RUTGERS
New Jersey Agricultural
Experiment Station

Draft

Impervious Cover Reduction Action Plan
for
South Plainfield Borough, Middlesex County, New Jersey

Prepared for South Plainfield Borough by the
Rutgers Cooperative Extension Water Resources Program

October 12, 2015

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Introduction

Located in Middlesex County in central New Jersey, South Plainfield Borough covers approximately 8.3 square miles northeast of Piscataway. Figures 1 and 2 illustrate that South Plainfield Borough is dominated by urban land uses. A total of 79.0% of the municipality's land use is classified as urban. Of the urban land in South Plainfield Borough, medium density residential is the dominant land use (Figure 3).

The New Jersey Department of Environmental Protection's (NJDEP) 2007 land use/land cover geographical information system (GIS) data layer categorizes South Plainfield Borough into many unique land use areas, assigning a percent impervious cover for each delineated area. These impervious cover values were used to estimate the impervious coverage for South Plainfield Borough. Based upon the 2007 NJDEP land use/land cover data, approximately 39.4% of South Plainfield Borough has impervious cover. This level of impervious cover suggests that the streams in South Plainfield Borough are likely non-supporting streams.[1]

Methodology

South Plainfield Borough contains portions of three subwatersheds (Figure 4). For this impervious cover reduction action plan, projects have been identified in each of these watersheds. Initially, aerial imagery was used to identify potential project sites that contain extensive impervious cover. Field visits were then conducted at each of these potential project sites to determine if a viable option exists to reduce impervious cover or to disconnect impervious surfaces from draining directly to the local waterway or storm sewer system. During the site visit, appropriate green infrastructure practices for the site were determined. Sites that already had stormwater management practices in place were not considered.

[1] Caraco, D., R. Claytor, P. Hinkle, H. Kwon, T. Schueler, C. Swann, S. Vysotsky, and J. Zielinski. 1998. Rapid Watershed Planning Handbook. A Comprehensive Guide for Managing Urbanizing Watersheds. Prepared by Center For Watershed Protection, Ellicott City, MD. Prepared for U.S. Environmental Protection Agency, Office of Wetlands, Oceans and Watersheds and Region V. October 1998

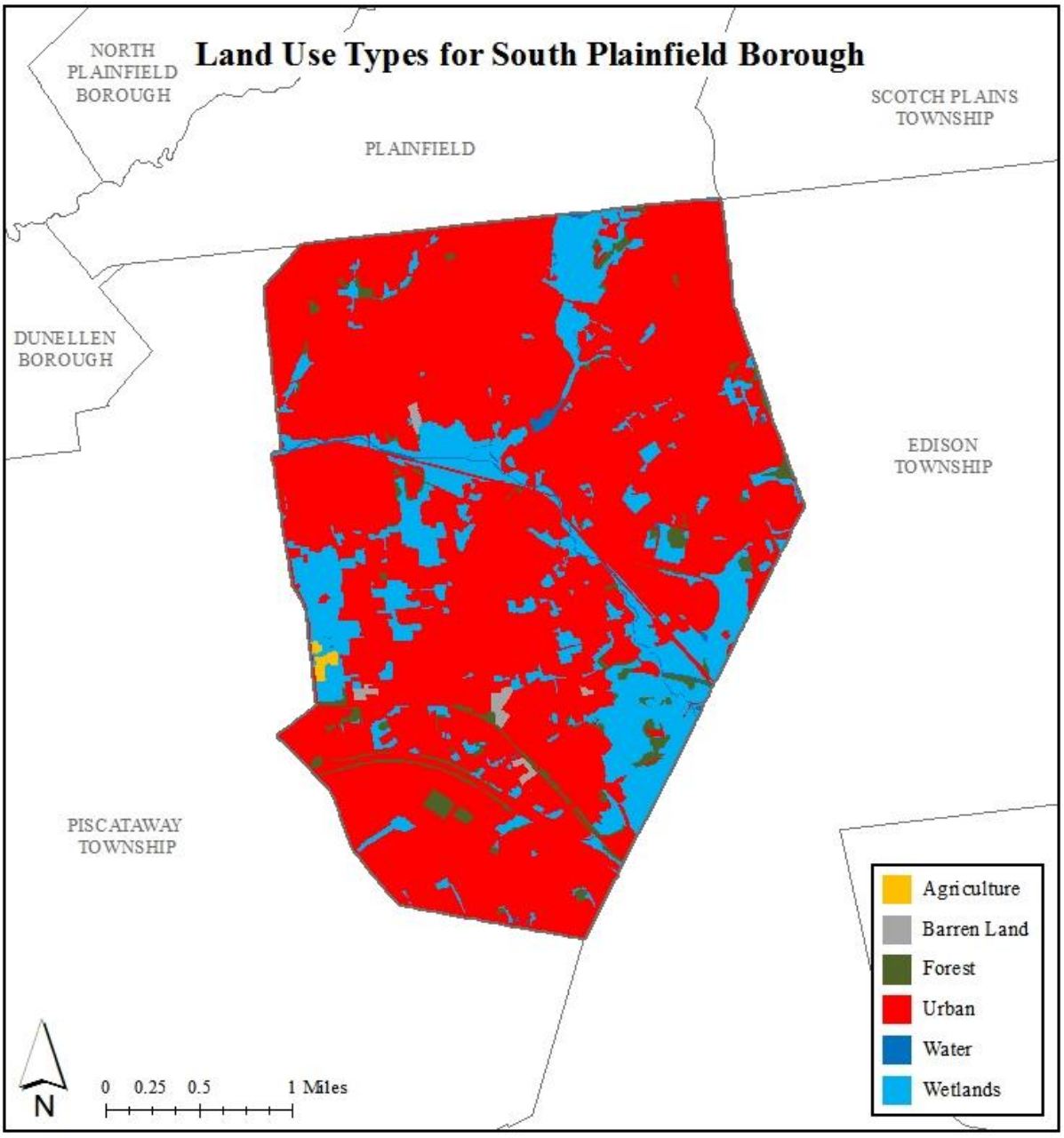


Figure 1: Map illustrating the land use in South Plainfield Borough

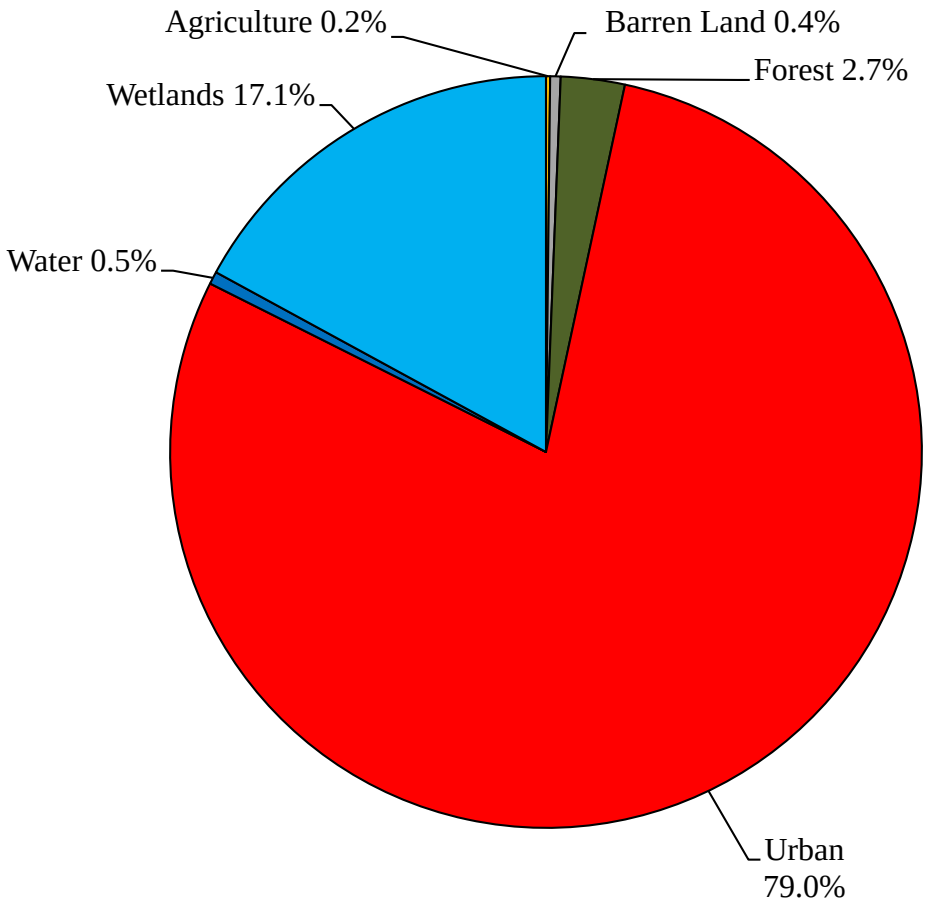


Figure 2: Pie chart illustrating the land use in South Plainfield Borough

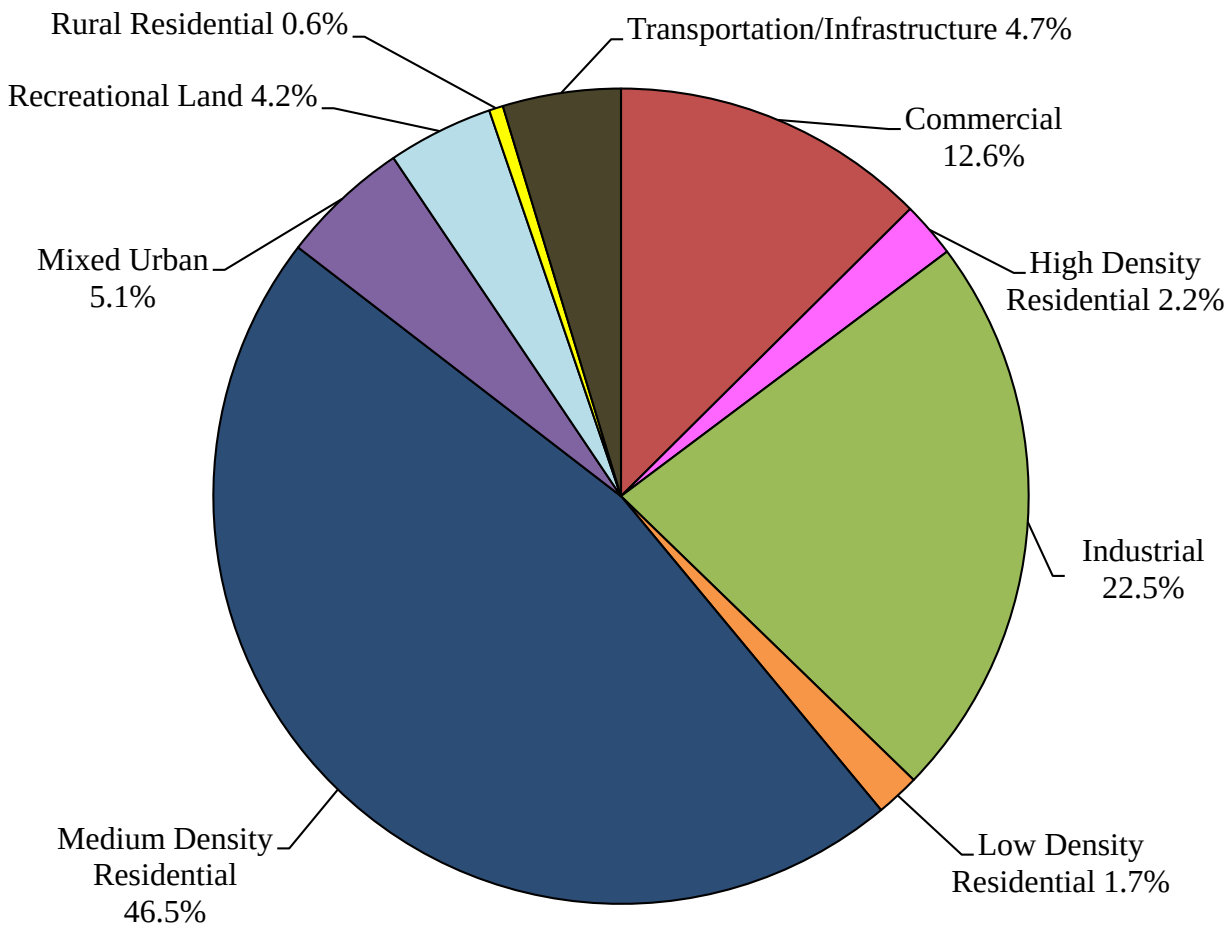


Figure 3: Pie chart illustrating the various types of urban land use in South Plainfield Borough

