SHEET

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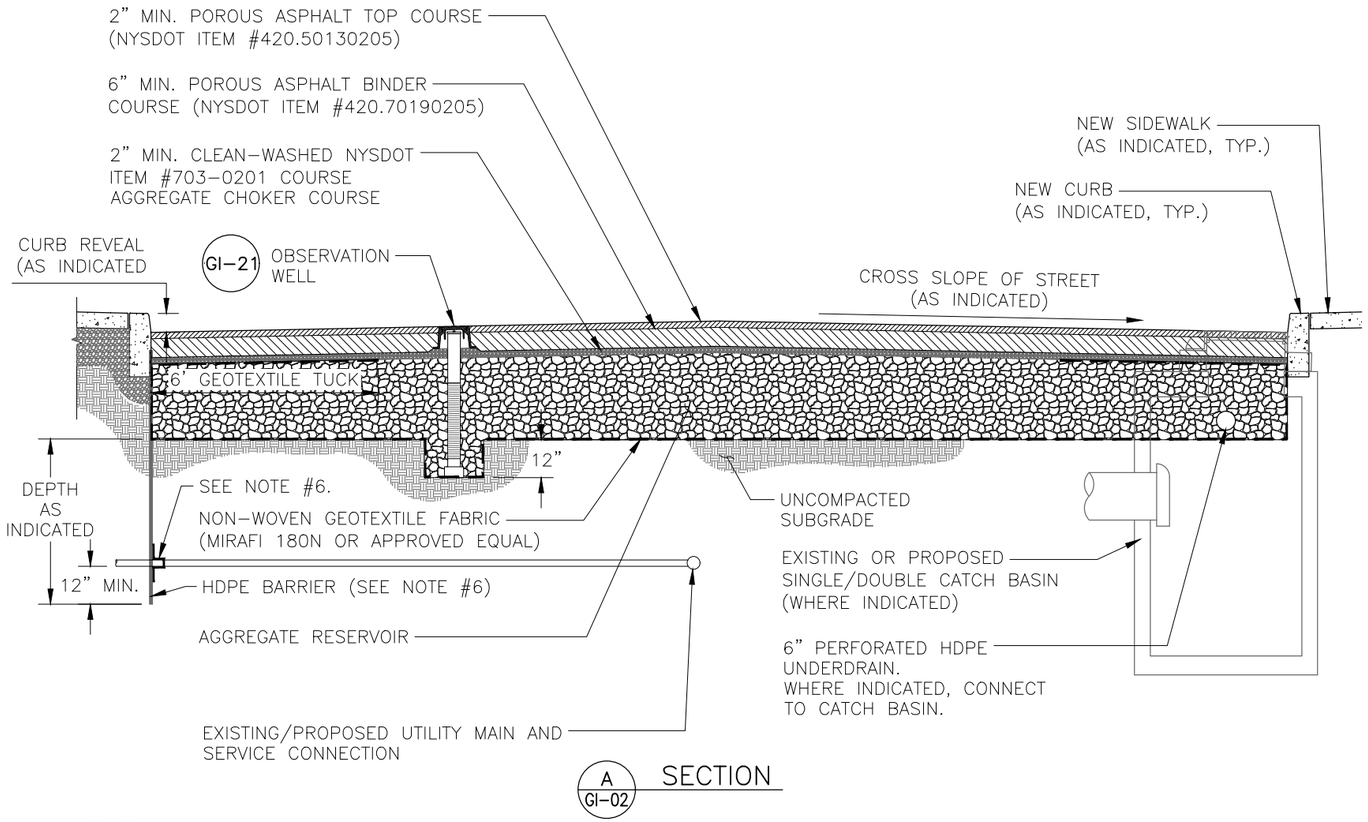


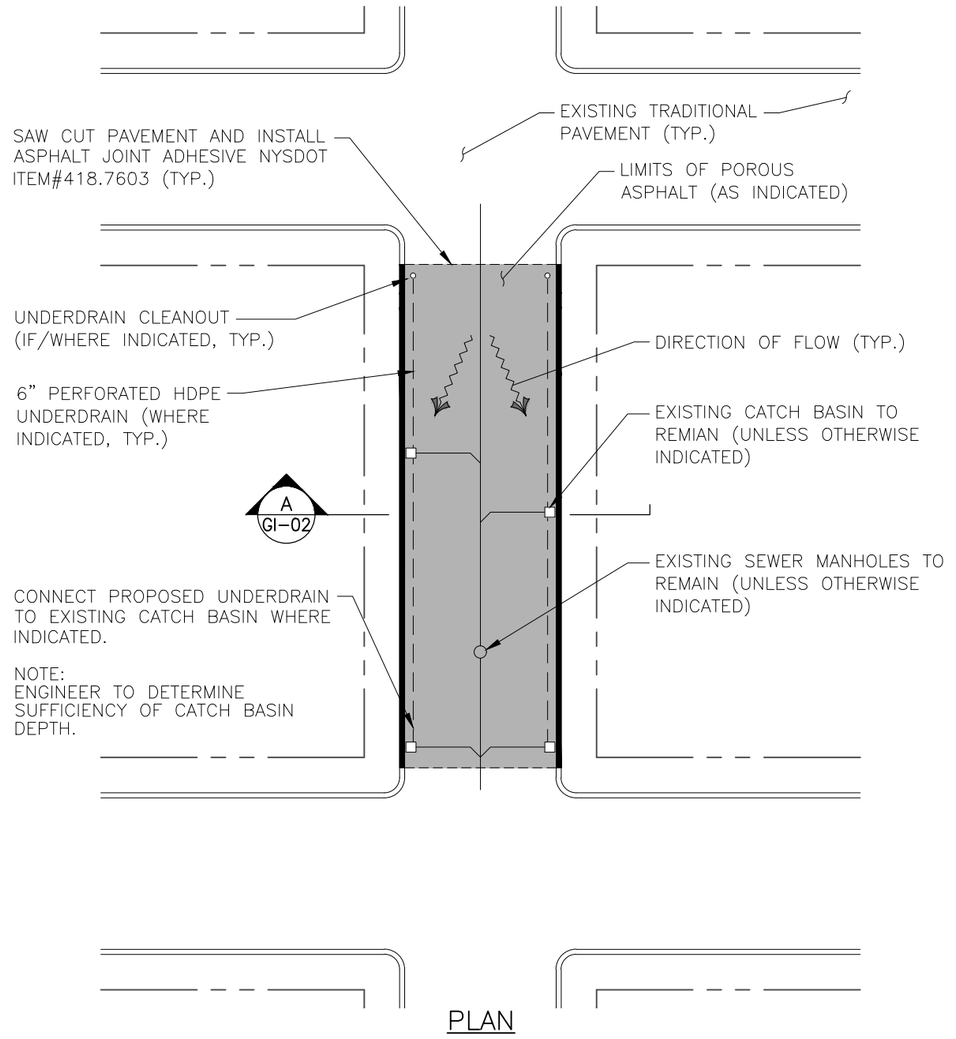
A GI-02 SECTION

NOTES:

1. ALL CONSTRUCTION SHALL BE ADAPTED TO INCORPORATE SITE-SPECIFIC CONDITIONS. THE CONSTRUCTION SHALL PROVIDE ALLOWANCES AND MAINTAIN, AT A MINIMUM, STREET WIDTH, ON-STREET PARKING, DRAINAGE, BICYCLE LANES, BUS ROUTES, ADA ACCESSIBILITY, PROXIMITY TO ADJACENT BUILDINGS AND STRUCTURES, AND VEHICULAR TURNING MANEUVERS.
2. WATERPROOFING MEASURES CONFIRMING TO NYSDOT REQUIREMENTS SHALL BE PROVIDED WHEN DETERMINED REQUIRED BY THE ENGINEER.
3. PERVIOUS DRAINAGE AREAS SHALL BE DIRECTED AROUND POROUS PAVEMENT SURFACE.
4. A MIX DESIGN SHALL BE SUBMITTED FOR REVIEW AND APPROVAL.
5. MINIMUM UTILITY SETBACKS AND PROTECTION MEASURES SHALL CONFORM TO CURRENT BSA ASSET PROTECTION STANDARDS AND OTHER UTILITY PROVIDER REQUIREMENTS.
6. AN HDPE BARRIER SHALL BE PROVIDED WHERE INDICATED, TO PREVENT INFILTRATION INTO BASEMENTS OF ADJACENT BUILDINGS WHERE DETERMINED REQUIRED BY THE ENGINEER. UTILITY OR OTHER PENETRATIONS THROUGH THE LINE SHALL REQUIRE A WATERTIGHT BOOT SEAL. SEE DRAWING GI-20.
7. ALL EDGES BETWEEN NEW AND EXISTING ASPHALT PAVEMENT AND JOINTS FOR UTILITY STRUCTURES SHALL BE SEALED WITH HOT ASPHALT CEMENT CONFORMING TO NYSDOT STANDARD SPECIFICATIONS FOR NYSDOT ITEM#418.7603.
8. THE CONTRACTOR SHALL NOT COMPACT THE SUBGRADE SOIL PRIOR TO PLACEMENT OF CLEAN WASHED AGGREGATE RESERVOIR.

MAINTENANCE DURING CONSTRUCTION:

1. KEEP TRAFFIC OFF PAVEMENT FOR A MINIMUM OF 24 HOURS AFTER ITS PLACED.
2. DIVERT STORMWATER FROM DISTURBED AREAS AND THE POROUS PAVEMENT UNTIL THE AREAS ARE STABILIZED.
3. DO NOT USE SAND OR SALT FOR ICE TREATMENT.
4. PERFORM VACUUM SWEEPING AT A MINIMUM WEEKLY OR AS DETERMINED NECESSARY BY THE ENGINEER.



PLAN

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

POROUS ASPHALT PAVING

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GI-02 / GI-24

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NOTES:

1. UNDERDRAINS SHALL BE AT LEAST SIX (6) INCHES IN DIAMETER AND CONSTRUCTED OF HIGH–DENSITY POLYETHYLENE PIPING WITH A CORRUGATED EXTERIOR AND SMOOTH INNER WALL. UNDERDRAIN PIPING WITHIN THE STONE AGGREGATE RESERVOIR SHALL BE FULLY–PERFORATED PIPING MEETING THE AASHTO MATERIALS SPECIFICATIONS M294 AND M252 CLASS II.

2. THE ENGINEER SHALL BE ON SITE DURING THE EXCAVATION OF BIORETENTION TO CONFIRM THAT THE SUBSURFACE CONDITIONS ARE SUITABLE

3. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 72 HOURS NOTIFICATION TO BUFFALO SEWER AUTHORITY AND DESIGN ENGINEER PRIOR TO BIORETENTION EXCAVATION.

4. ENGINEERED SOIL MEDIA SHALL BE AS SPECIFIED.

5. COMPACTION SHALL NOT OCCUR IN THE BIORETENTION AREAS PRIOR TO CONSTRUCTION. SCARIFICATION IS REQUIRED IN THE EVENT COMPACTION TAKES PLACE.

6. DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED. SIDE SLOPES ARE TO BE STABILIZED WITHIN THREE WORKING DAY UPON COMPLETION OF FINAL GRADE.

7. DO NOT DISCHARGE SEDIMENT–LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION. PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE SYSTEM.

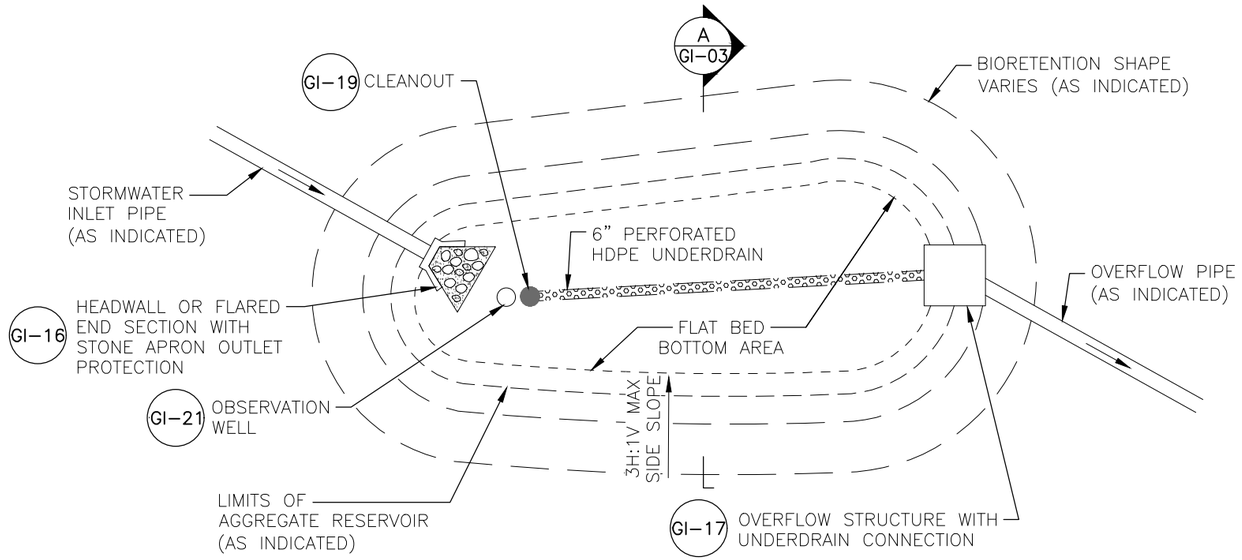
8. PROVIDE SEED MIXTURE COMPRISED OF THE FOLLOWING (WHERE INDICATED):
   A. "NEW ENGLAND NATIVE WARM SEASON GRASS MIX" BY NEW ENGLAND WETLAND PLANTS, INC. RATE: 23 LBS/AC; OR "RAIN GARDEN MIX – ERNMIX 180" BY ERNST CONSERVATION SEEDS. RATE 20 LBS/AC.
   B. SEED ALSO WITH ONE OF THE FOLLOWING COVER CROPS:
      - OATS (1 JAN TO 31 JUL; 30 LBS/AC)
      - JAPANESE MILLET (1 MAY TO 31 AUG; 10 LBS/AC)
      - GRAIN RYE (1 AUG TO 31 DEC; 30 LBS/AC)

MAINTENANCE DURING CONSTRUCTION:

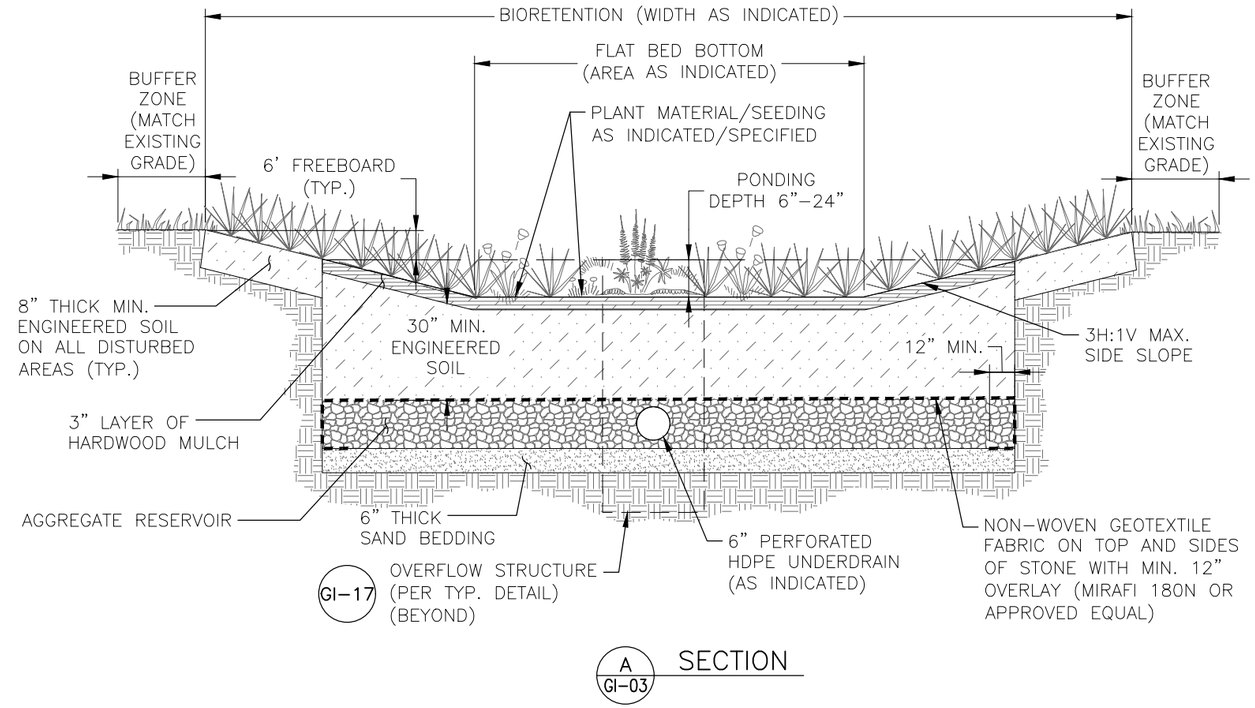
1. SYSTEMS SHALL BE INSPECTED AT LEAST ONCE WEEKLY, AND FOLLOWING ANY RAINFALL EXCEEDING 0.20 INCHES IN A 24–HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS DETERMINED REQUIRED BY THE ENGINEER. PRETREATMENT MEASURES SHALL BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY AND AS DIRECTED BY THE ENGINEER.

2. AT LEAST ONCE MONTHLY THE SYSTEM SHALL BE INSPECTED FOR DRAWDOWN TIME. IF THE BIORETENTION DOES NOT DRAIN WITHIN 72–HOURS FOLLOWING A RAINFALL EVENT, THEN THE ENGINEER SHALL ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.

3. VEGETATION SHALL BE INSPECTED AT LEAST WEEKLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING, PRUNING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.



PLAN



A GI–03 SECTION

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

BIORETENTION BASIN

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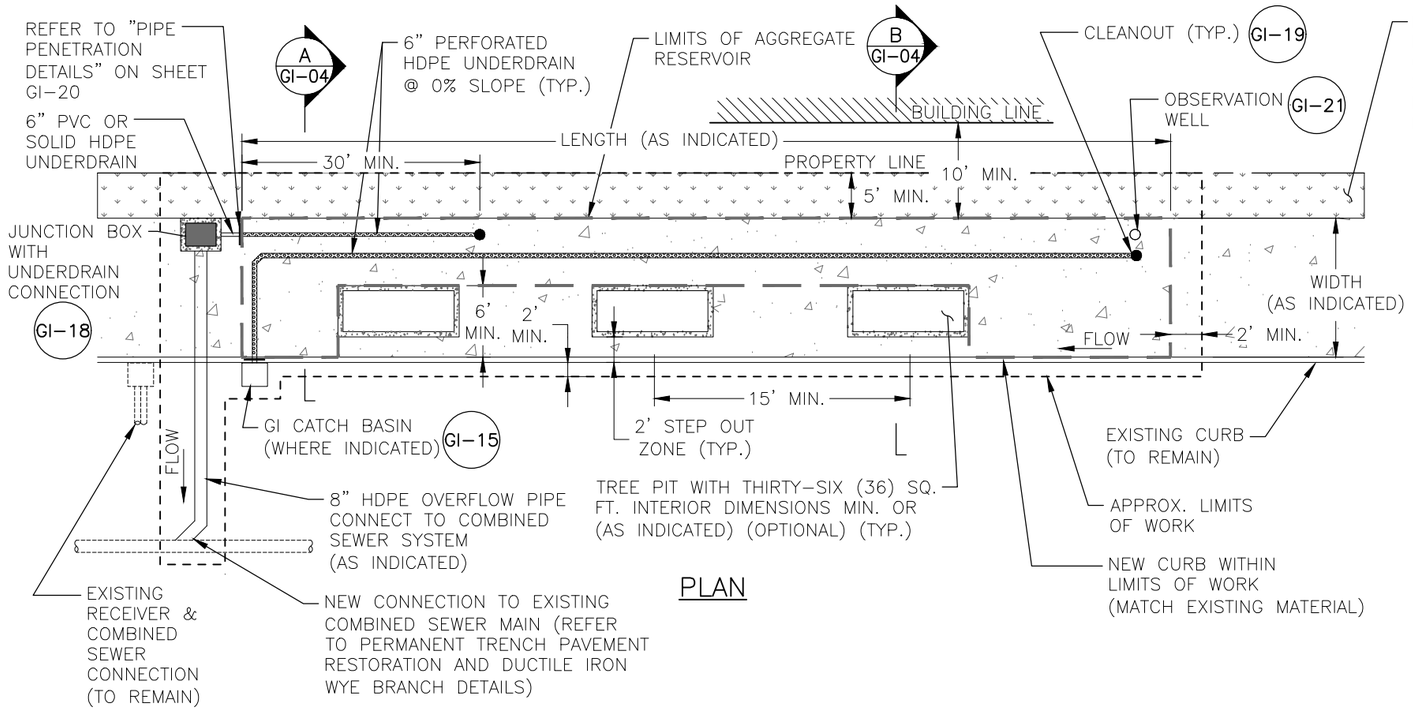
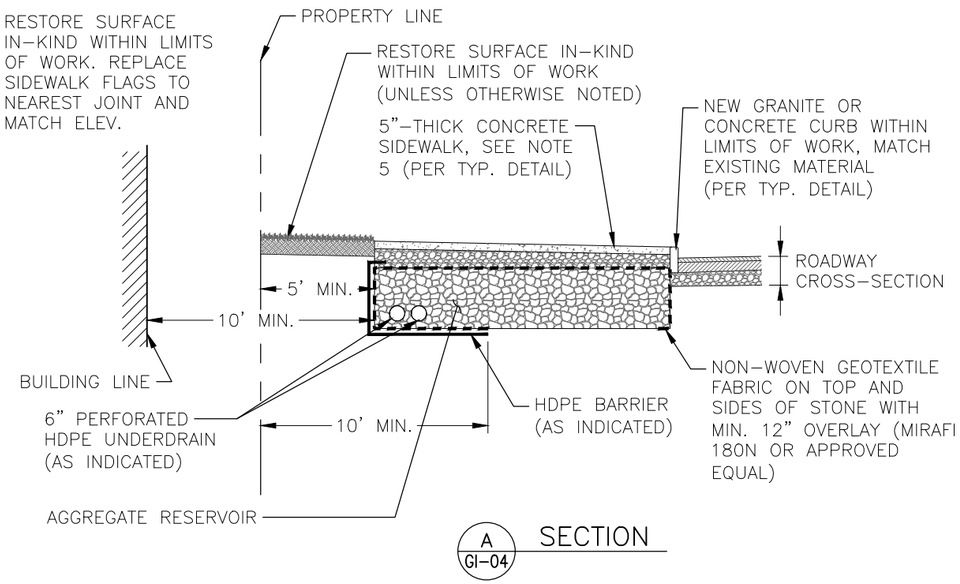


PLAN



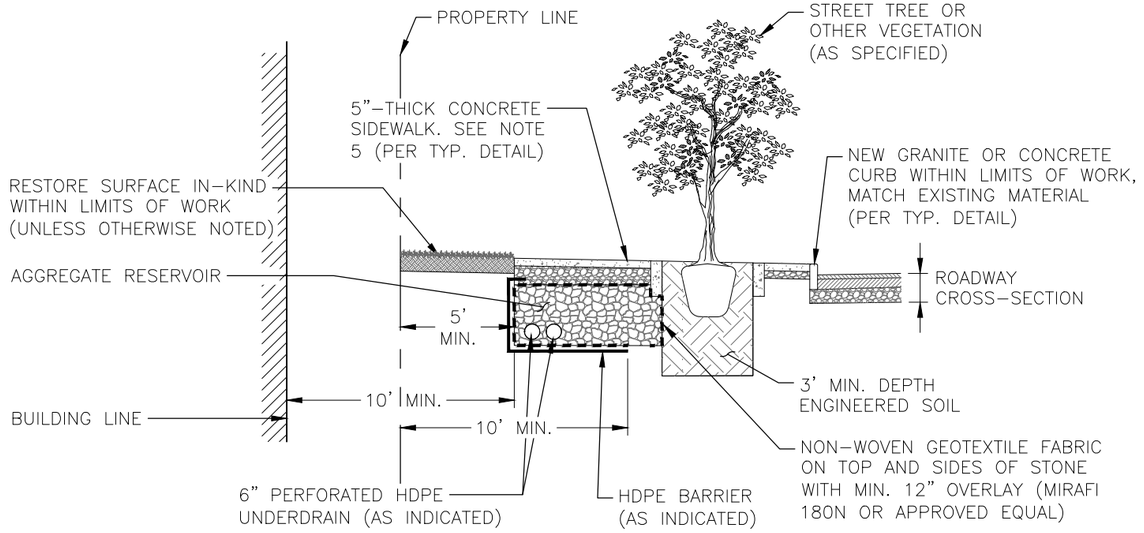
A GI-04 SECTION

NOTES:

1. ALL CONSTRUCTION SHALL BE ADAPTED TO ADDRESS SITE-SPECIFIC CONDITIONS. THE CONTRACTOR SHALL MAINTAIN, AT A MINIMUM, STREET WIDTH, ON-STREET PARKING, DRAINAGE, BICYCLE LANES, BUS ROUTES, ADA ACCESSIBILITY, PROXIMITY TO ADJACENT BUILDINGS AND STRUCTURES, AND VEHICULAR TURNING MANEUVERS.
2. WATERPROOFING MEASURES CONFIRMING TO NYSDOT REQUIREMENTS SHALL BE PROVIDED WHEN DETERMINED BY THE ENGINEER.
3. ALL TREE PITS SHALL BE SURROUNDED FLUSH CURBING UNLESS OTHERWISE SPECIFIED. ALL EXPOSED CONCRETE EDGES SHALL BE BEVELED. TREE GRATES SHALL NOT BE USED AROUND TREE PITS.
4. THE MINIMUM INTERIOR TREE PIT DIMENSION IS THIRTY SIX (36) SQUARE FEET. LARGER TREE PITS SHALL BE PROVIDED WHERE SPECIFIED IN THE CONTRACT DOCUMENTS.
5. EIGHT (8) INCH THICK REINFORCED CONCRETE SIDEWALK SHALL BE USED AT ALL DRIVEWAY CROSSINGS.
6. TREE SPECIES, LOCATION, AND SIZE SHALL BE COORDINATED WITH THE CITY OF BUFFALO PUBLIC WORKS DEPARTMENT.

MAINTENANCE DURING CONSTRUCTION:

1. WATER TREES WEEKLY WITH A SLOW RELEASE WATERING BAG SYSTEM, TREE GATOR OR APPROVED EQUAL.
2. DIVERT STORMWATER FROM DISTURBED AREAS UNTIL THE AREAS ARE STABILIZED.
3. DO NOT USE SAND OR SALT FOR ICE TREATMENT.
4. REMOVE DEBRIS AND SEDIMENT FROM THE TREE PLANTER AREAS WEEKLY OR AS DIRECTED BY THE ENGINEER.



B GI-04 SECTION

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

STORMWATER TREE TRENCH

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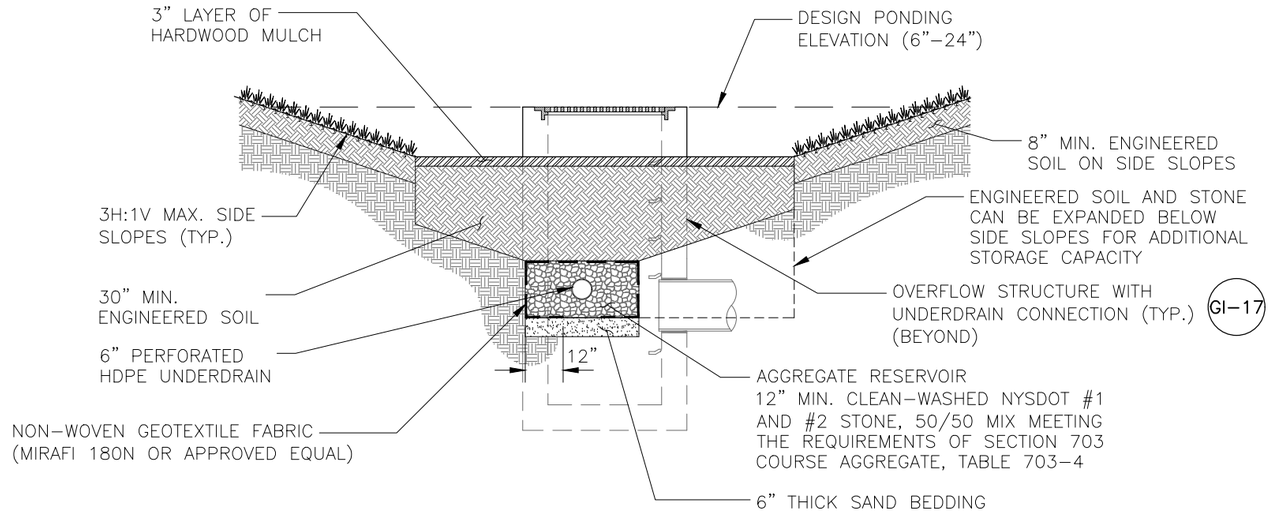

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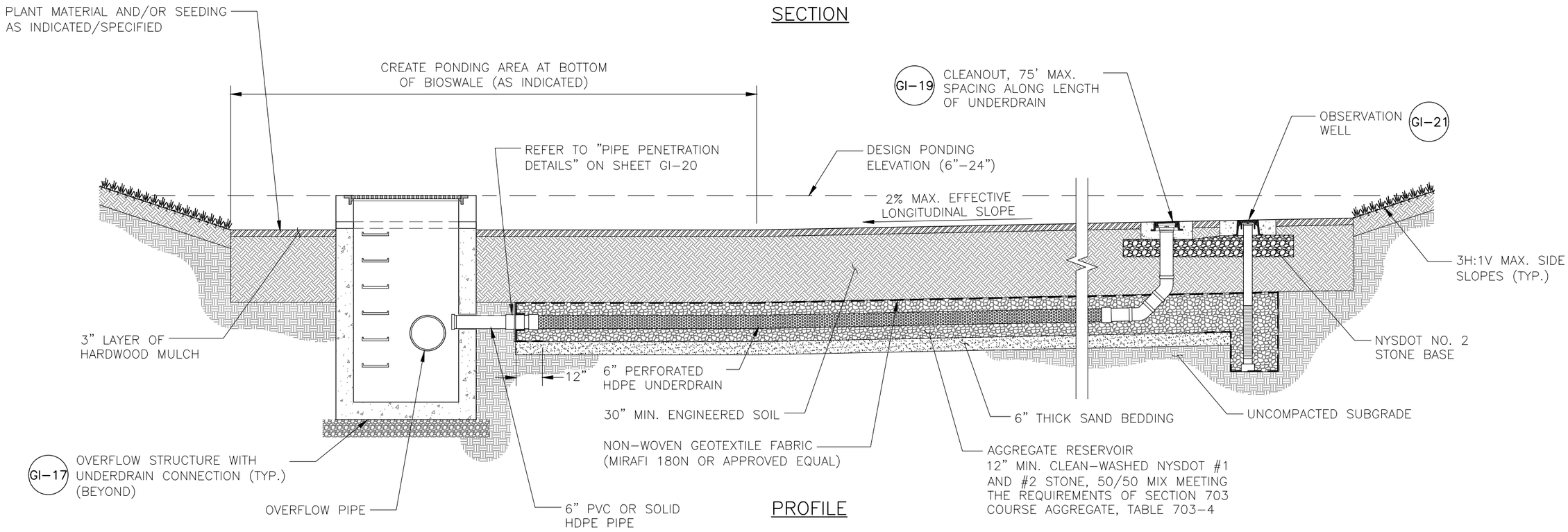

PROFILE

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

BIOSWALE

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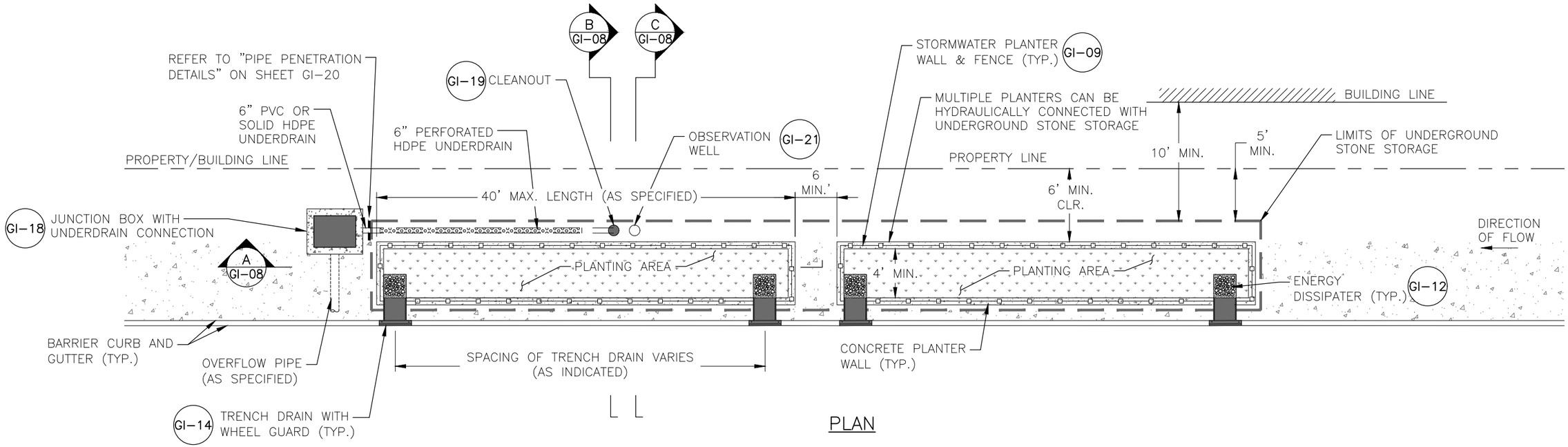

PLAN

NOTES:

1. ALL CONSTRUCTION SHALL BE ADAPTED TO ADDRESS SITE-SPECIFIC CONDITIONS. THE CONTRACTOR SHALL MAINTAIN, AT A MINIMUM, STREET WIDTH, DRAINAGE, BICYCLE LANES, BUS ROUTES, ADA ACCESSIBILITY, AND VEHICLE TURNING MANUEVERS.
2. WATERPROOFING MEASURES CONFORMING TO NYSDOT REQUIREMENTS SHALL BE PROVIDED WHEN DETERMINED BY THE ENGINEER.
3. CURB CUT SPACING SHALL BE DESIGNED TO CONVEY THE INTENDED DESIGN STORM AND SHALL CONSIDER STREET SLOPE AND CONTIBUTING DRAINAGE AREA.
4. THE PLANTER WALL DESIGN AND CONFIGURATION SHALL BE DESIGNED IN COORDINATION WITH STRUCTURAL AND GEOTECHNICAL ENGINEERING INPUT. THE DESIGN DRAWINGS SHALL INCLUDE PLANTER WALL DIMENSIONS, REINFORCEMENT, AND STRUCTURAL FOOTINGS.
5. ALL EXPOSED CONCRETE EDGES OF PLANTER WALL SHALL BE BEVELED.
6. THE LANDSCAPE DESIGN SHALL CONSIDER VEHICULAR SIGHT DISTANCES, CLIMATE, HYDROLOGY, ELEVATION, MAINTENANCE, LIGHT REQUIREMENTS, BLOOM TIME AND COLOR, AND DROUGHT TOLERANCE.
7. UNDERDRAINS SHALL BE SIX (6) INCHES IN DIAMETER AND CONSTRUCTED OF HIGH-DENSITY POLYETHYLENE PIPING WITH A CORRUGATED EXTERIOR AND SMOOTH INNER WALL. UNDERDRAIN PIPING WITHIN THE STONE STORAGE AREAS SHALL BE FULLY-PERFORATED PIPING MEETING THE AASHTO MATERIALS SPECIFICATIONS M294 AND M252 CLASS II.

