



**D R A F T**

**Green Infrastructure Action Plan  
for  
Franklin Township, Somerset County, New Jersey**

*Prepared for Franklin Township by the  
Rutgers Cooperative Extension Water Resources Program*

February 26, 2021

## ACKNOWLEDGEMENTS:

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## **Introduction**

Located in Somerset County, New Jersey, Franklin Township covers approximately 46.9 square miles. Figures 1 and 2 illustrate that Franklin Township is dominated by urban land use. A total of 44.2% of the municipality's land use is classified as urban. Of the urban land in Franklin Township, rural residential is the dominant land use (Figure 3).

The New Jersey Department of Environmental Protection's (NJDEP) 2015 land use/land cover geographical information system (GIS) data layer categorizes Franklin Township 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 Franklin Township. Based upon the 2015 NJDEP land use/land cover data, approximately 18.8% of Franklin Township has impervious cover. This level of impervious cover suggests that the streams in Franklin Township are likely impacted streams.<sup>1</sup>

## **Methodology**

Franklin Township contains portions of seven subwatersheds (Figure 4). For this green infrastructure action plan, projects have been identified in five of these subwatersheds. Aerial imagery initially was used to identify potential project sites that contain extensive impervious cover. Field visits were conducted at each of the sites from the November 2015 impervious cover reduction action plan (RAP) to determine if viable options still exist at the sites to reduce impervious cover or to disconnect impervious surfaces from draining directly to the local waterway or storm sewer system. During the field visits, appropriate green infrastructure practices for the sites were verified and/or determined. Sites that already had stormwater management practices in place were not considered.

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<sup>1</sup> Schuler, T.R., L. Fraley-McNeal, and K. Cappiella. 2009. Is Impervious Cover Still Important? Review of Recent Research. *Journal of Hydrologic Engineering* 14 (4): 309-315.