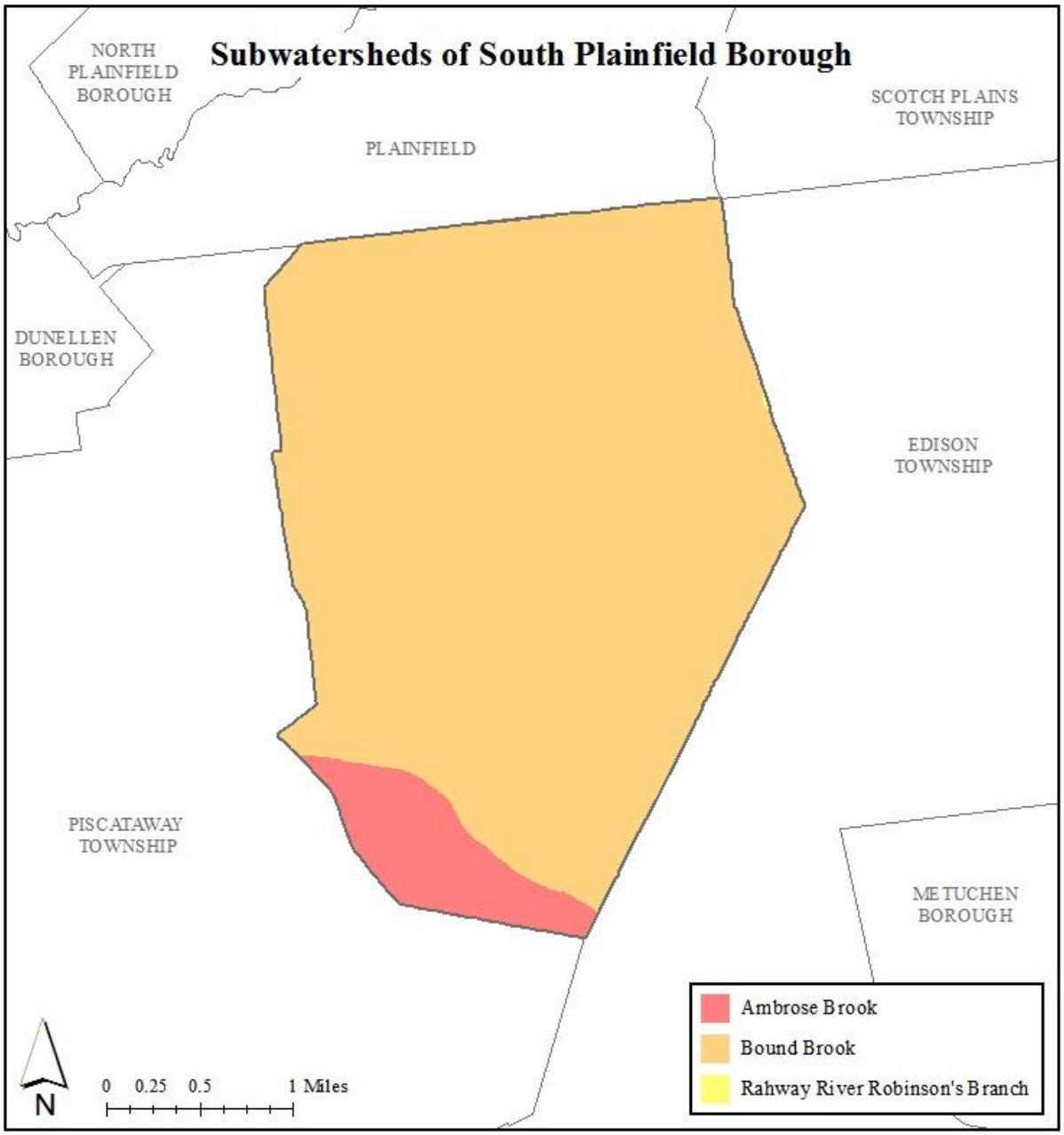


Figure 4: Map of the subwatersheds in South Plainfield Borough

For each potential project site, specific aerial loading coefficients for commercial land use were used to determine the annual runoff loads for total phosphorus (TP), total nitrogen (TN), and total suspended solids (TSS) from impervious surfaces (Table 1). These are the same aerial loading coefficients that NJDEP uses in developing total maximum daily loads (TMDLs) for impaired waterways of the state. The percentage of impervious cover for each site was extracted from the 2007 NJDEP land use/land cover database. For impervious areas, runoff volumes were determined for the water quality design storm (1.25 inches of rain over two-hours) and for the annual rainfall total of 44 inches.

Preliminary soil assessments were conducted for each potential project site identified in South Plainfield Borough using the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey, which utilizes regional and statewide soil data to predict soil types in an area. Several key soil parameters were examined (e.g., natural drainage class, saturated hydraulic conductivity of the most limiting soil layer (K_{sat}), depth to water table, and hydrologic soil group) to evaluate the suitability of each site's soil for green infrastructure practices. In cases where multiple soil types were encountered, the key soil parameters were examined for each soil type expected at a site.

For each potential project site, drainage areas were determined for each of the green infrastructure practices proposed at the site. These green infrastructure practices were designed to manage the 2-year design storm, enabling these practices to capture 95% of the annual rainfall. Runoff volumes were calculated for each proposed green infrastructure practice. The reduction in TSS loading was calculated for each drainage area for each proposed green infrastructure practice using the aerial loading coefficients in Table 1. The maximum volume reduction in stormwater runoff for each green infrastructure practice for a storm was determined by calculating the volume of runoff captured from the 2-year design storm. For each green infrastructure practice, peak discharge reduction potential was determined through hydrologic modeling in HydroCAD. For each green infrastructure practice, a cost estimate is provided. These costs are based upon the square footage of the green infrastructure practice and the real cost of green infrastructure practice implementation in New Jersey.

Table 1: Aerial Loading Coefficients[2]

Land Cover	TP load (lbs/acre/yr)	TN load (lbs/acre/yr)	TSS load (lbs/acre/yr)
High, Medium Density Residential	1.4	15	140
Low Density, Rural Residential	0.6	5	100
Commercial	2.1	22	200
Industrial	1.5	16	200
Urban, Mixed Urban, Other Urban	1.0	10	120
Agriculture	1.3	10	300
Forest, Water, Wetlands	0.1	3	40
Barrenland/Transitional Area	0.5	5	60

[2] New Jersey Department of Environmental Protection (NJDEP), Stormwater Best Management Practice Manual, 2004.

Green Infrastructure Practices

Green infrastructure is an approach to stormwater management that is cost-effective, sustainable, and environmentally friendly. Green infrastructure projects capture, filter, absorb, and reuse stormwater to maintain or mimic natural systems and to treat runoff as a resource. As a general principal, green infrastructure practices use soil and vegetation to recycle stormwater runoff through infiltration and evapotranspiration. When used as components of a stormwater management system, green infrastructure practices such as bioretention, green roofs, porous pavement, rain gardens, and vegetated swales can produce a variety of environmental benefits. In addition to effectively retaining and infiltrating rainfall, these practices can simultaneously help filter air pollutants, reduce energy demands, mitigate urban heat islands, and sequester carbon while also providing communities with aesthetic and natural resource benefits[3]. A wide range of green infrastructure practices have been evaluated for the potential project sites in South Plainfield Borough. Each practice is discussed below.

Disconnected downspouts

This is often referred to as simple disconnection. A downspout is simply disconnected, and prevented from draining directly to the roadway or storm sewer system, and directed to discharge water to a pervious area (i.e., lawn).

Pervious pavements

There are several types of permeable pavement systems including porous asphalt, pervious concrete, permeable pavers, and grass pavers. These surfaces are hard and support vehicle traffic but also allow water to infiltrate through the surface. They have an underlying stone layer to store stormwater runoff and allow it to slowly seep into the ground.




[3] United States Environmental Protection Agency (USEPA), 2013. Watershed Assessment, Tracking, and Environmental Results, New Jersey Water Quality Assessment Report. http://ofmpub.epa.gov/waters10/attains_state.control?p_state=NJ

Bioretention systems/rain gardens

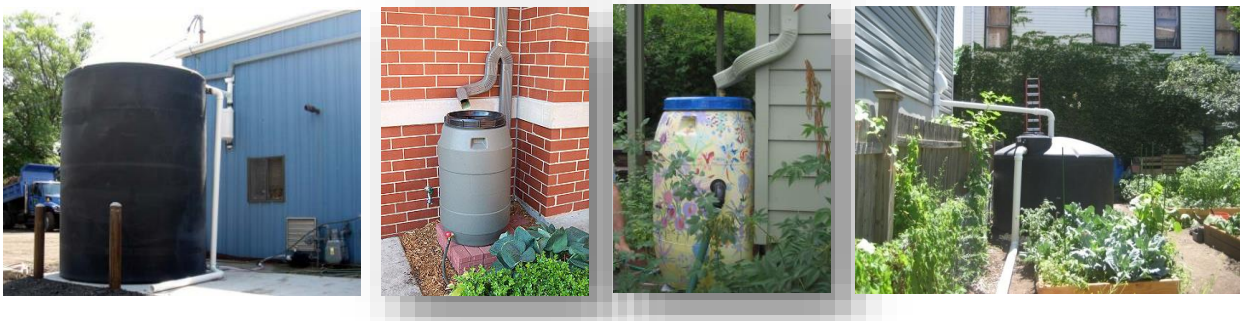
These are landscaped features that are designed to capture, treat, and infiltrate stormwater runoff. These systems can easily be incorporated into existing landscapes, improving aesthetics and creating a wildlife habitat while managing stormwater runoff. Bioretention systems also can be used in soils that do not quickly infiltrate by incorporating an underdrain into the system.

Downspout planter boxes

These are wooden boxes with plants installed at the base of a downspout that provide an opportunity to beneficially reuse rooftop runoff.

Rainwater harvesting systems (cistern or rain barrel)

These systems capture rainwater, mainly from rooftops, in cisterns or rain barrels. The water can then be used for watering gardens, washing vehicles, or for other non-potable uses.



Bioswale

Bioswales are landscape features that convey stormwater from one location to another while removing pollutants and providing water an opportunity to infiltrate.

Stormwater planters

Stormwater planters are vegetated structures that are built into the sidewalk to intercept stormwater runoff from the roadway or sidewalk. Many of these planters are designed to allow the water to infiltrate into the ground while others are designed simply to filter the water and convey it back into the stormwater sewer system.

Tree filter boxes

These are pre-manufactured concrete boxes that contain a special soil mix and are planted with a tree or shrub. They filter stormwater runoff but provide little storage capacity. They are typically designed to quickly filter stormwater and then discharge it to the local sewer system.

Potential Project Sites

Attachment 1 contains information on potential project sites where green infrastructure practices could be installed. The recommended green infrastructure practice and the drainage area that the green infrastructure practice can treat are identified for each potential project site. For each practice, the recharge potential, TSS removal potential, maximum volume reduction potential per storm, and the peak reduction potential are provided. This information is also provided so that proposed development projects that cannot satisfy the New Jersey stormwater management requirements for major development can use one of the identified projects to offset a stormwater management deficit. [4]

[4] New Jersey Administrative Code, N.J.A.C. 7:8, Stormwater Management, Statutory Authority: N.J.S.A. 12:5-3, 13:1D-1 et seq., 13:9A-1 et seq., 13:19-1 et seq., 40:55D-93 to 99, 58:4-1 et seq., 58:10A-1 et seq., 58:11A-1 et seq. and 58:16A-50 et seq., *Date last amended: April 19, 2010*.

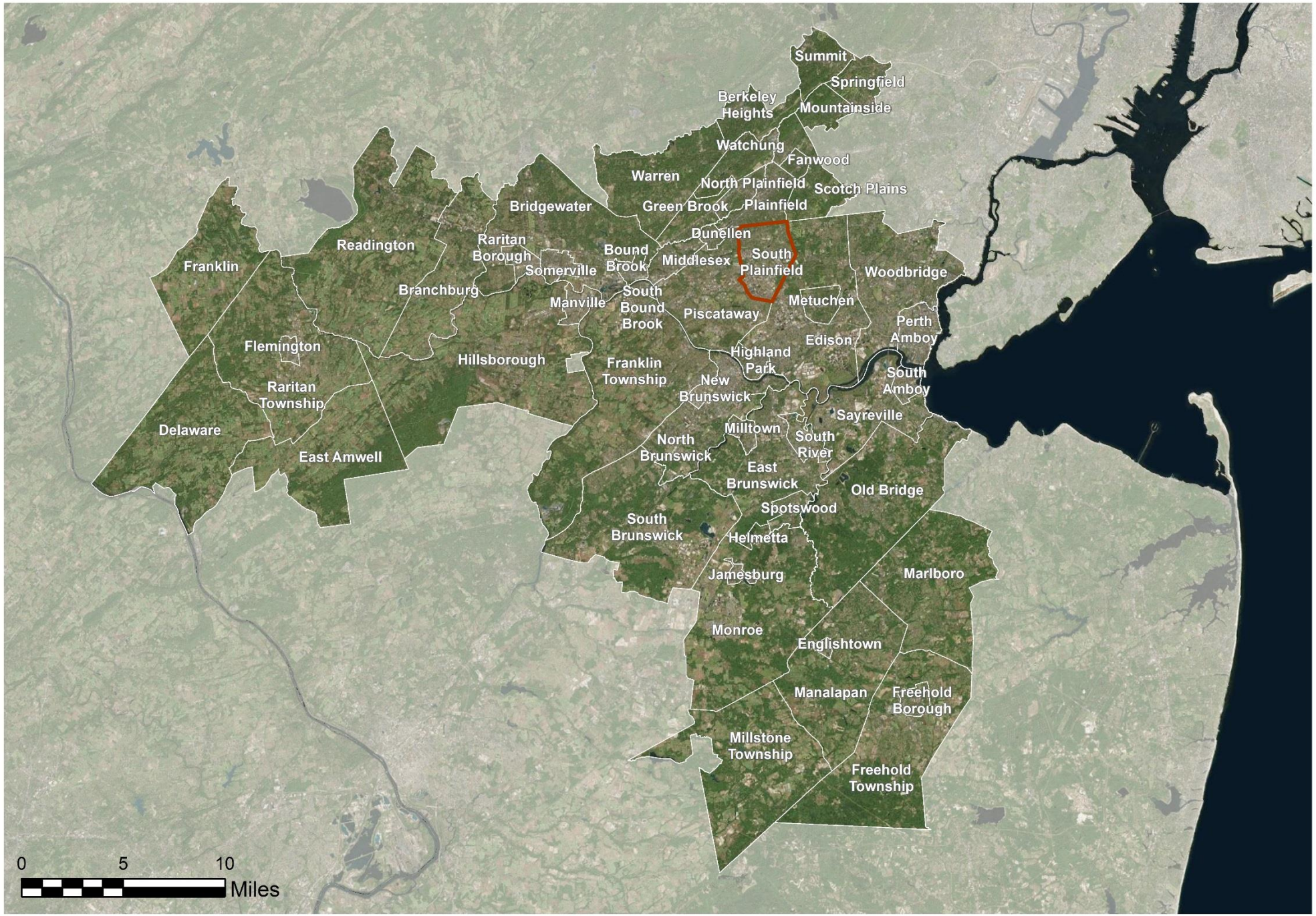
Conclusion

This impervious cover reduction action plan is meant to provide the municipality with a blueprint for implementing green infrastructure practices that will reduce the impact of stormwater runoff from impervious surfaces. These projects can be implemented by a wide variety of people such as boy scouts, girl scouts, school groups, faith-based groups, social groups, watershed groups, and other community groups.

Additionally, development projects that are in need of providing off-site compensation for stormwater impacts can use the projects in this plan as a starting point. The municipality can quickly convert this impervious cover reduction action plan into a stormwater mitigation plan and incorporate it into the municipal stormwater control ordinance.

a. Overview Map of the Project

SOUTH PLAINFIELD: CLIMATE RESILIENT GREEN INFRASTRUCTURE FOR THE RARITAN BASIN



b. Green Infrastructure Sites

SOUTH PLAINFIELD: GREEN INFRASTRUCTURE SITES

SITES WITHIN THE AMBROSE BROOK SUBWATERSHED:

1. Lincoln Technical Institute

SITES WITHIN THE BOUND BROOK SUBWATERSHED:

2. Cedarcroft Bible Chapel
3. Church of the Sacred Heart
4. First Baptist Church
5. Franklin Elementary School
6. Grant Elementary School
7. Holy Savior Academy
8. John E. Riley Elementary School
9. John F. Kennedy Elementary School
10. Nativity of the Blessed Virgin
11. New Jersey Buddhist Cultural Center
12. Our Lady of Czetochowa Church
13. Roosevelt Elementary School
14. South Plainfield Fire Prevention Office
15. South Plainfield Middle School & High School
16. South Plainfield Municipal Court /Library
17. South Plainfield Public Works
18. South Plainfield Recreation PAL
19. US Post Office

c. Proposed Green Infrastructure Concepts

LINCOLN TECHNICAL INSTITUTE

Subwatershed: Ambrose Brook

Site Area: 175,371 sq. ft.