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

STORMWATER PLANTER (PART 1 OF 4)

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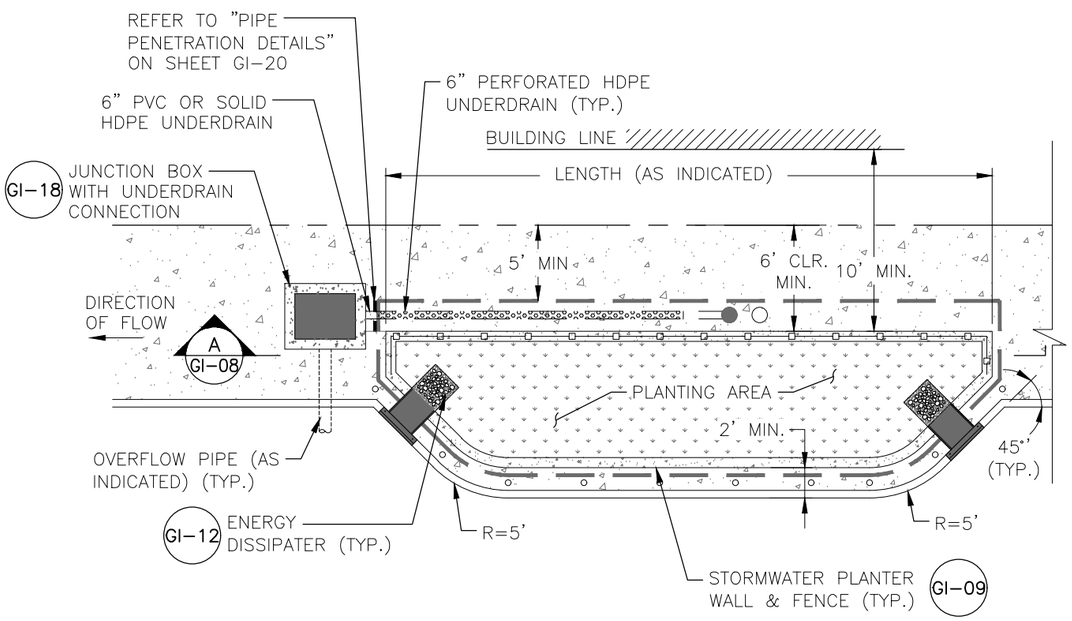
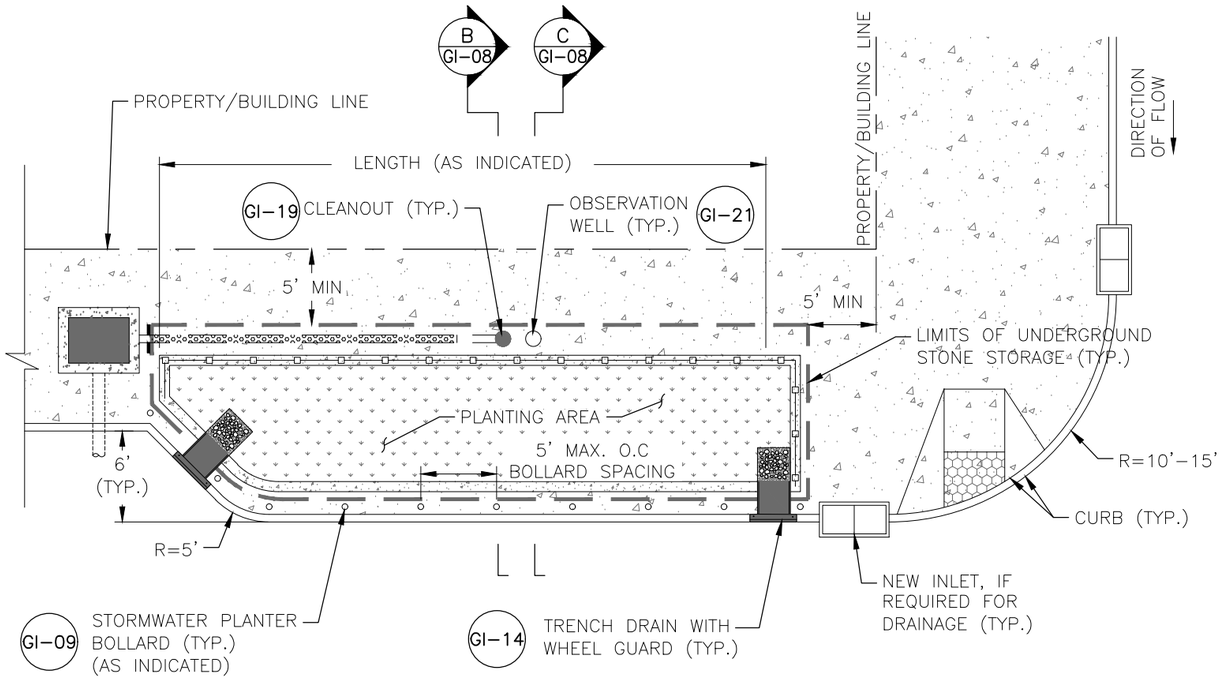


PLAN
MIDBLOCK CURB EXTENSION



PLAN
CORNER CURB EXTENSION

NOTES:

1. ALL CONSTRUCTION SHALL BE ADAPTED TO ADDRESS SITE-SPECIFIC CONDITIONS. THE CONTRACTOR SHALL MAINTAIN, AT A MINIMUM, STREET WIDTH, DRAINAGE, BICYCLE LANES, BUS ROUTES, ADA ACCESSIBILITY, AND VEHICLE TURNING MANUEVERS.
2. WATERPROOFING MEASURES CONFORMING TO NYSDOT REQUIREMENTS SHALL BE PROVIDED WHEN DETERMINED BY THE ENGINEER.
3. CURB CUT SPACING SHALL BE DESIGNED TO CONVEY THE INTENDED DESIGN STORM AND SHALL CONSIDER STREET SLOPE AND CONTIBUTING DRAINAGE AREA.
4. THE PLANTER WALL DESIGN AND CONFIGURATION SHALL BE DESIGNED IN COORDINATION WITH STRUCTURAL AND GEOTECHNICAL ENGINEERING INPUT. THE DESIGN DRAWINGS SHALL INCLUDE PLANTER WALL DIMENSIONS, REINFORCEMENT, AND STRUCTURAL FOOTINGS.
5. ALL EXPOSED CONCRETE EDGES OF PLANTER WALL SHALL BE BEVELED.
6. THE LANDSCAPE DESIGN SHALL CONSIDER VEHICULAR SIGHT DISTANCES, CLIMATE, HYDROLOGY, ELEVATION, MAINTENANCE, LIGHT REQUIREMENTS, BLOOM TIME AND COLOR, AND DROUGHT TOLERANCE.
7. UNDERDRAINS SHALL BE SIX (6) INCHES IN DIAMETER AND CONSTRUCTED OF HIGH-DENSITY POLYETHYLENE PIPING WITH A CORRUGATED EXTERIOR AND SMOOTH INNER WALL. UNDERDRAIN PIPING WITHIN THE STONE STORAGE AREAS SHALL BE FULLY-PERFORATED PIPING MEETING THE AASHTO MATERIALS SPECIFICATIONS M294 AND M252 CLASS II.

BUFFALO SEWER AUTHORITY
STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS
STORMWATER PLANTER (PART 2 OF 4)

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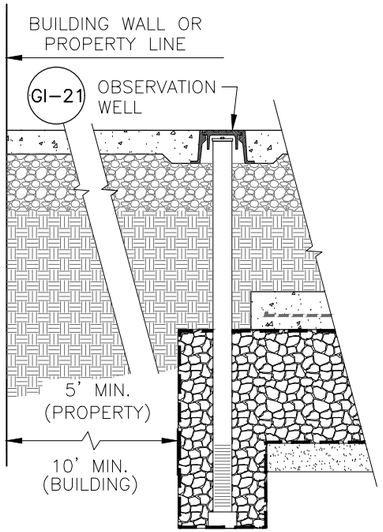
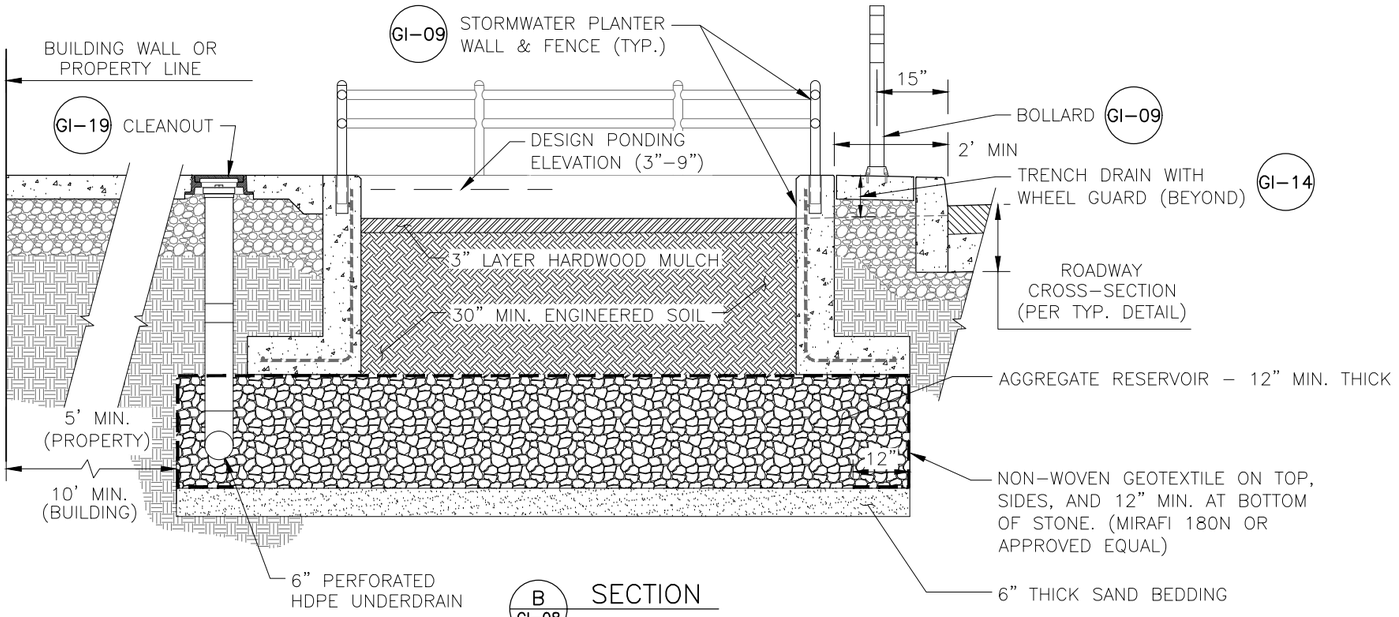


C GI-08 SECTION



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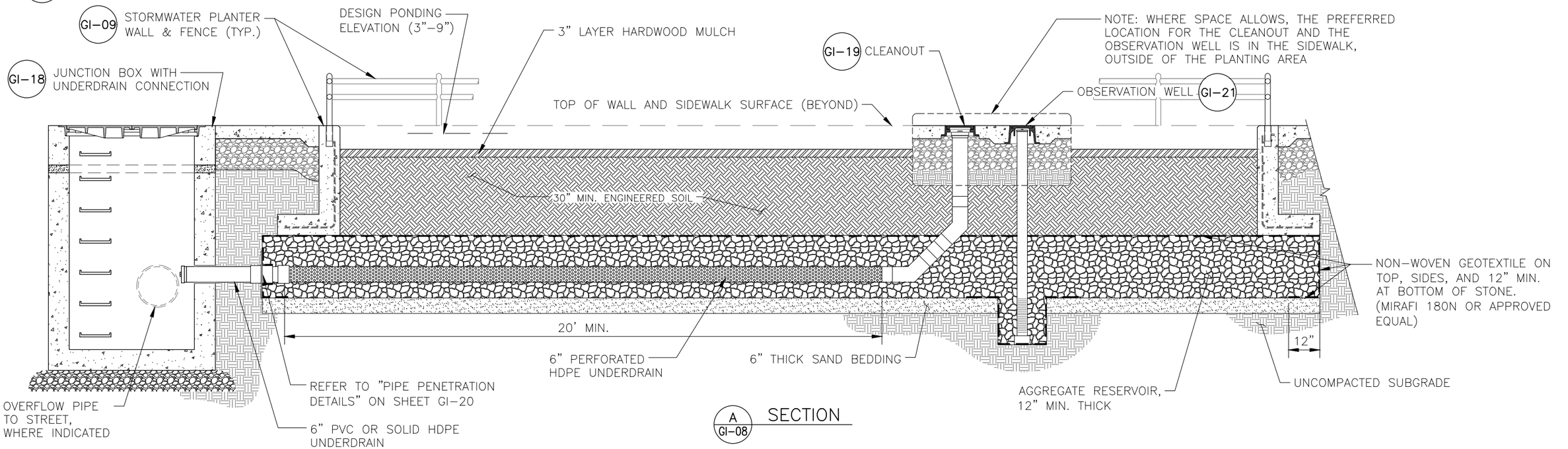

A GI-08 SECTION

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GREEN INFRASTUCTURE STANDARD DETAILS

STORMWATER PLANTER (PART 3 OF 4)

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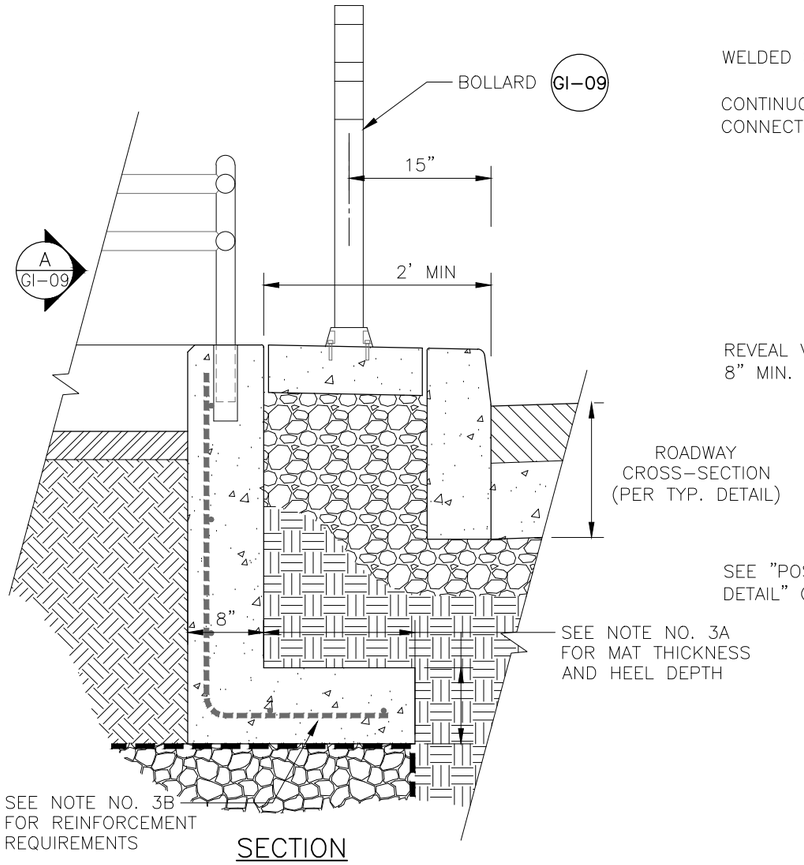

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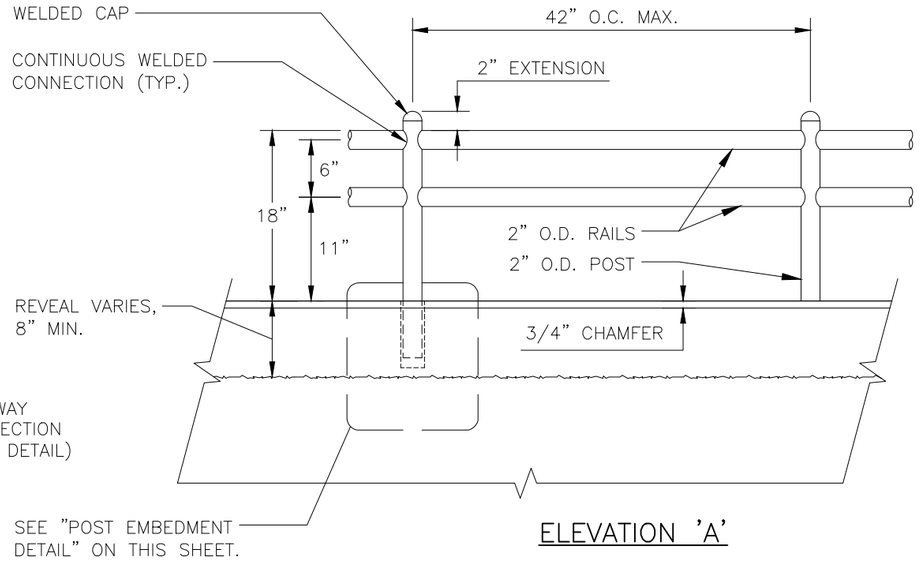


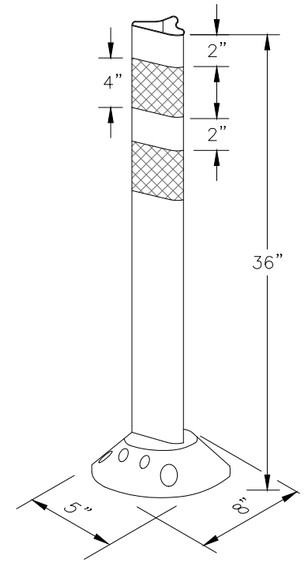
ELEVATION 'A'

BOLLARD SPECIFICATIONS:

MANUFACTURER:	PEXCO TRAFFIC CONTROL PRODUCTS
MODEL NO.	FG 300 MODEL EFX, HIGH PERFORMANCE SURFACE MOUNT
BASE TYPE:	METRO
HEIGHT:	36"
COLOR:	YELLOW WITH METRO BASE

BOLLARD INSTALLATION NOTES:

1. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR MOUNTING THE BASE INTO CONCRETE USING ANCHOR BOLTS.
2. CONTRACTOR TO SUPPLY FOUR (4) 3/8" DIA. x 3" LONG SS ANCHOR BOLTS.

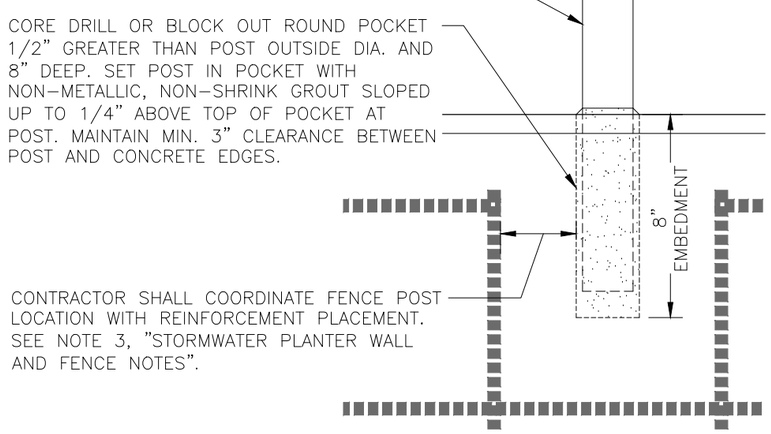


BOLLARD

STORMWATER PLANTER WALL AND FENCE

STORMWATER PLANTER WALL AND FENCE NOTES:

1. REFER TO CONTRACT DOCUMENTS FOR WALL ELEVATIONS. THE TOP OF WALL SHALL BE FLUSH WITH THE ADJACENT SIDEWALK GRADE TO ALLOW FOR RUNOFF.
2. CONCRETE FOR THE WALL SHALL BE 5,000 PSI.
3. THE FOLLOWING DESIGN COMPONENTS ASSOCIATED WITH THE WALL SHALL BE DETERMINED BY AN ENGINEER AND INDICATED IN THE THE CONTRACT DRAWINGS:
   A. DIMENSIONS ASSOCIATED WITH THE WIDTH AND THICKNESS OF THE FOOTING.
   B. LOCATION, SIZE AND SPACING OF METAL REINFORCEMENT.
4. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO INCLUDE REINFORCEMENT AND FENCE POST LAYOUT.
5. FENCE POSTS AND RAILS SHALL BE MANUFACTURED FROM SCH40 STEEL PIPE, AND RECEIVE THE FOLLOWING SURFACE TREATMENT:
   A. PRIME COAT ALL SURFACES WITH RUST & CORROSION RESISTANT, ZINC RICH PRIMER W/ 5,000 HOUR SALT SPRAY PERFORMANCE.
   B. FINISH: TGIC POLYESTER OUTDOOR FINISH; COLOR: BLACK



POST EMBEDMENT DETAIL

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

STORMWATER PLANTER (PART 4 OF 4)

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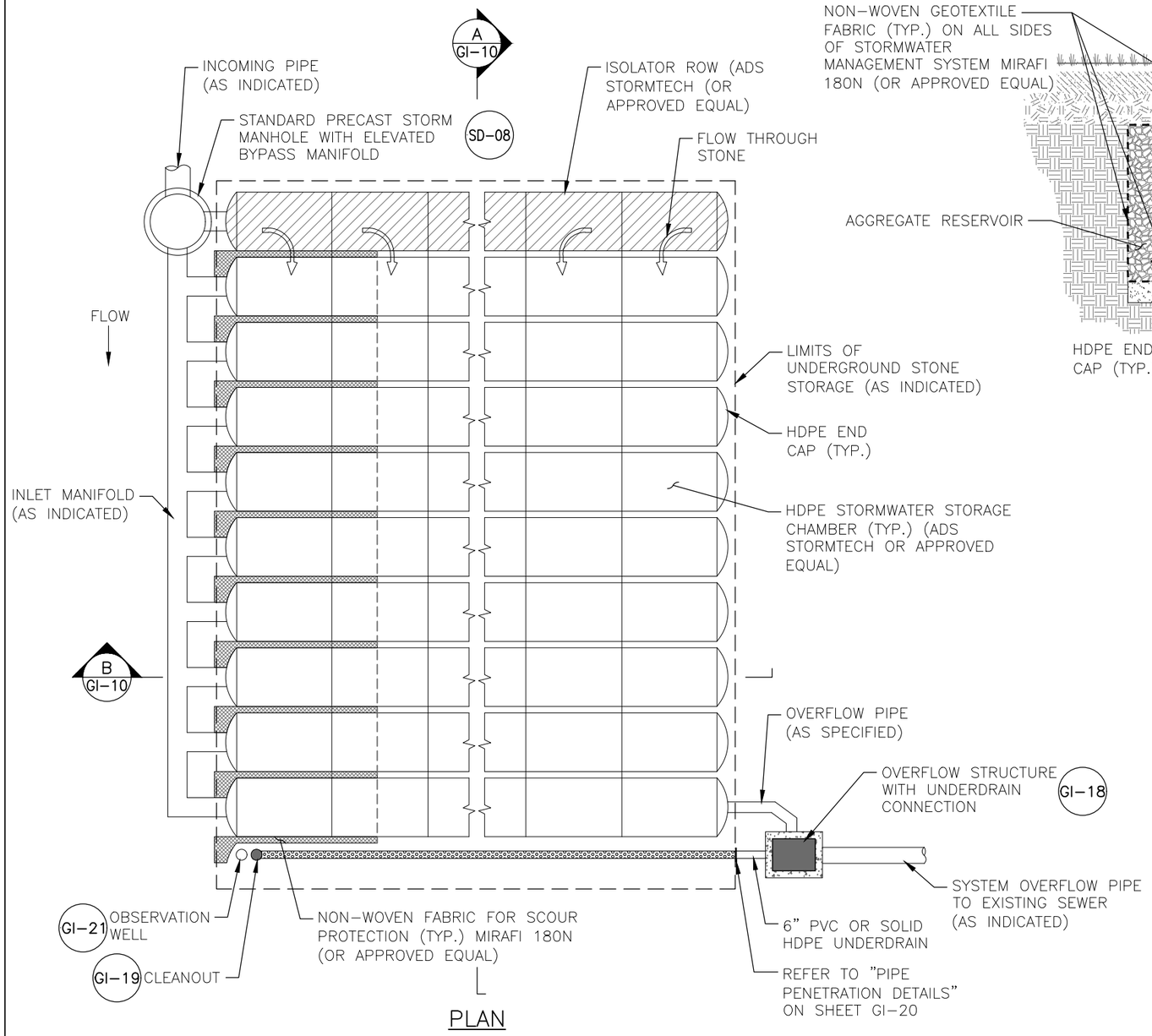

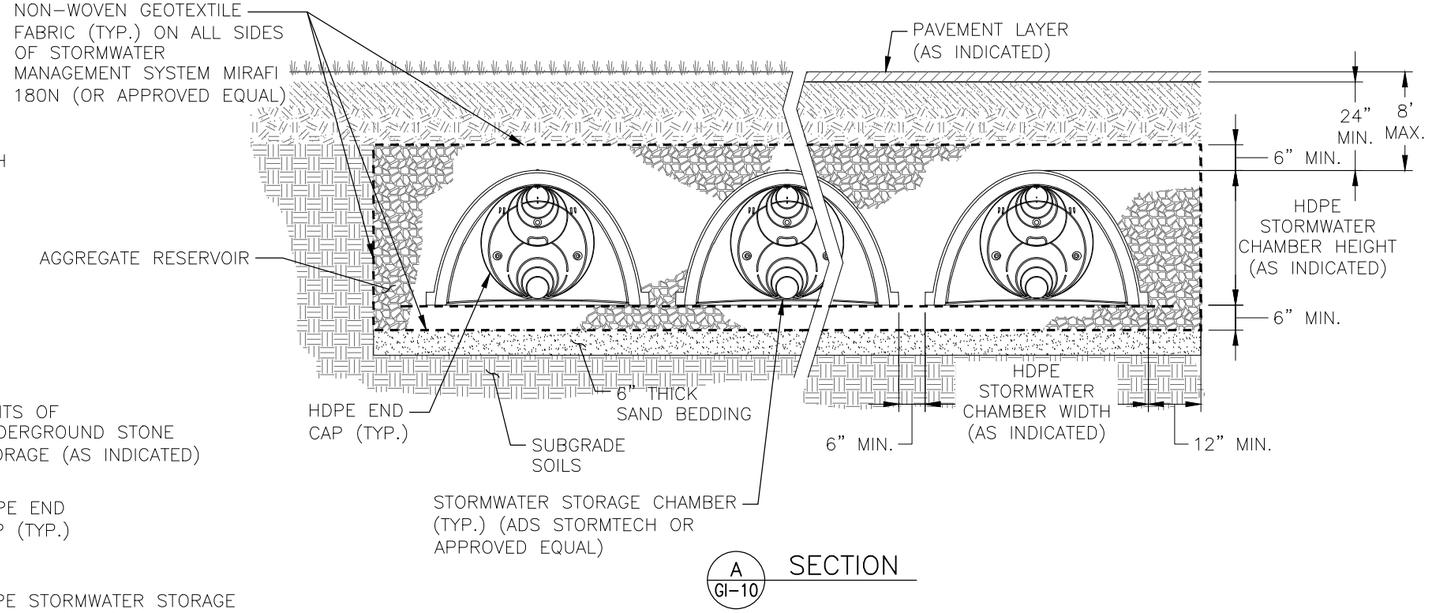

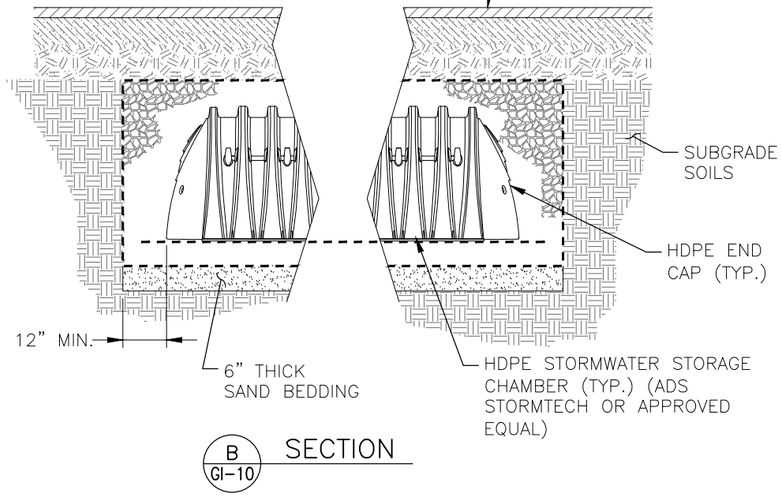

BUFFALO
SEWER AUTHORITY
STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

UNDERGROUND STORMWATER STORAGE SYSTEM (PART 1 OF 2)

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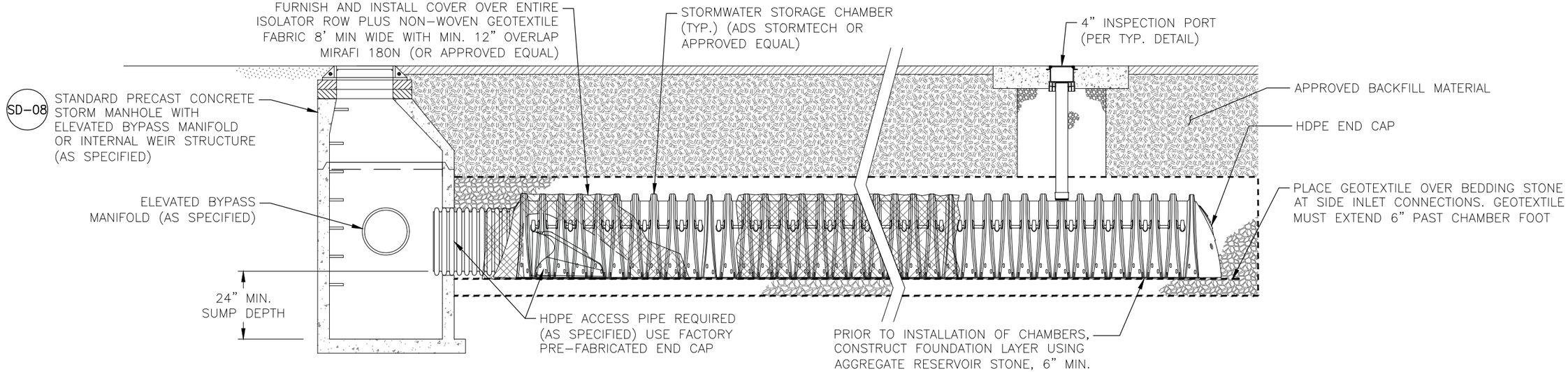


UNDERGROUND STORMTECH CHAMBER STORAGE SYSTEM

INSPECTION AND MAINTENANCE DURING CONSTRUCTION:

STEP 1. INSPECT ISOLATOR ROW PLUS FOR SEDIMENT

A. INSPECTION PORTS (IF PRESENT)
- A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN.
- A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED.
- A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG.
- A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL).
- A.5. IF SEDIMENT IS AT, OR ABOVE, 3" PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

B. ALL ISOLATOR PLUS ROWS
- B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS.
- B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE.
  - B.2.1. MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY.
  - B.2.2. FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE.
- B.3. IF SEDIMENT IS AT, OR ABOVE, 3" PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

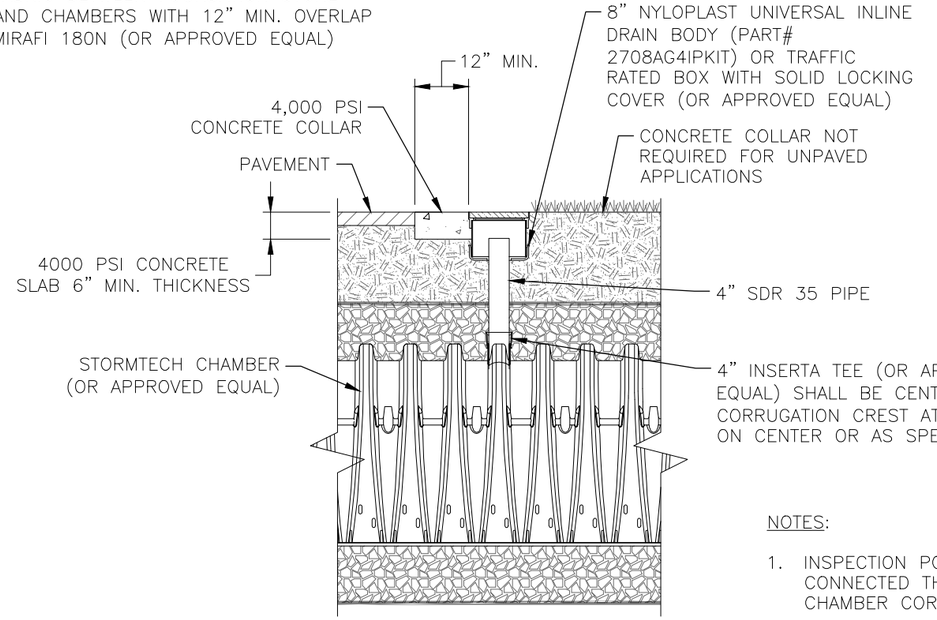
STEP 2. CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" OR MORE IS PREFERRED.
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN.
- C. VACUUM STRUCTURE SUMP AS REQUIRED.

STEP 3. REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4. NSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES:

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



4" PVC INSPECTION PORT

NOTES:

1. INSPECTION PORTS SHALL BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

UNDERGROUND STORMWATER STORAGE SYSTEM (PART 2 OF 2)

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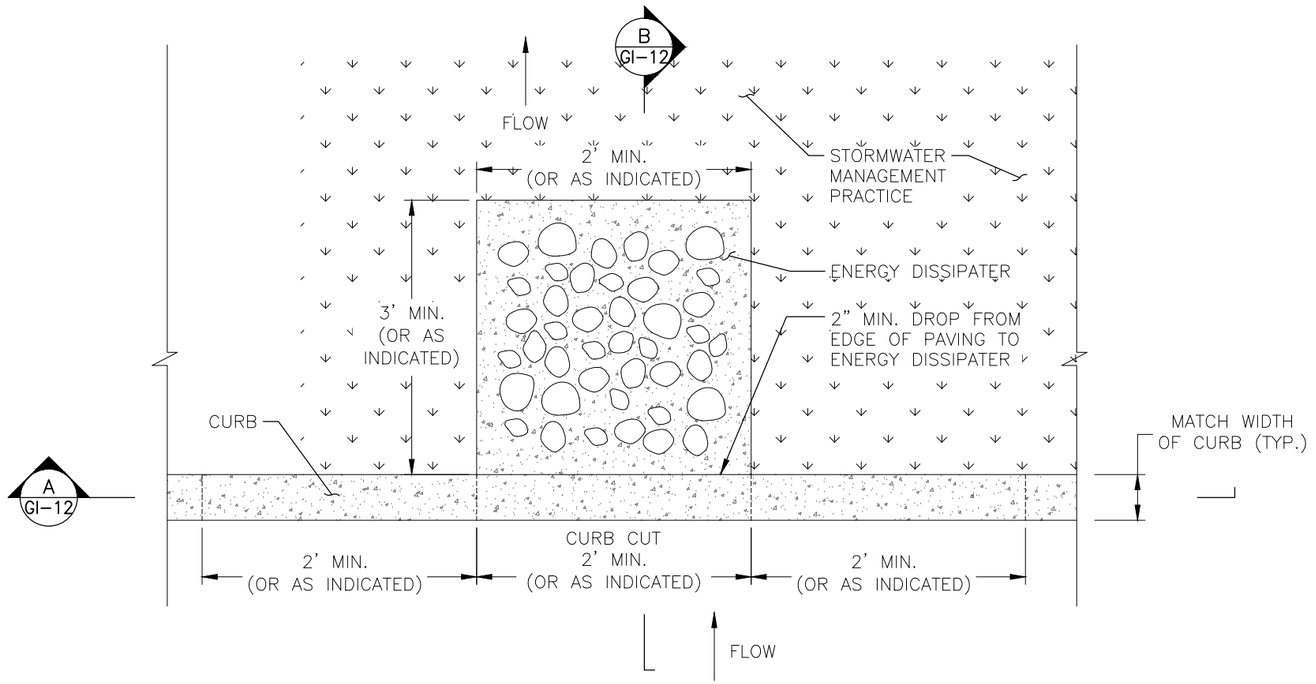
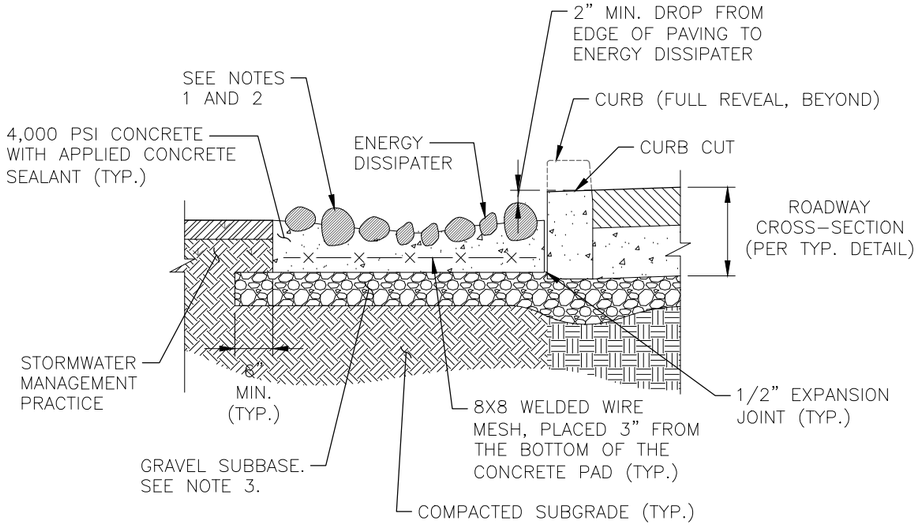
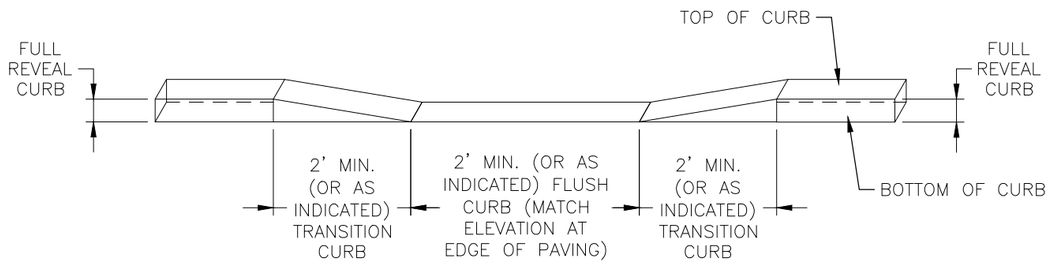


PLAN



B GI-12 SECTION



A GI-12 SECTION

NOTES:

1. D50=6" DIAMETER RIVERSTONE TO BE SET INTO CONCRETE PAD FOLLOWING INITIAL CURING OF CONCRETE. RIVERSTONE TO BE FREE OF JAGGED EDGES. SPACE RIVERTSTONE NO MORE THAN 1" APART.
2. SET TOP OF STONES BELOW INVERT OPENING. ARRANGE RIVERSTONE IN PATTERN THAT PREVENTS LINEAR FLOW PATHS THROUGH ENERGY DISSIPATER. MAKE SIDES SLIGHTLY HIGHER THAN MIDDLE CHANNEL.
3. GRAVEL SUBBASE SHALL BE NYSDOT 703-2, SIZE NO. 2. STORMWATER SOIL AND STONE SUBBASE IMMEDIATELY BELOW AND SURROUNDING ENERGY DISSIPATER SHALL BE COMPACTED TO ENSURE NO LATERAL MOVEMENT PRIOR TO INSTALLATION.