## Land Use Types for Franklin

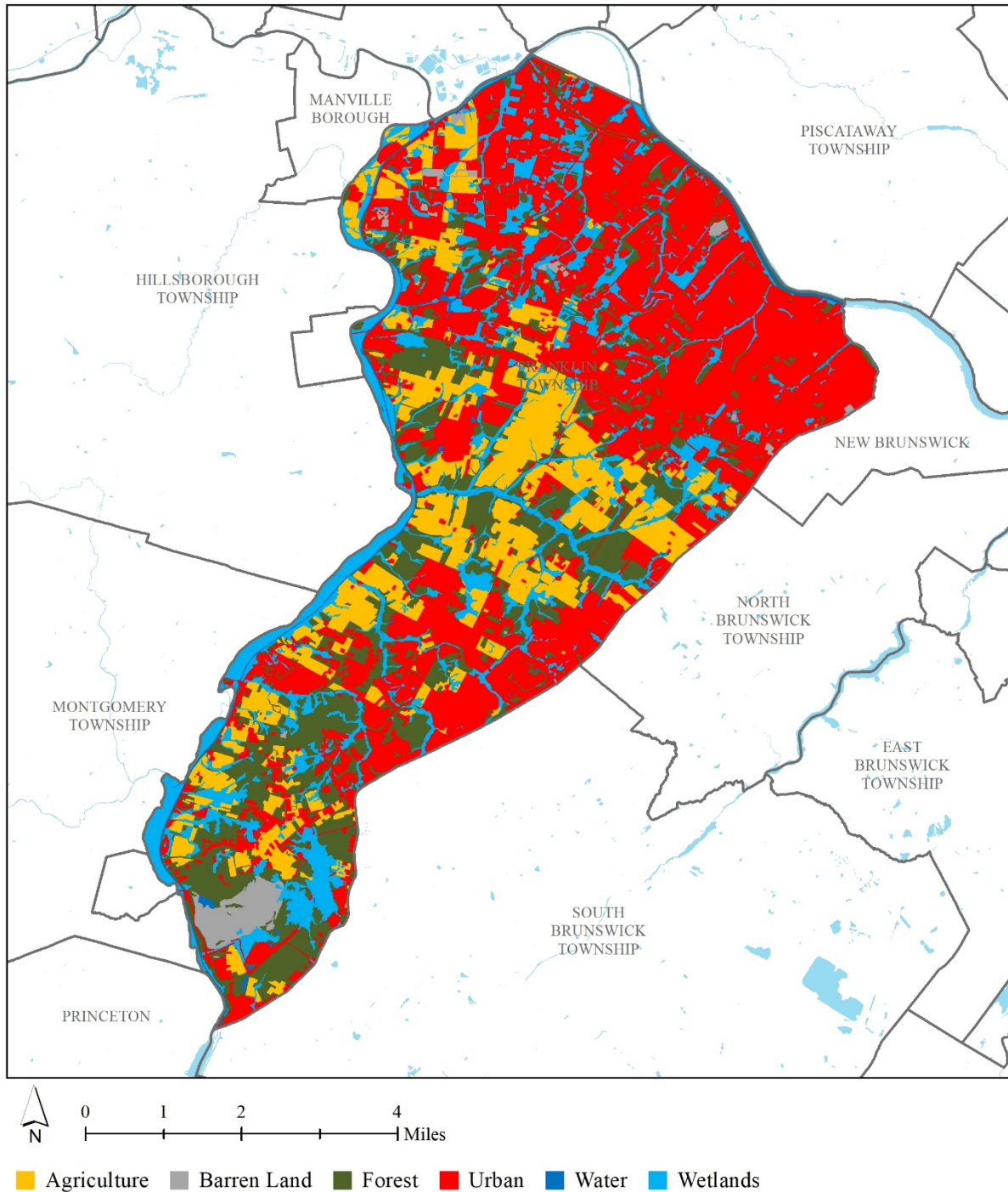


Figure 1: Map illustrating the land use in Franklin Township

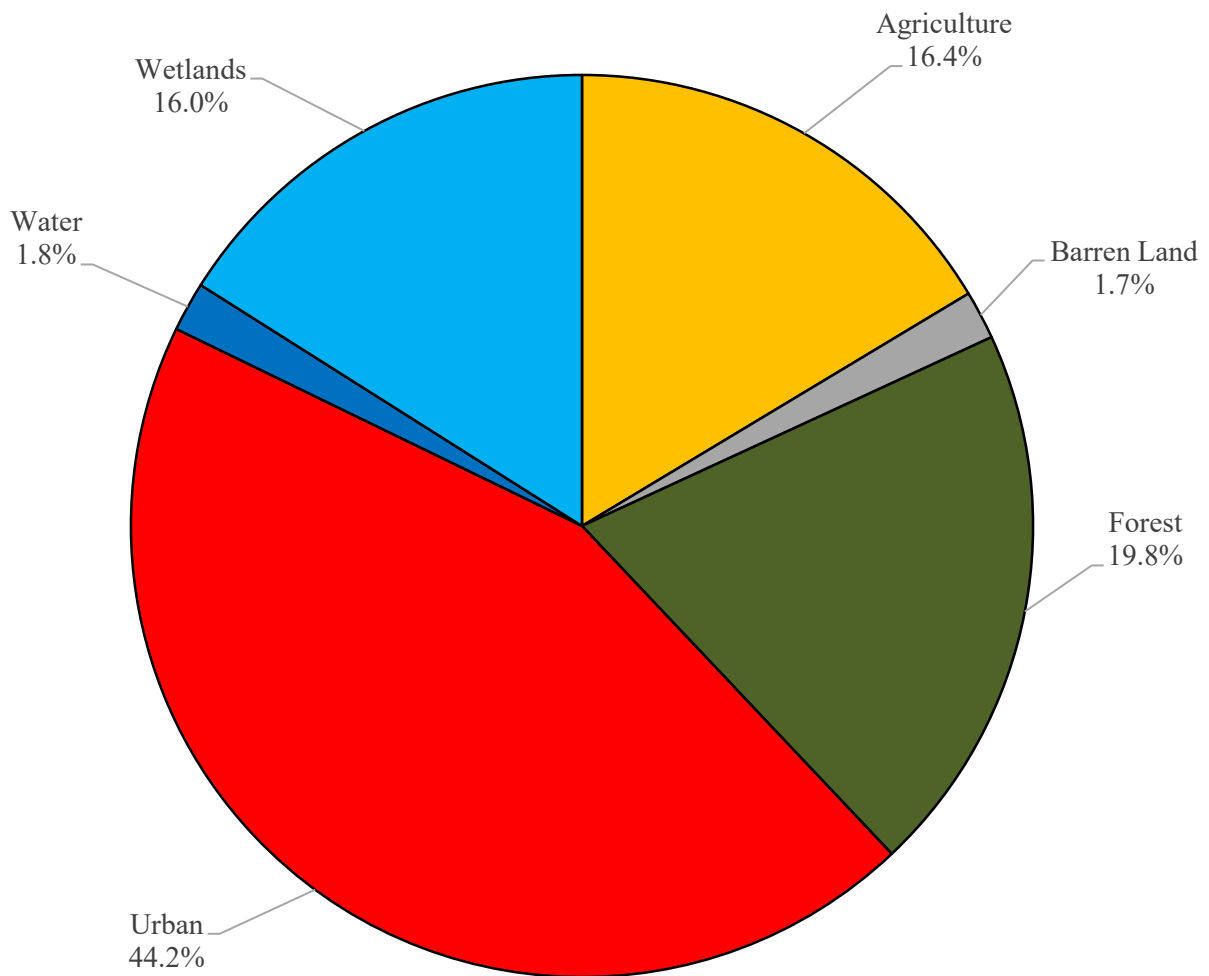