Address: 901 Hadley Road
South Plainfield, NJ 07080

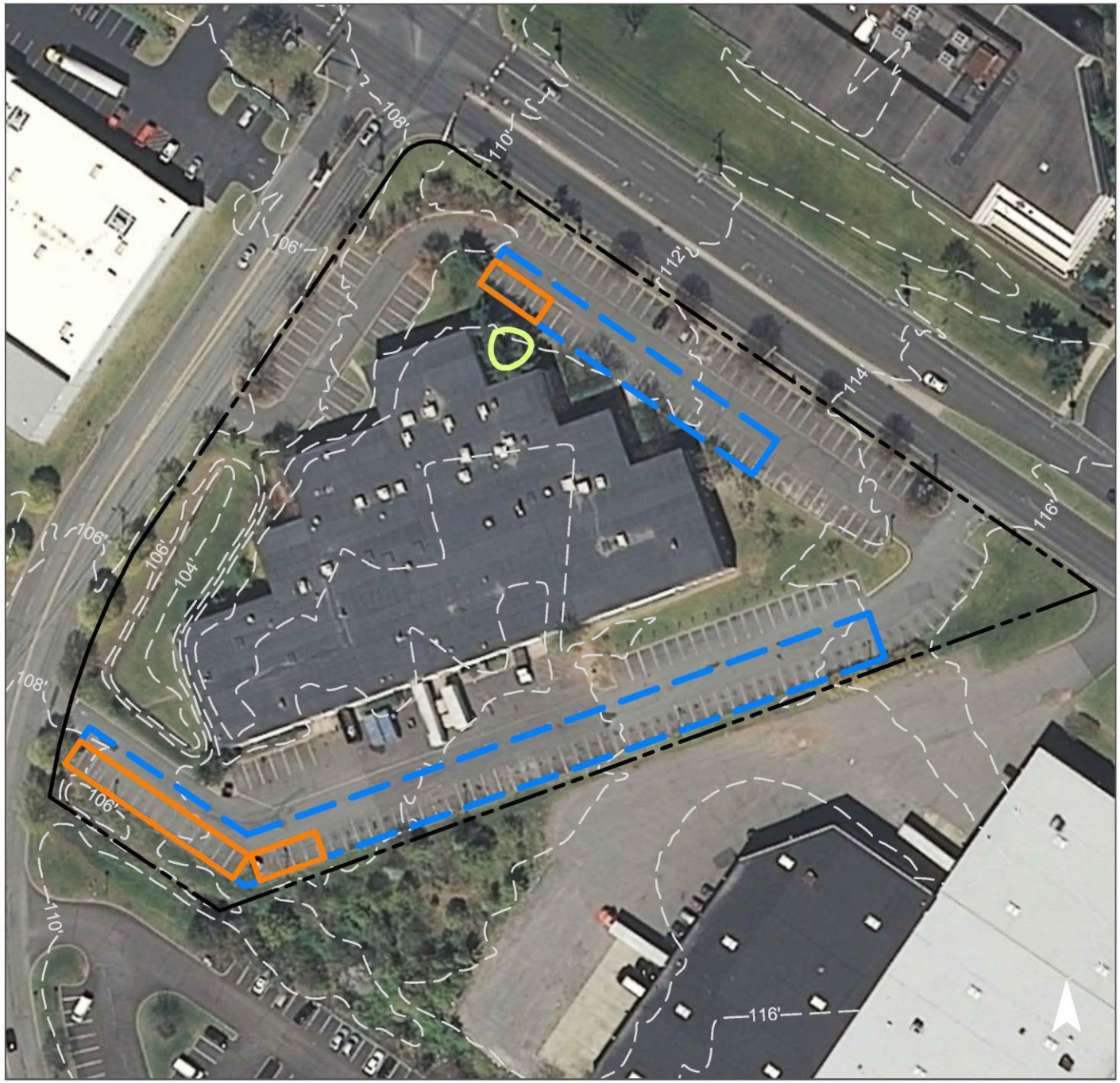
Block and Lot: Block 528, Lot 46.081

Stormwater appears to flow into a detention basin on site. A bioretention system can be constructed to capture, treat, and infiltrate runoff from the north parking lot with curb cuts. Additional runoff from this site can be captured by replacing parking spaces with pervious pavement. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
84	146,897	7.1	74.2	674.5	0.114	4.03

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.052	9	3,822	0.14	500	$2,500
Pervious pavements	0.562	94	41,245	1.55	3,925	$98,125

GREEN INFRASTRUCTURE RECOMMENDATIONS



Lincoln Technical Institute

- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 50' 100'

CEDARCROFT BIBLE CHAPEL

Subwatershed: Bound Brook

Site Area: 96,571 sq. ft.

Address: 1715 Kenyon Avenue
South Plainfield, NJ 07080

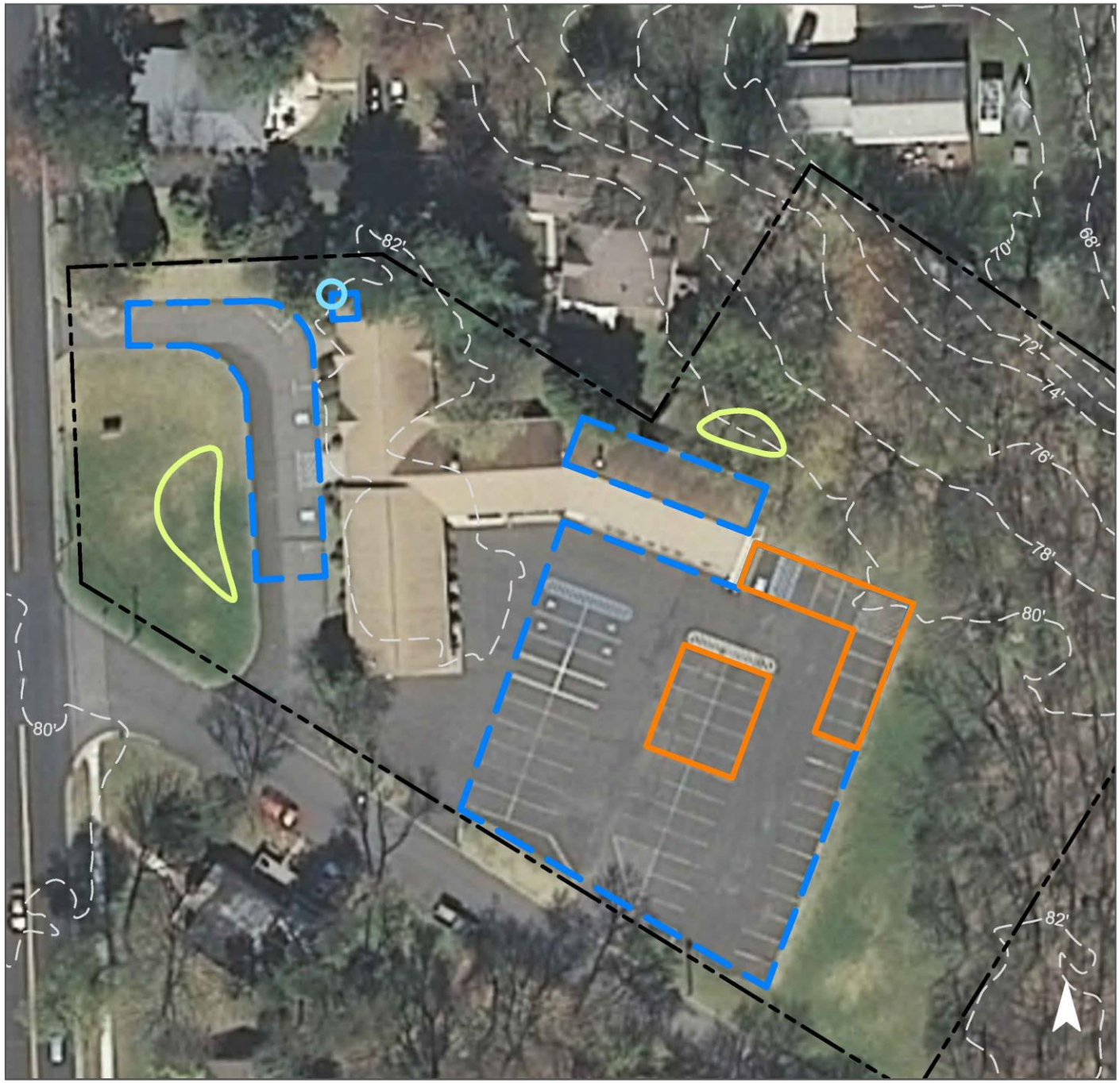
Block and Lot: Block 48, Lot 1

Stormwater drains either into the roadway or the surrounding grass through disconnected downspouts. A bioretention system can be constructed in the front of the chapel to capture, treat, and infiltrate runoff from the driveway area through a trench drain. A second bioretention system can be installed to capture roof runoff by rerouting downspouts in the back of the building. The parking lot runoff can be infiltrated by replacing parking spaces with pervious pavement. A rain barrel can be set up to harvest roof runoff to water the landscaping. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
48	46,053	2.2	23.3	211.4	0.036	1.26

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.137	23	10,038	0.38	1,325	$6,625
Pervious pavements	0.506	85	37,138	1.40	3,500	$87,500
Rainwater harvesting systems	0.003	0	100	0.01	100 (gal)	$200

GREEN INFRASTRUCTURE RECOMMENDATIONS



Cedarcroft Bible Chapel

- pervious pavements
- bioretention / rain gardens
- rainwater harvesting
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 30' 60'

CHURCH OF SACRED HEART

Subwatershed: **Bound Brook**

Site Area: **194,957 sq. ft.**

Address: **149 South Plainfield Avenue**
South Plainfield, NJ 07080

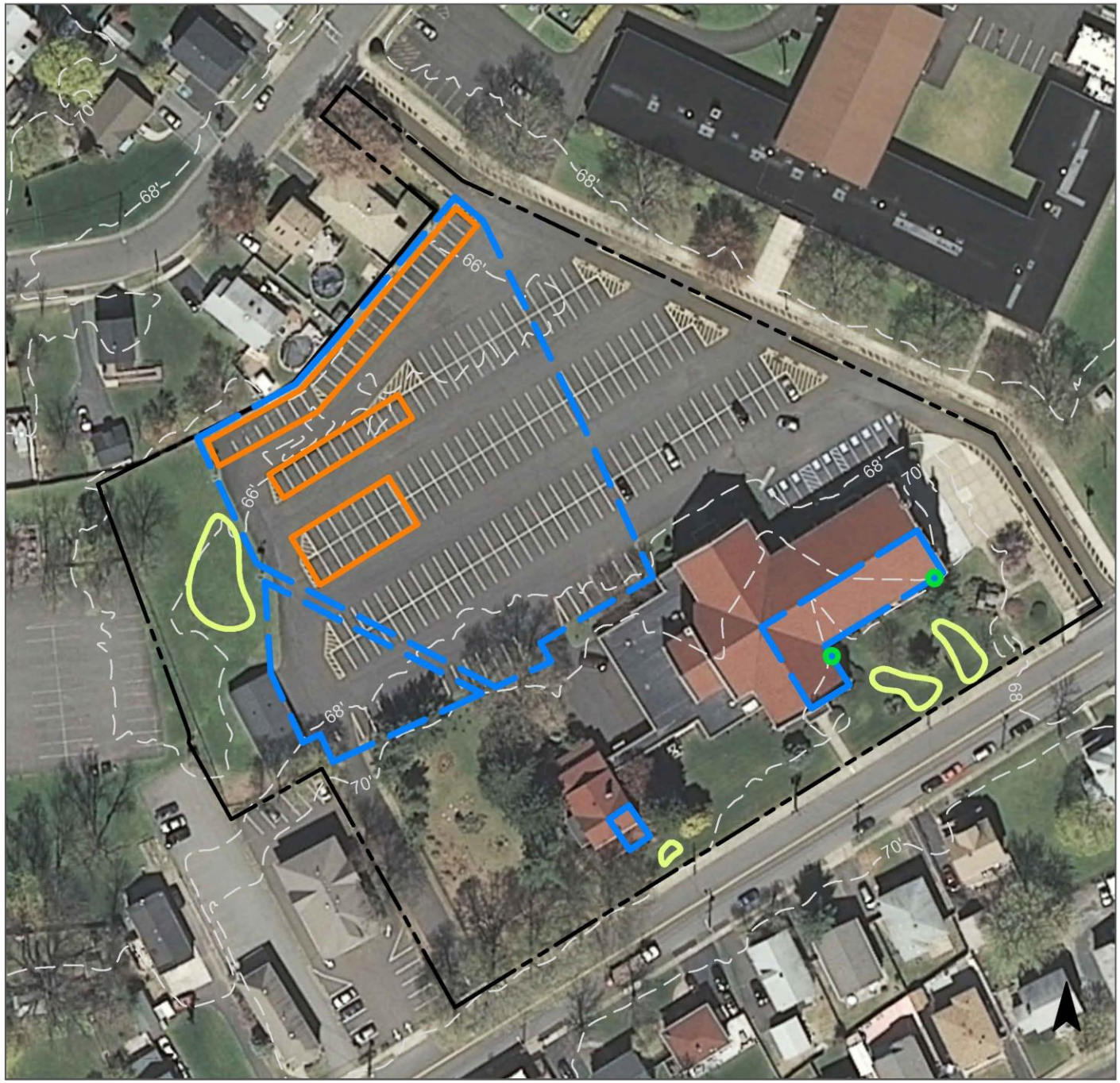
Block and Lot: **Block 267, Lot 1.26**

The church's roof runoff flows down directly connected downspouts. Stormwater runoff generated from the parking lot can be captured, treated, and infiltrated by installing a bioretention system west of the parking lot, and by replacing parking spaces with pervious pavement. Additional bioretention systems can be constructed to capture roof runoff by disconnecting downspouts, and rerouting them into them. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
77	150,025	7.2	75.8	688.8	0.117	4.11

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.341	57	25,043	0.94	3,300	$16,500
Pervious pavements	1.323	221	97,075	3.65	8,638	$215,950

GREEN INFRASTRUCTURE RECOMMENDATIONS



Church of Sacred Heart

- disconnected downspouts
- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 50' 100'