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

CURB CUT AND ENERGY DISSIPATER

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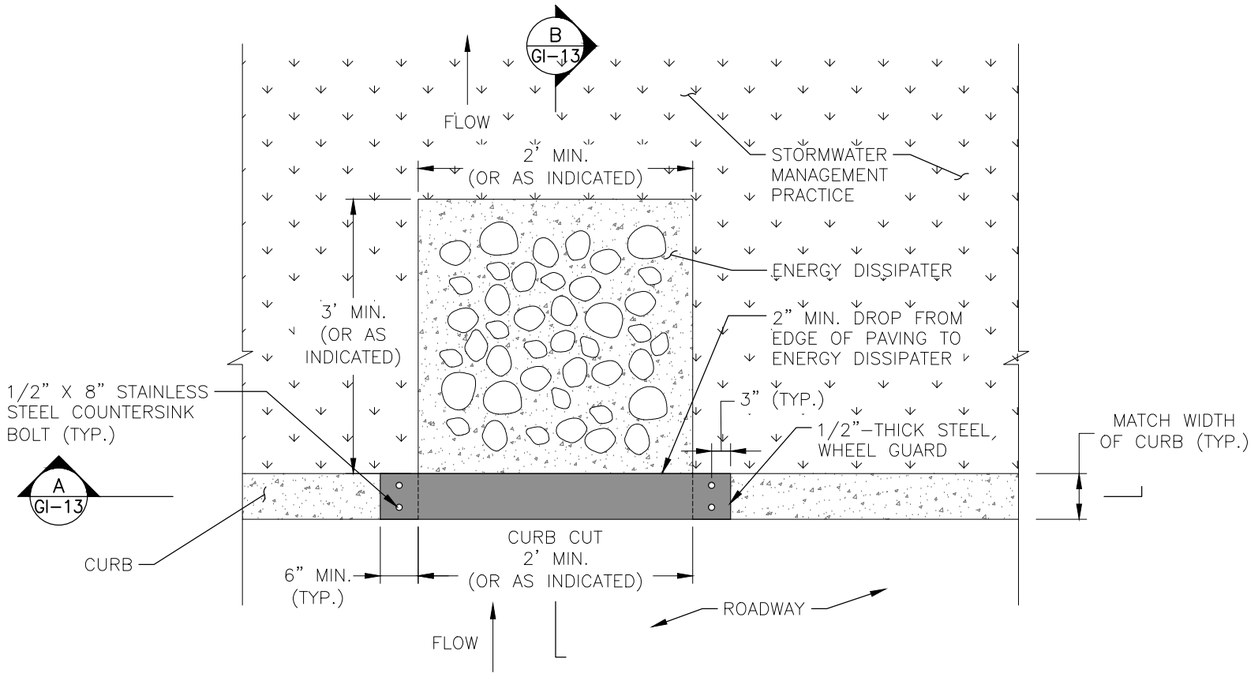

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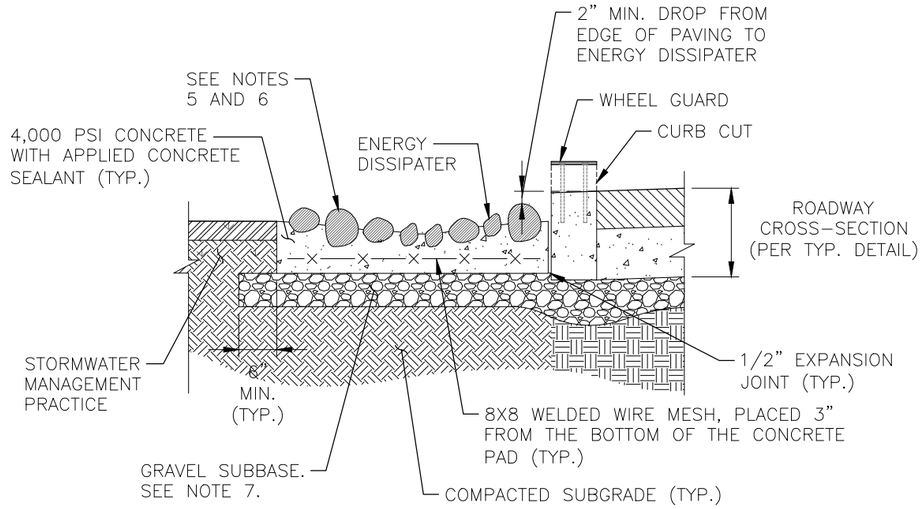
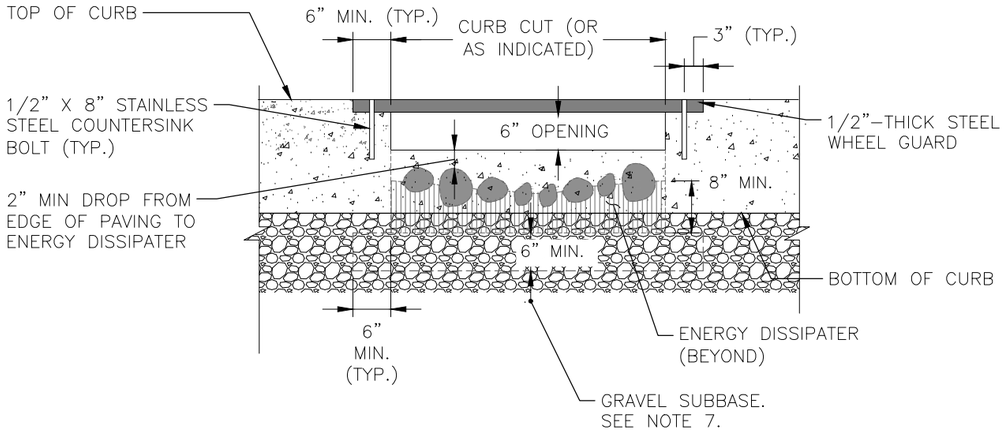


B GI-13 SECTION

NOTES:

1. THE WHEEL GUARD SHALL BE INSTALLED TO ALIGN WITH THE PROPOSED CURB CUT WIDTH AND SHOULD EXTEND A MINIMUM OF SIX INCHES ON BOTH SIDES OF THE CURB CUT.
2. THE WHEEL GUARD SHALL BE CONSTRUCTED OF A STEEL PLATE WITH A MINIMUM TENSILE STRENGTH OF 35,000 PSI AND A MINIMUM THICKNESS OF 1/2 INCH. THE STEEL SHALL BE CLOSE GRAINED SMOOTH GRAY IRON CONFORMING IN ALL RESPECTS TO THE STANDARDS OF GRAY IRON CASTINGS (DESIGNATION A-48-60T) CLASS NO. 35B, OR BETTER OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS.
3. THE WHEEL GUARD AND ASSOCIATED HARDWARE SHALL BE SET FLUSH WITH THE TOP OF THE CURB.
4. THE WHEEL GUARD BOLTS SHALL BE STAINLESS STEEL GRADE 304.
5. D50=6" DIAMETER RIVERSTONE TO BE SET INTO CONCRETE PAD FOLLOWING INITIAL CURING OF CONCRETE. RIVERSTONE TO BE FREE OF JAGGED EDGES. SPACE RIVERTSTONE NO MORE THAN 1" APART.
6. SET TOP OF STONES BELOW INVERT OPENING. ARRANGE RIVERSTONE IN PATTERN THAT PREVENTS LINEAR FLOW PATHS THROUGH ENERGY DISSIPATER. MAKE SIDES SLIGHTLY HIGHER THAN MIDDLE CHANNEL.
7. GRAVEL SUBBASE SHALL BE NYSDOT 703-2, SIZE NO. 2. STORMWATER SOIL AND STONE SUBBASE IMMEDIATELY BELOW AND SURROUNDING ENERGY DISSIPATER SHALL BE COMPACTED TO ENSURE NO LATERAL MOVEMENT PRIOR TO INSTALLATION.



A GI-13 SECTION

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

CURB CUT WITH WHEEL GUARD AND ENERGY DISSIPATER

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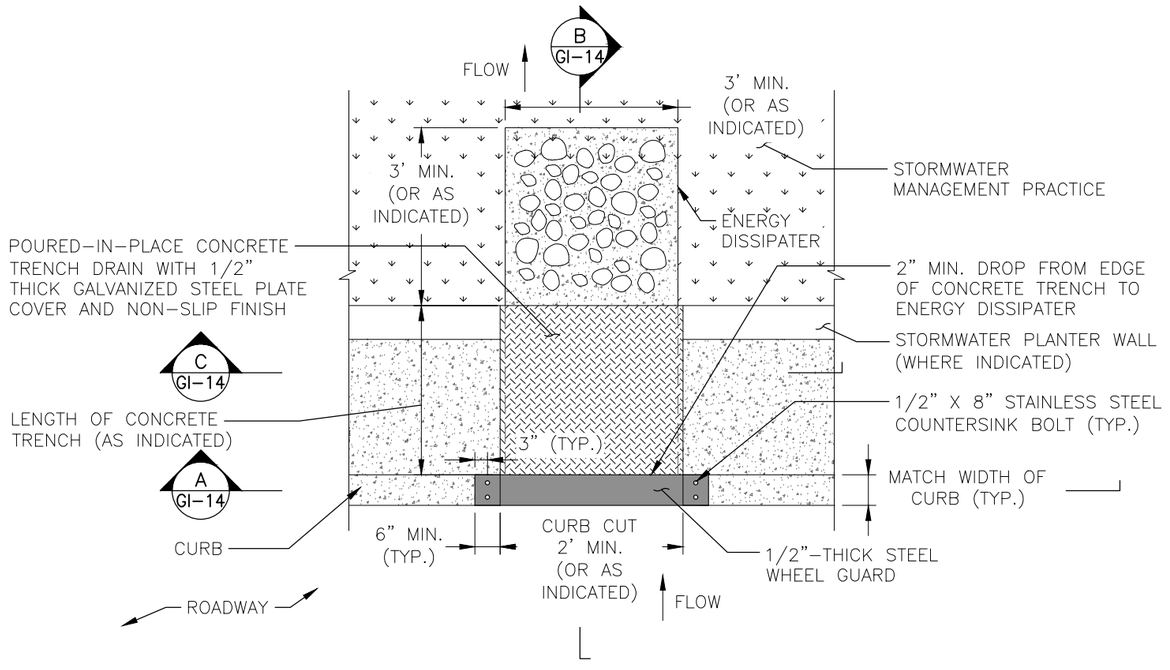


PLAN

NOTES:

1. THE TRENCH DRAIN COVER SHALL BE CONSTRUCTED OF A STEEL PLATE WITH A MINIMUM TENSILE STRENGTH OF 35,000 PSI AND A MINIMUM THICKNESS OF ONE-HALF (1/2) INCH. THE GRATE SHALL BE CUT TO EXTEND CONTINUOUSLY FROM THE BACK OF CURB ALONG THE STREET TO THE INTERIOR PLANTING WALL.

2. THE WHEEL GUARD SHALL BE INSTALLED BE DESIGNED TO ALIGN WITH THE PROPOSED CURB CUT WIDTH AND SHOULD EXTEND A MINIMUM OF SIX INCHES ON BOTH SIDES OF THE CURB CUT.

THE WHEEL GUARD SHALL BE CONSTRUCTED OF A STEEL PLATE WITH A MINIMUM TENSILE STRENGTH OF 35,000 PSI AND A MINIMUM THICKNESS OF 1/2 INCH. THE STEEL SHALL BE CLOSE GRAINED SMOOTH GRAY IRON CONFORMING IN ALL RESPECTS TO THE STANDARDS OF GRAY IRON CASTINGS (DESIGNATION A-48-60T) CLASS NO. 35B, OR BETTER OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS.

3. THE WHEEL GUARD AND ASSOCIATED HARDWARE SHALL BE SET FLUSH WITH THE TOP OF THE CURB.

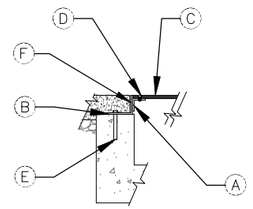
4. THE WHEEL GUARD BOLTS SHALL BE STAINLESS STEEL GRADE 304.

5. D50=6" DIAMETER RIVERSTONE TO BE SET INTO CONCRETE PAD FOLLOWING INITIAL CURING OF CONCRETE. RIVERSTONE TO BE FREE OF JAGGED EDGES. SPACE RIVERTSTONE TO ACHIEVE AN AVERAGE PF 3/4 INCH SPACING, SPACING SHALL BE PROVIDED BETWEEN 1/2 INCH AND 1 INCH.

6. SET TOP OF STONES BELOW INVERT OPENING. ARRANGE RIVERSTONE IN PATTERN THAT PREVENTS LINEAR FLOW PATHS THROUGH ENERGY DISSIPATER. MAKE SIDES SLIGHTLY HIGHER THAN MIDDLE CHANNEL.

7. GRAVEL SUBBASE SHALL BE NYSDOT 703-2, SIZE NO. 2. STORMWATER SOIL AND STONE SUBBASE IMMEDIATELY BELOW AND SURROUNDING ENERGY DISSIPATER SHALL BE COMPACTED TO ENSURE NO LATERAL MOVEMENT PRIOR TO INSTALLATION.

- (A) L2x2x1/4 GALV. STEEL
- (B) L5X3X1/4 GALV. STEEL
- (C) 1/2" GALV. PLATE
- (D) 3/8" DIA. GALV. COUNTERSINK SELF DRILLING SCREW @12" O.C.
- (E) 3/8" DIA. ANCHOR, 4" EMBEDMENT LOCATE 12" O.C.
- (F) 1/2" CLOSED CELL FOAM EXPANSION JOINT



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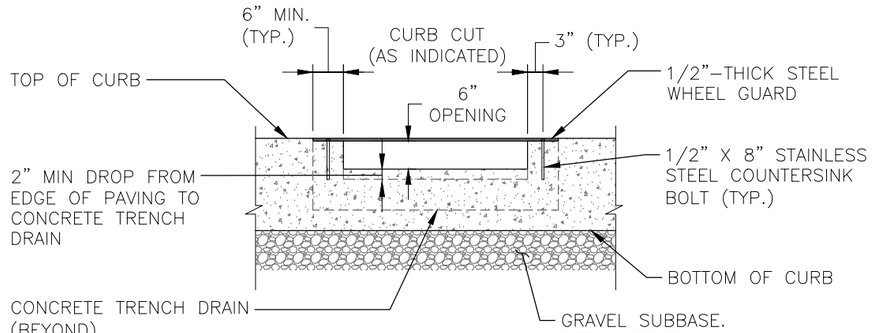

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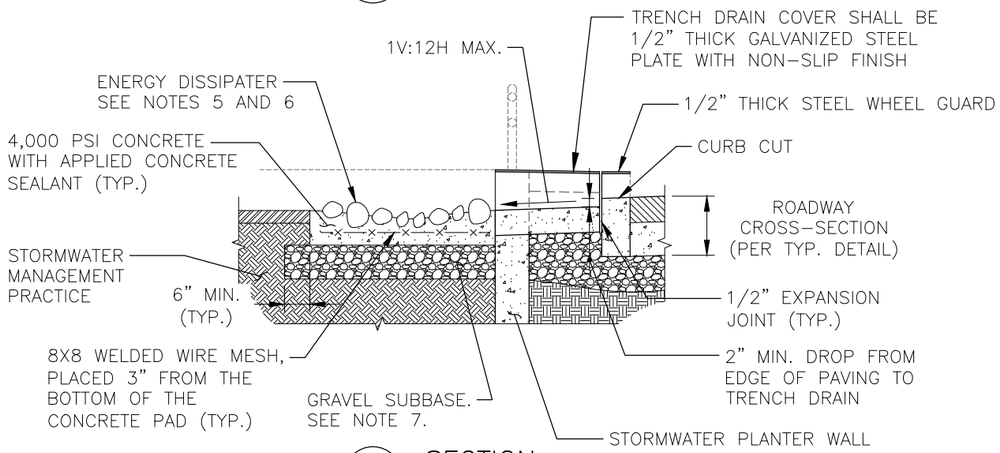

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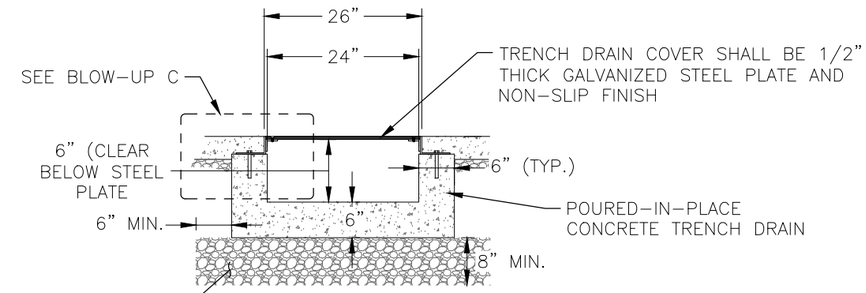

C GI-14 SECTION

BUFFALO
SEWER AUTHORITY
STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

TRENCH DRAIN WITH WHEEL GUARD AND ENERGY DISSIPATER

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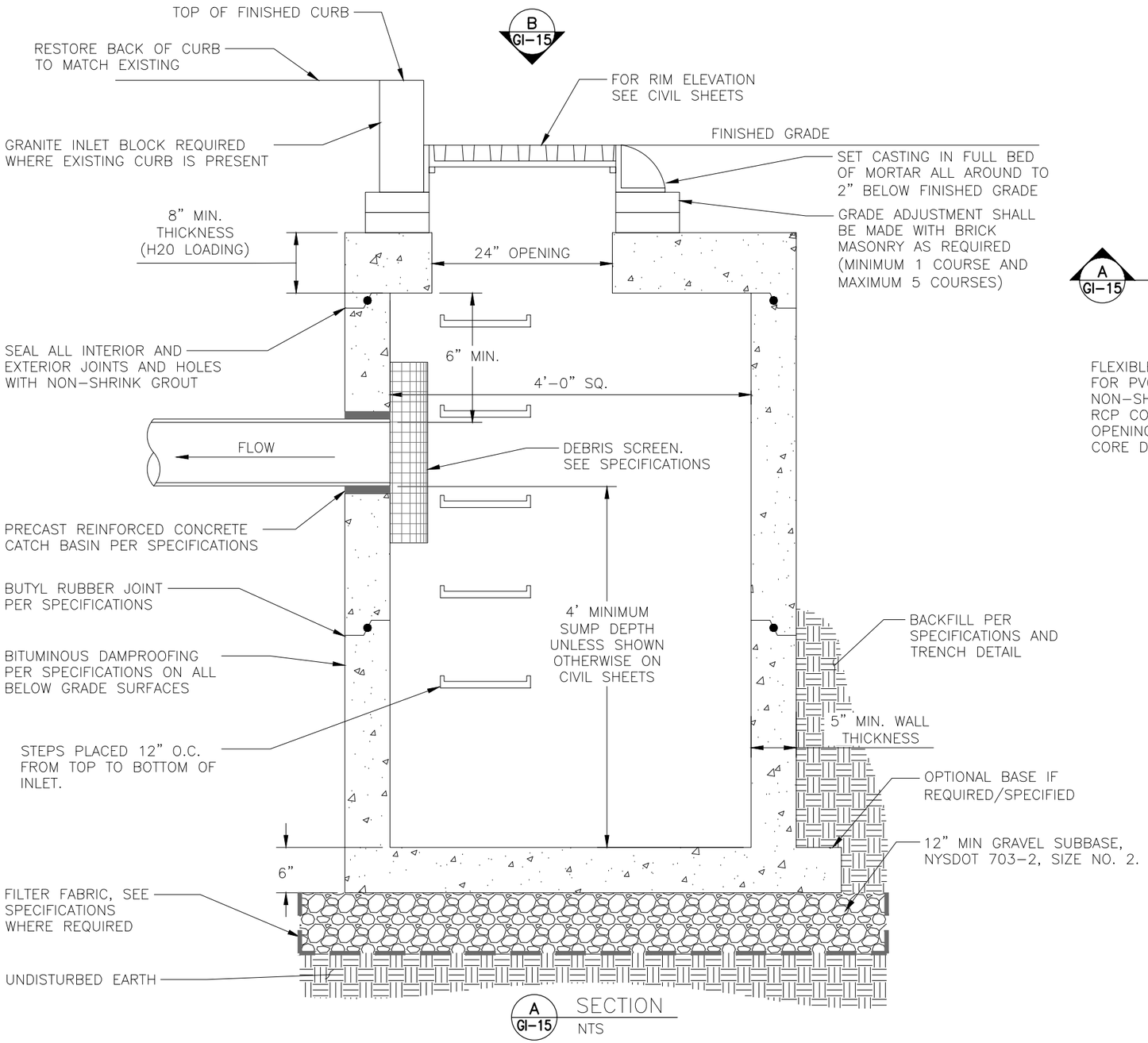

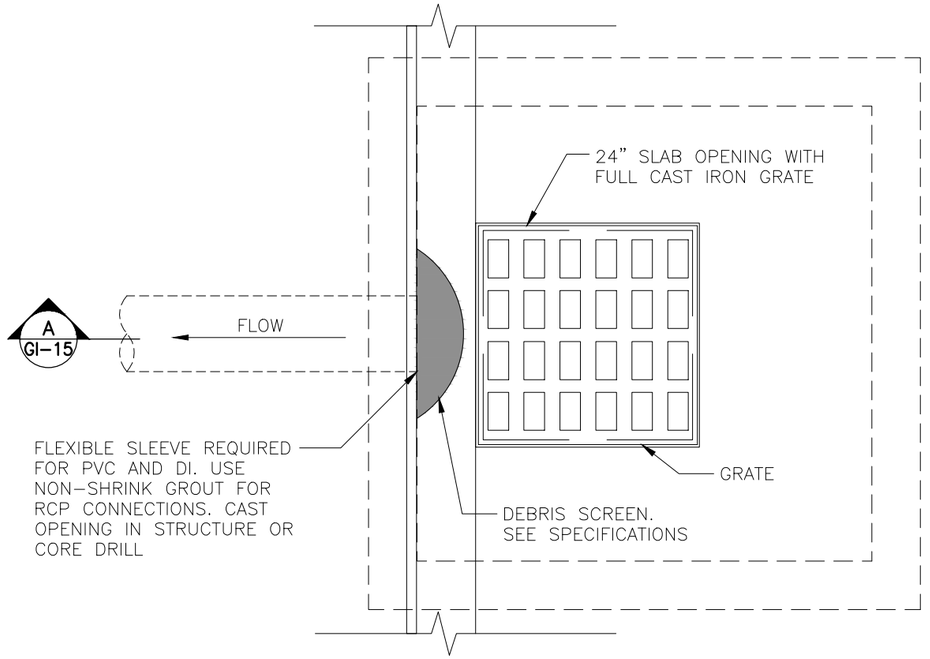

B GI-15 PLAN
NTS

NOTES
1. CATCH BASIN DIMENSIONS SHALL BE 4'x4' OR AS SHOWN ON PLAN/PROFILE VIEWS.
2. DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO HS-20 LOADINGS.
3. FOR DESCRIPTION OF MATERIALS, SEE SPECIFICATIONS.
4. CONTRACTOR SHALL COORDINATE WITH ENGINEER ON EXISTING FIELD CONDITIONS AND CURB DIMENSIONS PRIOR TO ORDERING/INSTALLING CURB.

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

GI CATCH BASIN

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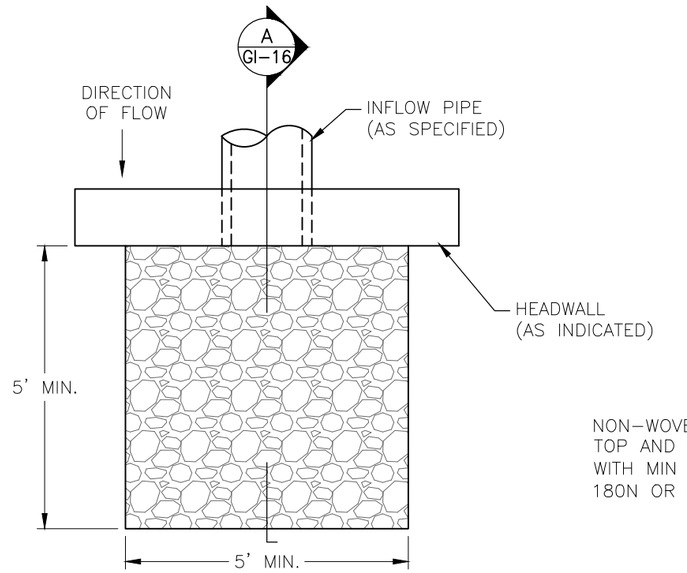
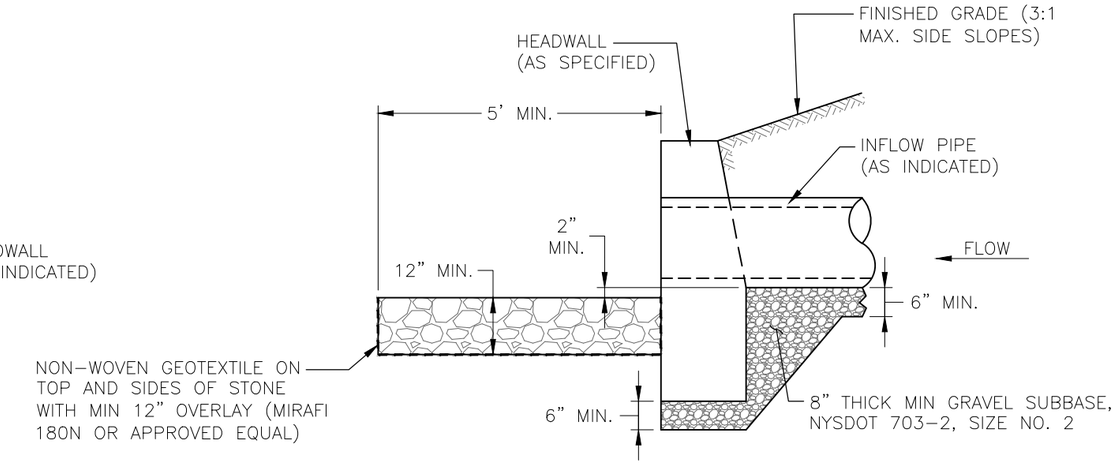
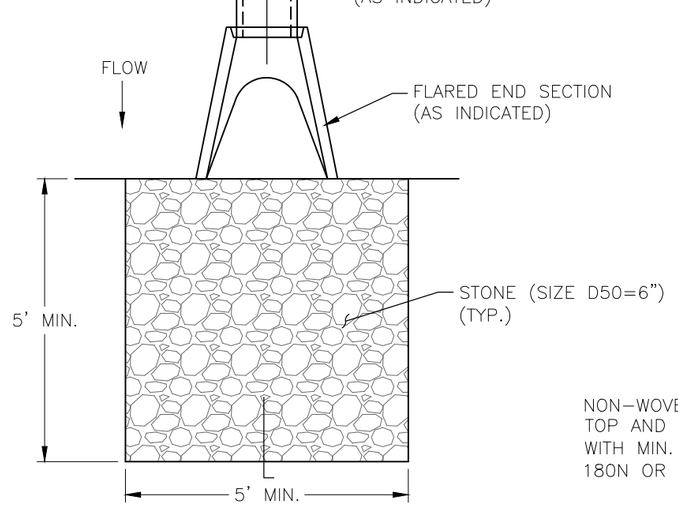


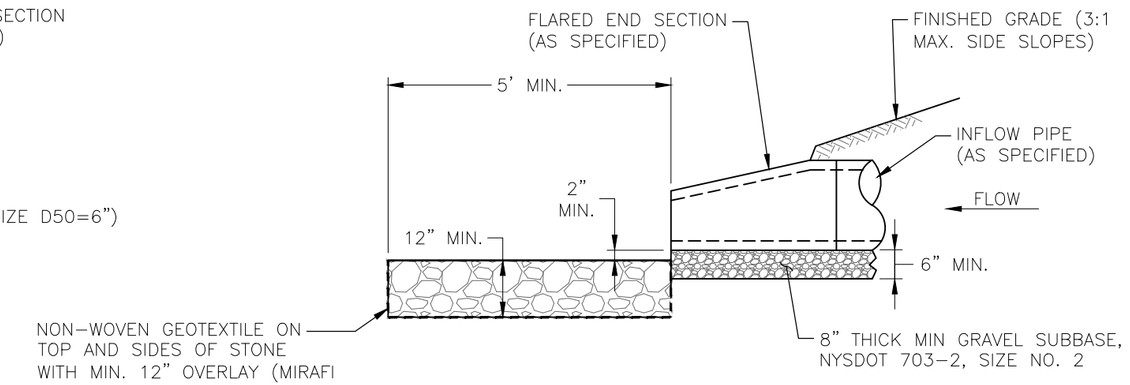
PLAN (CONCRETE HEADWALL)



A GI-16 SECTION (CONCRETE HEADWALL)



PLAN (FLARED END SECTION)



B GI-16 SECTION (FLARED END SECTION)

NOTES:

1. STONE SHALL CONFORM TO NYSDOT STANDARD SPECIFICATIONS.
2. ALL STONE TO BE SIZE D50=6" EXCEPT WHERE NOTED.

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

STONE APRON OUTLET PROTECTION

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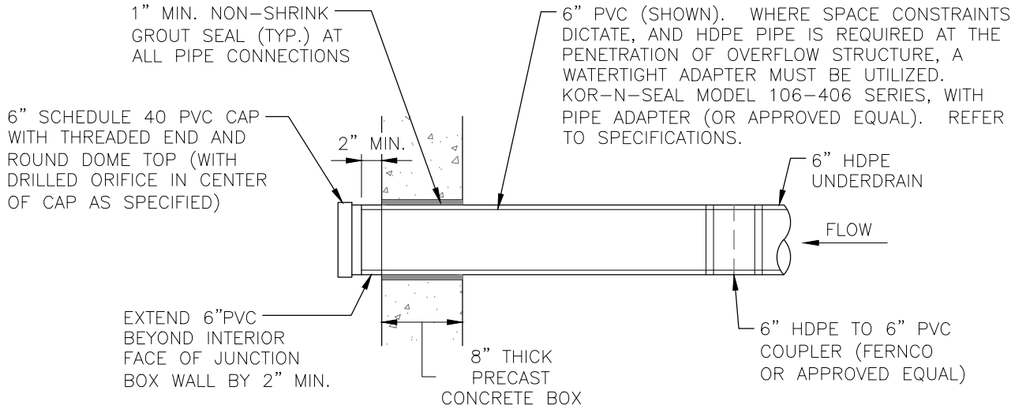
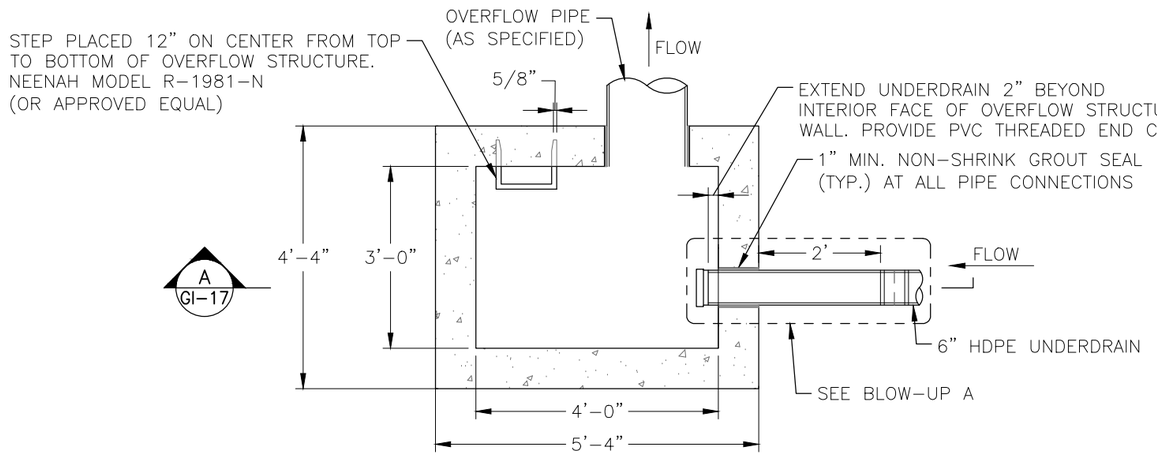
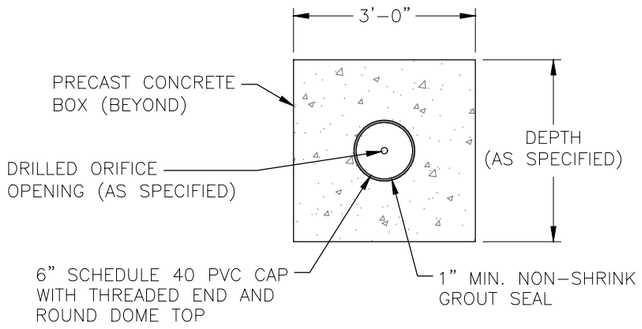


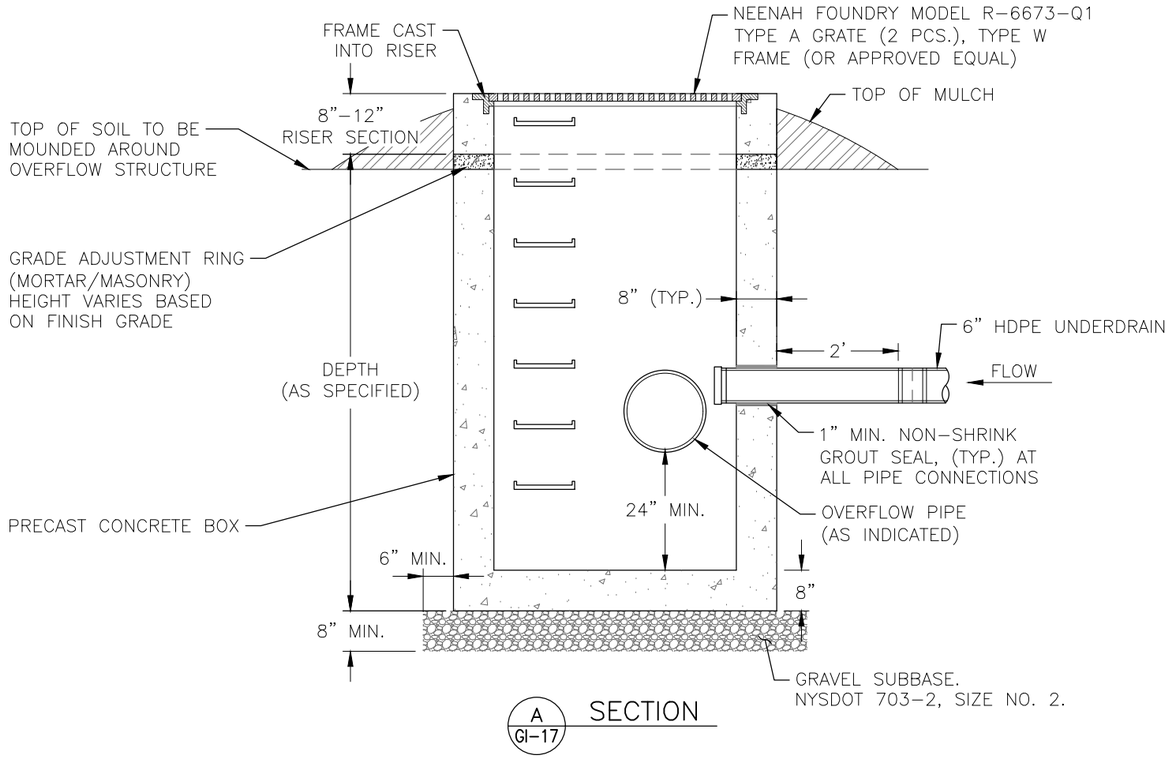
BLOW-UP A



PLAN



DRILLED ORIFICE DETAIL



A
GI-17
SECTION

NOTES:

1. ALL JOINTS, GRADE ADJUSTMENTS, AND CONNECTIONS SHALL BE WATERTIGHT.
2. SUBGRADE BELOW DRAINAGE STRUCTURE SHALL BE COMPACTED EARTH

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

OVERFLOW STRUCTURE WITH UNDERDRAIN CONNECTION

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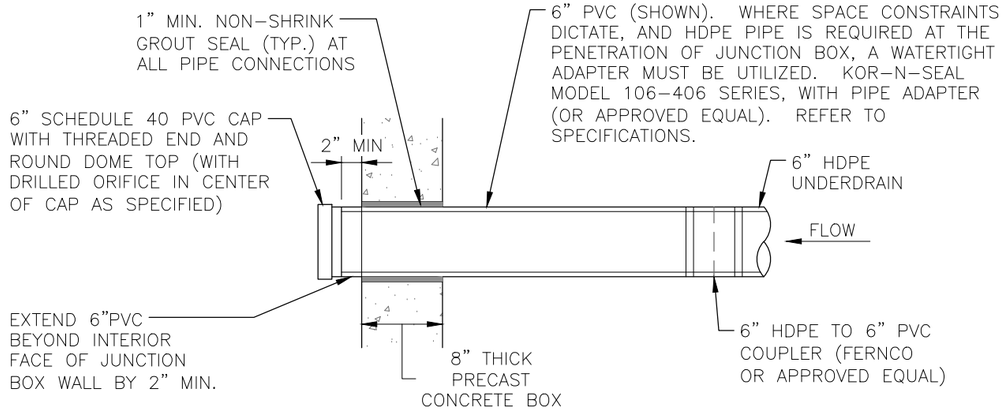

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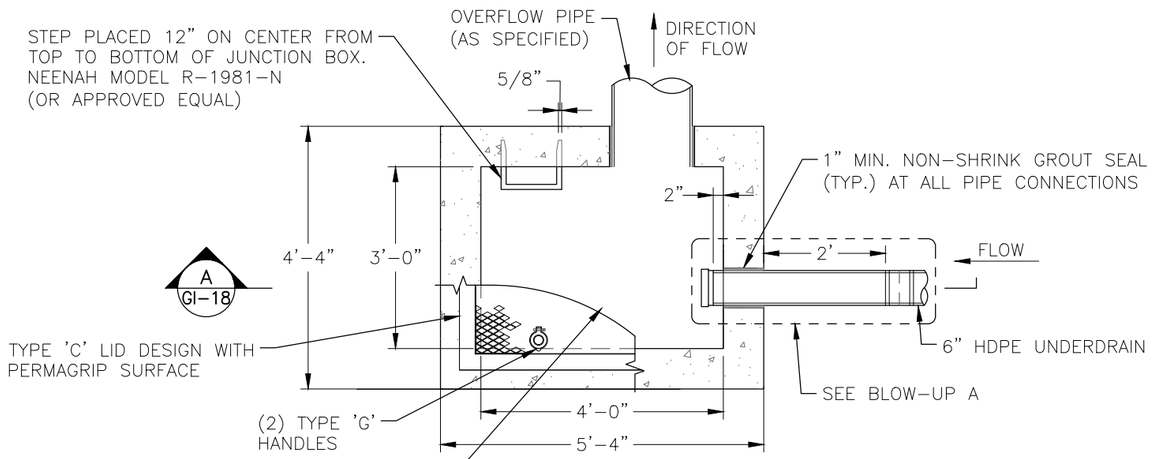
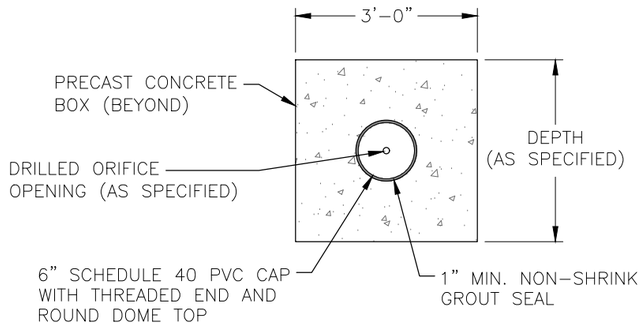


PLAN



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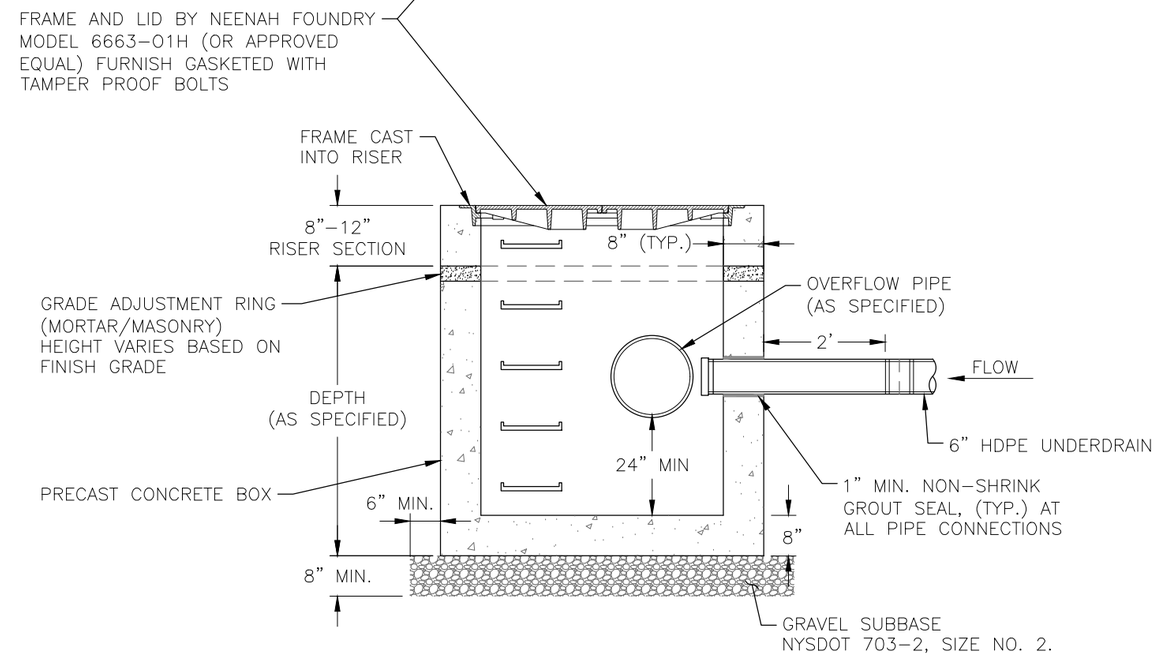

A GI-18 SECTION

NOTES:

1. ALL JOINTS, GRADE ADJUSTMENTS, AND CONNECTIONS SHALL BE WATERTIGHT.
2. JUNCTION BOX GRATE SHALL BE ADA COMPLIANT AND SHALL BE ADJUSTED TO MATCH THE GRADE OF THE SURROUNDING PAVEMENT.