FIRST BAPTIST CHURCH

Subwatershed: **Bound Brook**

Site Area: **14,586 sq. ft.**

Address: **201 Hamilton Boulevard**
South Plainfield, NJ 07080

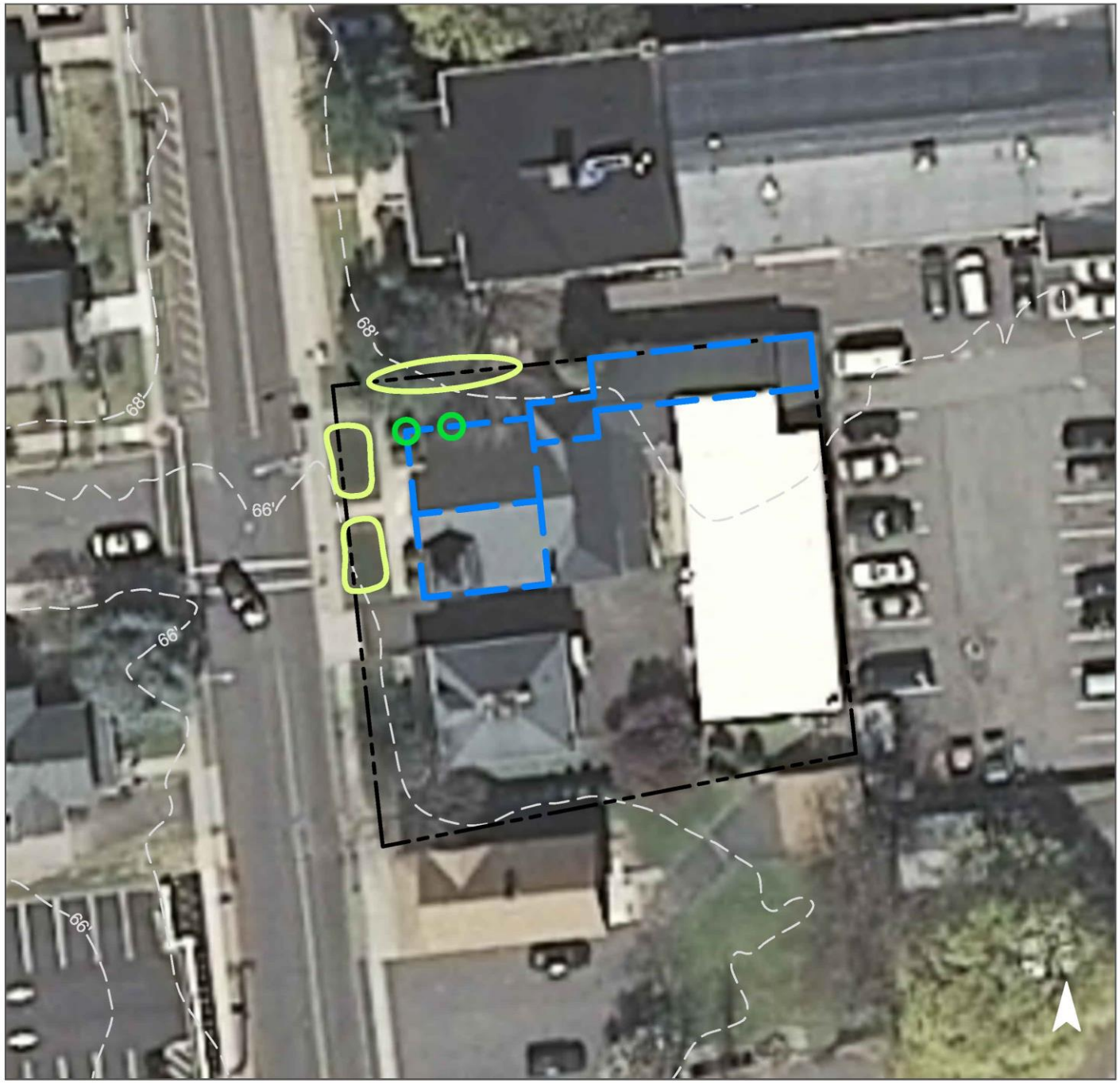
Block and Lot: **Block 265, Lot 30**

The church's runoff primarily comes from the rooftop. Bioretention systems can be installed in existing turf grass to capture, treat, and infiltrate rooftop runoff by disconnecting and redirecting downspouts into the systems. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
75	10,939	0.5	5.5	50.2	0.009	0.30

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.064	11	4,668	0.18	1,360	$6,800

GREEN INFRASTRUCTURE RECOMMENDATIONS



First Baptist Church

- disconnected downspouts
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 20' 40'

FRANKLIN ELEMENTARY SCHOOL

Subwatershed: **Bound Brook**

Site Area: **404,099 sq. ft.**

Address: **1000 Franklin Avenue**
South Plainfield, NJ 07080

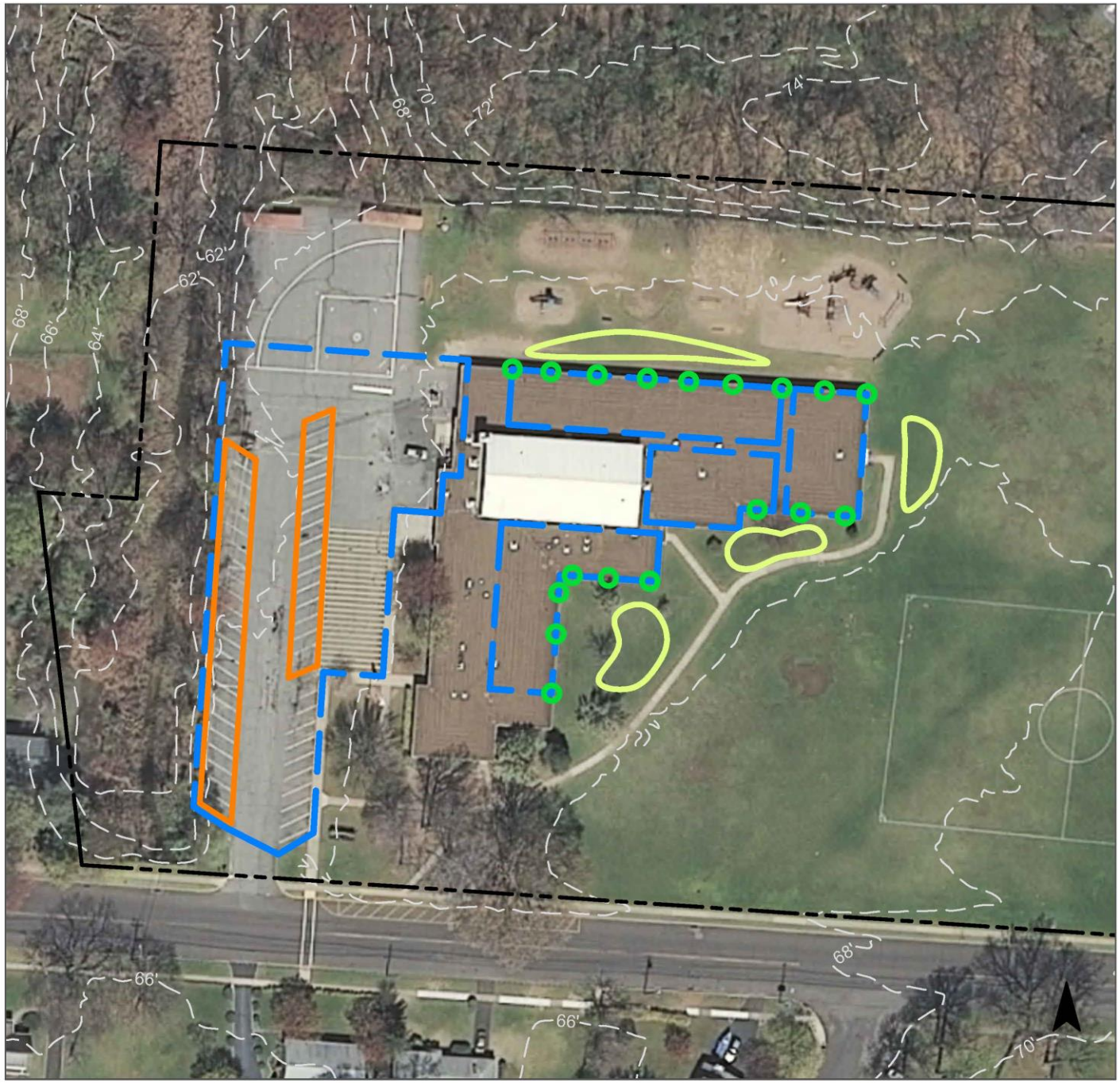
Block and Lot: **Block 12, Lot 1**

This school has a parking lot and rooftop which contribute to impervious surfaces. The rooftop runoff can be captured, treated, and infiltrated by installing a series of rain gardens around the school. Additional rooftop runoff and parking lot runoff can be infiltrated by replacing rows of parking spaces with pervious pavement. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
30	123,184	5.9	62.2	565.6	0.096	3.38

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.535	90	39,270	1.48	5,670	$28,350
Pervious pavements	1.156	194	84,846	3.19	8,000	$200,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Franklin Elementary School

- disconnected downspouts
- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 50' 100'

GRANT ELEMENTARY SCHOOL

Subwatershed: **Bound Brook**

Site Area: **655,013 sq. ft.**

Address: **305 Cromwell Place**
South Plainfield, NJ 07080

Block and Lot: **Block 128, Lot 32**

The parking lot on site to the west drains into the field, a rain garden can be constructed there to capture, treat, and infiltrate this runoff. A similar situation occurs closer to the building where a parking lot flows into a turf grass area which can be converted to a rain garden. A connected downspout can be disconnected and redirected into a third rain garden. Pervious pavement can be implemented in the east lot to capture and infiltrate runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
32	208,656	10.1	105.4	958.0	0.163	5.72

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.448	75	32,882	1.24	4,300	$21,500
Pervious pavements	0.320	54	23,517	0.88	2,200	$55,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Grant Elementary Schoool

- disconnected downspouts
- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 100' 200'

HOLY SAVIOR ACADEMY

Subwatershed: **Bound Brook**

Site Area: **221,812 sq. ft.**

Address: **149 S Plainfield Avenue**
South Plainfield, NJ 07080

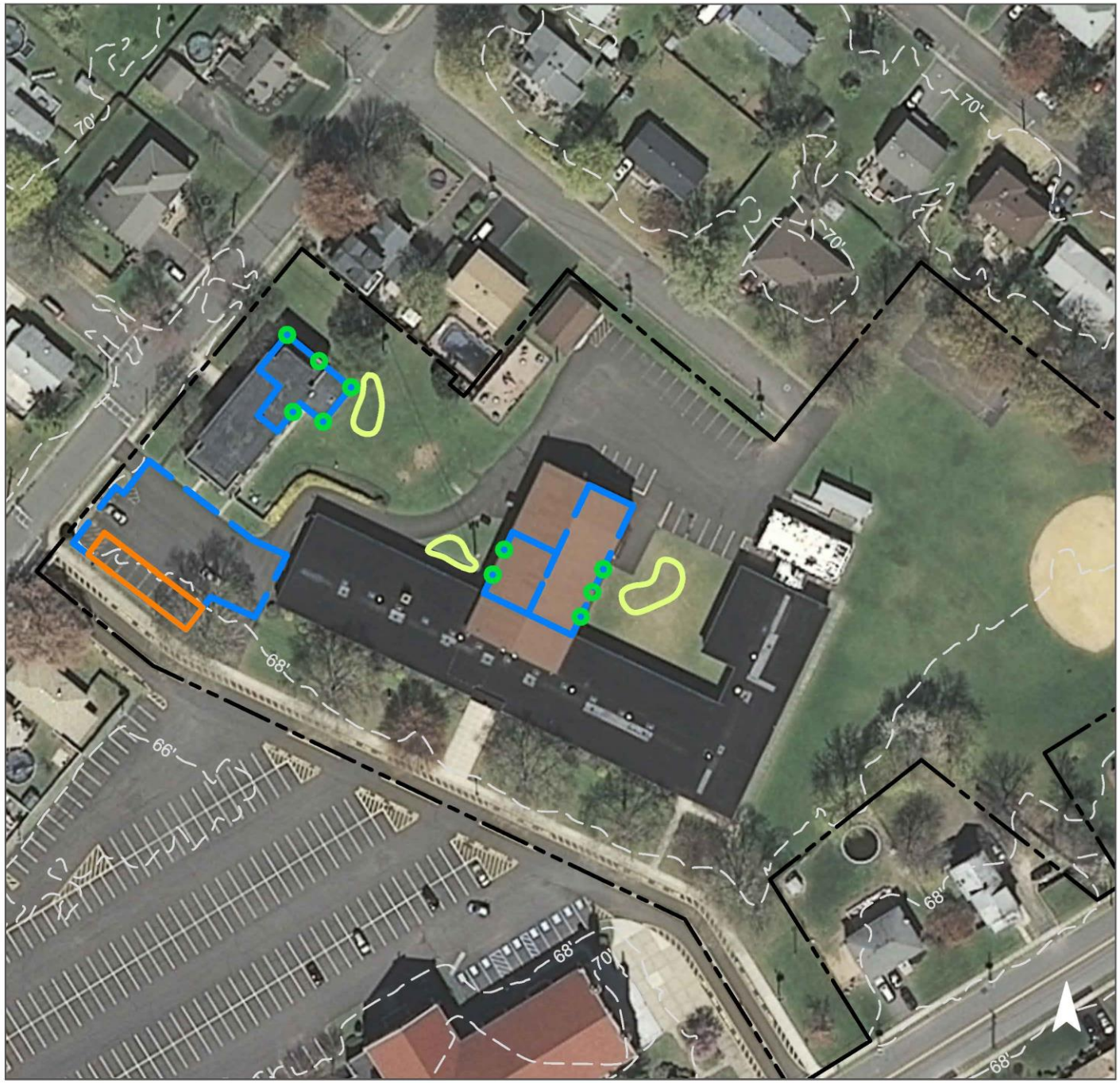
Block and Lot: **Block 267, Lot 1.25**

This site's stormwater runoff flows down primarily connected downspouts, and from the paved areas into the street. There are several locations where rain gardens can be installed to capture, treat, and infiltrate rooftop runoff by disconnecting and redirecting downspouts. Parking spaces in the parking lot to the west can be replaced with pervious pavement to capture and infiltrate additional runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
48	107,275	5.2	54.2	492.5	0.084	2.94

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.167	28	12,237	0.46	1,600	$8,000
Pervious pavements	0.206	34	15,102	0.57	1,400	$35,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Holy Savior Academy

- disconnected downspouts
- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 50' 100'

JOHN E. RILEY ELEMENTARY SCHOOL

Subwatershed: **Bound Brook**

Site Area: **656,468 sq. ft.**

Address: **100 Morris Avenue**
South Plainfield, NJ 07080

Block and Lot: **Block 107, Lot 27**

This site has several potential bioretention system locations, which can capture, treat, and infiltrate runoff from the rooftop by disconnecting downspouts and redirecting the downspouts into them. Additional runoff can be managed by installing pervious pavement in the parking lot. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
22	142,140	6.9	71.8	652.5	0.111	3.90

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.674	113	49,420	1.86	6,475	$32,375
Pervious pavements	0.423	71	31,064	1.17	2,900	$72,500

GREEN INFRASTRUCTURE RECOMMENDATIONS

John E. Riley Elementary School

- disconnected downspouts
- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 50' 100'

JOHN F. KENNEDY ELEMENTARY SCHOOL

Subwatershed: **Bound Brook**

Site Area: **368,714 sq. ft.**

Address: **2900 Norwood Avenue**
South Plainfield, NJ 07080

Block and Lot: **Block 216, Lot 1.01**

The elementary school's stormwater comes from its rooftop, which flows down directly connected downspouts, and from the parking lot. There are two locations behind the school where rain gardens can be installed to capture, treat, and infiltrate rooftop runoff from nearby downspouts by disconnecting and redirecting them. A third rain garden can be constructed to capture runoff from the driveway through a trench drain. Pervious pavement can replace parking spaces to capture and infiltrate runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
34	124,407	6.0	62.8	571.2	0.097	3.41

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.409	68	30,017	1.13	3,925	$19,625
Pervious pavements	0.945	158	69,302	2.61	6,500	$162,500

GREEN INFRASTRUCTURE RECOMMENDATIONS

John F. Kennedy Elementary School

- disconnected downspouts
- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 50' 100'

NATIVITY OF THE BLESSED VIRGIN

Subwatershed: **Bound Brook**

Site Area: **31,967 sq. ft.**

Address: **400 Delmore Avenue**
South Plainfield, NJ 07080

Block and Lot: **Block 364, Lot 1**

There are two locations where bioretention systems can be installed to capture, treat, and infiltrate rooftop runoff by disconnecting and redirecting nearby downspouts. One can be built near the front of the church and another can be constructed at the southeast face. Stormwater runoff from the parking lot conveys to the south end where a third bioretention system can be placed. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
35	11,188	0.5	5.7	51.4	0.009	0.31

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.138	23	10,135	0.38	1,325	$6,625

GREEN INFRASTRUCTURE RECOMMENDATIONS

Nativity of the Blessed Virgin

- disconnected downspouts
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 25' 50'

NEW JERSEY BUDDHIST CULTURAL CENTER

Subwatershed: **Bound Brook**

Site Area: **42,562 sq. ft.**

Address: **1007 New Brunswick Avenue**
South Plainfield, NJ 07080

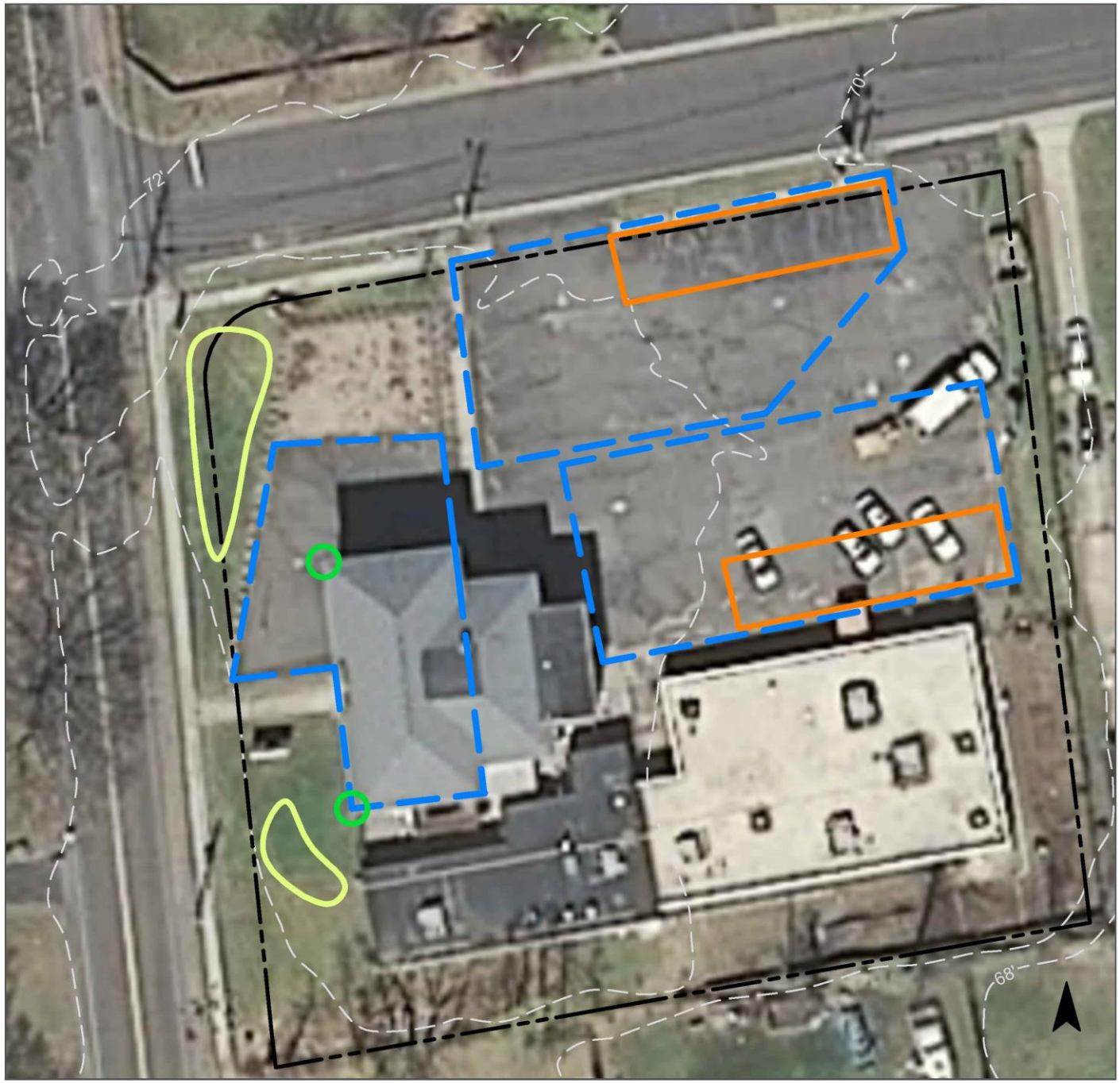
Block and Lot: **Block 7, Lot 1**

This cultural center's impervious cover comes from both the rooftop with its runoff flowing down directly connected downspouts and the parking lot. The roof runoff can be captured by disconnecting downspouts into two bioretention systems while also capturing additional runoff from a paved area. The parking lot runoff can be captured before reaching storm drains by replacing parking spaces with pervious pavement. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
85	36,178	1.7	18.3	166.1	0.028	0.99

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.115	19	8,430	0.32	1,125	$5,625
Pervious pavements	0.304	51	22,343	0.84	2,610	$65,250

GREEN INFRASTRUCTURE RECOMMENDATIONS



New Jersey Buddhist Cultural Center

- disconnected downspouts
- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 20' 40'

OUR LADY OF CZETOCHOWA CHURCH

Subwatershed: **Bound Brook**

Site Area: **209,391 sq. ft.**

Address: **810 Hamilton Boulevard**
South Plainfield, NJ 07080

Block and Lot: **Block 334; 349,**
Lot 1, 2.01; 1, 2

This church has both a main church, an associated hall, and a rectory. The church has two locations rain gardens can be installed to capture, treat, and infiltrate rooftop runoff. Northeast of the rectory a rain garden can be constructed to capture rooftop runoff. In front of the hall, a rain garden can be built to capture and treat runoff by redirecting nearby downspouts. Parking spaces can be replaced with pervious pavement to capture, and infiltrate roof and parking lot runoff. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
30	62,942	3.0	31.8	289.0	0.049	1.73

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.154	26	11,280	0.42	1,475	$7,375
Pervious pavements	0.202	34	14,818	0.56	1,400	$35,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Our Lady of Czetochowa Church

- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 30' 60'

ROOSEVELT ELEMENTARY SCHOOL

Subwatershed: Bound Brook

Site Area: 439,878 sq. ft.

Address: 135 Jackson Avenue
South Plainfield, NJ 07080

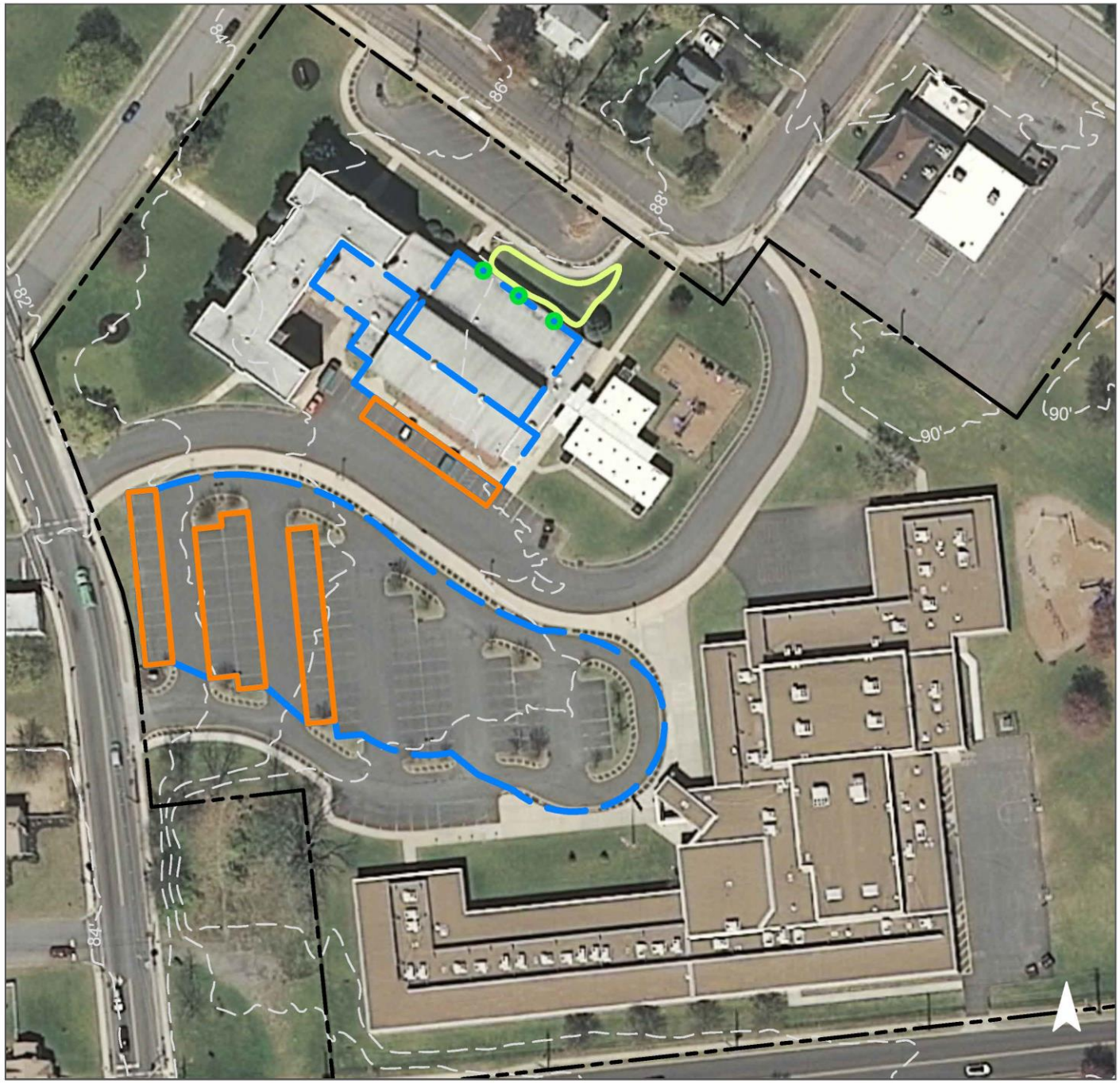
Block and Lot: Block 355, Lot 8

The north building has both connected, and disconnected downspouts while the south building has internal drainage. A bioretention system can be constructed in front of the north to capture, treat, and infiltrate roof runoff by disconnecting and redirecting downspouts. Pervious pavement can replace rows of parking spaces to capture and infiltrate stormwater runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
58	254,184	12.3	128.4	1,167.1	0.198	6.97

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.172	29	12,619	0.47	1,650	$8,250
Pervious pavements	1.329	222	97,502	3.67	9,730	$243,250

GREEN INFRASTRUCTURE RECOMMENDATIONS



Roosevelt Elementary School

- disconnected downspouts
- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 50' 100'