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

JUNCTION BOX WITH UNDERDRAIN CONNECTION

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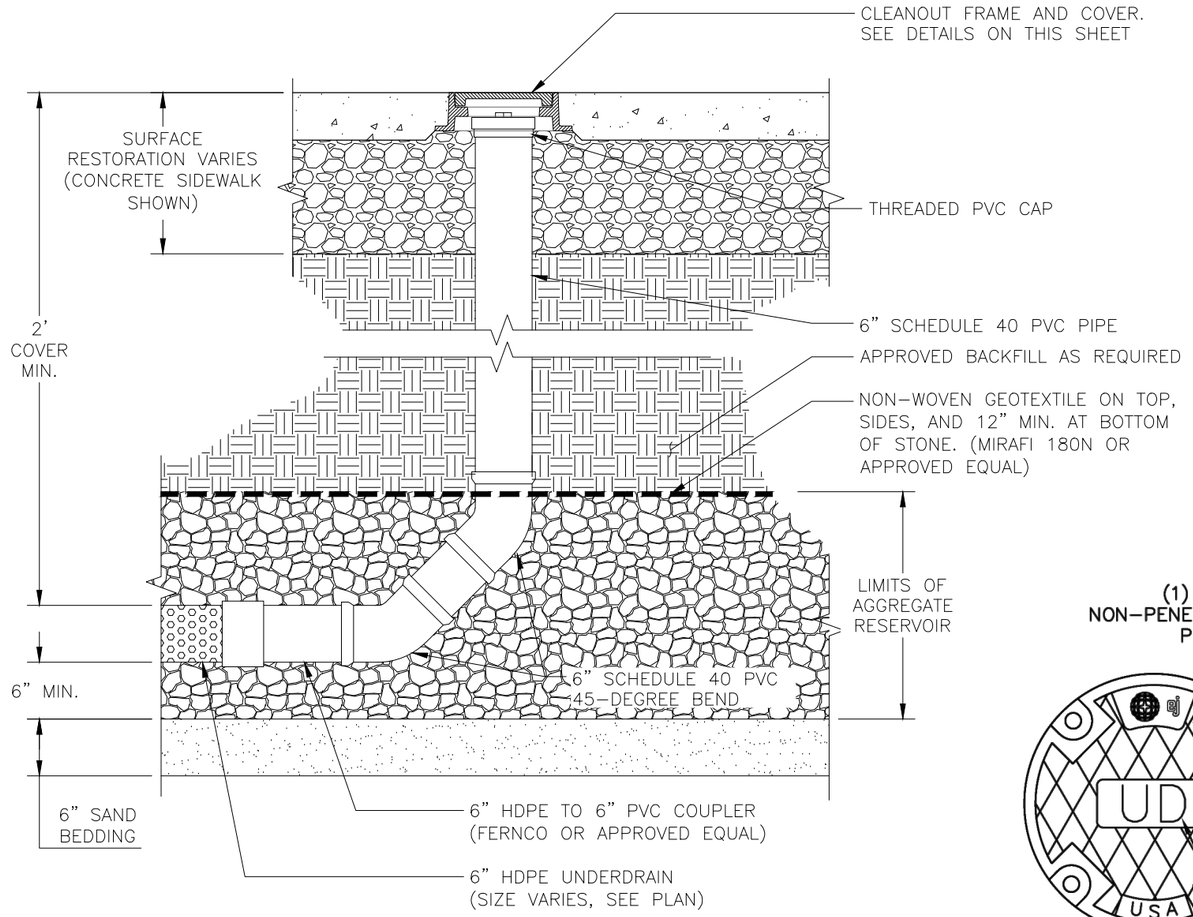
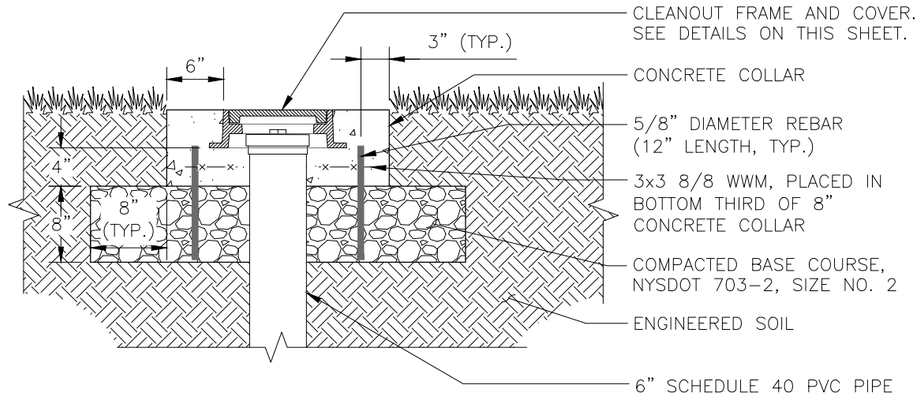


SECTION AT PAVED AREAS

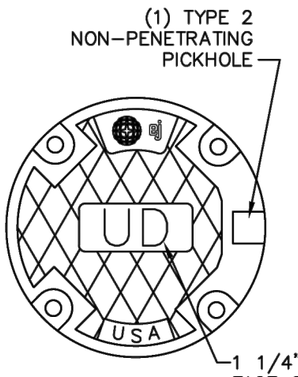
CLEANOUT FRAME AND COVER SPECIFICATIONS:

NOTE: AN APPROVED EQUAL MEETING THE DIMENSIONS INDICATED AND SPECIFCATIONS BELOW MAY BE SUBSTITUTED.

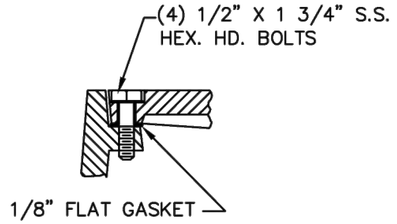
MANUFACTURER:	EJ USA, INC.
MODEL (ASSEMBLY NO.):	42810163
MATERIAL:	GREY IRON (CL35B)
DESIGN LOAD:	HEAVY DUTY



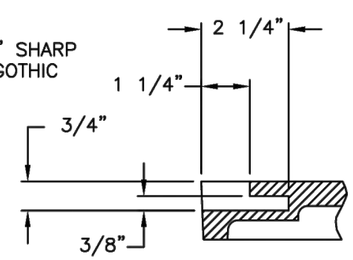
SECTION AT PLANTED AREAS



COVER FACE

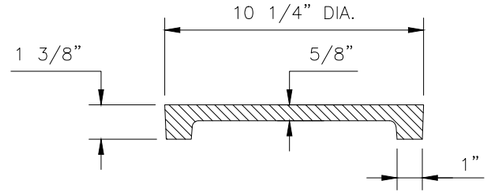


WATERTIGHT DETAIL



PICKHOLE DETAIL

COVER DETAIL



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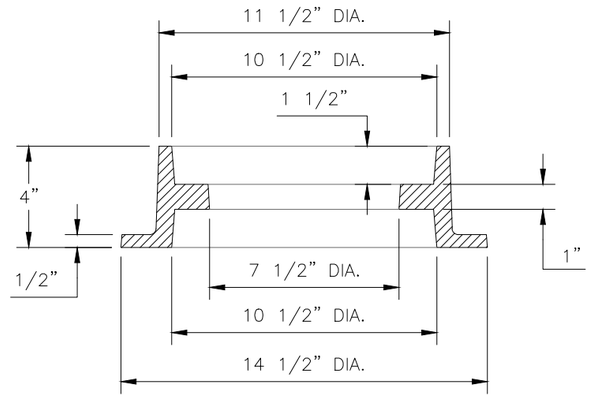

FRAME SECTION

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

CLEANOUT

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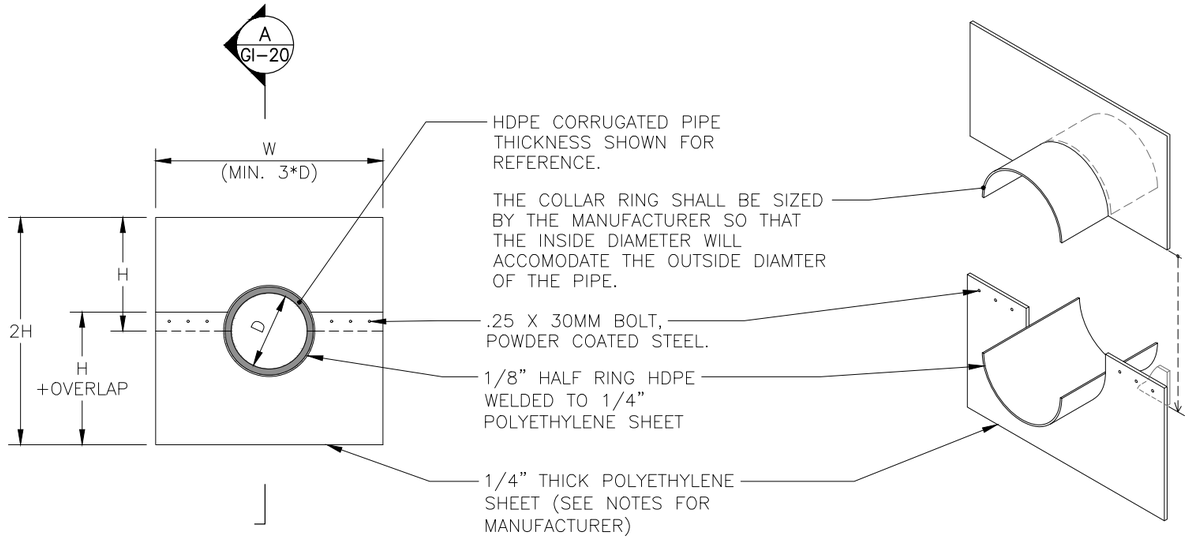
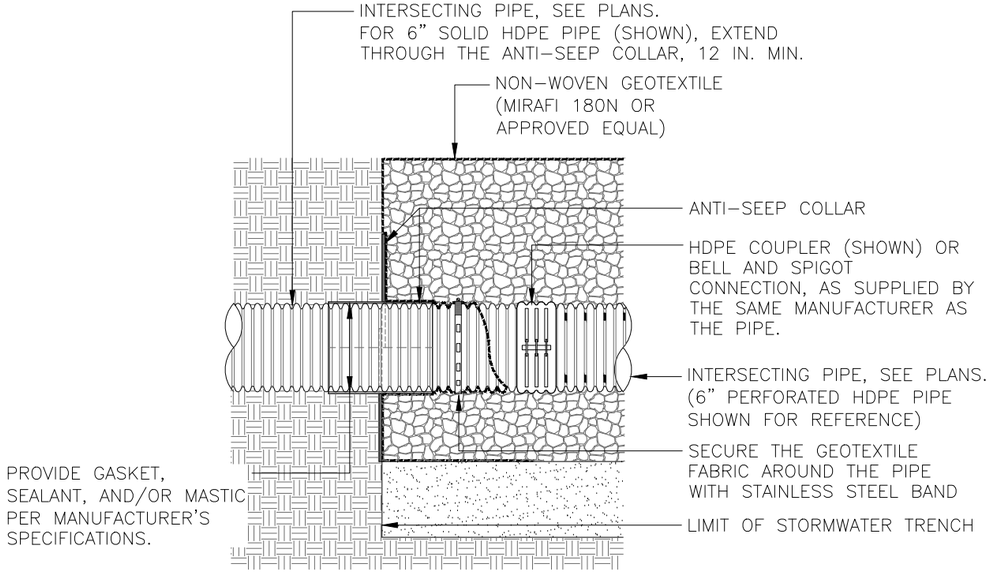


ELEVATION

PERSPECTIVE



A GI-20 SECTION

ANTI-SEEP COLLAR (FOR GEOTEXTILE PIPE PENETRATION ONLY)

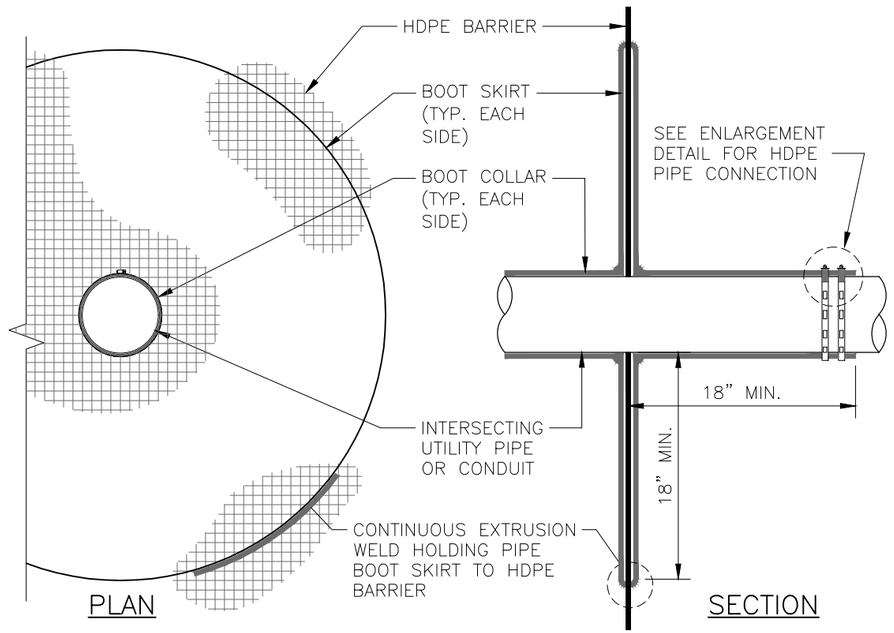
ANTI-SEEP COLLAR NOTES:

1. ANTI-SEEP COLLAR SHALL BE USED WHEREVER UNDERDRAIN OR DISTRIBUTION PIPE ENTERS OR EXITS THE STORMWATER STORAGE TRENCH.
2. ANTI-SEEP COLLAR SHALL BE QUARTER-INCH (1/4") HIGH-DENSITY POLYETHYLENE SHEETS.
3. ALL METAL FITTINGS AND ATTACHMENTS SHALL BE NYLON OR STAINLESS STEEL (GRADE 304 OR BETTER).
4. ANTI-SEEP COLLAR SHALL BE SEALED WITH TAR OR MASTIC PER MANUFACTURER'S SPECIFICATIONS.
5. ANTI-SEEP COLLAR SPECIFICATIONS:
   MANUFACTURER: EASTERN SUPPLY
   240 McGHEE RD.
   WINCHESTER, VA 22603
   PHONE: 540-722-3292
   www.easternsupply.com

   NOTE: SUBSTITUTION FOR THE ANTI-SEEP COLLAR SHALL ONLY BE ALLOWED FOR A PRODUCT THAT MEETS OR EXCEEDS THE DETAILS AND SPECIFICATIONS INDICATED.

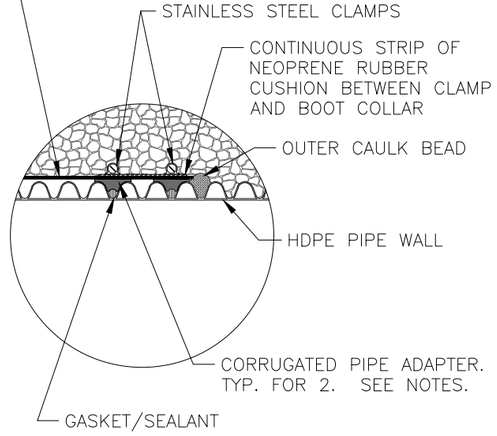
PIPE PENETRATION AT HDPE BARRIER NOTES:

1. THE DETAIL SHOWN SHALL APPLY TO ALL PIPE PENETRATIONS THROUGH AN IMPERMEABLE HDPE BARRIER. FOR STORMWATER PIPE PENETRATION, THE PREFERRED PIPE MATERIAL IS PVC. WHERE INCOMING OR OUTGOING PIPE IS HDPE, THE TRANSITION TO PVC SHALL BE ACHIEVED BY MEANS OF A FERNCO (OR APPROVED EQUAL) COUPLER. SEE NOTE 3 FOR INSTANCES WHERE CORRUGATED HDPE PIPE, DUE TO DIMENSIONAL CONSTRAINTS, MUST BE USED THROUGH THE PENETRATION. REFER TO PLANS FOR LOCATION AND PIPE SIZE.
2. THE WELD THAT CONNECTS THE PIPE BOOT TO THE PIPE SKIRT SHALL NOT BE REQUIRED IF THE ITEM IS A PREFABRICATED AND APPROVED BY THE ENGINEER.
3. FOR HDPE CORRUGATED PIPE 8" OR GREATER, PROVIDE PIPE ADAPTERS AS SPECIFIED BELOW, OR APPROVED EQUAL, TO MATCH THE PIPE MANUFACTURER:
   MANUFACTURER: TRELLEBORG
   www.trelleborg.com
   TYPE/PART NO. CGA



PLAN

SECTION



ENLARGEMENT

PIPE PENETRATION AT HDPE BARRIER (WITH WATERTIGHT BOOT SEAL)

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

PIPE PENETRATION DETAILS

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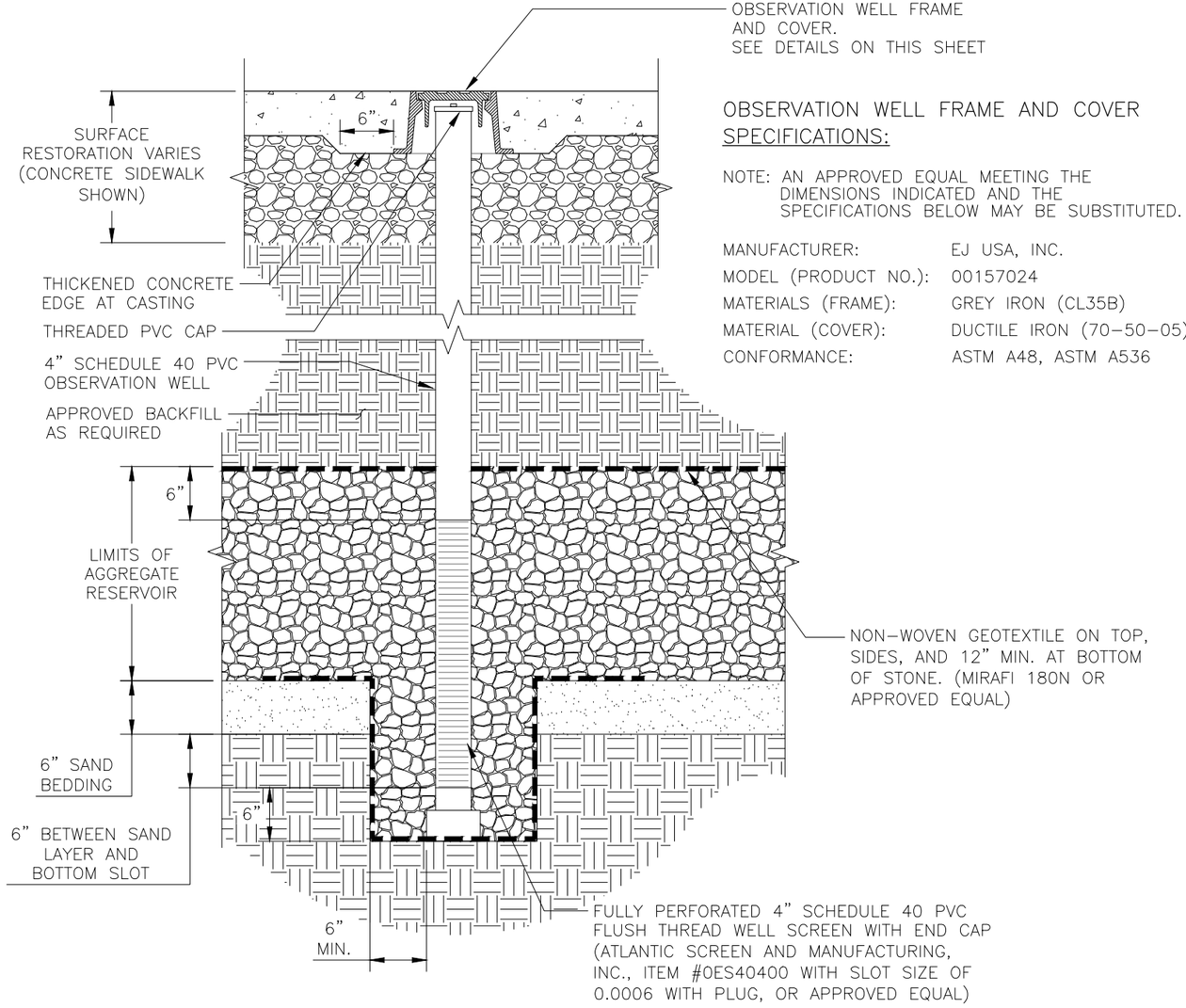
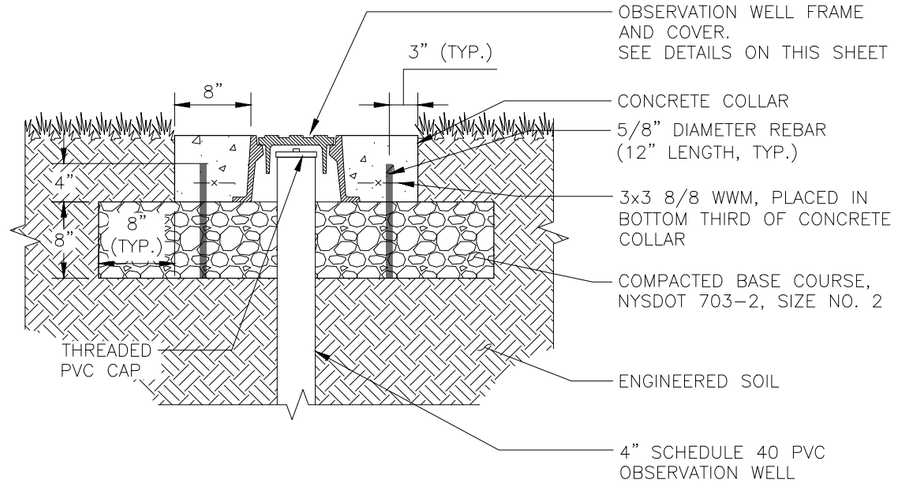


SECTION AT PAVED AREAS

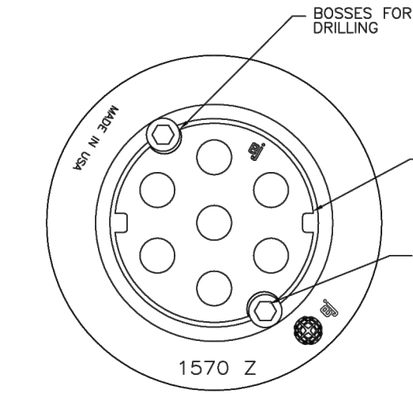
OBSERVATION WELL FRAME AND COVER SPECIFICATIONS:

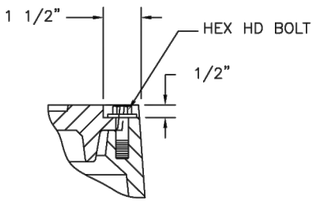
NOTE: AN APPROVED EQUAL MEETING THE DIMENSIONS INDICATED AND THE SPECIFICATIONS BELOW MAY BE SUBSTITUTED.

MANUFACTURER:	EJ USA, INC.
MODEL (PRODUCT NO.):	00157024
MATERIALS (FRAME):	GREY IRON (CL35B)
MATERIAL (COVER):	DUCTILE IRON (70-50-05)
CONFORMANCE:	ASTM A48, ASTM A536

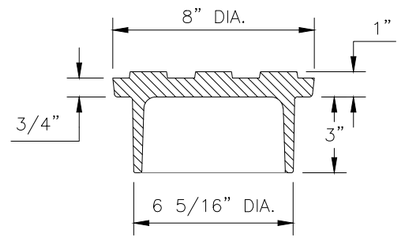


SECTION AT PLANTED AREAS





COVER DETAIL



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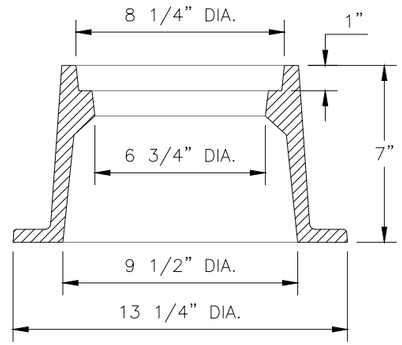

FRAME SECTION

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

OBSERVATION WELL

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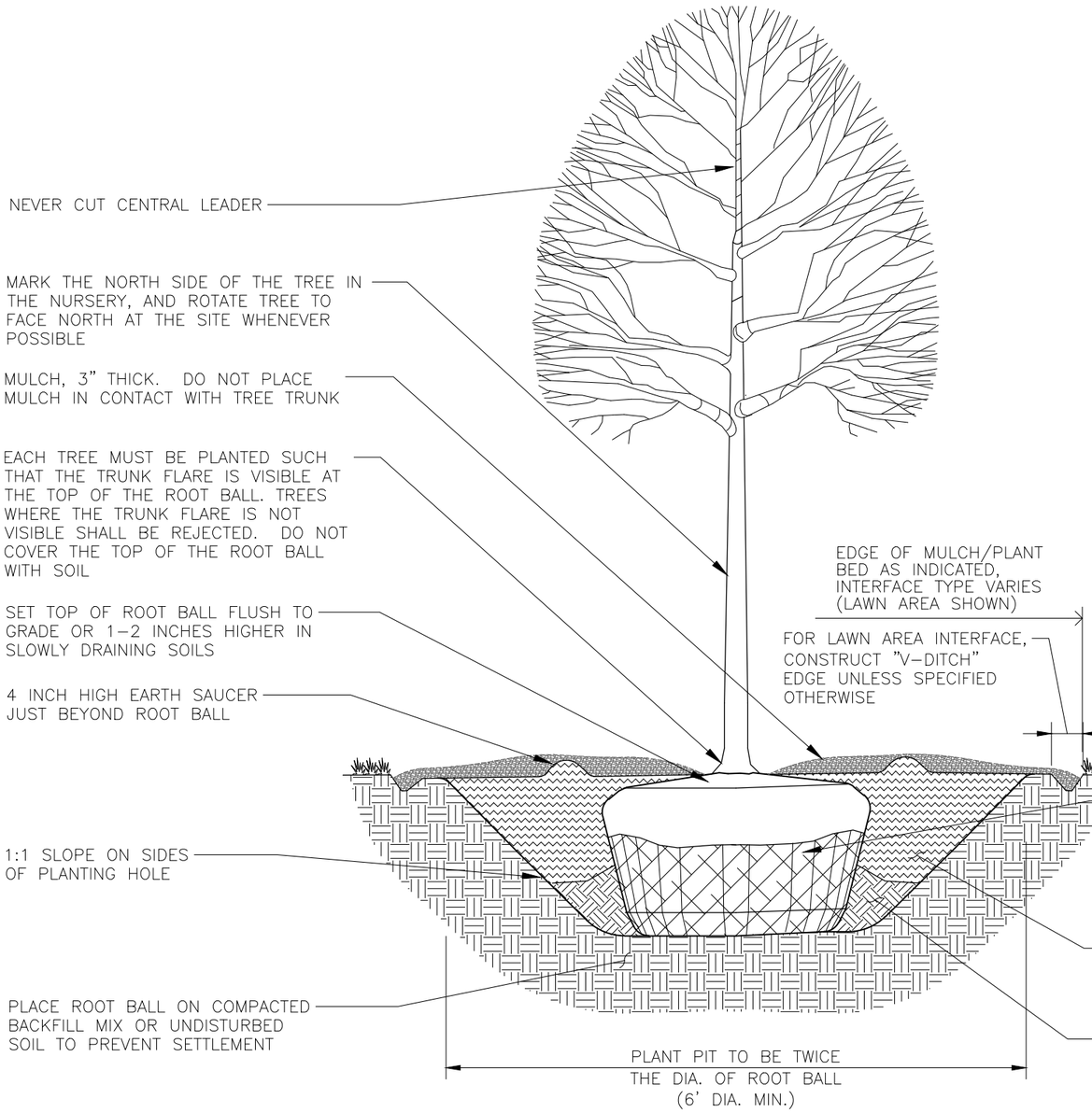
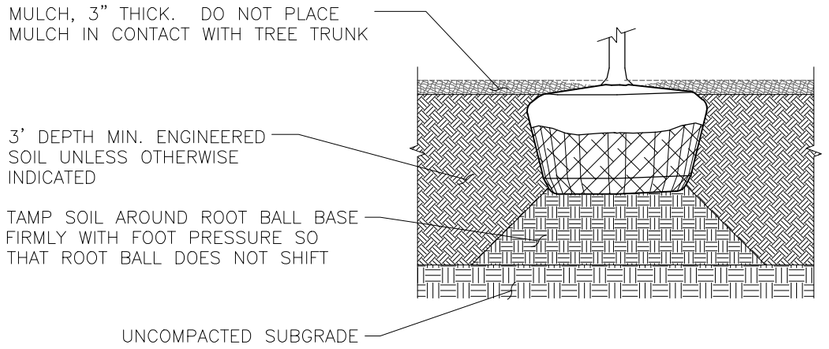
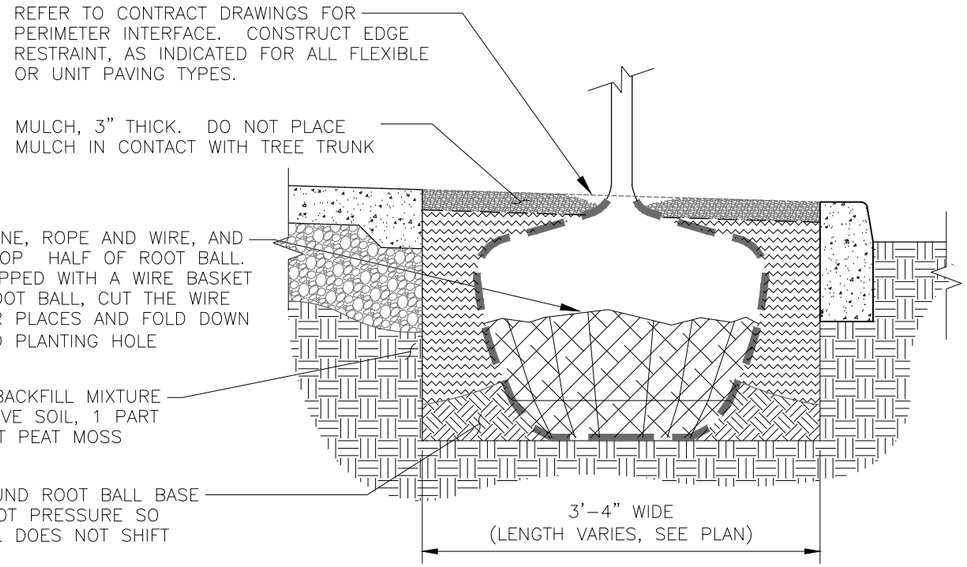


FLAT SURFACE TREE PLANTING



TREE PLANTING AT STORMWATER TRENCH



SIDEWALK TREE PIT PLANTING

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

PLANTINGS (PART 1 OF 3)

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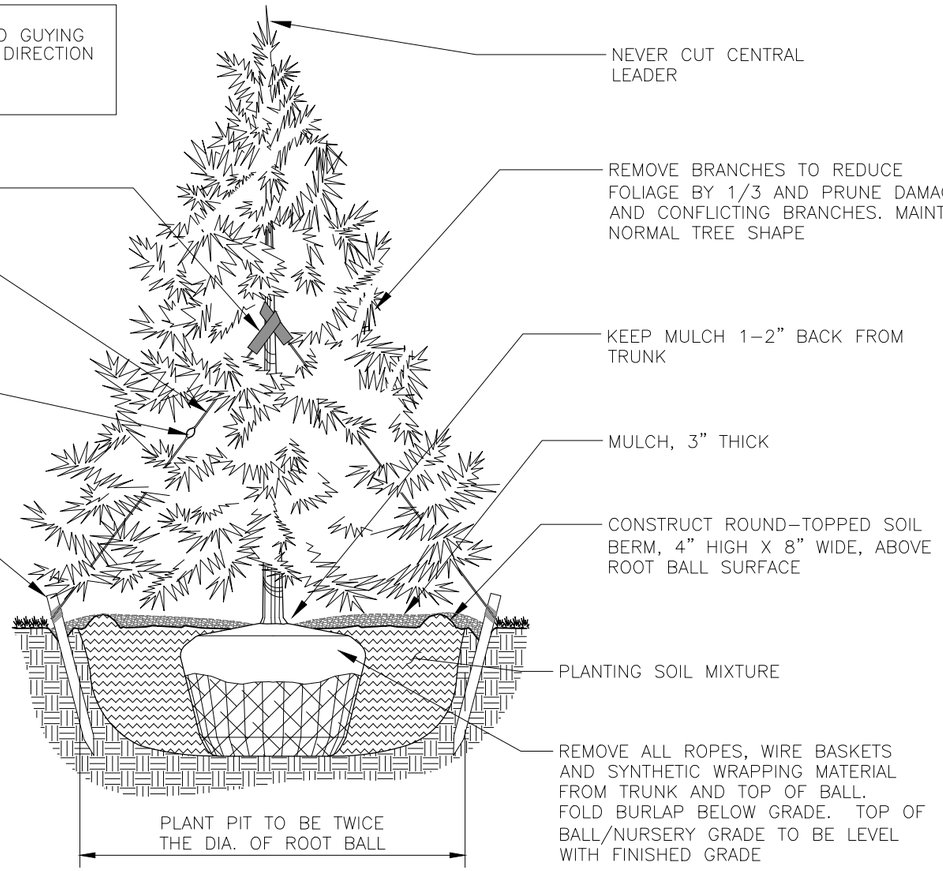
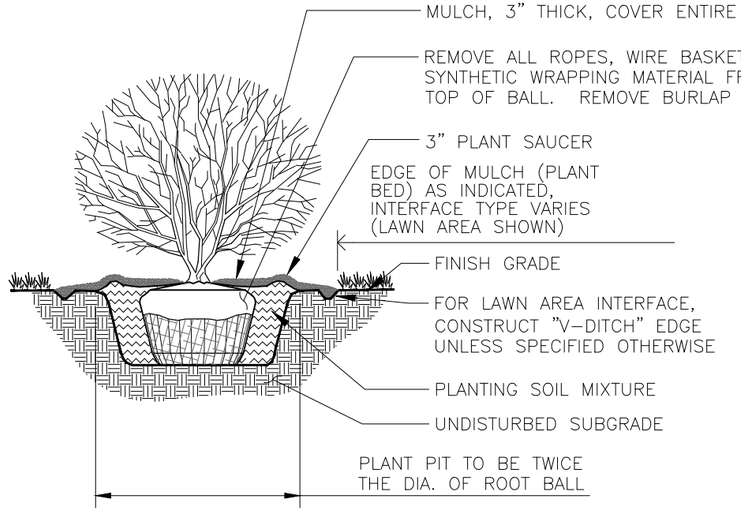
NOTE:
REUIREMENTS FOR STAKING AND GUYING OF TREES SHALL BE PER THE DIRECTION OF THE LOCAL AUTHORITY.



EVERGREEN TREE

NOTES:

1. BACKFILL PLANT PITS IN 12" COMPACTED LIFTS, MINIMUM 90% MAXIMUM DRY DENSITY PER ASTM D–1557. THOROUGHLY WATER EACH LIFT WHILE PLANTING.
2. ROOT BALLS GREATER THAN 2' ø SHALL SIT ON A MOUND OF UNDISTURBED SOIL TO PREVENT SETTLEMENT.
3. ROOT BALLS SMALLER THAN 2' ø SHALL SIT ON COMPACTED PLANTING SOIL.
4. TOP OF ROOT BALL SHALL BE 1" TO 2" ABOVE FINISH GRADE.
5. PLANTING HOLE FOR ROOT BALL SIZES 2' ø AND LARGER SHALL BE 2' LARGER ON ALL SIDES THAN DIAMETER OF ROOT BALL.
6. PLANTING HOLE FOR ROOT BALL SIZES LESS THAN 2' ø SHALL BE TWICE THE DIAMETER OF THE ROOT BALL.