SOUTH PLAINFIELD FIRE PREVENTION OFFICE

Subwatershed: **Bound Brook**

Site Area: **37,852 sq. ft.**

Address: **123 County Road 602**
South Plainfield, NJ 07080

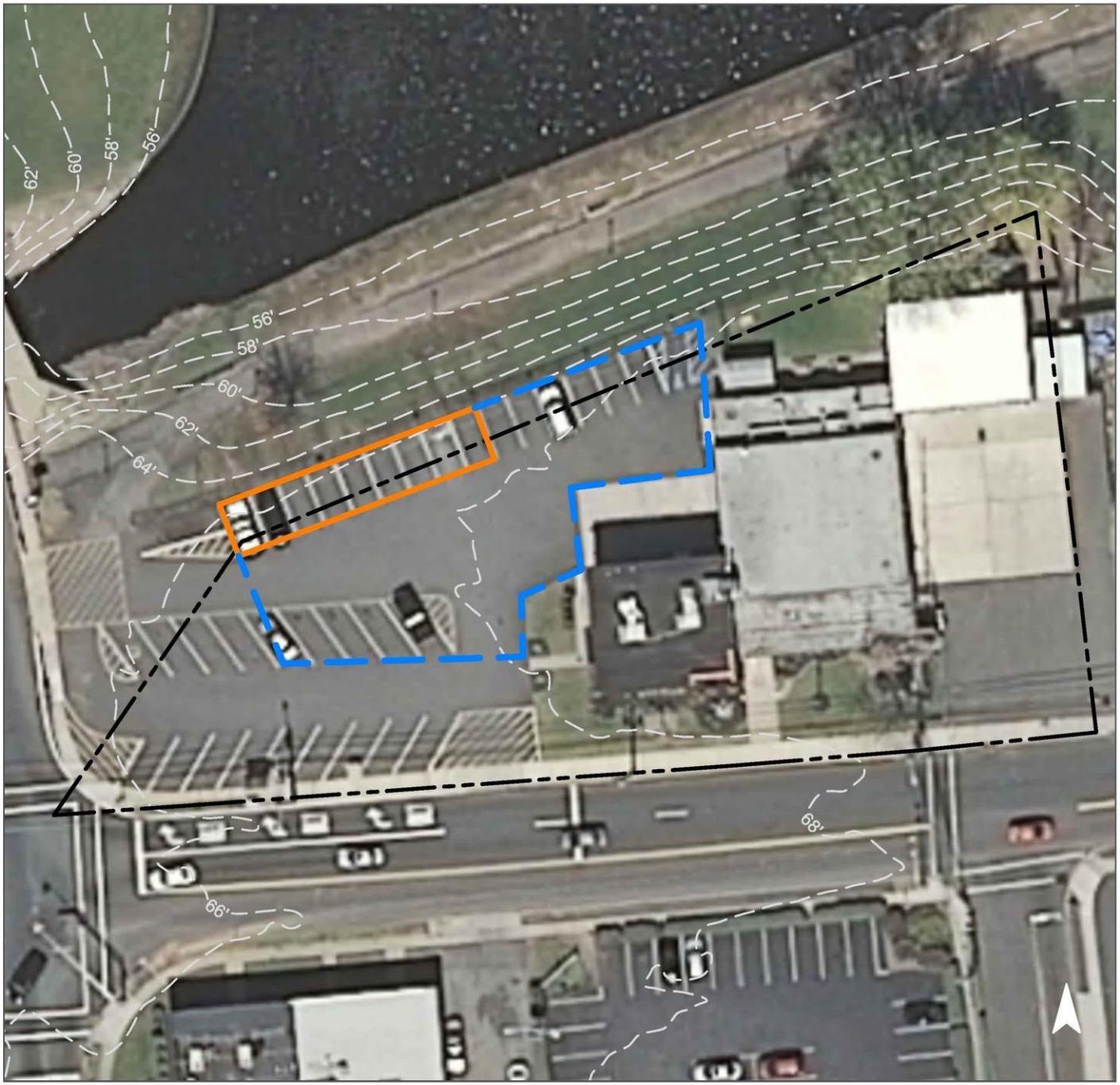
Block and Lot: **Block 198, Lot 2**

The main building has internal drainage. The parking lot slopes in the middle, with a portion draining to the roadway, and the other portion drains to Spring Lake. Runoff flowing toward Spring Lake can be captured and infiltrated by replacing parking spaces with pervious pavement. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
90	34,067	1.6	17.2	156.4	0.027	0.93

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Pervious pavements	0.224	38	16,441	0.62	1,550	$38,750

GREEN INFRASTRUCTURE RECOMMENDATIONS



South Plainfield Fire Prevention Office

- pervious pavements
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 50' 100'

SOUTH PLAINFIELD MIDDLE SCHOOL & HIGH SCHOOL

Subwatershed: **Bound Brook**

Site Area: **1,535,999 sq. ft.**

Address: **2201 Plainfield Avenue**
South Plainfield, NJ 07080

Block and Lot: **Block 176, Lot 1**

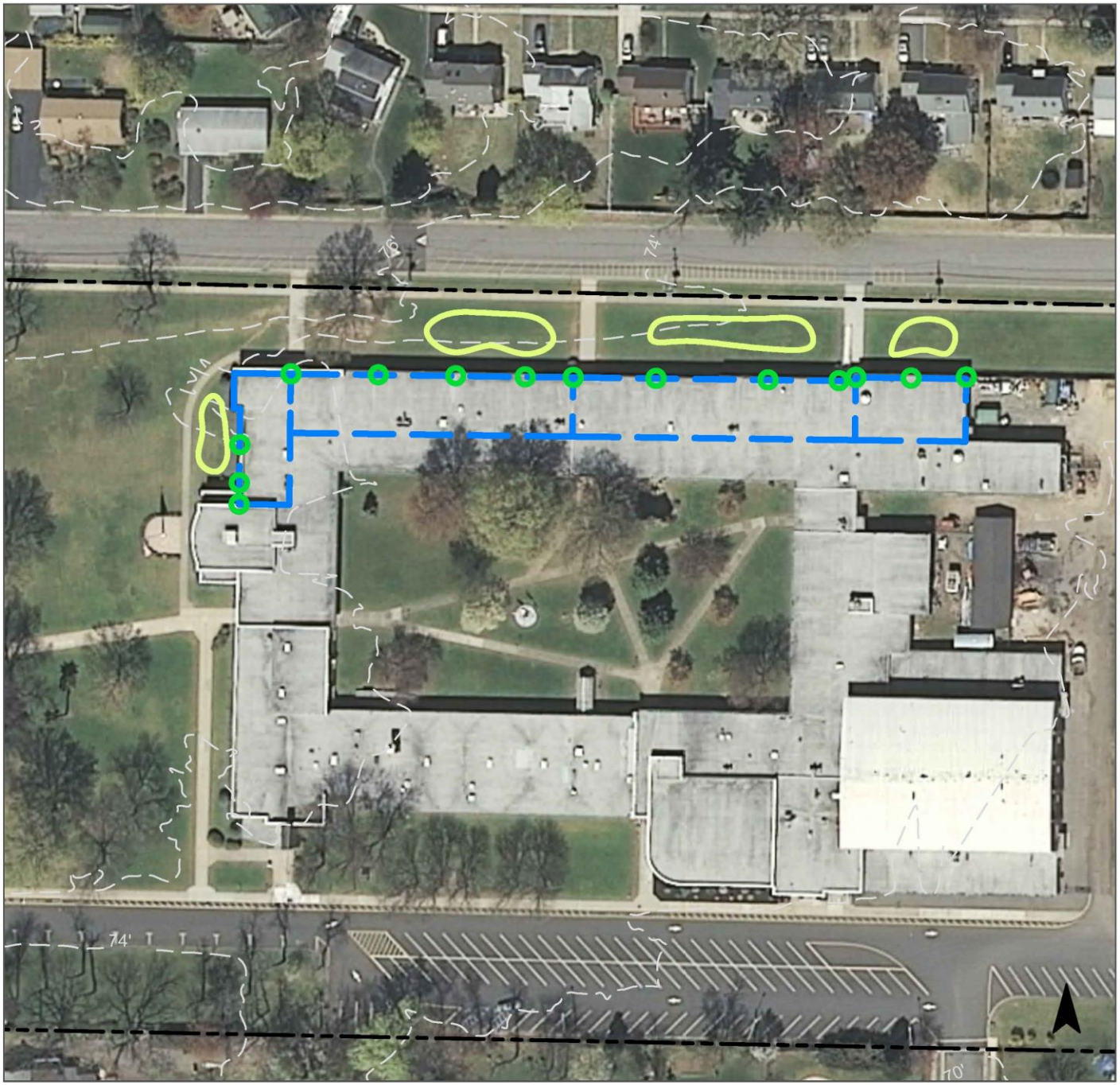
The schools share a parking lot. Multiple rain gardens can be installed around the middle to school capture, treat, and infiltrate rooftop runoff by disconnecting downspouts into them. Parking spaces at the high school can be replaced with pervious pavement to capture and infiltrate runoff before it reaches storm drains. A preliminary soil assessment suggests that the soils have suitable characteristics for green infrastructure.

Existing conditions are for the Middle School and the High School, which share parcels.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
42	645,309	31.1	325.9	2,962.9	0.503	17.70

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.526	88	38,619	1.45	5,075	$25,375
Pervious pavements	1.675	280	122,934	4.62	11,500	$287,500

GREEN INFRASTRUCTURE RECOMMENDATIONS

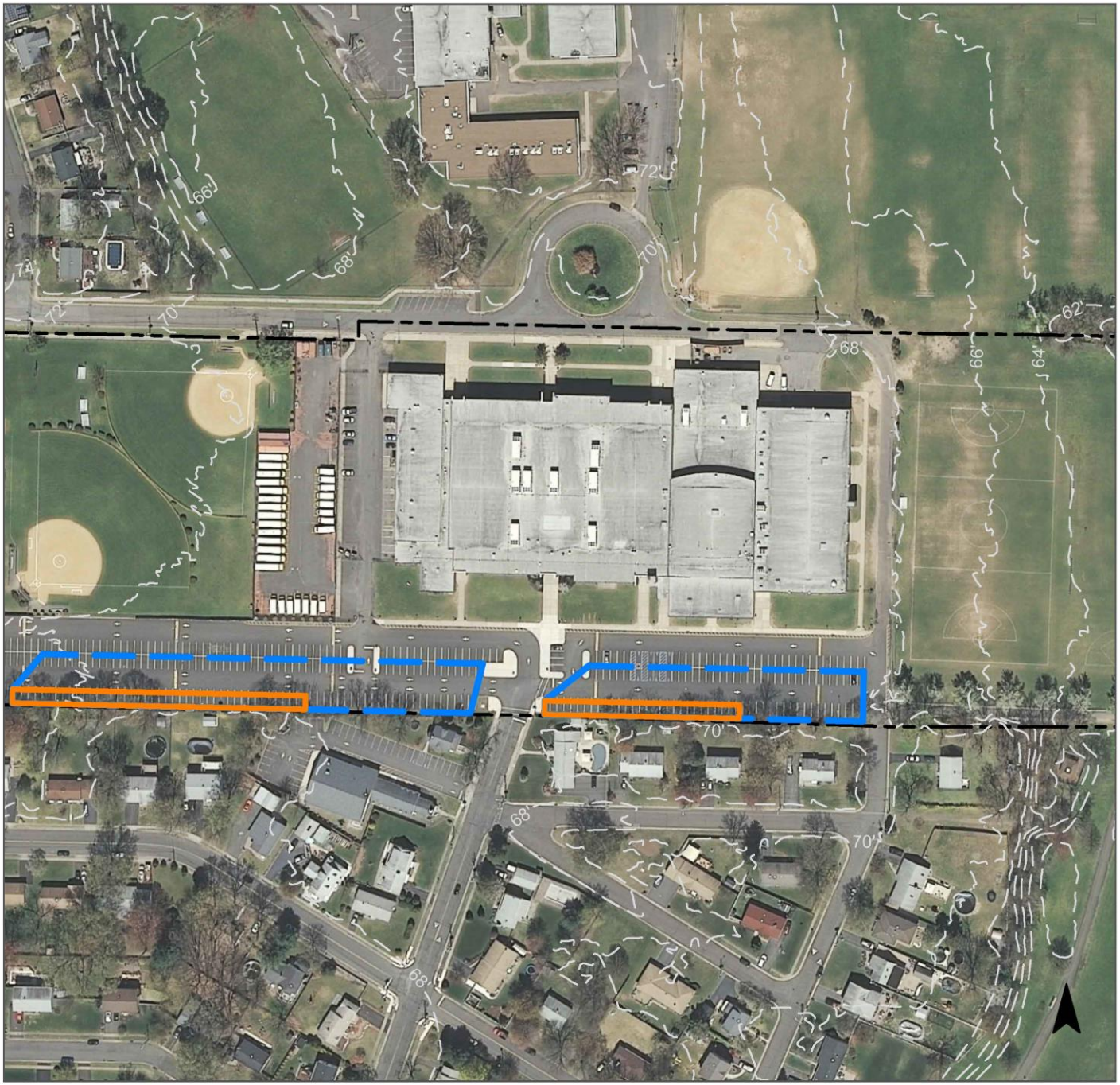


South Plainfield Middle School

- disconnected downspouts
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 50' 100'

GREEN INFRASTRUCTURE RECOMMENDATIONS



South Plainfield High School

- pervious pavements
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 100' 200'

SOUTH PLAINFIELD MUNICIPAL COURT/LIBRARY

Subwatershed: **Bound Brook**

Site Area: **128,136 sq. ft.**

Address: **2484 Plainfield Avenue**
South Plainfield, NJ 07080

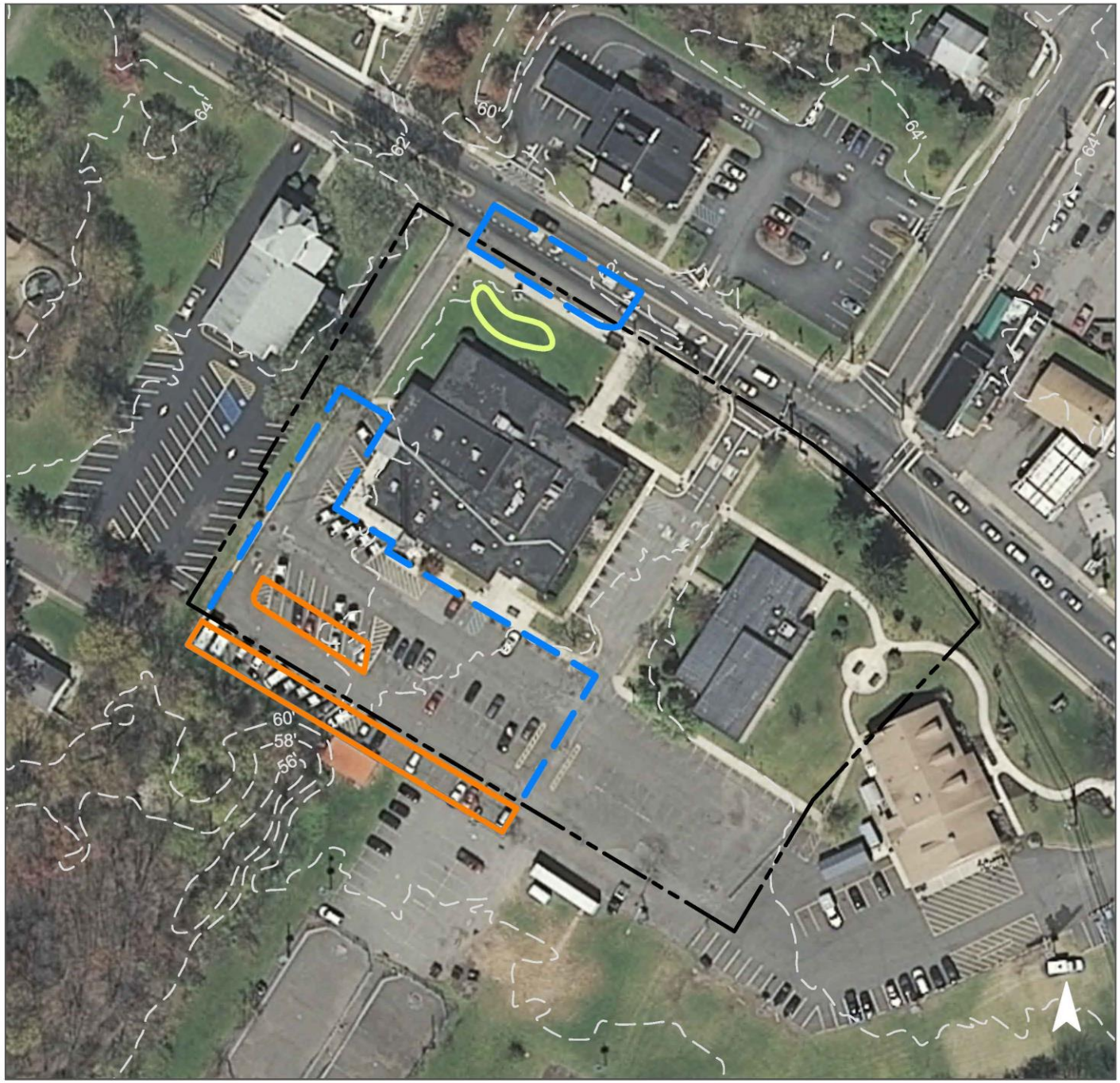
Block and Lot: **Block 273, Lot 7.01**

The main municipal building has internal drainage, and a large parking lot. In front of the municipal building a rain garden can be installed by taking stormwater from the road through curb cuts and a trench drain. The parking lot can treat a large amount of stormwater runoff by replacing strips of parking places with pervious pavement. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
80	102,509	4.9	51.8	470.7	0.080	2.81

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.092	15	6,784	0.26	900	$4,500
Pervious pavements	0.829	139	60,797	2.29	5,750	$143,750

GREEN INFRASTRUCTURE RECOMMENDATIONS



South Plainfield Municipal Court/Library

- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 50' 100'

SOUTH PLAINFIELD PUBLIC WORKS

Subwatershed: **Bound Brook**

Site Area: **198,191 sq. ft.**

Address: **405 Spicer Avenue**
South Plainfield, NJ 07080

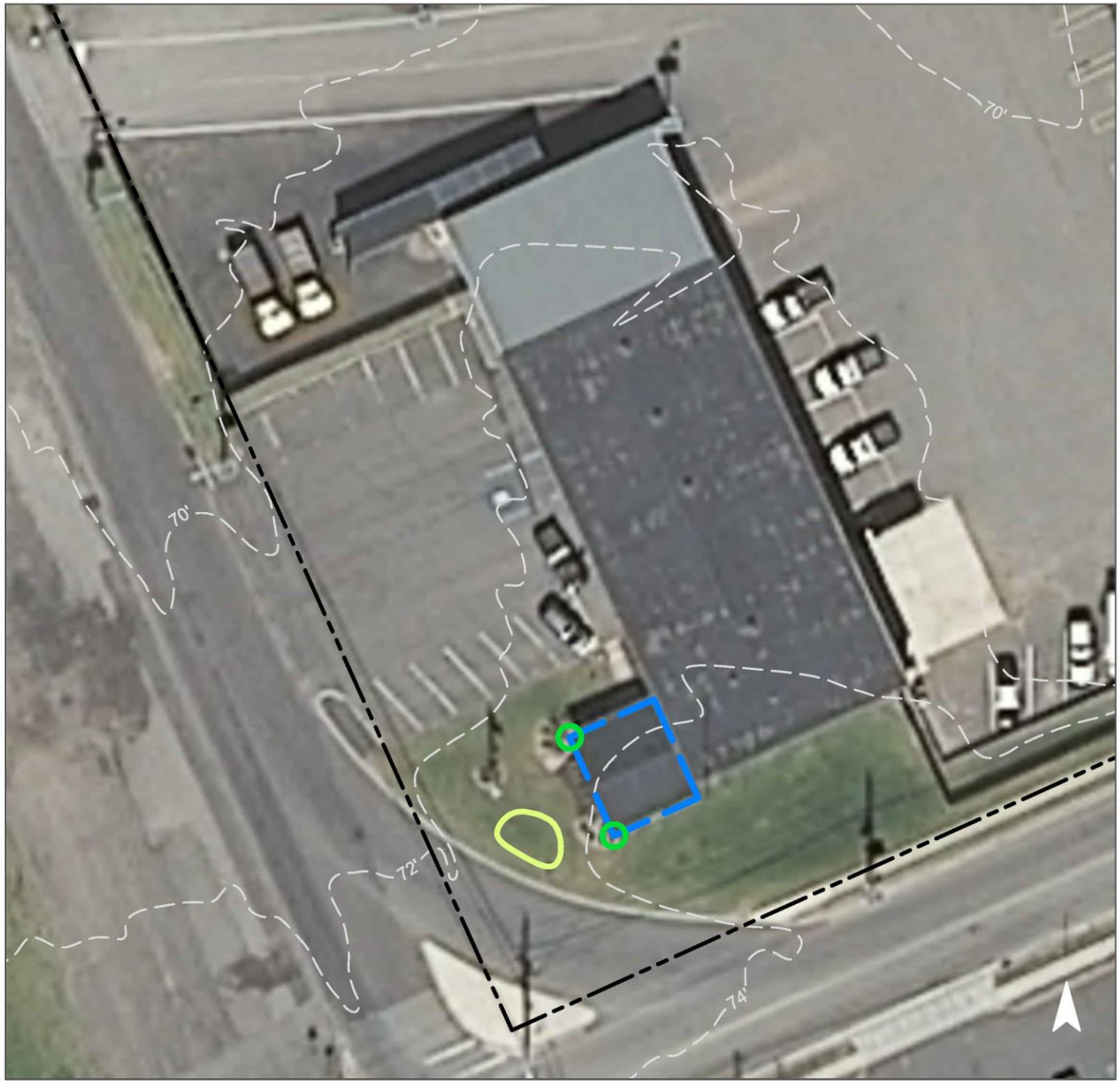
Block and Lot: **Block 333;334;358**
Lot 4.01,4;4,6,7.01;1

At the entrance area of the site there is a building with connected downspouts, which can be disconnected and redirected into a rain garden to capture, treat, and infiltrate roof runoff. The remainder of the site was inaccessible for assessment. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
79	155,678	7.5	78.6	714.8	0.121	4.27

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.018	3	1,309	0.05	170	$850

GREEN INFRASTRUCTURE RECOMMENDATIONS



South Plainfield Public Works

- disconnected downspouts
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 20' 40'

SOUTH PLAINFIELD RECREATION PAL

Subwatershed: **Bound Brook**

Site Area: **198,171 sq. ft.**

Address: **1250 Maple Street**
South Plainfield, NJ 07080

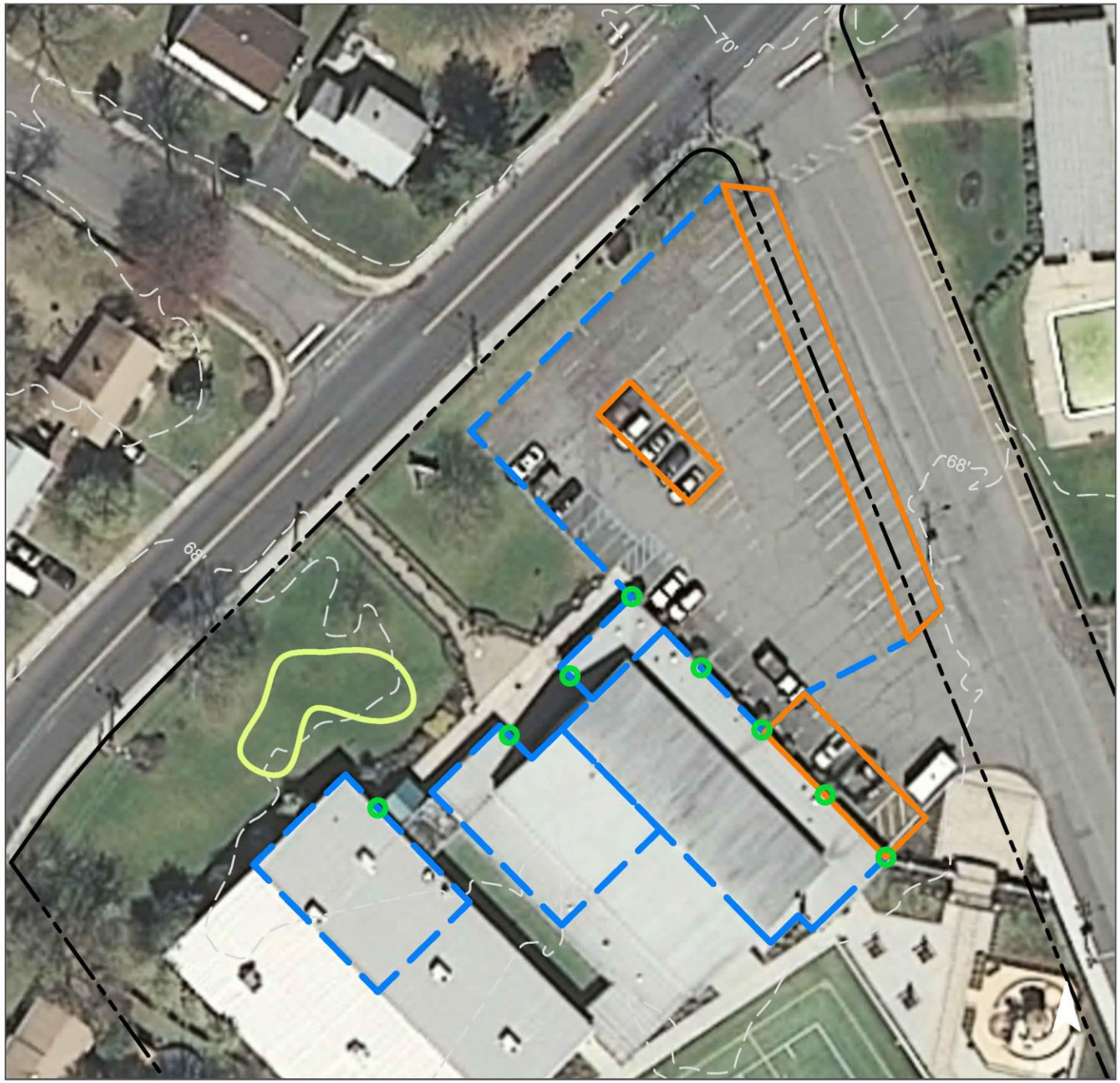
Block and Lot: **Block 221;335, Lot 30;8.01**

The recreation center's main building has directly connected downspouts, and the parking lot drains into the roadway. The downspouts near the entrance can be disconnected and redirected into a bioretention system to capture, treat, and infiltrate runoff from the rooftop. The downspouts adjacent to the parking lot can be disconnected to flow onto the pavement, and pervious pavement can strategically replace parking spaces to capture and infiltrate both rooftop and parking lot runoff. A preliminary soil assessment suggests that the soils have suitable characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
27	53,162	2.6	26.8	244.1	0.041	1.46

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.188	31	13,763	0.52	1,800	$9,000
Pervious pavements	0.780	131	57,259	2.15	5,500	$137,500

GREEN INFRASTRUCTURE RECOMMENDATIONS



South Plainfield Recreation PAL

- disconnected downspouts
- pervious pavements
- bioretention / rain gardens
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 30' 60'

US POST OFFICE

Subwatershed: **Bound Brook**

Site Area: **254,963 sq. ft.**

Address: **114 Oak Tree Avenue**
South Plainfield, NJ 07080

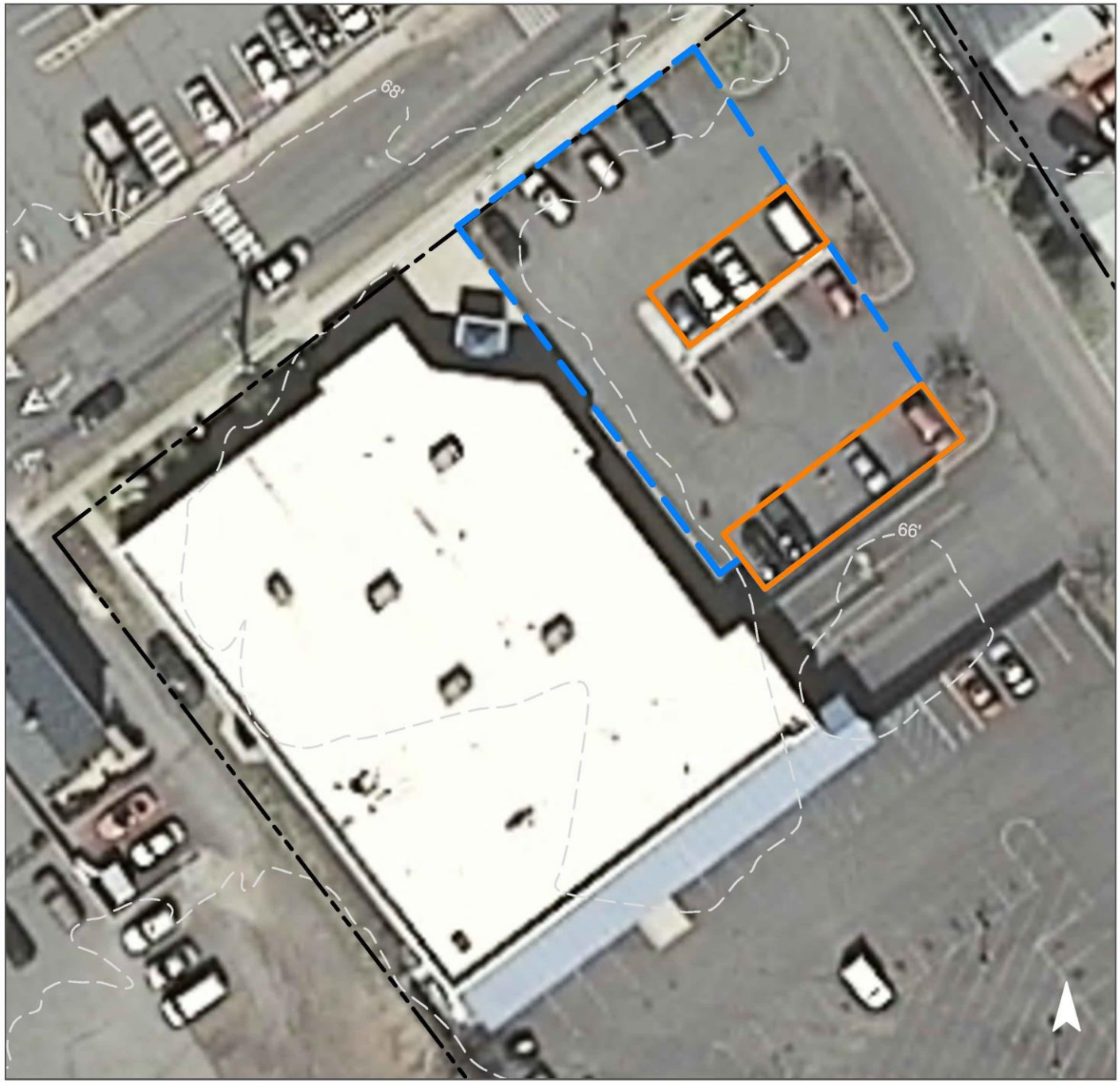
Block and Lot: **Block 254, Lot 48, 49**