SHRUB

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

PLANTINGS (PART 2 OF 3)

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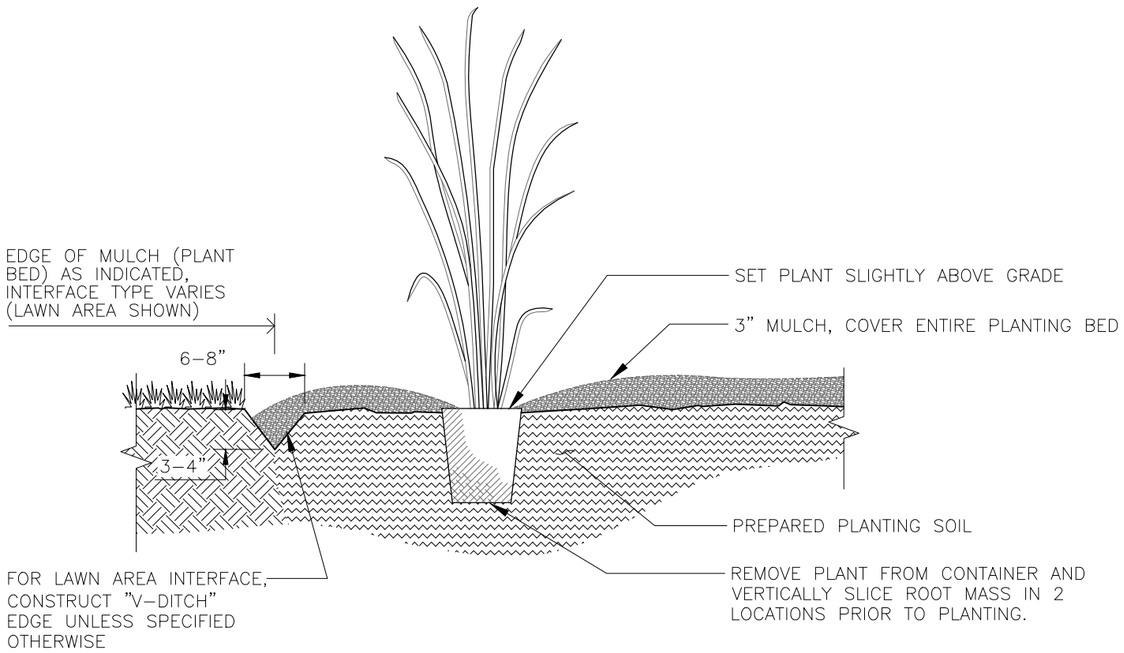
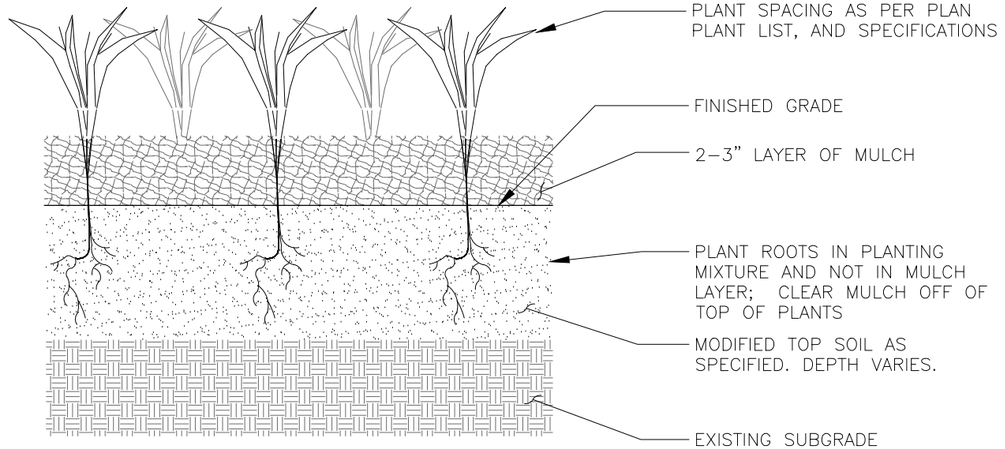
NOTES:

1. SEE PLANT LIST FOR SPACING DISTANCES FOR VARIOUS ORNAMENTAL GRASS SPECIES.
2. FOR ALL PLANTING BEDS INDICATED FOR ORNAMENTAL GRASSES, BREAK UP OR DISC EXISTING SOIL TO A DEPTH OF 6 INCHES. ALLOW TILLED SOIL TO DRY, THEN APPLY A 2" THICK LAYER OF ORGANIC COMPOST MATERIAL AND THOROUGHLY TILL COMPOST INTO SOIL AS REQUIRED TO PRODUCE A UNIFORM TEXTURE. SMOOTH AND FIRM THE MODIFIED SOIL PRIOR TO PLANTING.
3. REFER TO 'GROUNDCOVER' DETAIL FOR TYPICAL PLANTING ARRANGEMENT.



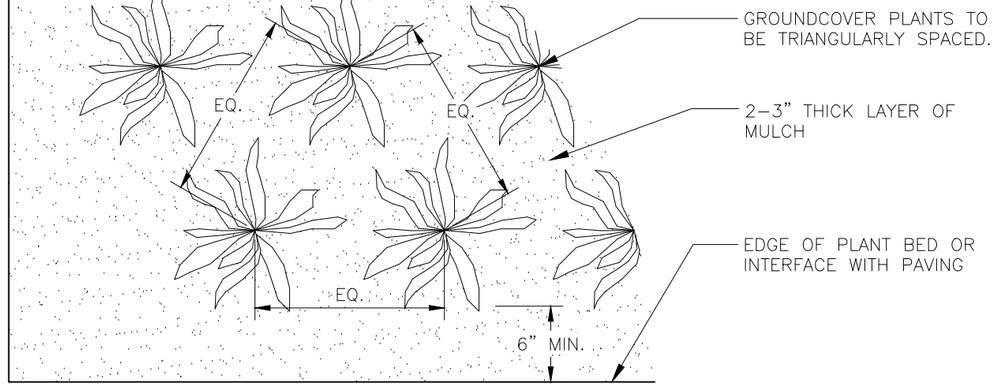
PERENNIAL / ORNAMENTAL GRASS



SECTION

NOTES:

1. SEE PLANTING LEGEND FOR GROUNDCOVER SPECIES, SIZE AND SPACING DIMENSION.
2. SMALL ROOTS (1/4" OR LESS) THAT GROW AROUND, UP OR DOWN THE ROOT BALL PERIPHERY ARE CONSIDERED A NORMAL CONDITION IN CONTAINER PRODUCTION AND ARE ACCEPTABLE. HOWEVER, THEY SHOULD BE ELIMINATED AT THE TIME OF PLANTING. ROOTS ON THE PERIPHERY CAN BE REMOVED AT THE TIME OF PLANTING
3. SETTLE SOIL AROUND THE ROOT BALL OF EACH GROUNDCOVER PRIOR TO MULCHING.



PLAN

GROUNDCOVER

BUFFALO SEWER AUTHORITY

STANDARD DETAILS FOR CONSTRUCTION

GREEN INFRASTRUCTURE STANDARD DETAILS

PLANTINGS (PART 3 OF 3)

NO.	DATE	REVISION DESCRIPTION	BY
#0	2024.12.06	PRELIMINARY ISSUE	BC

SCALE: NOT TO SCALE

DATE: 10/18/2024

SHEET: 082 OF 082

DRAWING NUMBER: GI-24

GI-24 / GI-24

Sheet File: 056-0XX_BSA_GI_Details.dwg
Date/Time: Dec 09, 2024

Appendix C: Agency Correspondence

JM Davidson Engineering, D.P.C.

935 Sheridan Drive, Suite 120
Tonawanda, New York 14150
Phone: 716.453.1646

Meeting Minutes

Project: BSA Green Infrastructure Project
SEQRA- SHPO Consultation Meeting

Location: Teams Meeting
Time: 10:00 a.m. – 10:20 a.m.
Date: January 28, 2025

Attendees: Chelsea Towers (NYS SHPO)
Angela Gardner (JM Davidson Engineering, JMD)
Krista Greer (JM Davidson Engineering)

Highlights of the meeting are as follows:

1. Introductions

Angela and Krista explained to Chelsea an overview of the project- BSA as part of their CSO long term control plan is implementing green infrastructure throughout the City of Buffalo and BSA's system to reduce stormwater discharge into the sewer system. There are over 500 different locations where practices such as bump outs, rain gardens, porous pavement, and tree trenches could be implemented within the right-of-way (ROW) of streets and the sewer system. Twenty (20) schools are under consideration for green infrastructure and JMD is organizing to visit these sites. Two (2) parks including MLK Park, are also under consideration.

2. SHPO Involvement & Consultation

JMD is unaware of any other state or federal agency involvement in the project other than NY State Education Department (SED). As a result, Chelsea recommended that each one of the school sites have their own submission in the CRIS system. The remaining sites, including the parks, can be one large, single submission in CRIS.

The GI sites that are within the existing ROW are not a concern to SHPO unless the GI will be inside of existing historic districts. For the large submission for the project, identify on a map as part of the submission, where the designated historic districts are. This will aid the review in what historic architecture is there, such as brick streets, slate sidewalks, and other potential historic street features that could be affected by the GI work within the street/utility ROW.

Include an initiating letter with the project submission describing the work, the purpose, and agency involvement for SEQRA. List which historic districts and corresponding listing numbers with the submission. Include general plans for each different type of green infrastructure practice.

For the parks, MLK Park is undergoing an updated nomination and SHPO may have photos of all the structures/features within the park. Photo documentation will be required for each park. Concept plans on what work could be done at each park will be needed as part of the submission. Chelsea is willing to do a preliminary look at the plans for the parks and provide feedback on the concept and if what is proposed will pose issues.

For each school property, verify in CRIS if the school has been previously assessed by SHPO for eligibility. If the school has not been previously assessed, photos of the main spaces inside of the school will be required as part of the CRIS submission. Representative photos of the main meeting spaces such as main lobby, cafeteria, representative/typical classroom, auditorium, and representative photos of the hallways are what is necessary for SHPO to perform an assessment.

Notify Chelsea via email that the submissions are about to made in CRIS.

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner Pro Tempore

March 13, 2025

Curtis McCoy
Stantec
210 School House Ln
Wilmington, DE 19809

Re: SED
Buffalo Sewer Authority GI Program
50 A St, Buffalo, NY 14211
25PR01808

Dear Curtis McCoy:

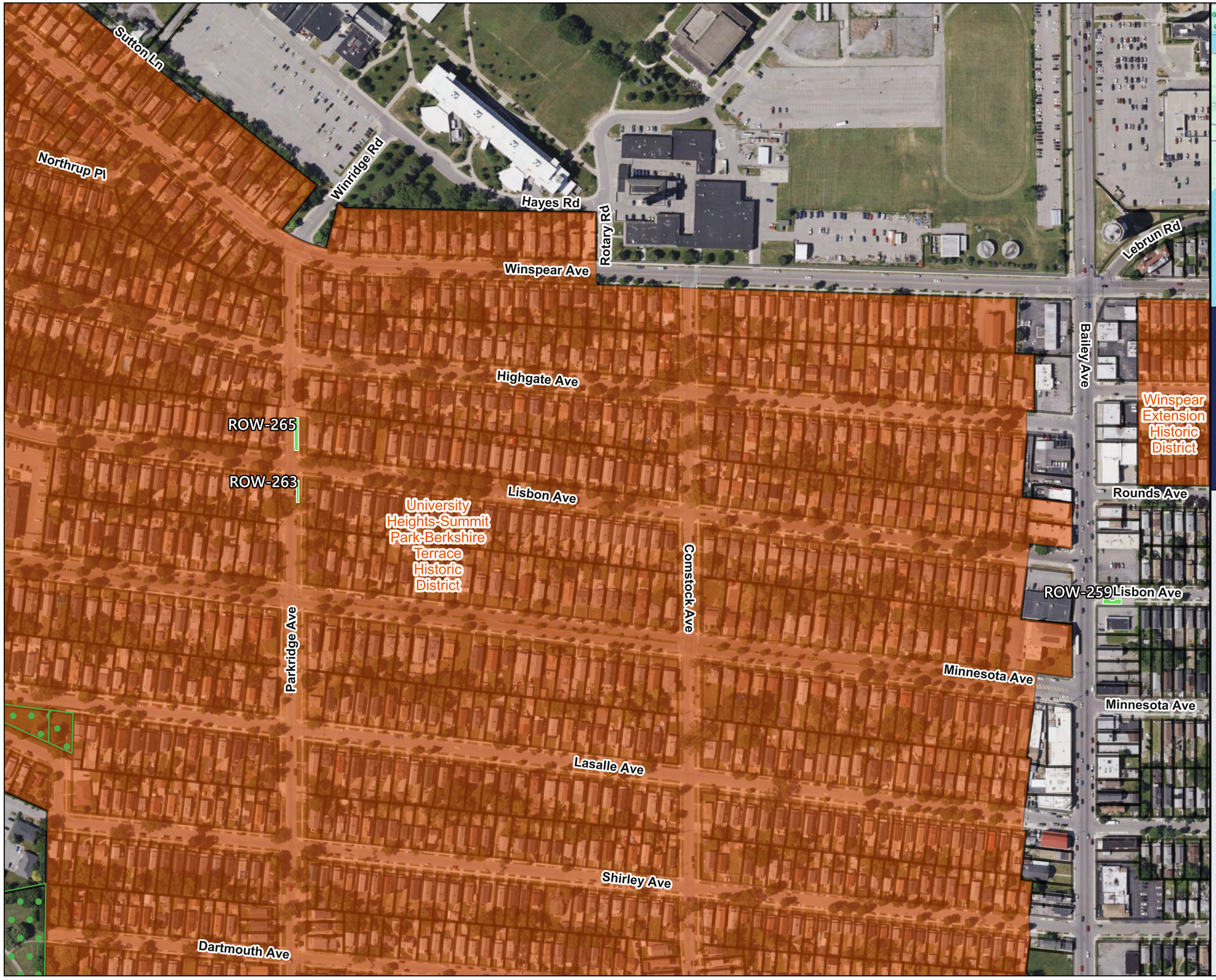
Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

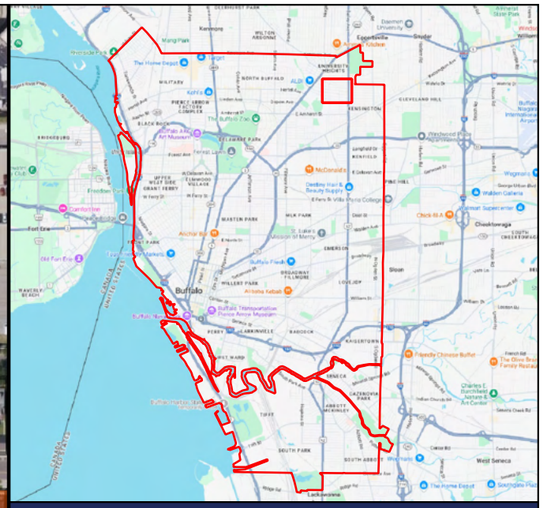
The proposed project area includes sitework at several Buffalo Public schools that are listed (PS 74, PS 80, PS 92) or eligible for listing (PS 8, PS 31, PS 53, PS 61, PS, 82, PS 97 and PS 309) in the State and National Registers of Historic Places. Our office has reviewed the proposed green stormwater infrastructure project. Based upon our review, it is the OPRHP's opinion that this project will have No Adverse Impact on historic or archaeological resources.

If you have any questions, I am best reached by email.

Sincerely,

Derek Rohde
Historic Site Restoration Coordinator
518-275-5745 | Derek.Rohde@parks.ny.gov





JMDavidson
Engineering, D.P.C.

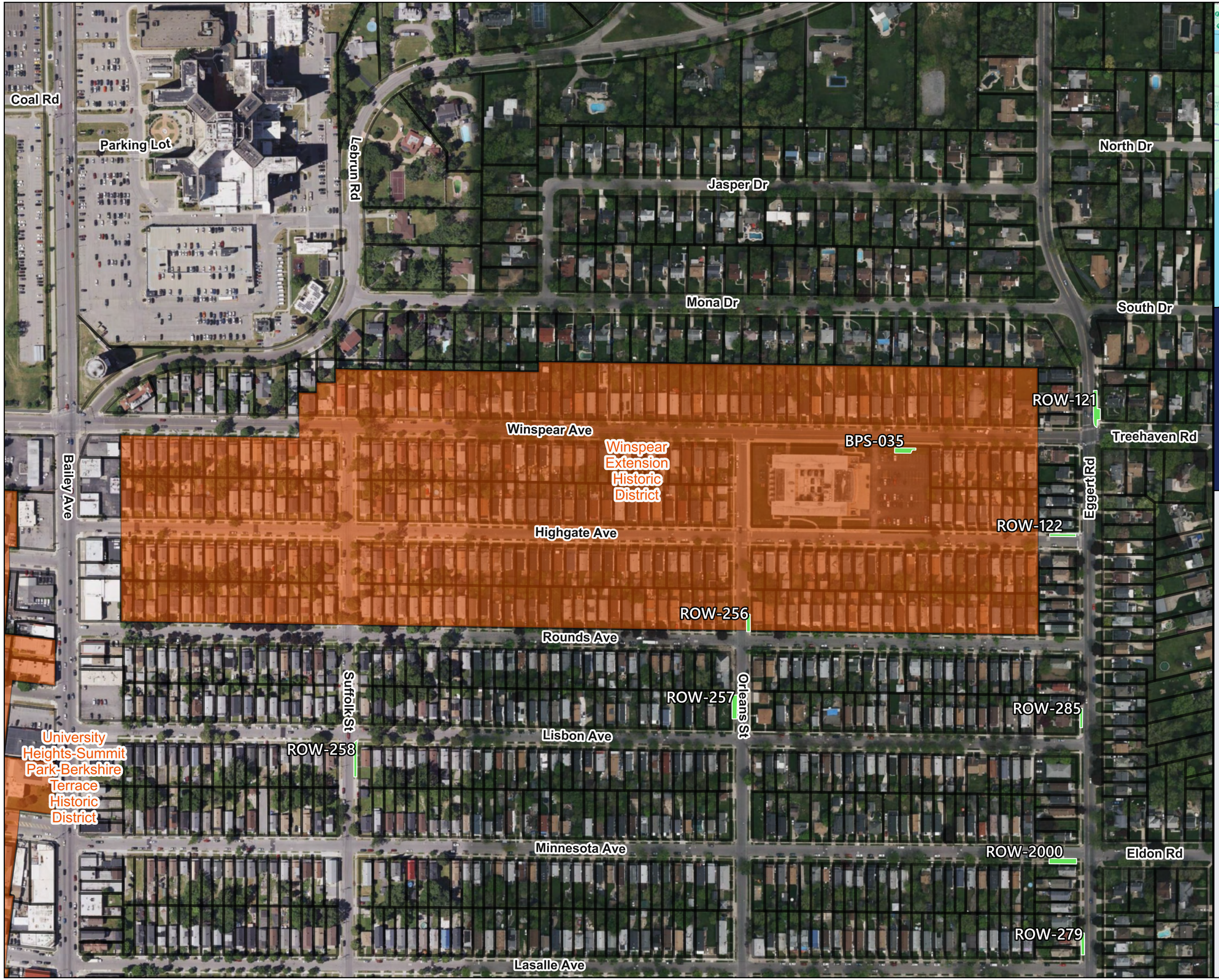
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 1 of 23)

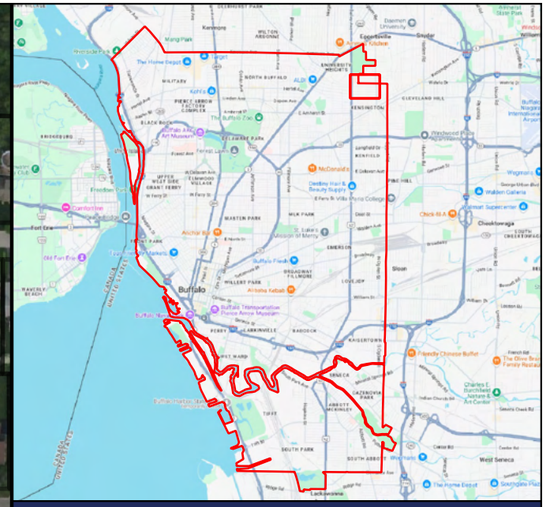
Legend

BSA Project Location Type

- Stormwater tree trench
- Park
- Historic District
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

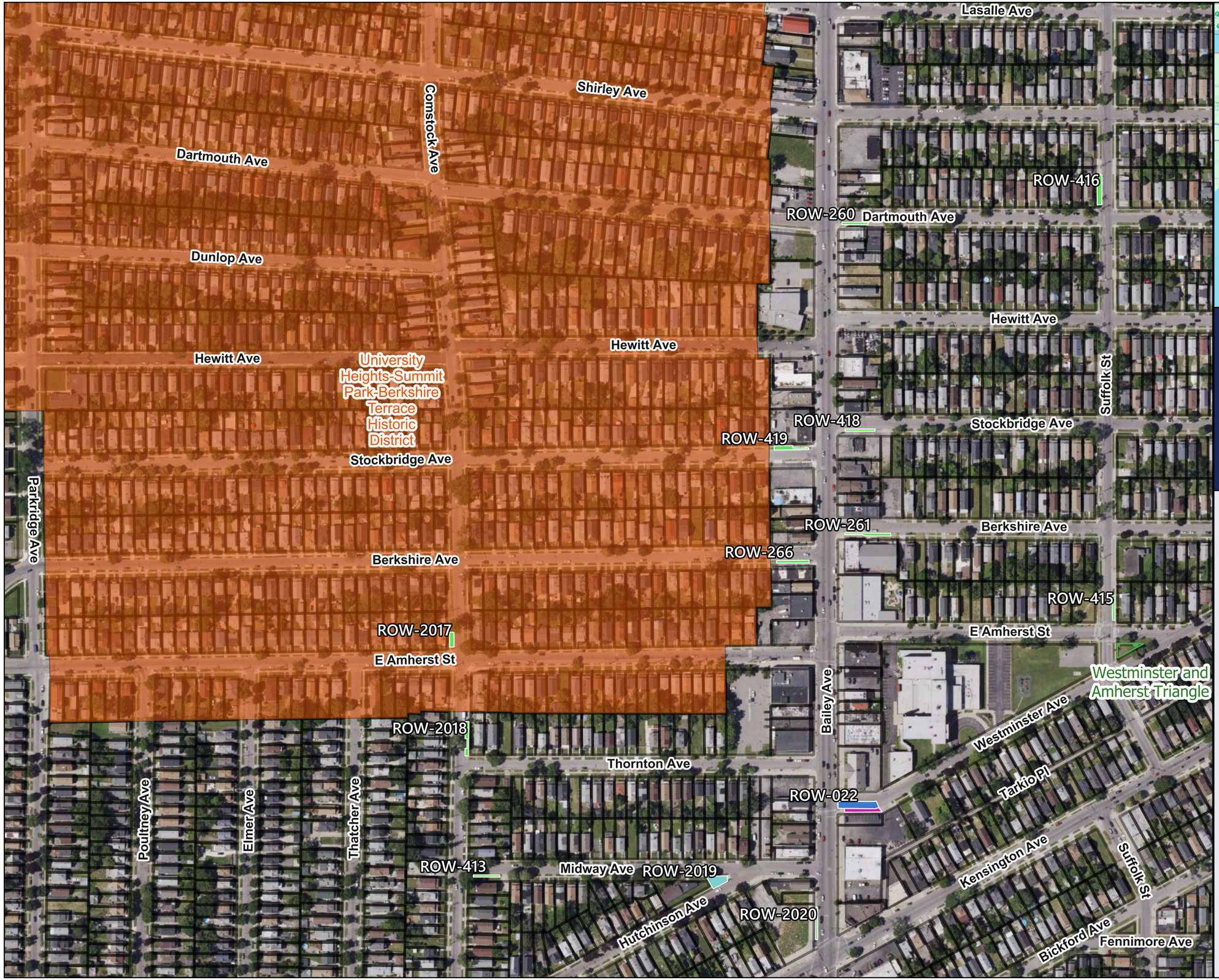
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 2 of 23)

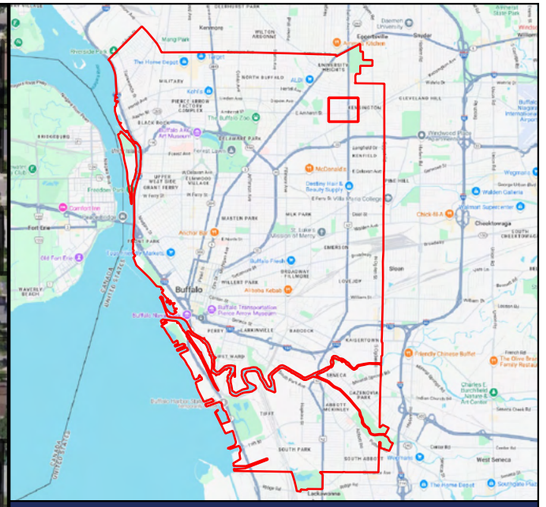
Legend

BSA Project Location Type

- Stormwater tree trench
- Historic District
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

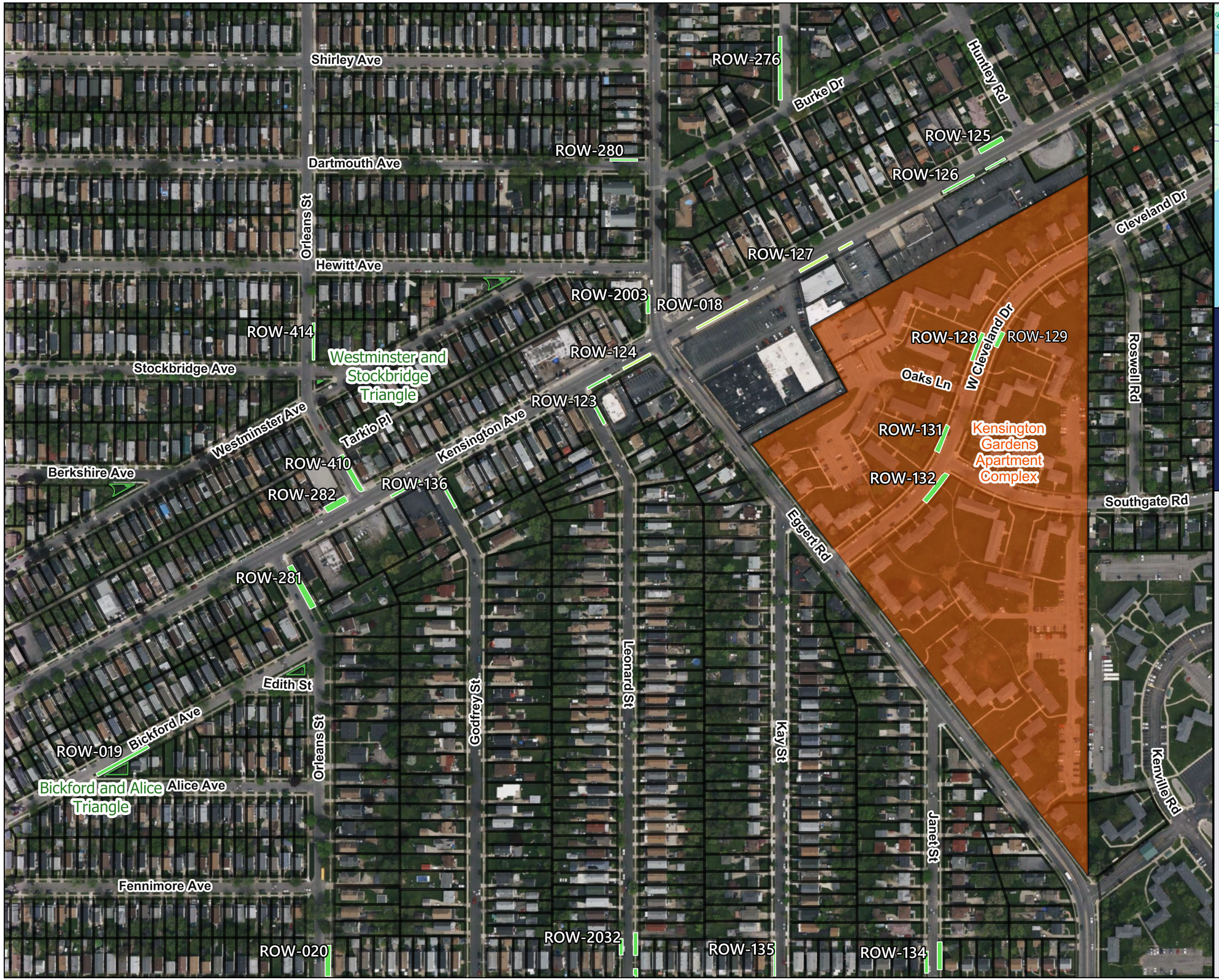
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 3 of 23)

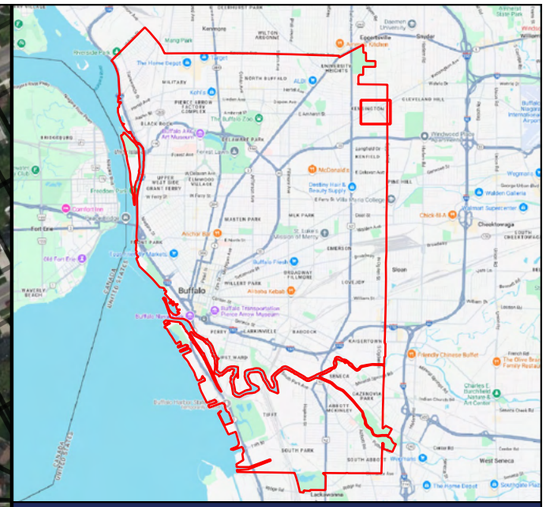
Legend

BSA Project Location Type

- Bump out
- Infiltration trench
- Rain garden
- Stormwater tree trench
- Park
- Historic District
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

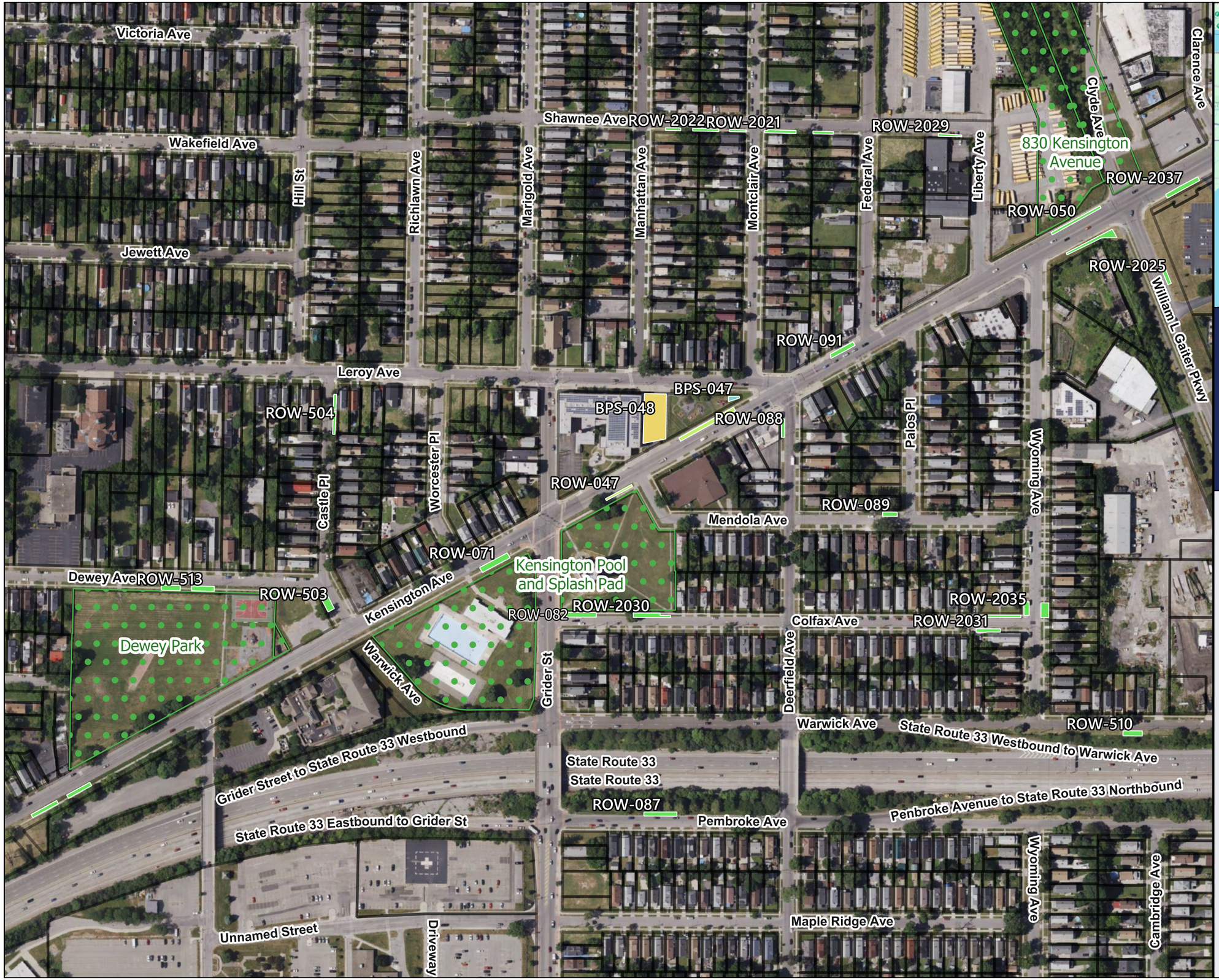
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 4 of 23)

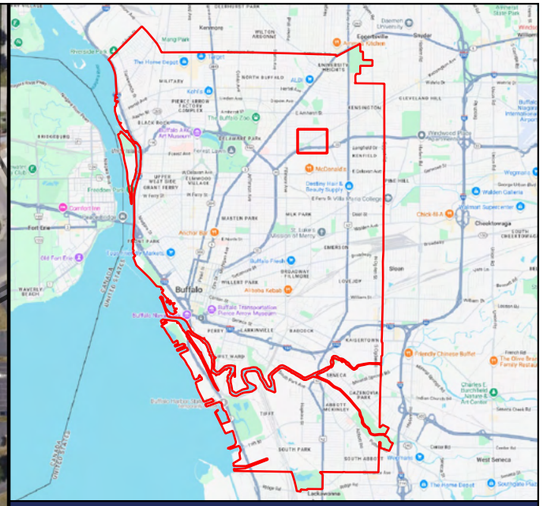
Legend

BSA Project Location Type

- Stormwater planter
- Stormwater tree trench
- Park
- Historic District
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

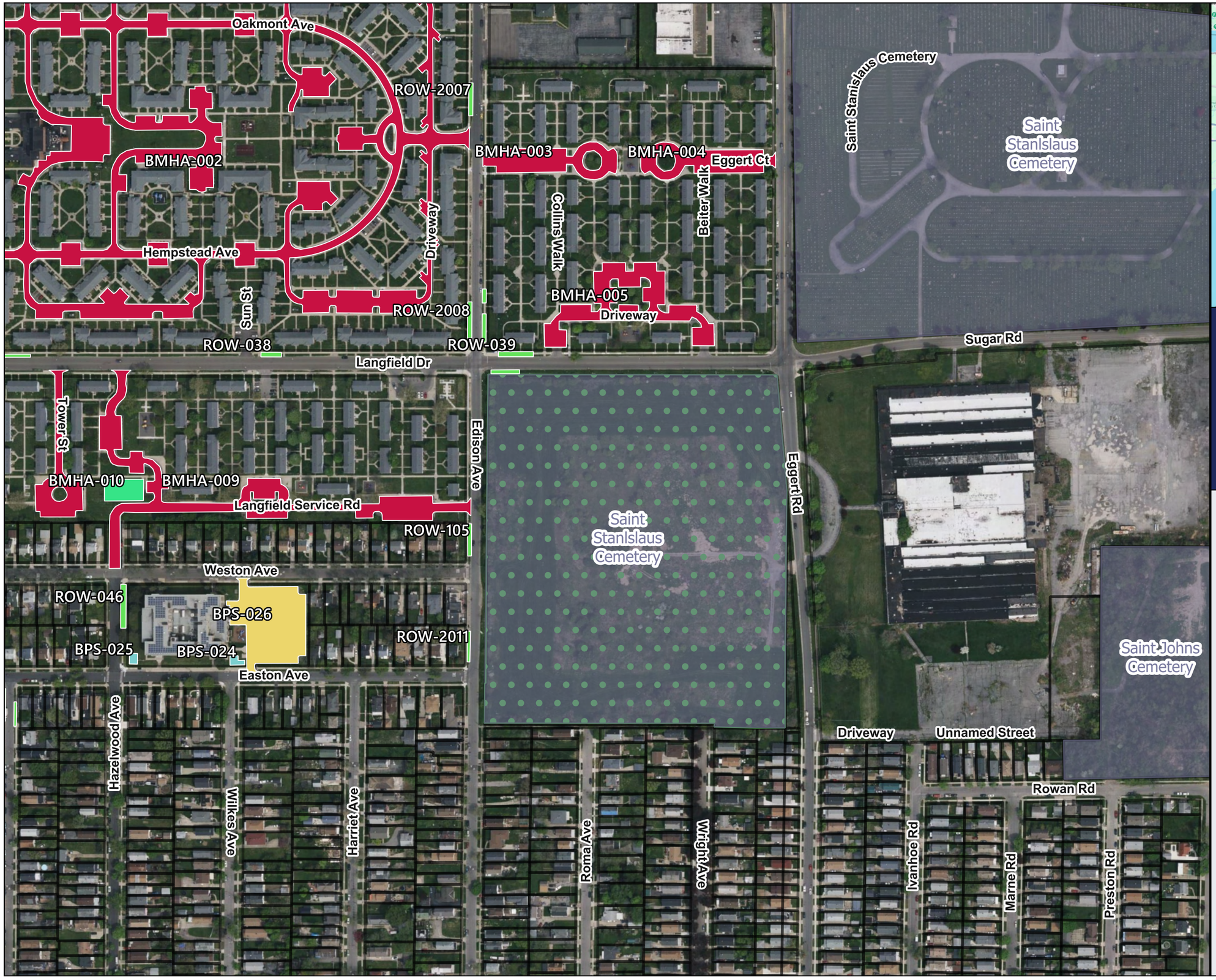
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 5 of 23)

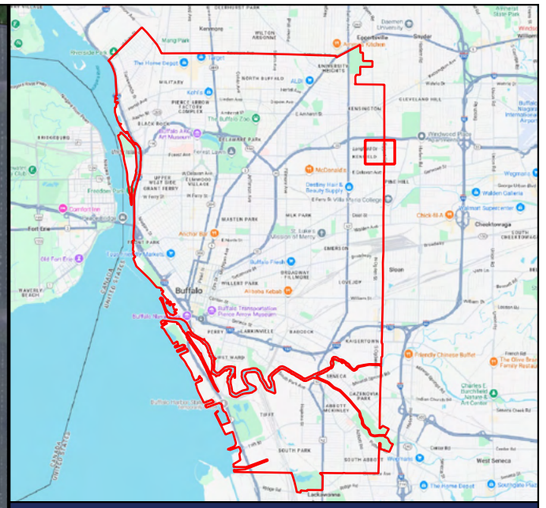
Legend

BSA Project Location Type

- Porous asphalt
- Rain garden
- Stormwater planter
- Stormwater tree trench
- Park
- Parcel

0 150 300 450 ft





JMDavidson Engineering, D.P.C.