The main building has internal drainage, and the parking lot drains into storm drains. Pervious pavement can replace parking spaces to capture and infiltrate stormwater runoff from the parking lot. A preliminary soil assessment suggests that the soils have suitable characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
37	93,351	4.5	47.1	428.6	0.073	2.56

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Pervious pavements	0.240	40	17,638	0.66	2,000	$50,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



US Post Office

- pervious pavements
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 20' 40'

d. Summary of Existing Conditions

Summary of Existing Site Conditions

Subwatershed/Site Name/Total Site Info/GI Practice	Area (ac)	Area (SF)	Block	Lot	Existing Annual Loads			I.C. %	I.C. Area (ac)	I.C. Area (SF)	Runoff Volumes from I.C.	
					TP (lb/yr)	TN (lb/yr)	TSS (lb/yr)				Water Quality Storm (1.25" over 2-hours) (Mgal)	Annual (Mgal)
AMBROSE BROOK SUBWATERSHED	**4.03**	**175,371**			**7.1**	**74.2**	**674.5**		**3.37**	**146,897**	**0.114**	**4.03**
Lincoln Technical Institute												
Total Site Info	4.03	175,371	528	46.081	7.1	74.2	674.5	84	3.37	146,897	0.114	4.03
BOUND BROOK SUBWATERSHED	**130.61**	**5,689,329**			**113.8**	**1,192.6**	**10,841.4**		**54.21**	**2,361,249**	**1.840**	**64.76**
Cedarcroft Bible Chapel												
Total Site Info	2.22	96,571	48	1	2.2	23.3	211.4	48	1.06	46,053	0.036	1.26
Church of the Sacred Heart												
Total Site Info	4.48	194,957	267	1.26	7.2	75.8	688.8	77	3.44	150,025	0.117	4.11
First Baptist Church												
Total Site Info	0.33	14,586	265	30	0.5	5.5	50.2	75	0.25	10,939	0.009	0.30
Franklin Elementary School												
Total Site Info	9.28	404,099	12	1	5.9	62.2	565.6	30	2.83	123,184	0.096	3.38
Grant Elementary School												
Total Site Info	15.04	655,013	128	32	10.1	105.4	958.0	32	4.79	208,656	0.163	5.72
Holy Savior Academy												
Total Site Info	5.09	221,812	267	1.25	5.2	54.2	492.5	48	2.46	107,275	0.084	2.94
John E. Riley Elementary School												
Total Site Info	15.07	656,468	107	27	6.9	71.8	652.6	22	3.26	142,140	0.111	3.90
John F. Kennedy Elementary School												
Total Site Info	8.46	368,714	216	1.01	6.0	62.8	571.2	34	2.86	124,407	0.097	3.41
Nativity of the Blessed Virgin												
Total Site Info	0.73	31,967	364	1	0.5	5.7	51.4	35	0.26	11,188	0.009	0.31

Summary of Existing Site Conditions

Subwatershed/Site Name/Total Site Info/GI Practice	Area (ac)	Area (SF)	Block	Lot	Existing Annual Loads			I.C. %	I.C. Area (ac)	I.C. Area (SF)	Runoff Volumes from I.C.	
					TP (lb/yr)	TN (lb/yr)	TSS (lb/yr)				Water Quality Storm (1.25" over 2-hours) (Mgal)	Annual (Mgal)
NJ Buddhist Cultural Center												
Total Site Info	0.98	42,562	7	1	1.7	18.3	166.1	85	0.83	36,178	0.028	0.99
Our Lady of Czetochowa Church												
Total Site Info	4.81	209,391	334;349	1,2.01;1,2	3.0	31.8	289.0	30	1.44	62,942	0.049	1.73
Roosevelt Elementary School												
Total Site Info	10.10	439,878	355	8	12.3	128.4	1,167.1	58	5.84	254,184	0.198	6.97
South Plainfield Fire Prevention Office												
Total Site Info	0.87	37,852	198	2	1.6	17.2	156.4	90	0.78	34,067	0.027	0.93
South Plainfield Middle School & High School												
Total Site Info	35.26	1,535,999	176	1	31.1	325.9	2,962.9	42	14.81	645,309	0.503	17.70
South Plainfield Municipal Court/Library												
Total Site Info	2.94	128,136	273	7.01	4.9	51.8	470.7	80	2.35	102,509	0.080	2.81
South Plainfield Public Works												
Total Site Info	4.55	198,191	333;334;358	4.01,4;4,6,7.01;1	7.5	78.6	714.8	79	3.57	155,678	0.121	4.27
South Plainfield Recreation PAL												
Total Site Info	4.55	198,171	221;335	30;8.01	2.6	26.8	244.1	27	1.22	53,162	0.041	1.46
US Post Office												
Total Site Info	5.85	254,963	254	48,49	4.5	47.1	428.6	37	2.14	93,351	0.073	2.56

e. Summary of Proposed Green Infrastructure Practices

Summary of Proposed Green Infrastructure Practices

	Subwatershed/Site Name/Total Site Info/GI Practice	Potential Management Area Area (SF)	Potential Management Area Area (ac)	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP (SF)	Unit Cost ($)	Unit	Total Cost ($)	I.C. Treated %
	AMBROSE BROOK SUBWATERSHED	**23,575**	**0.54**	**0.614**	**103**	**45,067**	**1.69**	**4,425**			**$100,625**	**16.0%**
1	**Lincoln Technical Institute**											
	Bioretention systems/rain gardens	2,000	0.05	0.052	9	3,822	0.14	500	5	SF	$2,500	1.4%
	Pervious pavements	21,575	0.50	0.562	94	41,245	1.55	3,925	25	SF	$98,125	14.7%
	Total Site Info	**23,575**	**0.54**	**0.614**	**103**	**45,067**	**1.69**	**4,425**			**$100,625**	**16.0%**
	BOUND BROOK SUBWATERSHED	**562,015**	**12.90**	**14.643**	**2,451**	**1,074,390**	**40.43**	**114,753**			**$2,037,025**	**23.8%**
2	**Cedarcroft Bible Chapel**											
	Bioretention systems/rain gardens	5,250	0.12	0.137	23	10,038	0.38	1,325	5	SF	$6,625	11.4%
	Pervious pavements	19,425	0.45	0.506	85	37,138	1.40	3,500	25	SF	$87,500	42.2%
	Rainwater harvesting systems	100	0.00	0.003	0	100	0.01	100	2	gal	$200	0.2%
	Total Site Info	**24,775**	**0.57**	**0.646**	**108**	**47,276**	**1.79**	**4,925**			**$94,325**	**53.8%**
3	**Church of the Sacred Heart**											
	Bioretention systems/rain gardens	13,100	0.30	0.341	57	25,043	0.94	3,300	5	SF	$16,500	8.7%
	Pervious pavements	50,775	1.17	1.323	221	97,075	3.65	8,638	25	SF	$215,950	33.8%
	Total Site Info	**63,875**	**1.47**	**1.664**	**279**	**122,118**	**4.59**	**11,938**			**$232,450**	**42.6%**
4	**First Baptist Church**											
	Bioretention systems/rain gardens	2,440	0.06	0.064	11	4,668	0.18	1,360	5	SF	$6,800	22.3%
	Total Site Info	**2,440**	**0.06**	**0.064**	**11**	**4,668**	**0.18**	**1,360**			**$6,800**	**22.3%**
5	**Franklin Elementary School**											
	Bioretention systems/rain gardens	20,540	0.47	0.535	90	39,270	1.48	5,670	5	SF	$28,350	16.7%
	Pervious pavements	44,380	1.02	1.156	194	84,846	3.19	8,000	25	SF	$200,000	36.0%
	Total Site Info	**64,920**	**1.49**	**1.692**	**283**	**124,116**	**4.67**	**13,670**			**$228,350**	**52.7%**
6	**Grant Elementary School**											
	Bioretention systems/rain gardens	17,200	0.39	0.448	75	32,882	1.24	4,300	5	SF	$21,500	8.2%
	Pervious pavements	12,300	0.28	0.320	54	23,517	0.88	2,200	25	SF	$55,000	5.9%
	Total Site Info	**29,500**	**0.68**	**0.769**	**129**	**56,399**	**2.12**	**6,500**			**$76,500**	**14.1%**

Summary of Proposed Green Infrastructure Practices

	Subwatershed/Site Name/Total Site Info/GI Practice	Potential Management Area Area (SF)	Potential Management Area Area (ac)	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP (SF)	Unit Cost ($)	Unit	Total Cost ($)	I.C. Treated %
7	**Holy Savior Academy**											
	Bioretention systems/rain gardens	6,400	0.15	0.167	28	12,237	0.46	1,600	5	SF	$8,000	6.0%
	Pervious pavements	7,900	0.18	0.206	34	15,102	0.57	1,400	25	SF	$35,000	7.4%
	Total Site Info	**14,300**	**0.33**	**0.373**	**62**	**27,339**	**1.03**	**3,000**			**$43,000**	**13.3%**
8	**John E. Riley Elementary School**											
	Bioretention systems/rain gardens	25,850	0.59	0.674	113	49,420	1.86	6,475	5	SF	$32,375	18.2%
	Pervious pavements	16,250	0.37	0.423	71	31,064	1.17	2,900	25	SF	$72,500	11.4%
	Total Site Info	**42,100**	**0.97**	**1.097**	**184**	**80,484**	**3.03**	**9,375**			**$104,875**	**29.6%**
9	**John F. Kennedy Elementary School**											
	Bioretention systems/rain gardens	15,700	0.36	0.409	68	30,017	1.13	3,925	5	SF	$19,625	12.6%
	Pervious pavements	36,250	0.83	0.945	158	69,302	2.61	6,500	25	SF	$162,500	29.1%
	Total Site Info	**51,950**	**1.19**	**1.354**	**227**	**99,319**	**3.74**	**10,425**			**$182,125**	**41.8%**
10	**Nativity of the Blessed Virgin**											
	Bioretention systems/rain gardens	5,300	0.12	0.138	23	10,135	0.38	1,325	5	SF	$6,625	47.4%
	Total Site Info	**5,300**	**0.12**	**0.138**	**23**	**10,135**	**0.38**	**1,325**			**$6,625**	**47.4%**
11	**NJ Buddhist Cultural Center**											
	Bioretention systems/rain gardens	4,410	0.10	0.115	19	8,430	0.32	1,125	5	SF	$5,625	12.2%
	Pervious pavements	11,685	0.27	0.304	51	22,343	0.84	2,610	25	SF	$65,250	32.3%
	Total Site Info	**16,095**	**0.37**	**0.419**	**70**	**30,773**	**1.16**	**3,735**			**$70,875**	**44.5%**
12	**Our Lady of Czetochowa Church**											
	Bioretention systems/rain gardens	5,900	0.14	0.154	26	11,280	0.42	1,475	5	SF	$7,375	9.4%
	Pervious pavements	7,750	0.18	0.202	34	14,818	0.56	1,400	25	SF	$35,000	12.3%
	Total Site Info	**13,650**	**0.31**	**0.356**	**60**	**26,098**	**0.98**	**2,875**			**$42,375**	**21.7%**
13	**Roosevelt Elementary School**											
	Bioretention systems/rain gardens	6,600	0.15	0.172	29	12,619	0.47	1,650	5	SF	$8,250	2.6%
	Pervious pavements	51,000	1.17	1.329	222	97,502	3.67	9,730	25	SF	$243,250	20.1%
	Total Site Info	**57,600**	**1.32**	**1.501**	**251**	**110,121**	**4.14**	**11,380**			**$251,500**	**22.7%**
14	**South Plainfield Fire Prevention Office**											
	Pervious pavements	8,600	0.20	0.224	38	16,441	0.62	1,550	25	SF	$38,750	25.2%
	Total Site Info	**8,600**	**0.20**	**0.224**	**38**	**16,441**	**0.62**	**1,550**			**$38,750**	**25.2%**

Summary of Proposed Green Infrastructure Practices

	Subwatershed/Site Name/Total Site Info/GI Practice	Potential Management Area		Recharge Potential	TSS Removal Potential	Max Volume Reduction Potential	Peak Discharge Reduction Potential	Size of BMP	Unit Cost	Unit	Total Cost	I.C. Treated
		Area (SF)	Area (ac)	(Mgal/yr)	(lbs/yr)	(gal/storm)	(cfs)	(SF)	($)		($)	%
15	**South Plainfield Middle School & High School**											
	Bioretention systems/rain gardens	20,200	0.46	0.526	88	38,619	1.45	5,075	5	SF	$25,375	3.1%
	Pervious pavements	64,300	1.48	1.675	280	122,934	4.62	11,500	25	SF	$287,500	10.0%
	Total Site Info	**84,500**	**1.94**	**2.202**	**369**	**161,553**	**6.07**	**16,575**			**$312,875**	**13.1%**
16	**South Plainfield Municipal Court & Library**											
	Bioretention systems/rain gardens	3,550	0.08	0.092	15	6,784	0.26	900	5	SF	$4,500	3.5%
	Pervious pavements	31,800	0.73	0.829	139	60,797	2.29	5,750	25	SF	$143,750	31.0%
	Total Site Info	**35,350**	**0.81**	**0.921**	**154**	**67,581**	**2.55**	**6,650**			**$148,250**	**34.5%**
17	**South Plainfield Public Works**											
	Bioretention systems/rain gardens	685	0.02	0.018	3	1,309	0.05	170	5	SF	$850	0.4%
	Total Site Info	**685**	**0.02**	**0.018**	**3**	**1,309**	**0.05**	**170**			**$850**	**0.4%**
18	**South Plainfield Recreation PAL**											
	Bioretention systems/rain gardens	7,200	0.17	0.188	31	13,763	0.52	1,800	5	SF	$9,000	13.5%
	Pervious pavements	29,950	0.69	0.780	131	57,259	2.15	5,500	25	SF	$137,500	56.3%
	Total Site Info	**37,150**	**0.85**	**0.968**	**162**	**71,022**	**2.67**	**7,300**			**$146,500**	**69.9%**
19	**US Post Office**											
	Pervious pavements	9,225	0.21	0.240	40	17,638	0.66	2,000	25	SF	$50,000	9.9%
	Total Site Info	**9,225**	**0.21**	**0.240**	**40**	**17,638**	**0.66**	**2,000**			**$50,000**	**9.9%**