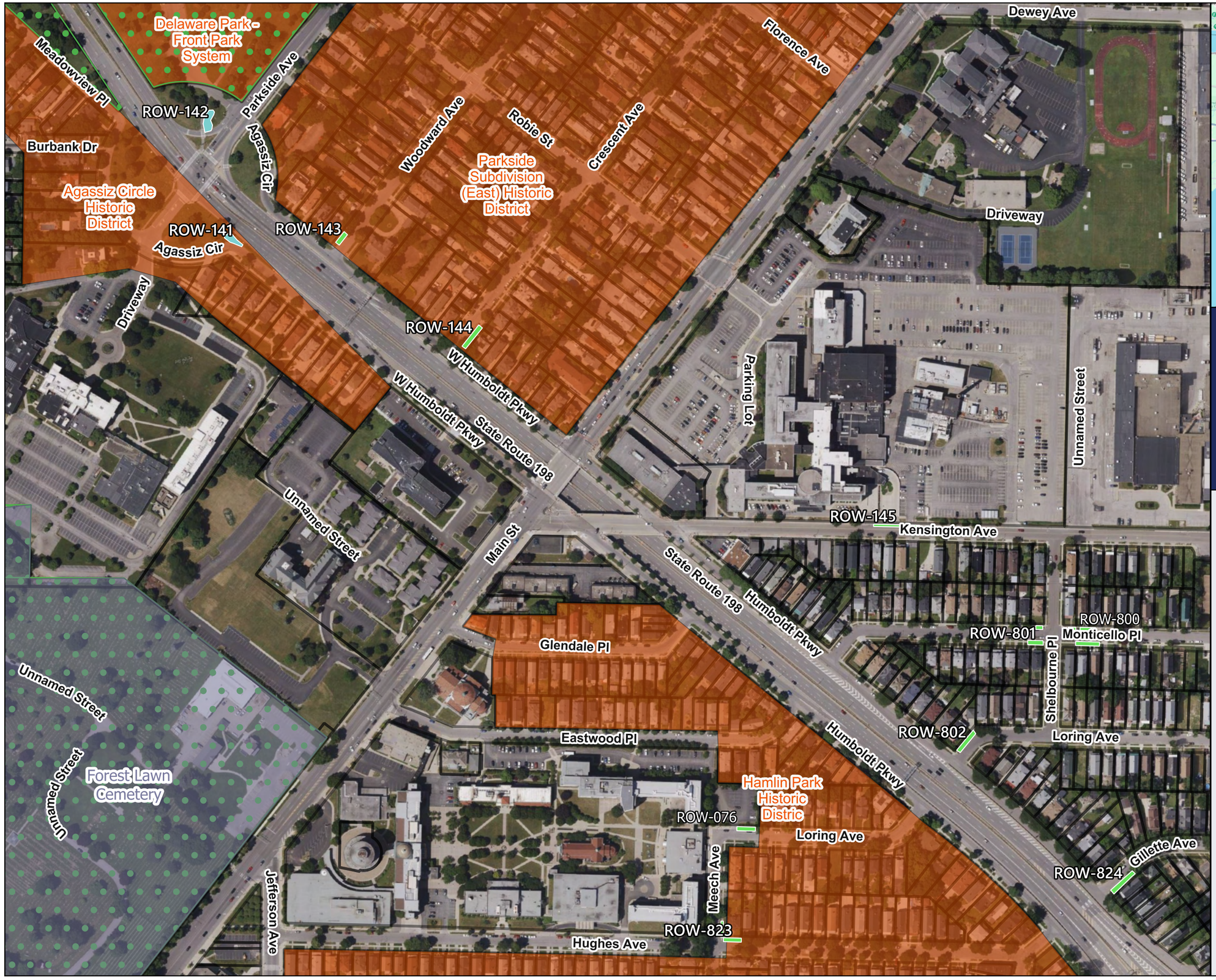
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 6 of 23)

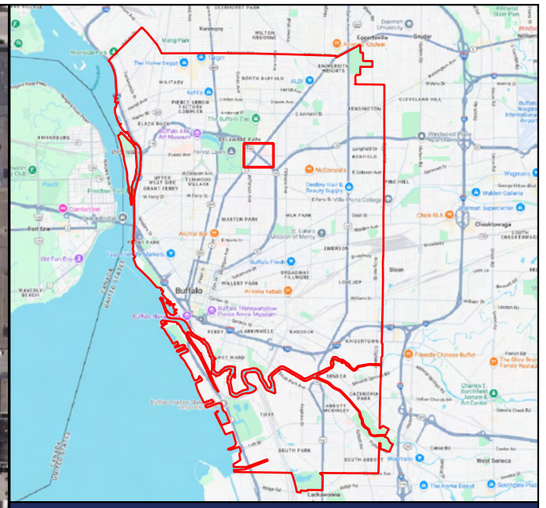
Legend

BSA Project Location Type

- Pavement removal
- Porous asphalt
- Porous asphalt, disconnect external roc
- Rain garden
- Stormwater tree trench
- Park
- Parcel
- Cemetery

0 150 300 450 ft





JMDavidson Engineering, D.P.C.

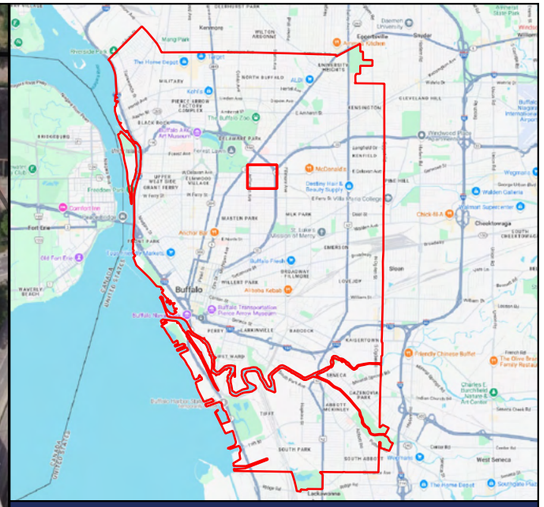
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 7 of 23)

Legend

BSA Project Location Type

- Rain garden
- Stormwater tree trench
- Park
- Historic District
- Parcel
- Cemeteries

0 150 300 450 ft



JMDavidson
Engineering, D.P.C.

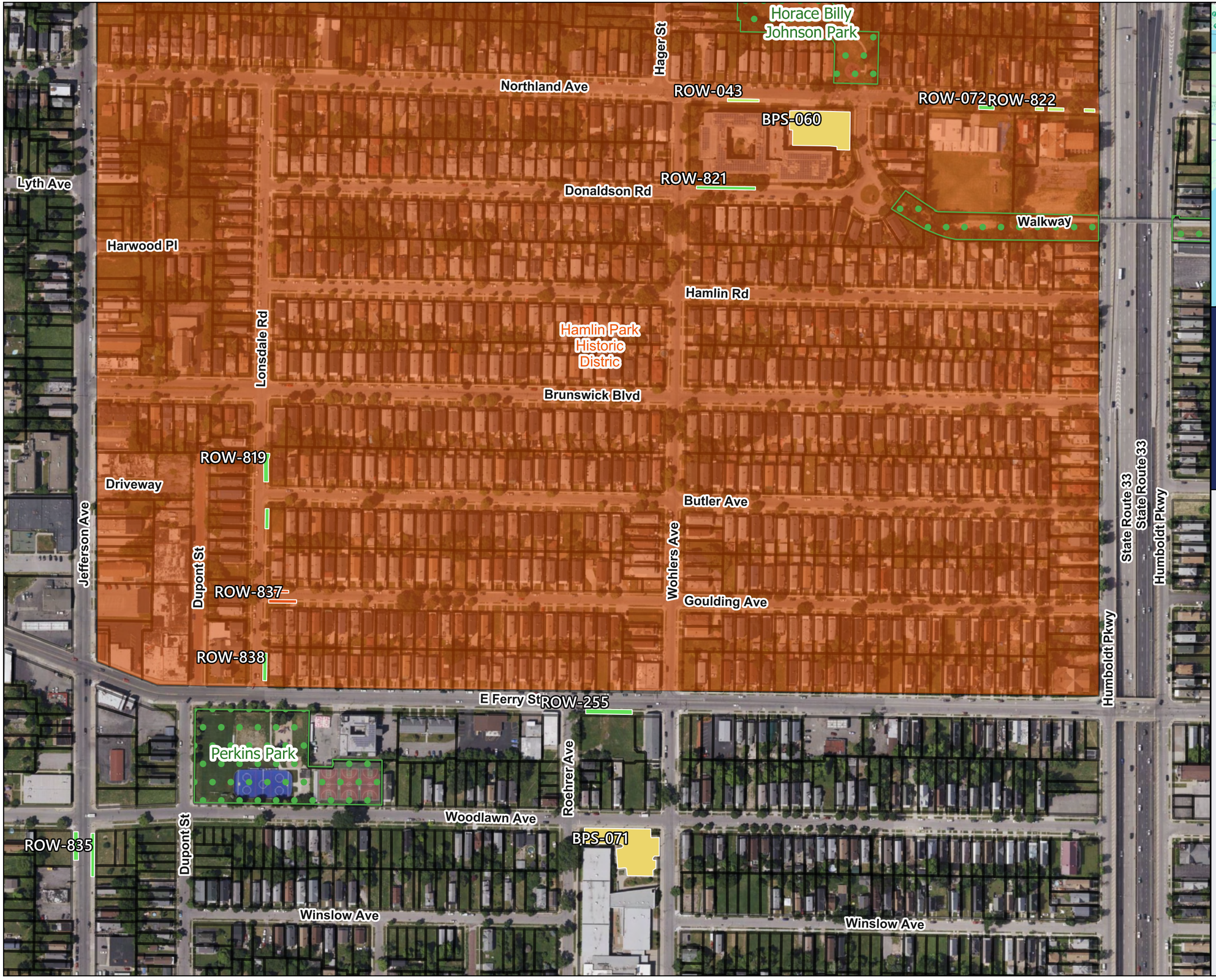
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 8 of 23)

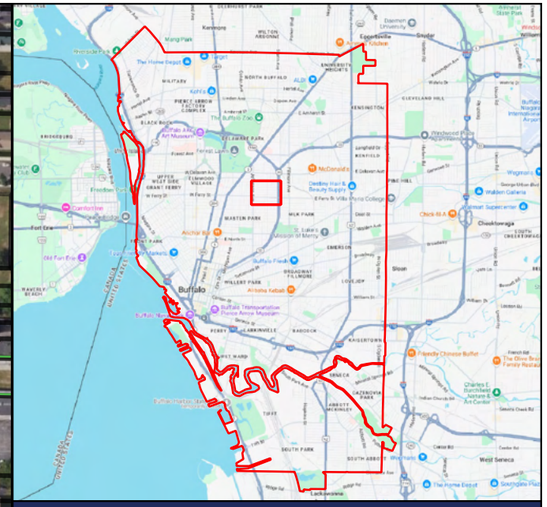
Legend

BSA Project Location Type

- Infiltration trench
- Porous asphalt
- Stormwater planter
- Stormwater tree trench
- Park
- Historic District
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

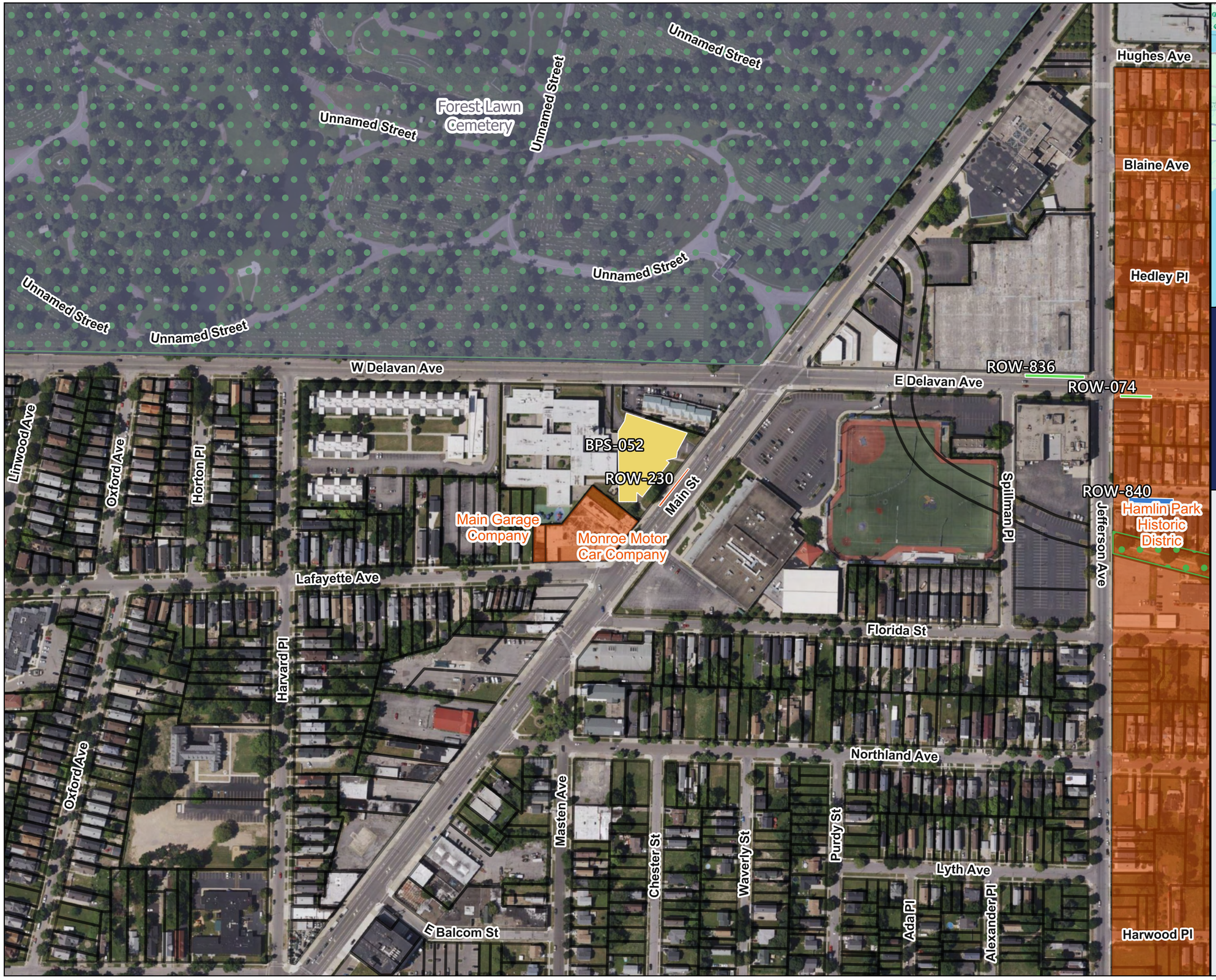
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 9 of 23)

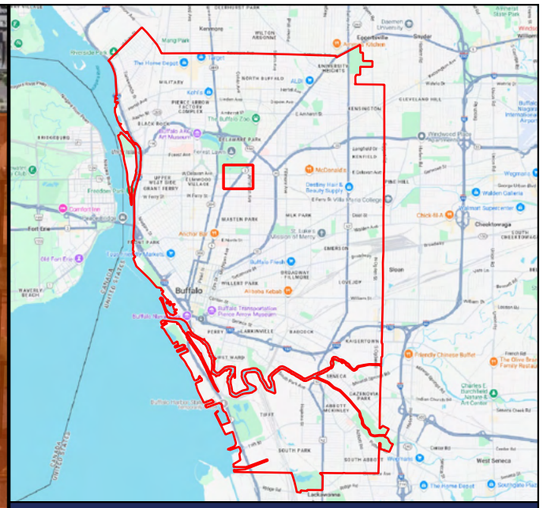
Legend

BSA Project Location Type

- Porous asphalt
- Stormwater planter
- Stormwater tree trench
- Stormwater tree trench/bump out
- Park
- Historic District
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

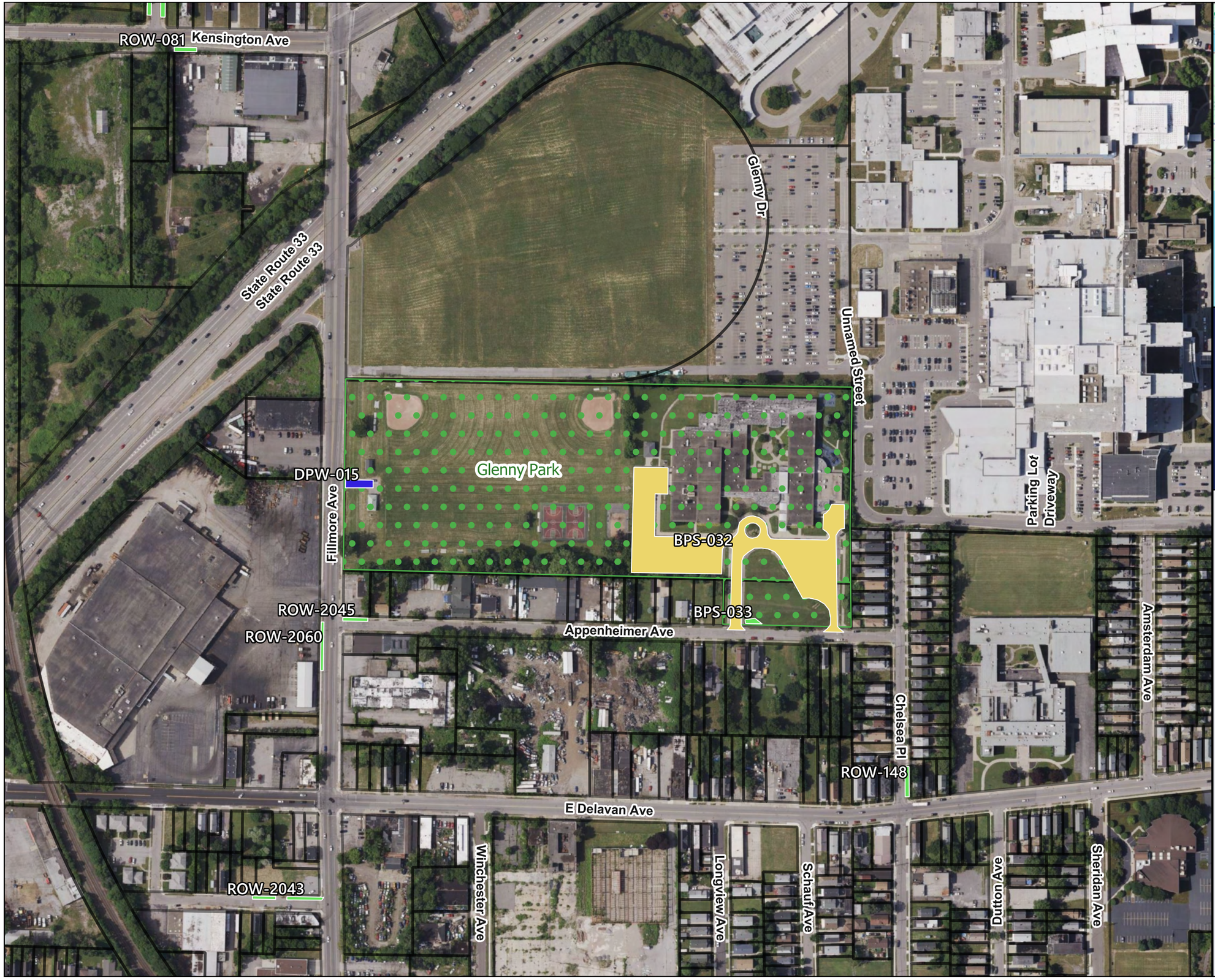
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 10 of 23)

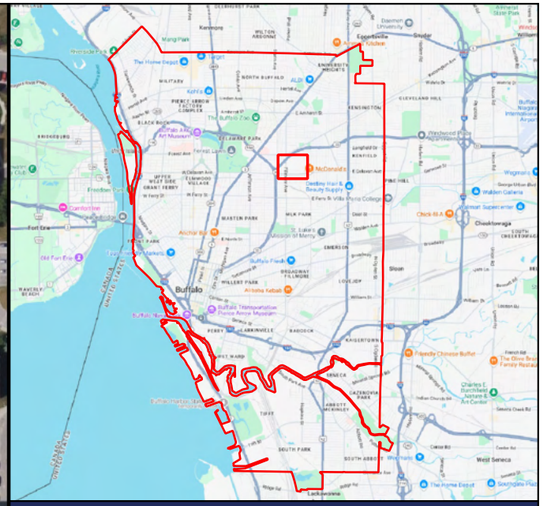
Legend

BSA Project Location Type

- Infiltration trench
- Porous asphalt
- Stormwater tree trench
- Stormwater tree trench/bump out
- Park
- Historic District
- Parcel
- Cemetery

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

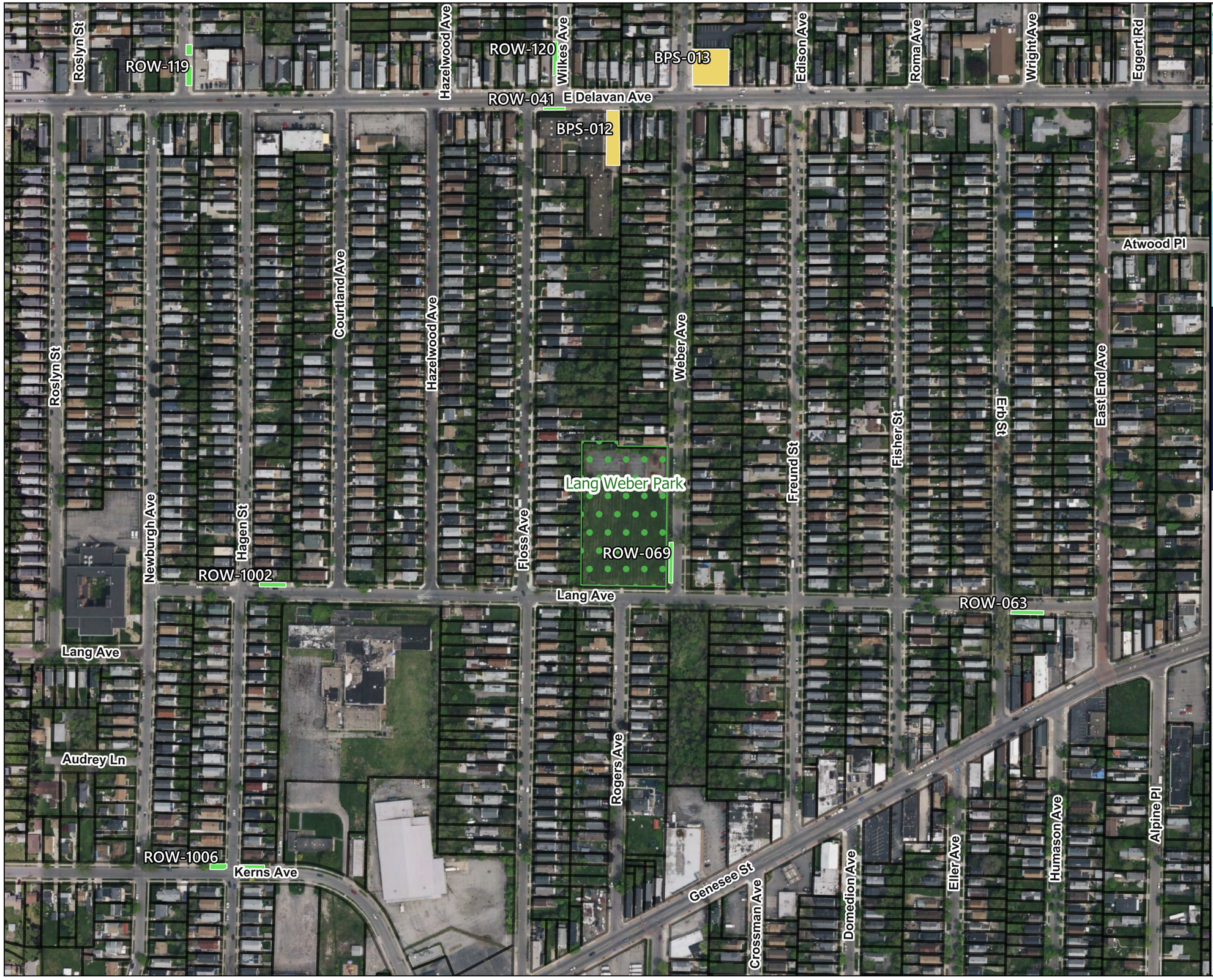
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 11 of 23)

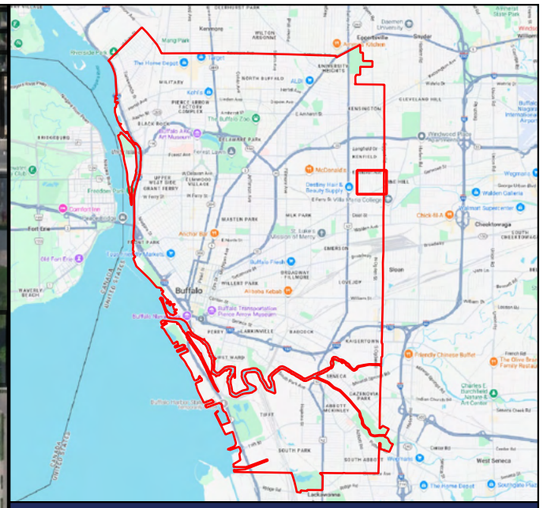
Legend

BSA Project Location Type

- Porous asphalt
- Stormwater tree trench
- Underground storage
- Park
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

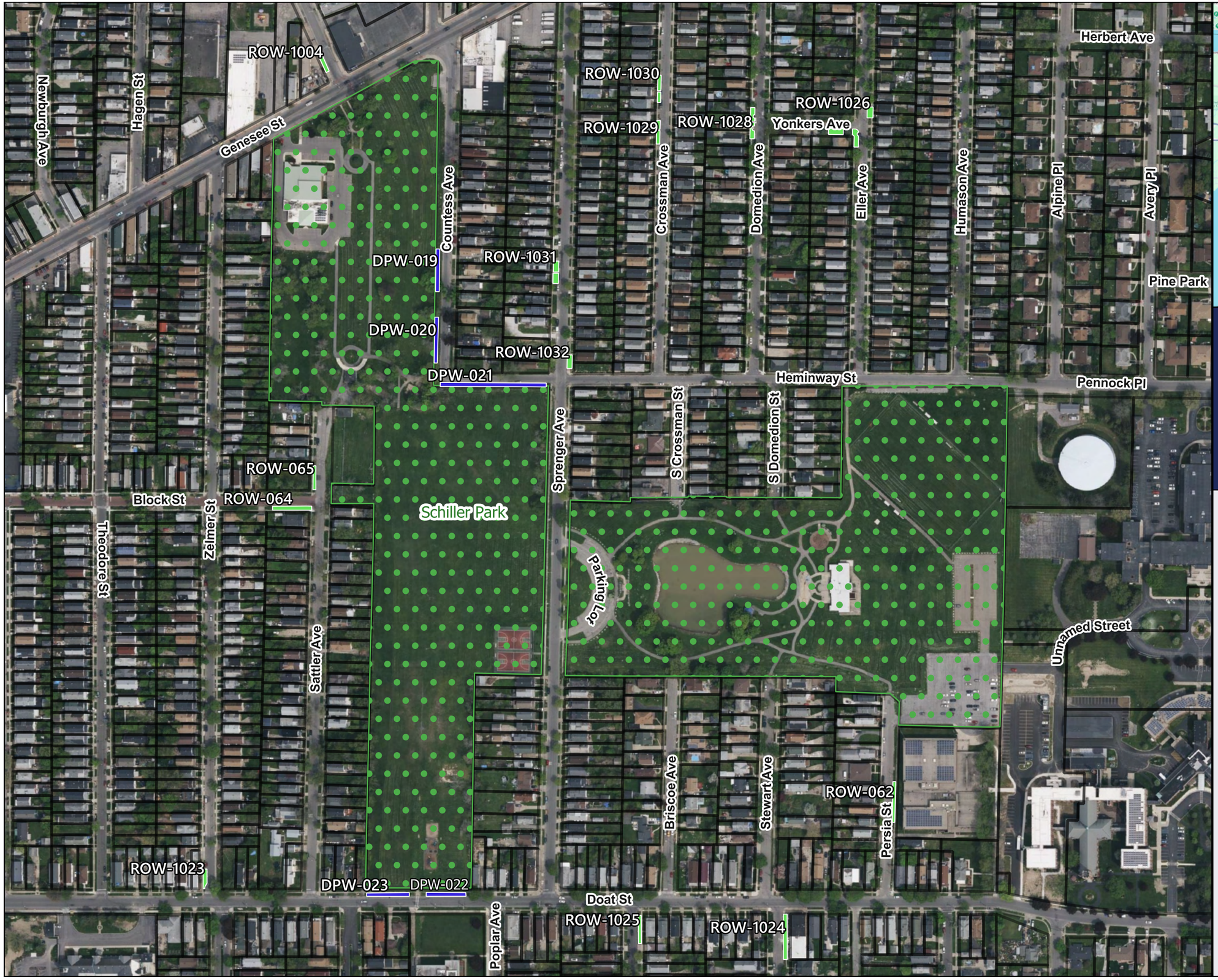
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 12 of 23)

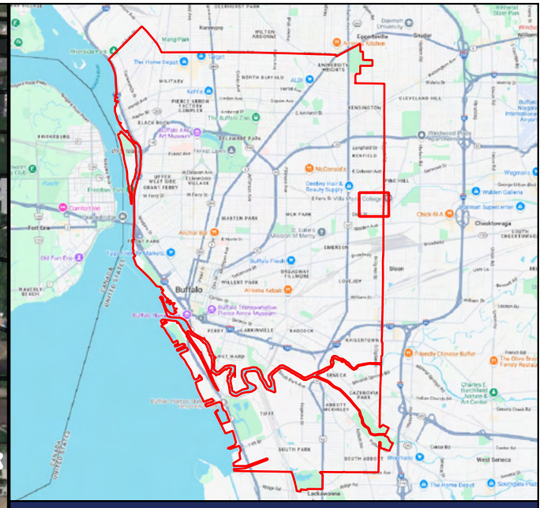
Legend

BSA Project Location Type

- Porous asphalt
- Stormwater tree trench
- Park
- Parcel

0 150 300 450 ft





JMDavidson Engineering, D.P.C.

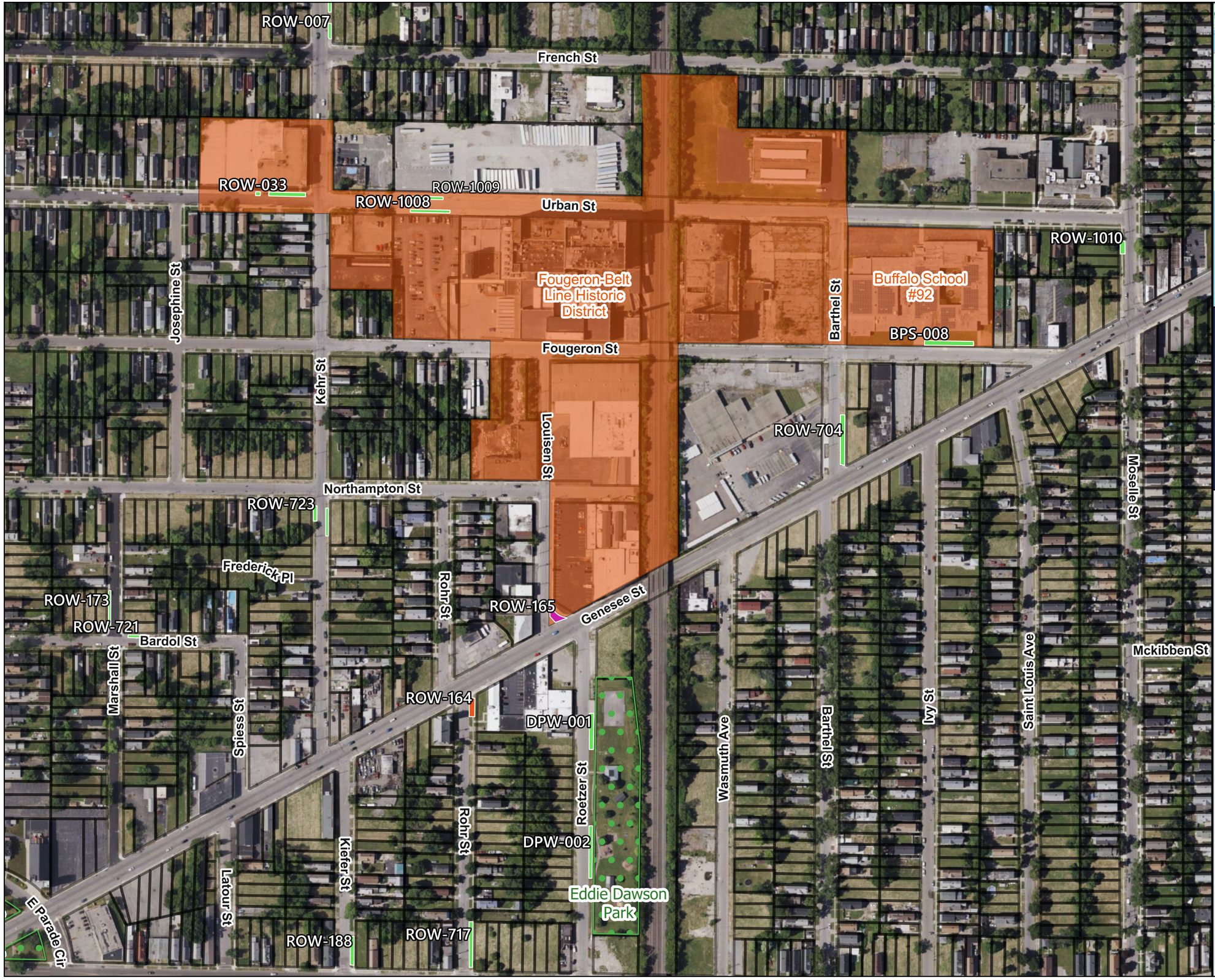
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 13 of 23)

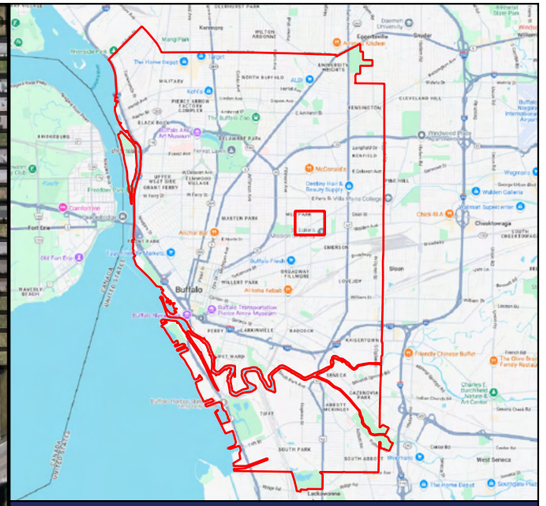
Legend

BSA Project Location Type

- Stormwater tree trench
- Underground storage
- Park
- Parcel

0 150 300 450 ft





JMDavidson Engineering, D.P.C.

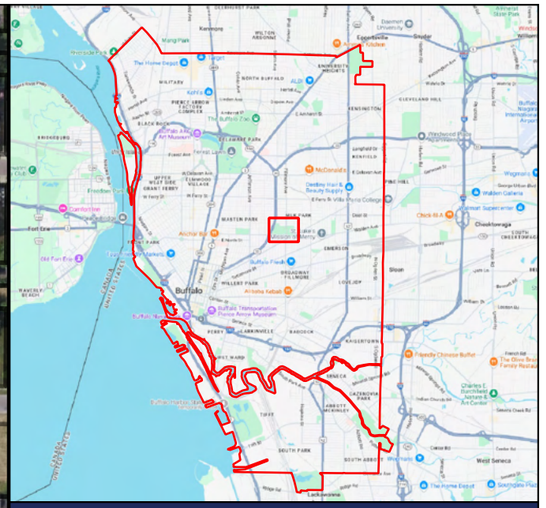
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 14 of 23)

Legend

BSA Project Location Type

- Bump out
- Rain garden
- Stormwater tree trench
- Stormwater tree trench/bump out
- Park
- Historic District
- Parcel

0 150 300 450 ft



JMDavidson
Engineering, D.P.C.

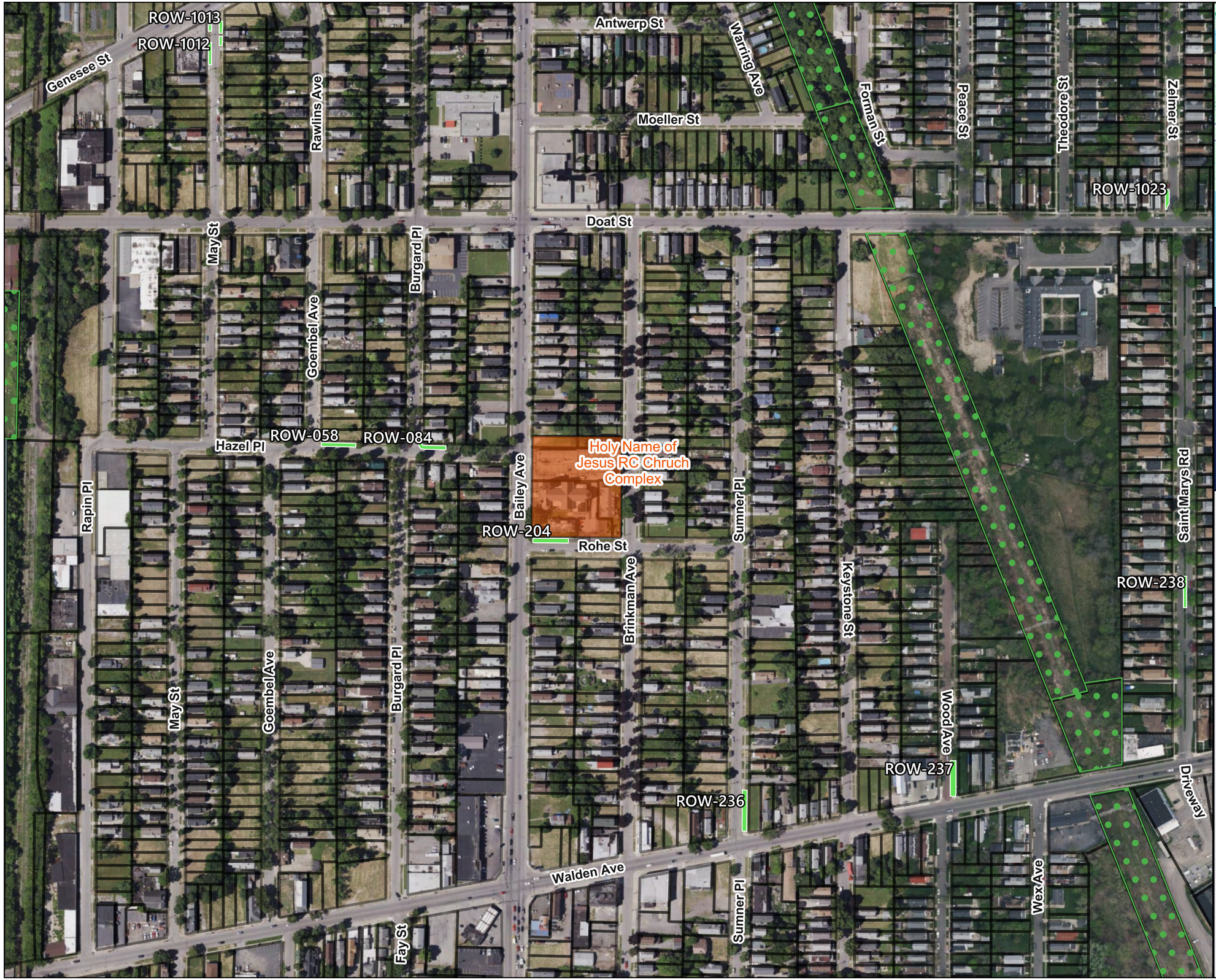
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 15 of 23)

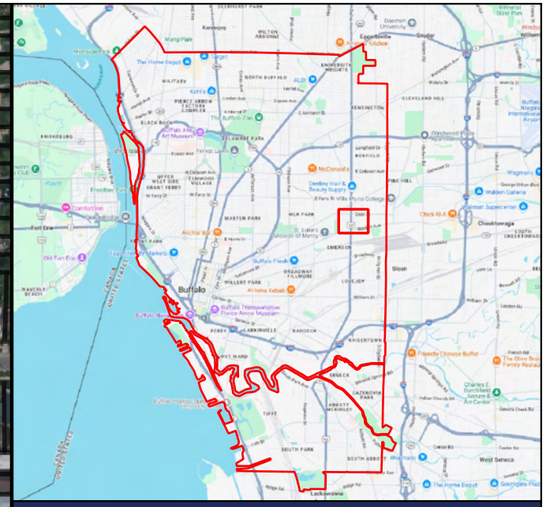
Legend

BSA Project Location Type

- Bump out
- Porous asphalt
- Rain garden
- Stormwater planter
- Stormwater tree trench
- Park
- Historic District
- Parcel

0 150 300 450 ft





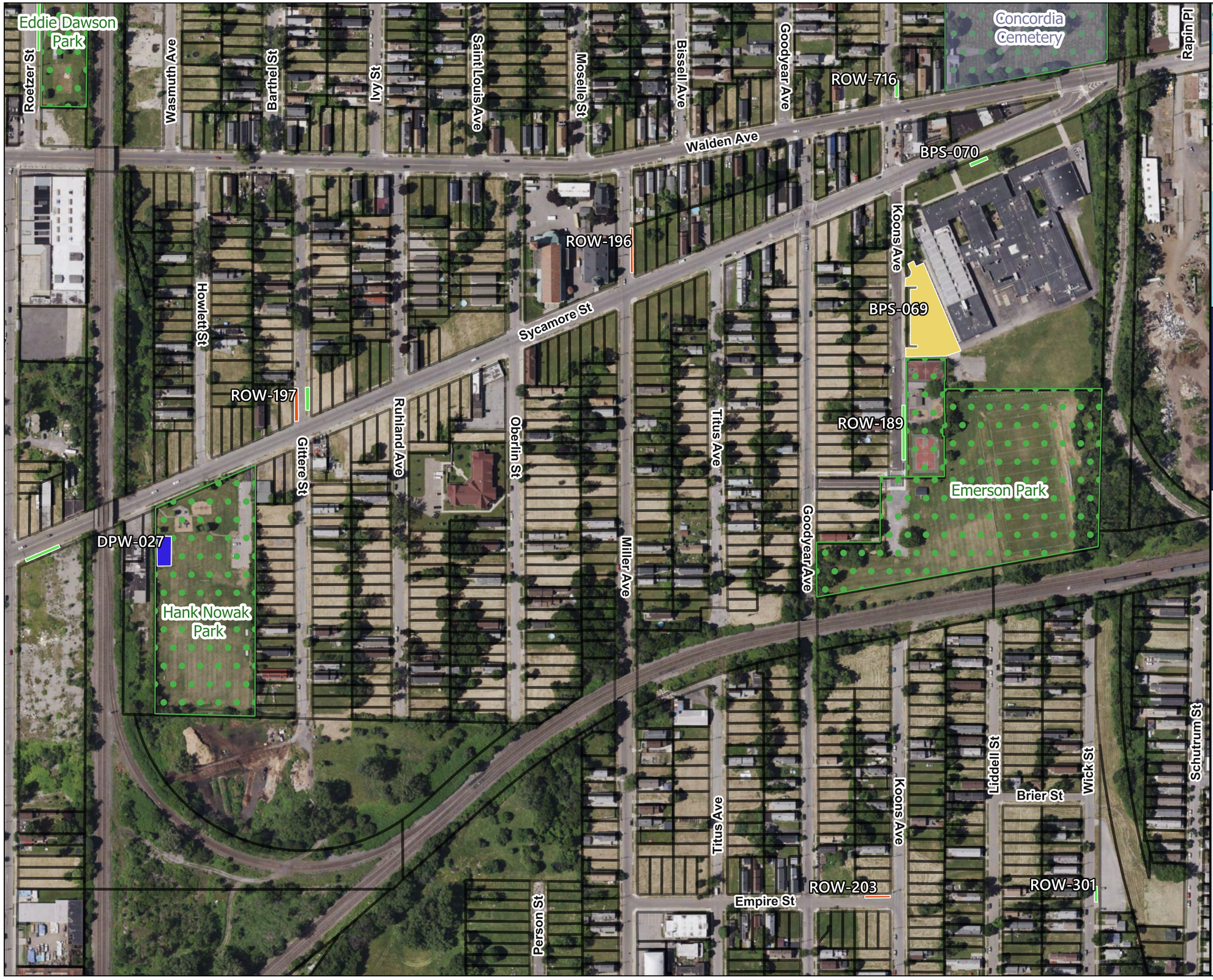
JMDavidson
Engineering, D.P.C.

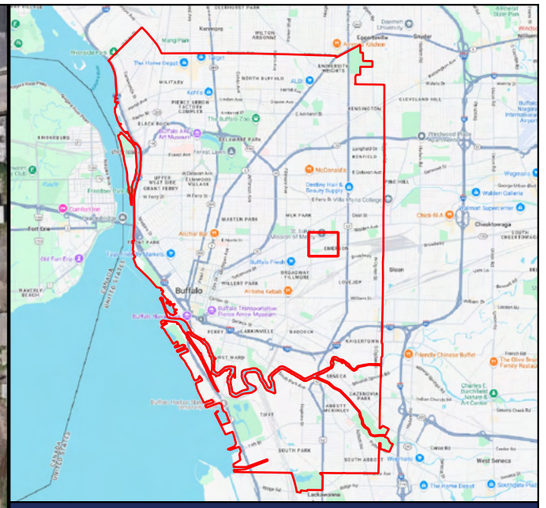
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 16 of 23)

Legend

BSA Project Location Type

- Stormwater tree trench
- Park
- Historic District
- Parcel
- Cemetery





JMDavidson
Engineering, D.P.C.

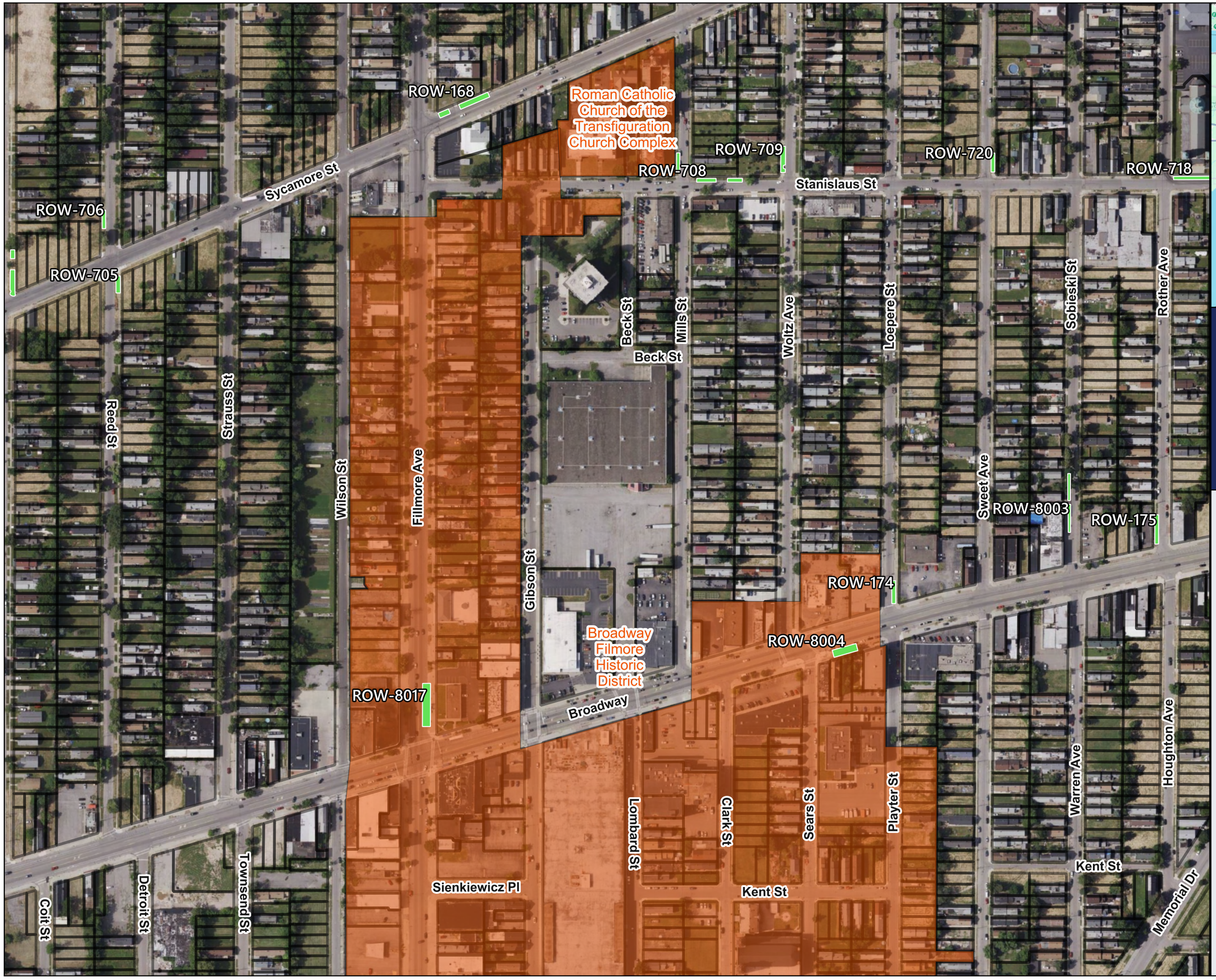
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 17 of 23)

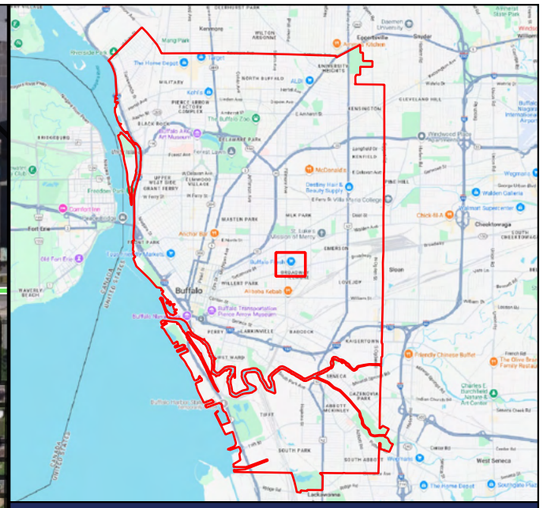
Legend

BSA Project Location Type

- Porous asphalt
- Stormwater tree trench
- Stormwater tree trench/bump out
- Underground storage
- Park
- Parcel
- Cemetery

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

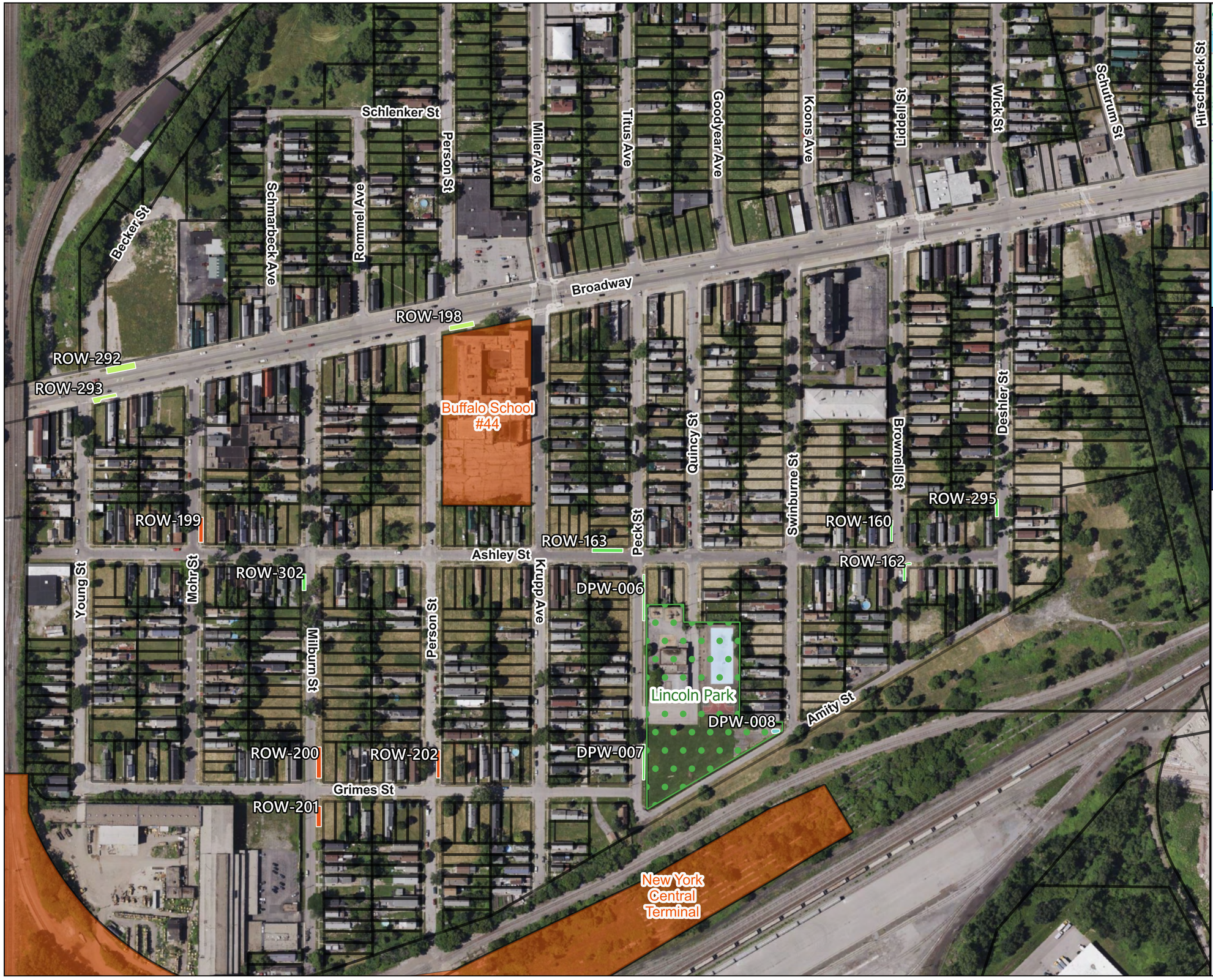
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 18 of 23)

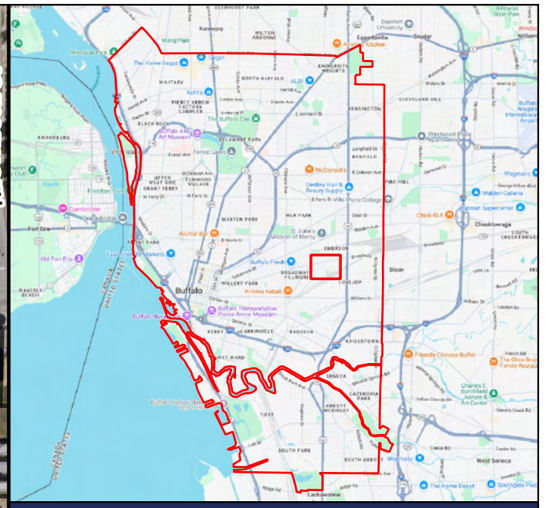
Legend

BSA Project Location Type

- Stormwater tree trench
- Historic District
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

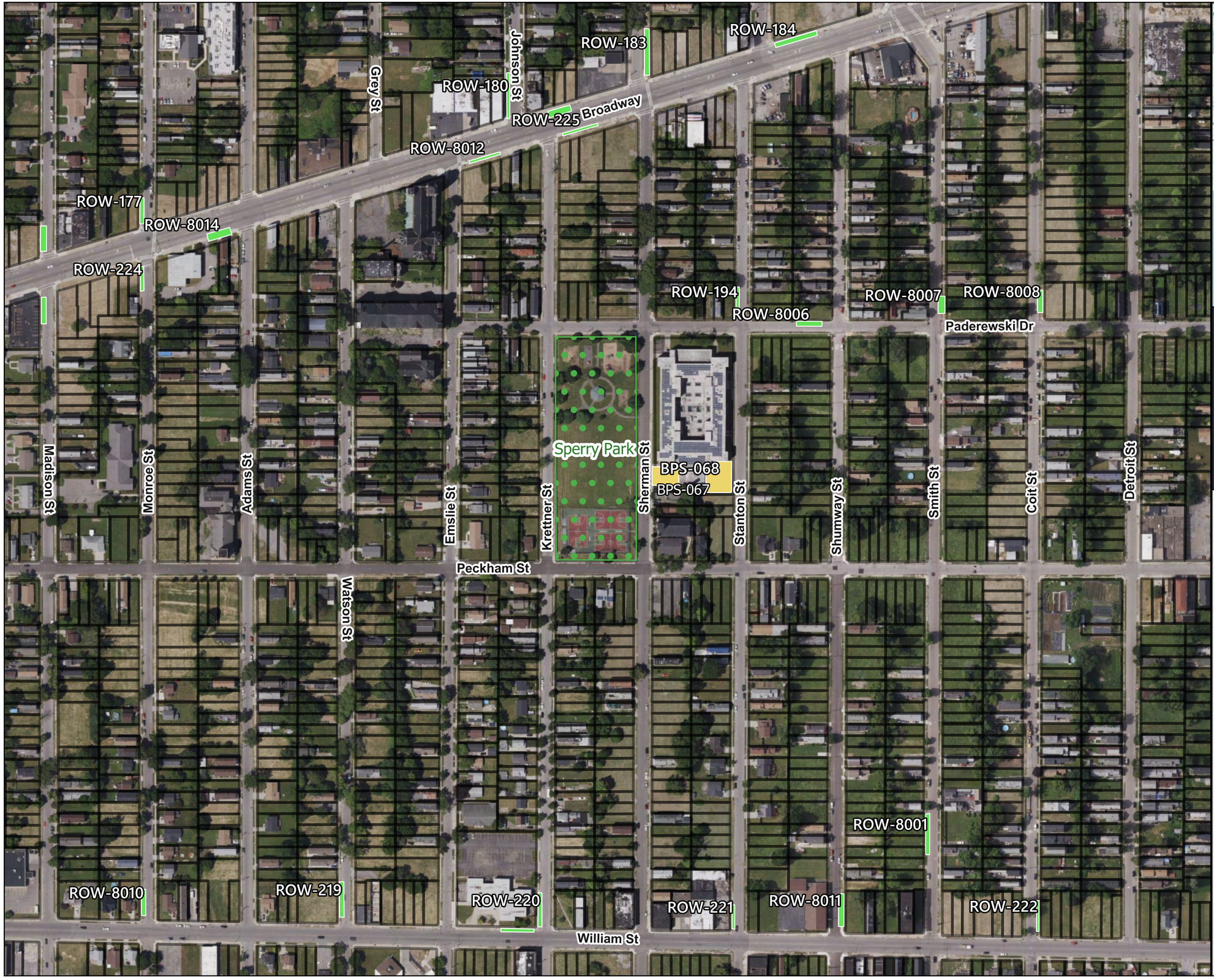
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 19 of 23)

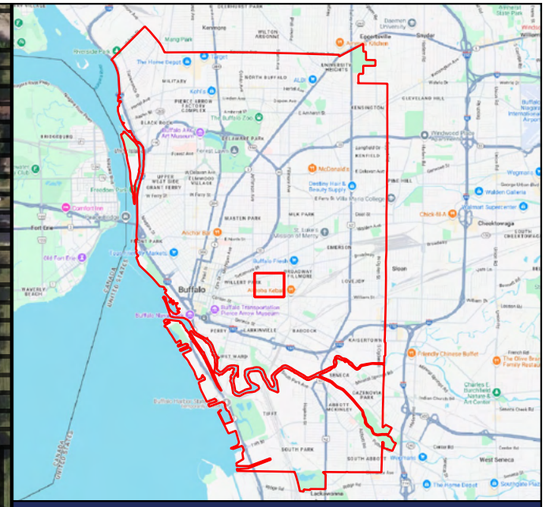
Legend

BSA Project Location Type

- Rain garden
- Stormwater planter
- Stormwater tree trench
- Stormwater tree trench/bump out
- Park
- Historic District
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

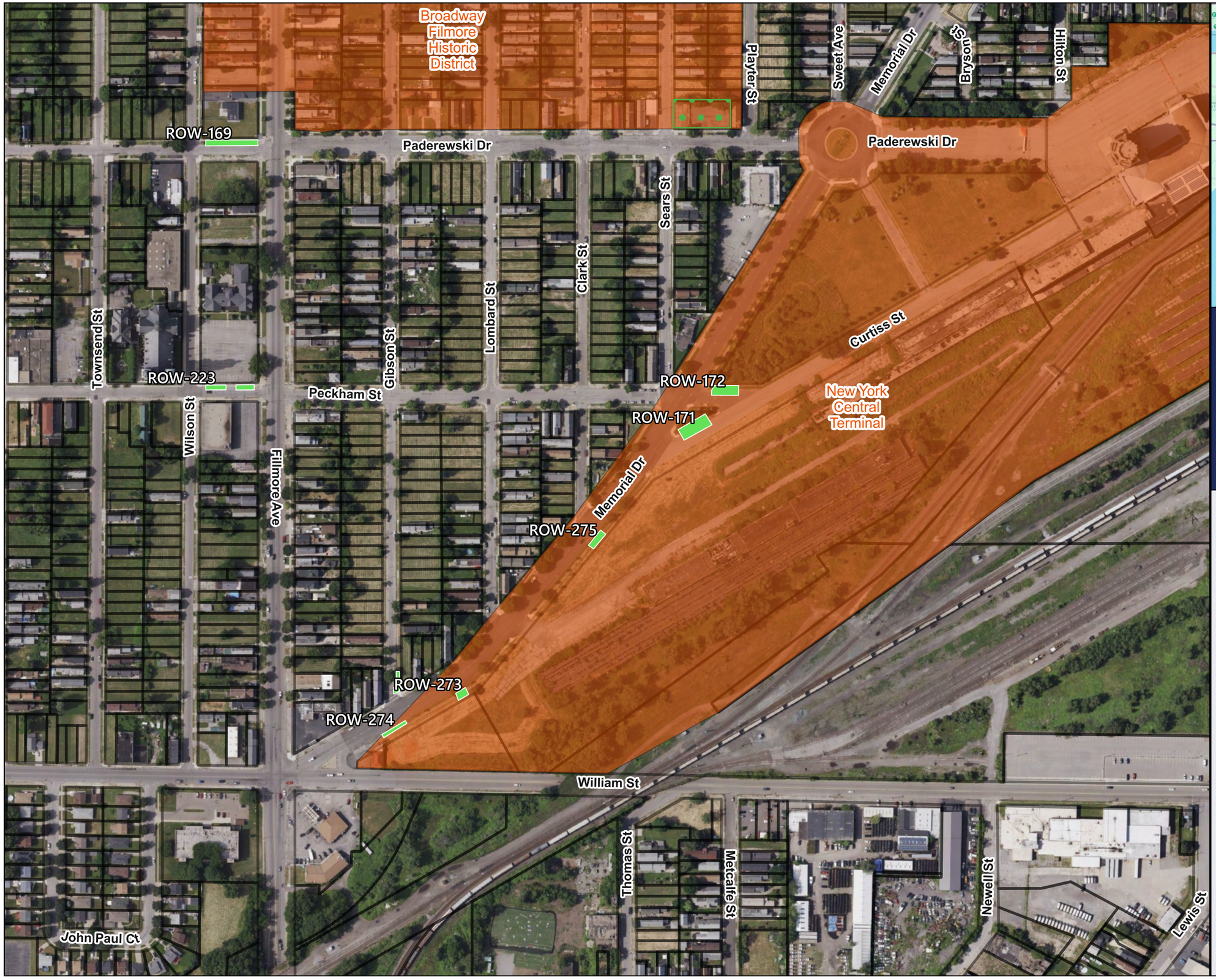
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 20 of 23)

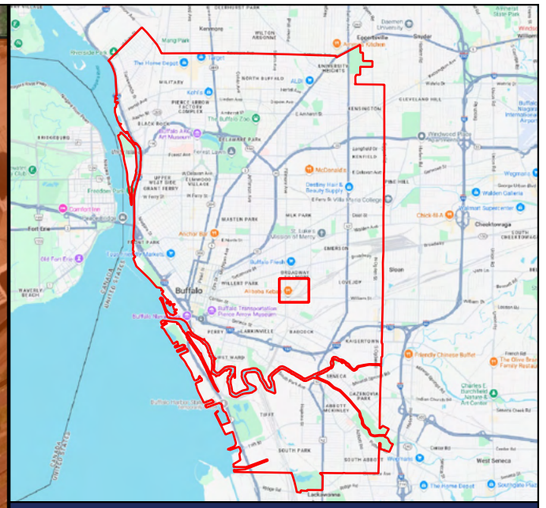
Legend

BSA Project Location Type

- Porous asphalt
- Stormwater tree trench
- Park
- Parcel

0 150 300 450 ft





JMDavidson Engineering, D.P.C.

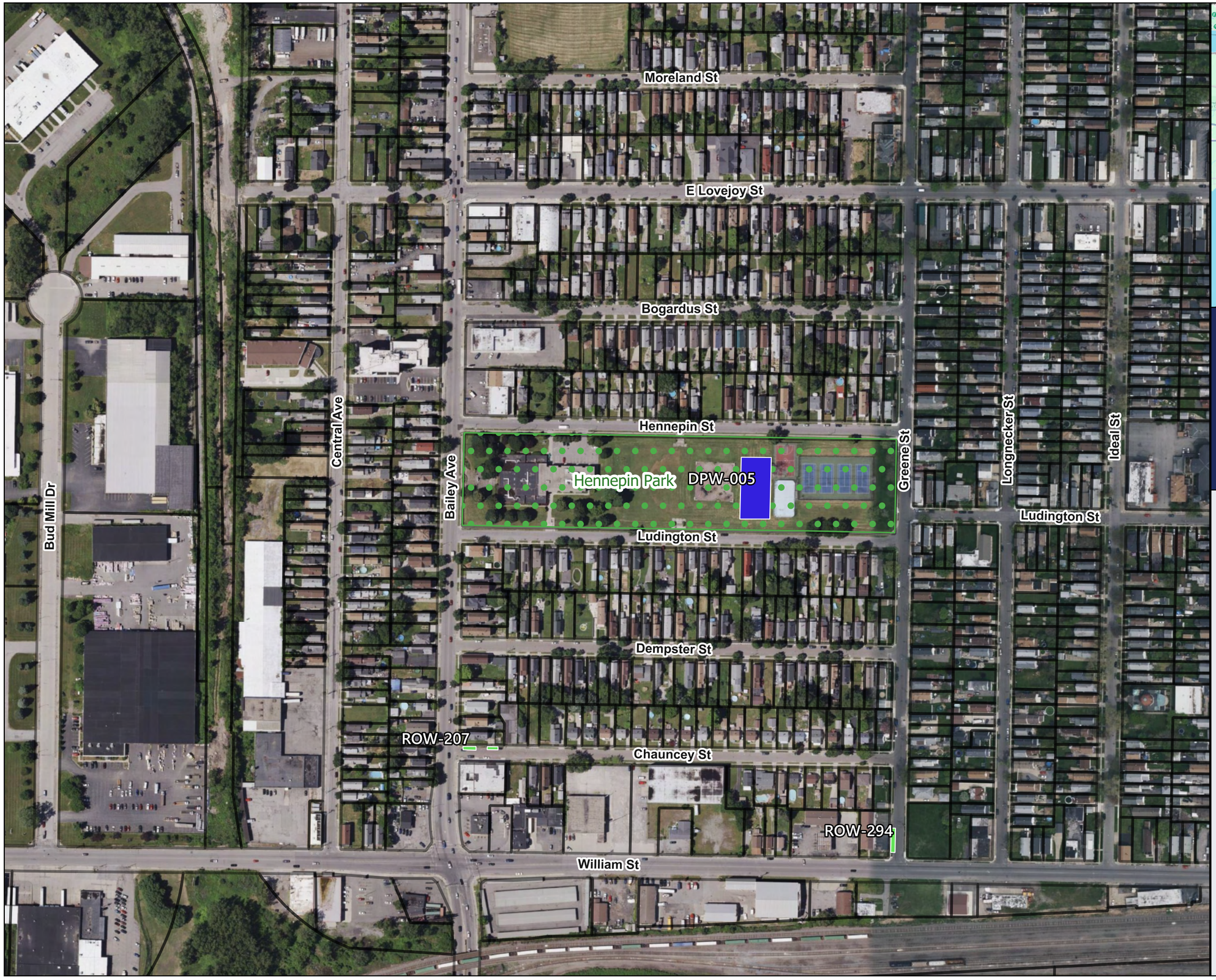
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 21 of 23)

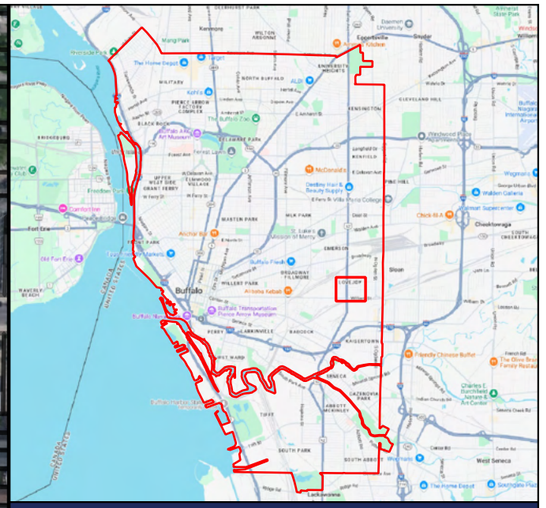
Legend

BSA Project Location Type

- Stormwater tree trench
- Park
- Historic District
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

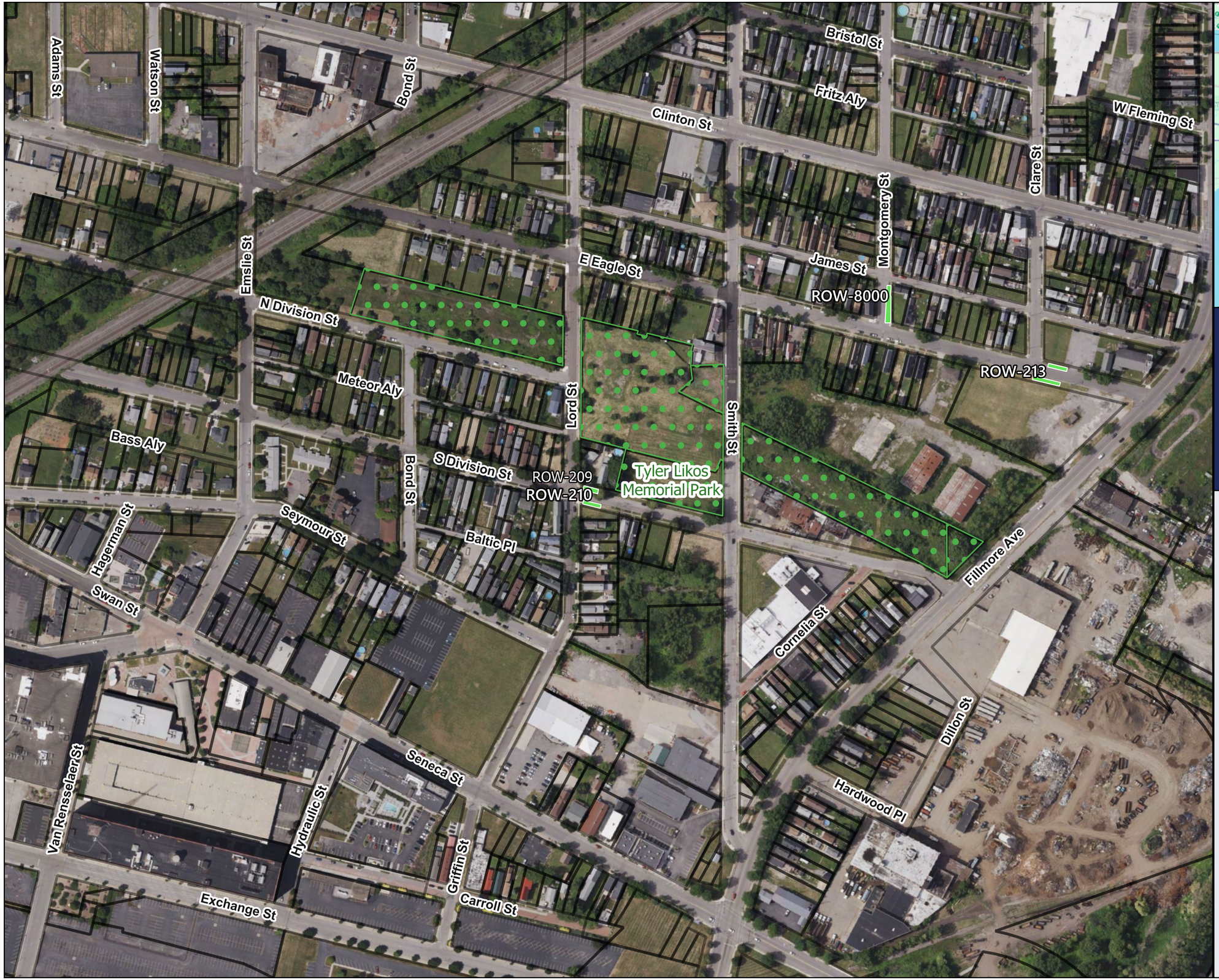
Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 22 of 23)

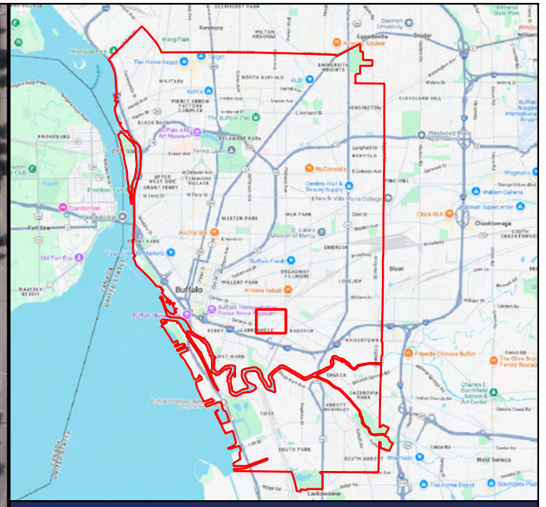
Legend

BSA Project Location Type

- Stormwater tree trench
- Underground storage
- Park
- Parcel

0 150 300 450 ft





JMDavidson
Engineering, D.P.C.

Buffalo Sewer Authority Green Infrastructure SEQRA Analysis - Cultural Resource Map (Map 23 of 23)

Legend

BSA Project Location Type

- Stormwater tree trench
- Park
- Parcel

0 150 300 450 ft

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: 07/03/2025 18:43:37 UTC
Project code: 2025-0117812
Project Name: Buffalo Sewer Authority Green Infrastructure Stormwater Management Practices for CSO Basins

Federal Nexus: yes
Federal Action Agency (if applicable): Buffalo city

Subject: Record of project representative's no effect determination for 'Buffalo Sewer Authority Green Infrastructure Stormwater Management Practices for CSO Basins'

Dear Angela Gardner:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on July 03, 2025, for 'Buffalo Sewer Authority Green Infrastructure Stormwater Management Practices for CSO Basins' (here forward, Project). This project has been assigned Project Code 2025-0117812 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the **Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey)**, invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat and/or Tricolored Bat

Based upon your IPaC submission and a standing analysis, your project has reached the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	No effect

To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Salamander Mussel *Simpsonaias ambigua* Proposed Endangered

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

Next Steps

If there are no updates on listed species, no further consultation/coordination for this project is required with respect to the species covered by this key. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the New York Ecological Services Field Office and reference Project Code 2025-0117812 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Buffalo Sewer Authority Green Infrastructure Stormwater Management Practices for CSO Basins

2. Description

The following description was provided for the project 'Buffalo Sewer Authority Green Infrastructure Stormwater Management Practices for CSO Basins':

> The Buffalo Sewer Authority (BSA) Long Term Control Plan (LTCP) is a comprehensive, multi-year strategy designed to address combined sewer overflows (CSOs) into local waterways during rain and snowmelt events. BSA currently has 52 permitted CSO outfalls that are regulated under the Clean Water Act and permitted under the New York State issued State Pollutant Discharge Elimination System (SPDES) permit (Permit No. 002 8410). The LTCP was developed to comply with the U.S. Environmental Protection Agency's (EPA) national CSP Control Policy and revised water quality standards from CSOs.
>
> BSA launched the Rain Check Program in 2015, a dedicated green infrastructure program which documents BSA's strategies for addressing goals outlined in the LTCP. As part of this program, six priority CSO basins were identified for green infrastructure improvements within Buffalo's East Side, downtown, and South Buffalo neighborhoods. For this phase of the Rain Check Program, BSA is focusing on GI practices in CSO Basins 6, 26, 27, 33, and 53. These areas were selected as these communities have high impervious surface coverage, low tree canopy, and socioeconomic vulnerability as they are historically underserved areas and can disproportionately experience pollution and flooding. These practices include GI retrofits on public property and within public right-of-way (ROW). A total of 558 GI locations have been identified throughout the basins.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.910426,-78.83446966080291,14z


Kenmore
Williamsv
Buffalo
Sloan
Lackawanna
BAILEY AVE
Buffalo Cr

DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the species covered by this determination key. Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for those species.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   No

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

10. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

11. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    No

12. Will the action cause effects to a bridge?

    Note: Covered bridges should be considered as bridges in this question.

    No

13. Will the action result in effects to a culvert or tunnel at any time of year?

    No

14. Are trees present within 1000 feet of the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

15. Does the action area intersect the northern long-eared bat species list area?

    Automatically answered
    Yes

16. [Semantic] Is the action area located within 0.5 miles of radius of an entrance/opening to any known NLEB hibernacula? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

17. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

18. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Automatically answered
    No

19. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.Have you contacted the appropriate agency to determine if your action is within 150 feet of any documented northern long-eared bat roosts?

    Note: A document with links to Natural Heritage Inventory databases and other state-specific sources of information on the locations of northern long-eared bat roosts is available here. Location information for northern long-eared bat roosts is generally kept in state natural heritage inventory databases – the availability of this data varies by state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited.

    Automatically answered
    No

20. Do you have any documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Angela Gardner
Address: 935 Sheridan Drive, Suite 120
Address Line 2: JM Davidson Engineering, DPC
City: Tonawanda
State: NY
Zip: 14150
Email agardner@jmdavidsoneng.com
Phone: 7162441315

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Buffalo city

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: 07/03/2025 18:34:30 UTC
Project Code: 2025-0117812
Project Name: Buffalo Sewer Authority Green Infrastructure Stormwater Management Practices for CSO Basins

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the**

header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

PROJECT SUMMARY

Project Code: 2025-0117812

Project Name: Buffalo Sewer Authority Green Infrastructure Stormwater Management Practices for CSO Basins

Project Type: Stormwater Discharge with NPDES Permit

Project Description: The Buffalo Sewer Authority (BSA) Long Term Control Plan (LTCP) is a comprehensive, multi-year strategy designed to address combined sewer overflows (CSOs) into local waterways during rain and snowmelt events. BSA currently has 52 permitted CSO outfalls that are regulated under the Clean Water Act and permitted under the New York State issued State Pollutant Discharge Elimination System (SPDES) permit (Permit No. 002 8410). The LTCP was developed to comply with the U.S. Environmental Protection Agency's (EPA) national CSP Control Policy and revised water quality standards from CSOs.

BSA launched the Rain Check Program in 2015, a dedicated green infrastructure program which documents BSA's strategies for addressing goals outlined in the LTCP. As part of this program, six priority CSO basins were identified for green infrastructure improvements within Buffalo's East Side, downtown, and South Buffalo neighborhoods. For this phase of the Rain Check Program, BSA is focusing on GI practices in CSO Basins 6, 26, 27, 33, and 53. These areas were selected as these communities have high impervious surface coverage, low tree canopy, and socioeconomic vulnerability as they are historically underserved areas and can disproportionately experience pollution and flooding. These practices include GI retrofits on public property and within public right-of-way (ROW). A total of 558 GI locations have been identified throughout the basins.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.910426,-78.83446966080291,14z

Counties: Erie County, New York

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

CLAMS

NAME	STATUS
Salamander Mussel *Simpsonaias ambigua* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency:	Private Entity
Name:	Angela Gardner
Address:	935 Sheridan Drive, Suite 120
Address Line 2:	JM Davidson Engineering, DPC
City:	Tonawanda
State:	NY
Zip:	14150
Email	agardner@jmdavidsoneng.com
Phone:	7162441315

JM Davidson Engineering, D.P.C.

935 Sheridan Drive, Suite 120
Tonawanda, New York 14150
Phone: 716.453.1646

July 8, 2025

NYSDEC Region 9
Department of Permits
Buffalo, New York 14209

Sent via email to dep.r9@dec.ny.gov

SUBJECT: BUFFALO SEWER AUTHORITY
GREEN INFRASTRUCTURE PROJECT
CITY OF BUFFALO, ERIE COUNTY, NEW YORK

Dear Region 9 DEP,

JM Davidson Engineering, D.P.C. (JMD) teaming with Stantec Consulting Services, Inc (Stantec), are assisting Buffalo Sewer Authority (BSA) in an environmental review of their Green Infrastructure Project that is a part of BSA's Long Term Control Plan (LTCP). The project involves retrofitting green infrastructure (GI) stormwater practices into public rights-of-ways (ROW), six parks, and 19 public schools and school property to reduce runoff into the combined sewer system with the goal of reducing combined sewer outfall (CSO) discharge during storm events. A total of 558 GI practice locations is proposed in a project area approximately 8,977 acres in size. **Attachment 1** has a general location map of the project area and GI practice locations. Construction is anticipated to be completed by 2028.

The GI practices that are proposed to be implemented are summarized in Table 1. These practices were selected and designed based on the *NYS Stormwater Management Design Manual* and their suitability for the sites within the City of Buffalo.

Table 1: Proposed GI Practice Summary

GI Practice	Number to be Installed	Total Area (Acres)
Stormwater Tree Trench	453	8.99
Porous Asphalt Pavement	31	25.78
Rain Garden (Bio Retention Basin)	17	0.36
Underground Storage	10	0.65
Pavement Removal	2	0.26
Stormwater Tree Trench-Bump Out Combination	11	0.20
Stormwater Planter	22	0.48
Infiltration Trench	7	0.21
Bump Out	5	0.09

GI Practice	Number to be Installed	Total Area (Acres)
Total	**558**	**37.02**

A review of the information in the Environmental Resource Mapper indicates that peregrine falcon, a state endangered bird, is found in three different locations in the project area. The locations are:

- University of Buffalo MacKay Heating Plant
- Statler City Building
- Central Terminal

There are 32 GI practice locations within the 0.5 mile buffer of these locations. Table 2 summarizes the information about these GI practice locations. **Attachment 2** contains maps of these locations. A zip file containing the GI practices in these buffers is included as an electronic attachment to the email transmitting this information.

Table 2: GI Practices within 0.5-mile of Peregrine Falcon Nest/Location

GI Practice ID	Nearest Parcel Address	GI Practice Type Proposed	Distance from the Center of Buffer	Area (Square Feet)
DPW-006	Lincoln Park	Stormwater Tree Tench	2,566 ft	719
DPW-007	Lincoln Park	Stormwater Tree Tench	2,360 ft	638
ROW-161	612 Howard St	Stormwater Tree Tench	2,483 ft	1,614
ROW-163	82 Peck St	Stormwater Tree Tench	2,556 ft	896
ROW-169	612 Filmore Ave	Stormwater Tree Tench	2,418 ft	2,174
ROW-171	111 Memorial Dr	Stormwater Tree Tench	1,388 ft	2,875
ROW-172	Peckham St & Curtiss St	Stormwater Tree Tench	1,264 ft	1,870
ROW-174	1094 Broadway St	Stormwater Tree Tench	1,955 ft	653
ROW-175	1164 Broadway St	Stormwater Tree Tench	1,865 ft	803
ROW-199	60 Ashley St	Stormwater Tree Trench/Bump Out	1,837 ft	789

GI Practice ID	Nearest Parcel Address	GI Practice Type Proposed	Distance from the Center of Buffer	Area (Square Feet)
ROW-200	66 Grimes St	Stormwater Tree Trench/Bump Out	1,591 ft	1,125
ROW-201	65 Grimes St	Stormwater Tree Trench/Bump Out	1,511 ft	760
ROW-202	96 Grimes St	Stormwater Tree Trench/Bump Out	1,862 ft	734
ROW-223	389 Peckham St	Stormwater Tree Trench	2,503 ft	1,436
ROW-231	49 E Ferry St	Stormwater Tree Trench	2655 ft	796
ROW-232	47 E Ferry St	Stormwater Tree Trench	2,502 ft	750
ROW-258	479 Lisbon Ave	Stormwater Tree Trench	2,267 ft	753
ROW-259	3365 Bailey Ave	Stormwater Tree Trench	1,661 ft	643
ROW-260	3251 Bailey Ave	Stormwater Tree Trench	2,585 ft	475
ROW-263	193 Lisbon Ave	Stormwater Tree Trench	1,214 ft	410
ROW-265	192 Lisbon Ave	Stormwater Tree Trench	1,123 ft	950
ROW-272	34 Memorial Dr	Stormwater Tree Trench	2,436 ft	632
ROW-273	59 Memorial Dr	Stormwater Tree Trench	2,320 ft	644
ROW-274	20 Memorial Dr	Stormwater Tree Trench	2,520 ft	698
ROW-275	114 Memorial Dr	Stormwater Tree Trench	1,776 ft	910
ROW-292	1270 Broadway St	Stormwater Tree Trench	2,132 ft	1,368
ROW-293	1261 Broadway St	Stormwater Tree Trench	2,043 ft	718
ROW-302	81 Ashley St	Stormwater Tree Trench	1,890 ft	459

GI Practice ID	Nearest Parcel Address	GI Practice Type Proposed	Distance from the Center of Buffer	Area (Square Feet)
ROW-8002	384 Curtiss St	Stormwater Tree Trench	995 ft	714
ROW-8003	1132 Broadway St	Stormwater Tree Trench	1,985 ft	1,004
ROW-8004	1073 Broadway St	Stormwater Tree Trench	1,898 ft	1,320
ROW-8017	964 Broadway St	Stormwater Tree Trench	2,656 ft	2,505
Total Area of GI Practices within 0.5 miles of Peregrine Falcon Occurrence				**32,837 square feet/ 0.75 acres**

No work is proposed to the buildings or the streets surrounding the immediate vicinity of the building where peregrine falcons are nesting. We kindly ask for NYSDEC to review this project information and determine if the project will have an impact on the state endangered, peregrine falcon.

If you have any questions regarding this project, please contact me at (716) 244-1315.

Sincerely,

JM Davidson Engineering, D.P.C.

Angela Gardner

Angela Gardner,
Senior Biologist

Attachments (2)

Cc: Stantec

Legend

- Project Area
- BSA Scajaquada Drain
- Cities/Town Border

Tonawanda

Amherst

Cheektowaga

Buffalo

West Seneca

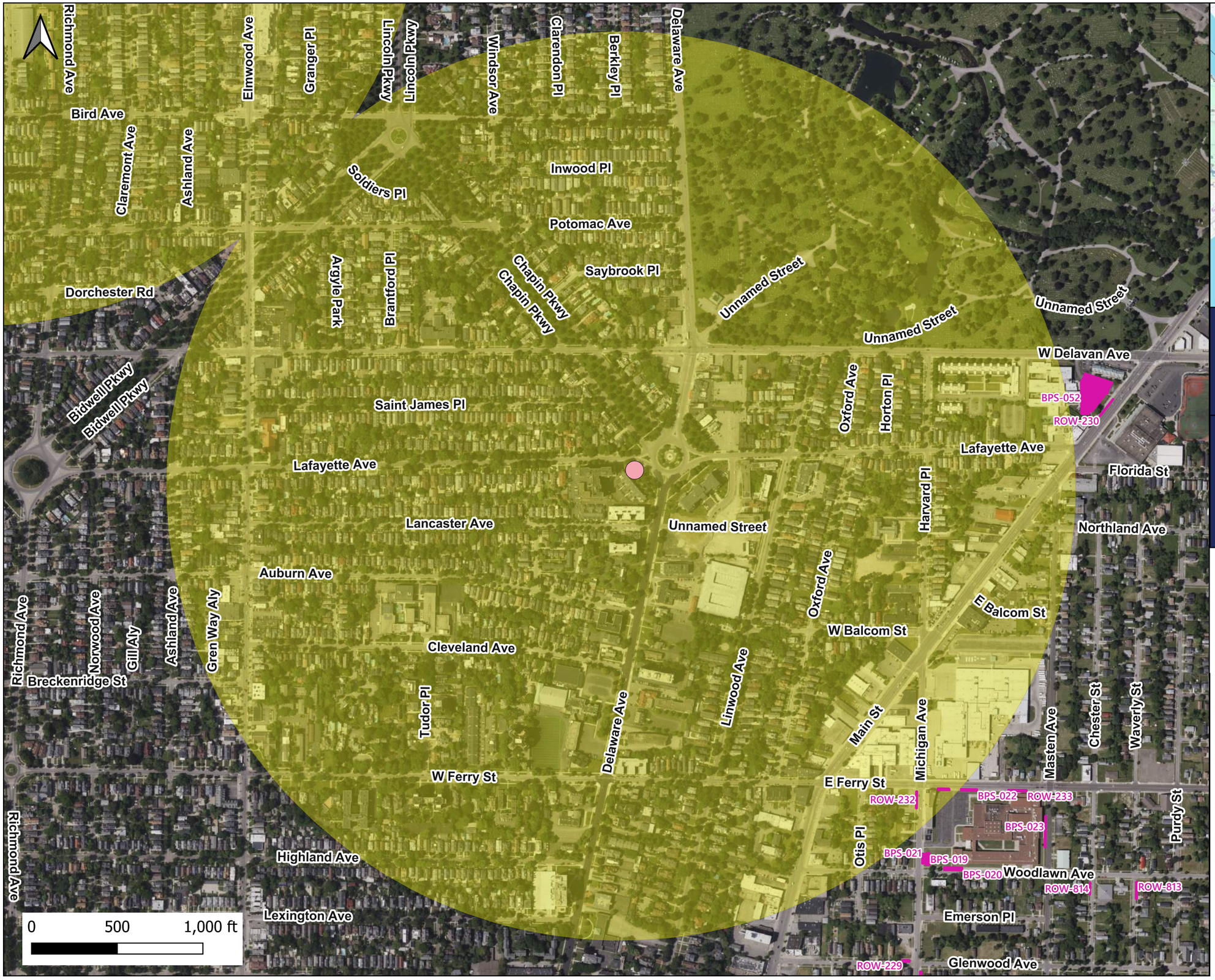
0 0.5 1 mi

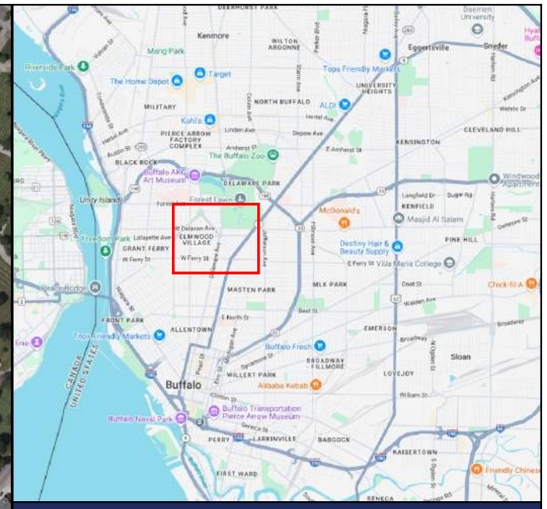
N

BUFFALO SEWER AUTHORITY GREEN INFRASTRUCTURE

PROJECT AREA MAP

JMDavidson Engineering, D.P.C.





JMDavidson Engineering, D.P.C.

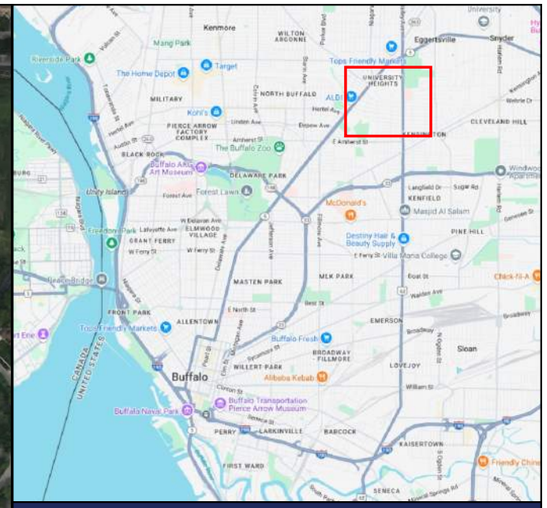
Peregrine Falcon Area Map 1

Legend

- BSA Green Infrastructure Locations
- Threatened & Endangered Species Buffer Zone
- Presumed Location of Peregrine Nest

Description:

ROW-231 and ROW-232 are located in a Pergrine Falcon area



JMDavidson
Engineering, D.P.C.

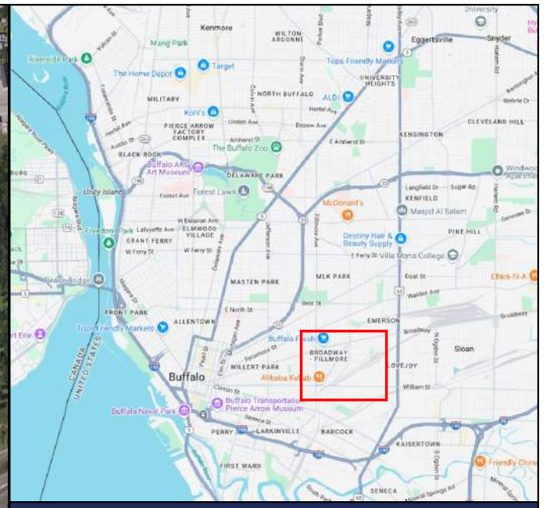
Peregrine Falcon Area Map 2

Legend

- BSA Green Infrastructure Locations
- Threatened & Endangered Species Buffer Zone
- Presumed Location of Peregrine Nest

Description:

ROW-258, ROW-259, ROW-260, ROW-263, and ROW-265 are located in a Pergrine Falcon area



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Peregrine Falcon Area Map 3

Legend

- BSA Green Infrastructure Locations
- Threatened & Endangered Species Buffer Zone
- Presumed Location of Peregrine Nest

Description:

ROW-161, ROW-163, ROW-169, ROW-171, ROW-172, ROW-174, ROW-175, ROW-199, ROW-200, ROW-201, ROW-202, ROW-223, ROW-272, ROW-273, ROW-274, ROW-275, ROW-292, ROW-293, ROW-302, ROW-8002, ROW-8004, ROW-8017, DPW-006, and DPW-007 are located in a Pergrine Falcon area

Appendix : Report Section Maps

Legend

- Project Area
- BSA GI Locations
- Historic District
- Eligible Historic Buildings
- Listed Historic Buildings
- Archaeological Buffer Areas
- BSA Scajaquada Drain

0 0.5 1 mi

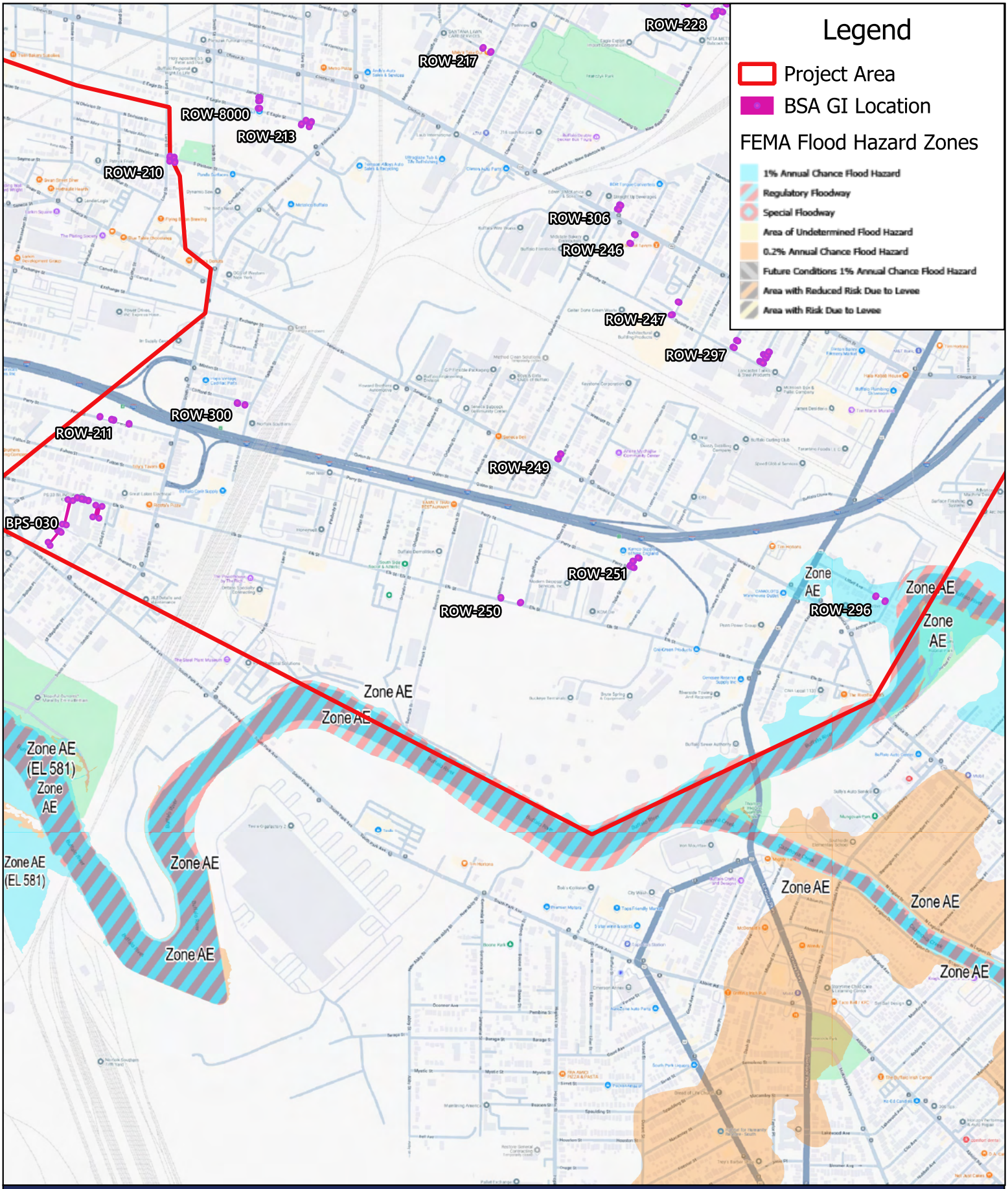
N

BUFFALO SEWER AUTHORITY GREEN INFRASTRUCTURE

FIGURE 2.5-1

CULTURAL RESOURCES OVERVIEW MAP

JMDavidson Engineering, D.P.C.

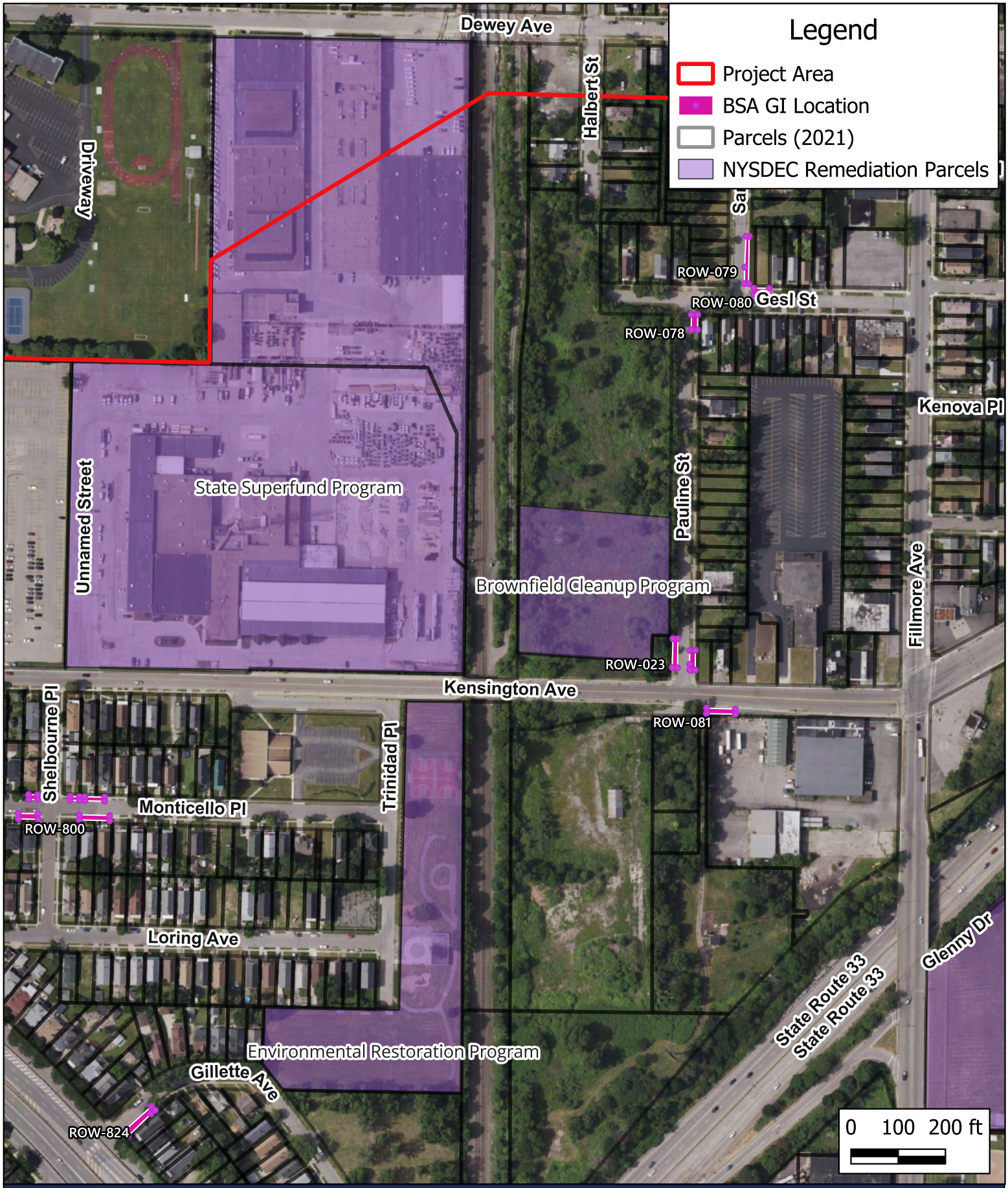


BUFFALO SEWER AUTHORITY GREEN INFRASTRUCTURE
FIGURE 2.9-1

FEMA MAPPED FLOODPLAINS

N

JMDavidson Engineering, D.P.C.



BUFFALO SEWER AUTHORITY GREEN INFRASTRUCTURE
FIGURE 2.10-1

NYSDEC REMEDIATION PARCELS

JMDavidson Engineering, D.P.C.

Legend

- Project Area
- BSA GI Locations
- BSA Scajaquada Drain
- Potential Environmental Justice Area (PEJA)
- Disadvantaged Community (NYSERDA)

0 0.5 1 mi

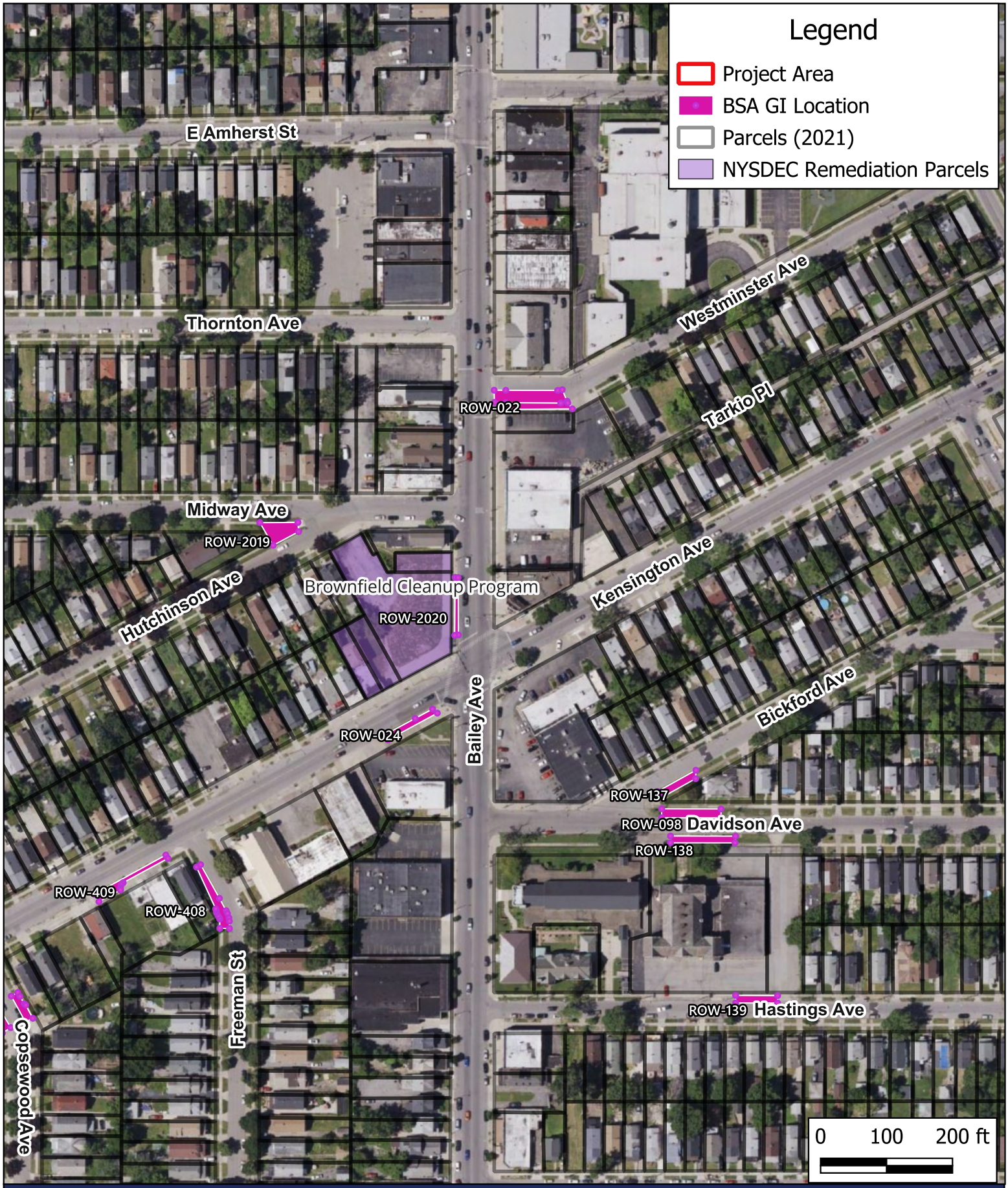
N

BUFFALO SEWER AUTHORITY GREEN INFRASTRUCTURE

FIGURE 2.11-1

PEJA & DISADVANTAGED COMMUNITY MAP

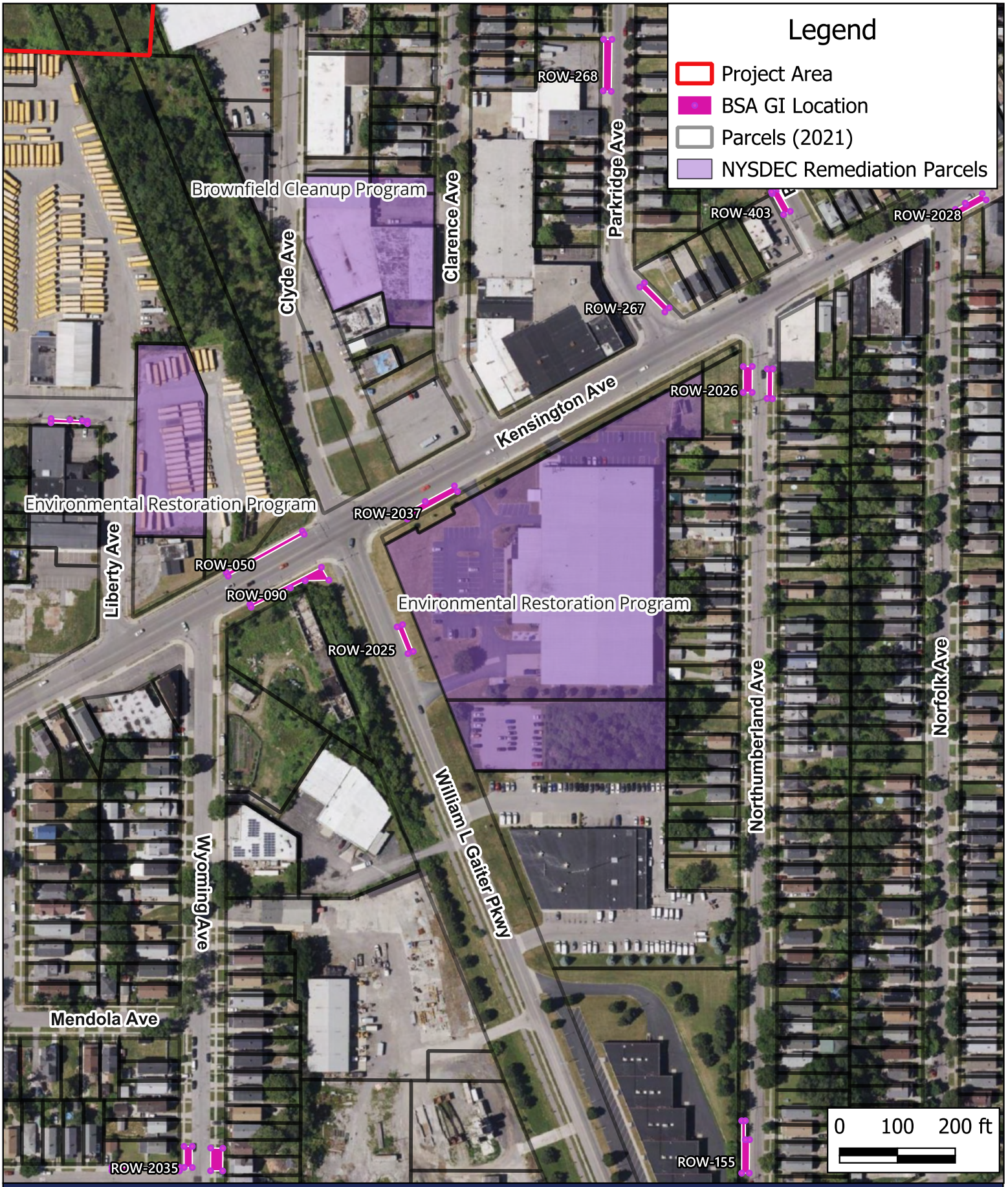
JMDavidson Engineering, D.P.C.



BUFFALO SEWER AUTHORITY GREEN INFRASTRUCTURE
FIGURE 2.10-2

NYSDEC REMEDIATION PARCELS

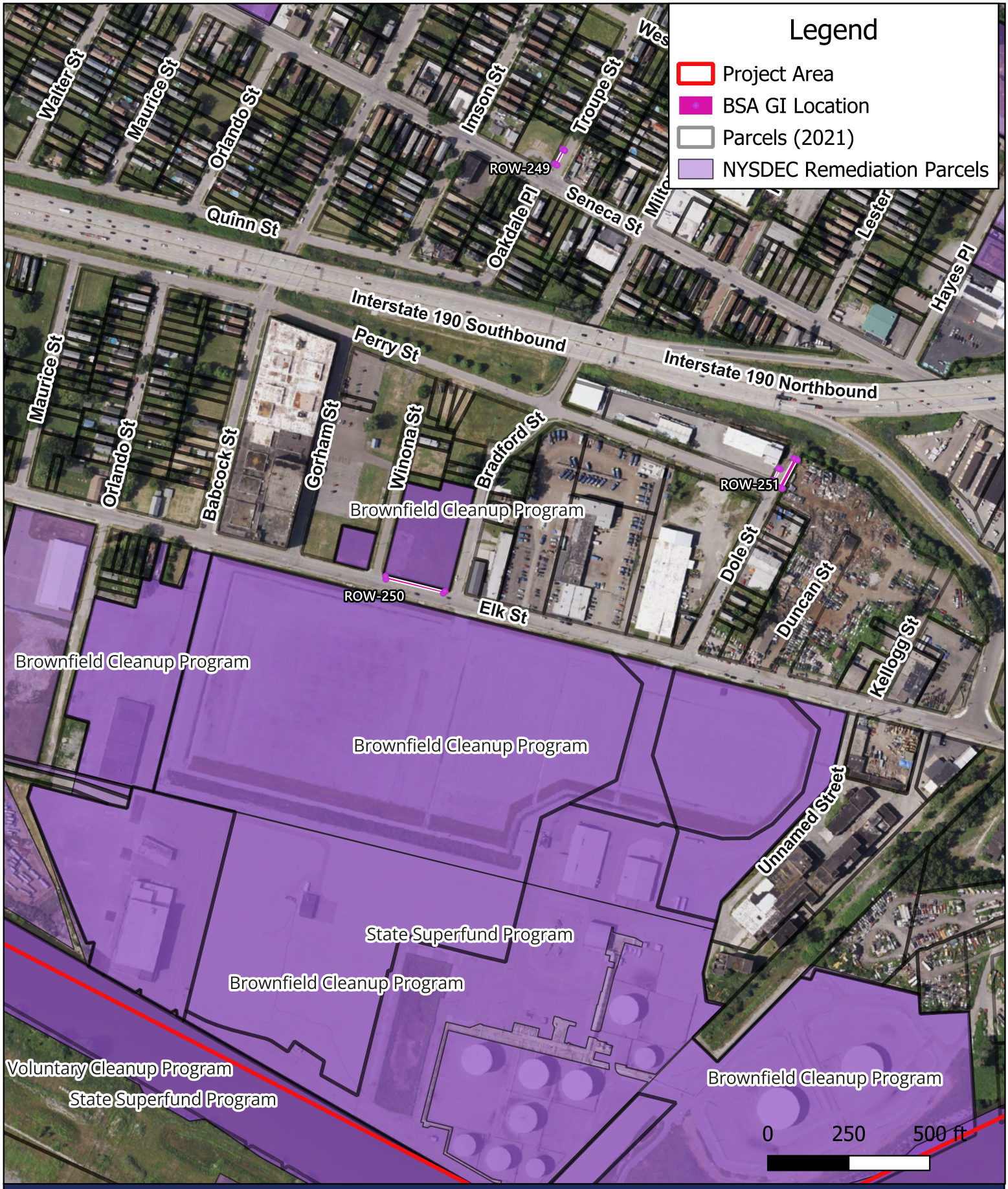
JMDavidson Engineering, D.P.C.



BUFFALO SEWER AUTHORITY GREEN INFRASTRUCTURE
FIGURE 2.10-3

NYSDEC REMEDIATION PARCELS

JMDavidson Engineering, D.P.C.



BUFFALO SEWER AUTHORITY GREEN INFRASTRUCTURE
FIGURE 2.10-4

NYSDEC REMEDIATION PARCELS

JMDavidson Engineering, D.P.C.

BUFFALO SEWER AUTHORITY GREEN INFRASTRUCTURE
FIGURE 2.10-5

NYSDEC REMEDIATION PARCELS

N

JMDavidson Engineering, D.P.C.

Legend

- Project Area
- BSA Project Locations

National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- NYSDEC Water Quality Classification (Line)
- Previously Mapped State Regulated Wetlands
- Informational Freshwate Wetland
- Scajaquada Drain

0 0.5 1 mi

N

BUFFALO SEWER AUTHORITY GREEN INFRASTRUCTURE

FIGURE 2.6-1

WETLANDS MAP

JMDavidson Engineering, D.P.C.

JMDavidson
Engineering, D.P.C.

BUFFALO SEWER AUTHORITY
GREEN INFRASTRUCTURE

WATERBODIES MAP

NYSDEC Class C Stream

Scajaquada Creek Watershed
HUC 042701010801

NYSDEC Class C Stream

City of Buffalo

Town of Cheektowaga

Buffalo River Watershed
HUC 041201030306

N

0 1,000 2,000 ft

Legend

- City/Town Border
- NYSDEC Water Quality Classification (Line)
- Green Infrastructure Project Area
- HUC 12 Watershed Boundary
- Scajaquada Drain (BSA Location Data)
- Green Infrastructure Location

FIGURE
2.7-1