Figure 2: Pie chart illustrating the land use in Franklin Township

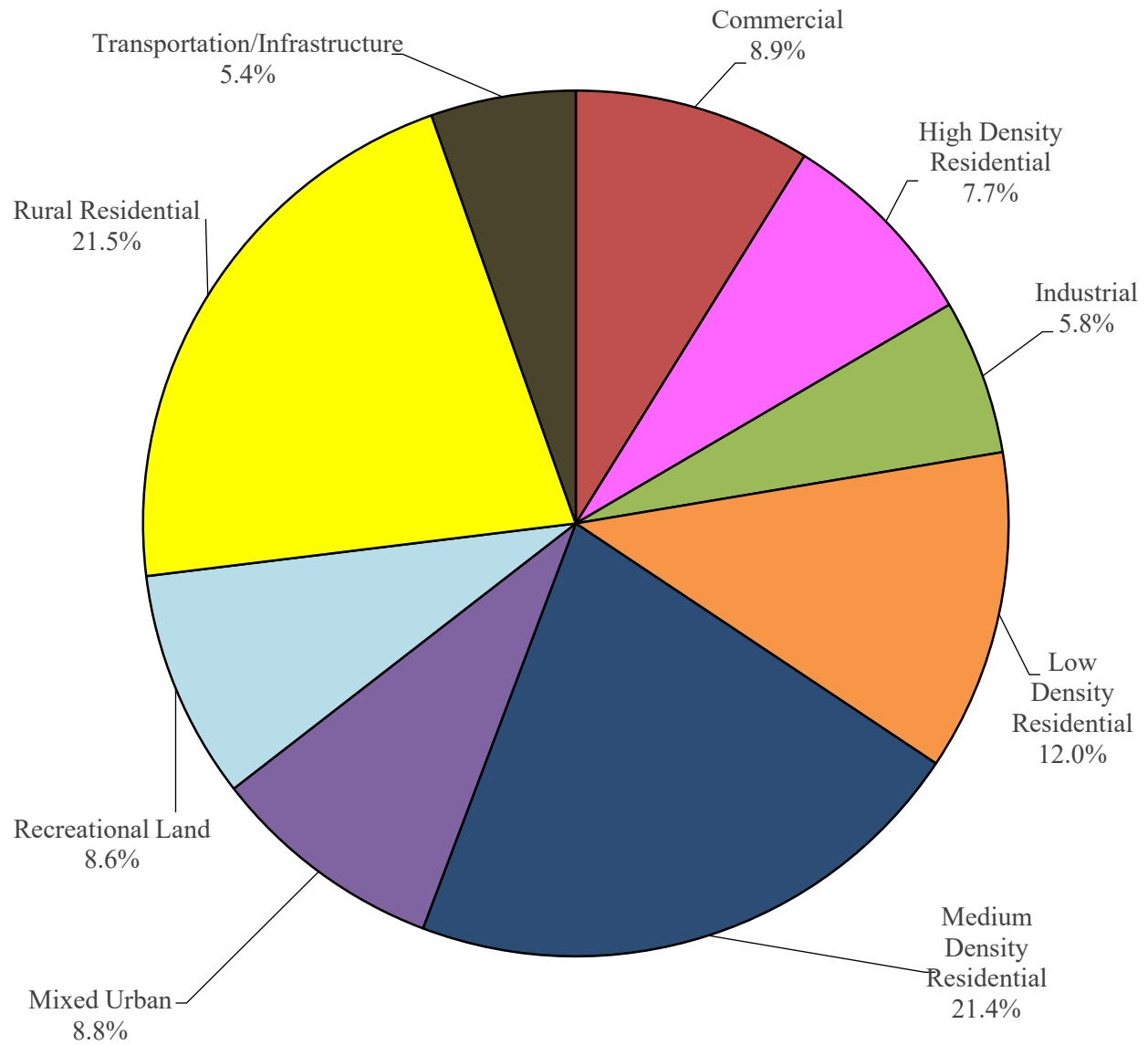


Figure 3: Pie chart illustrating the various types of urban land use in Franklin Township

## Subwatersheds of Franklin

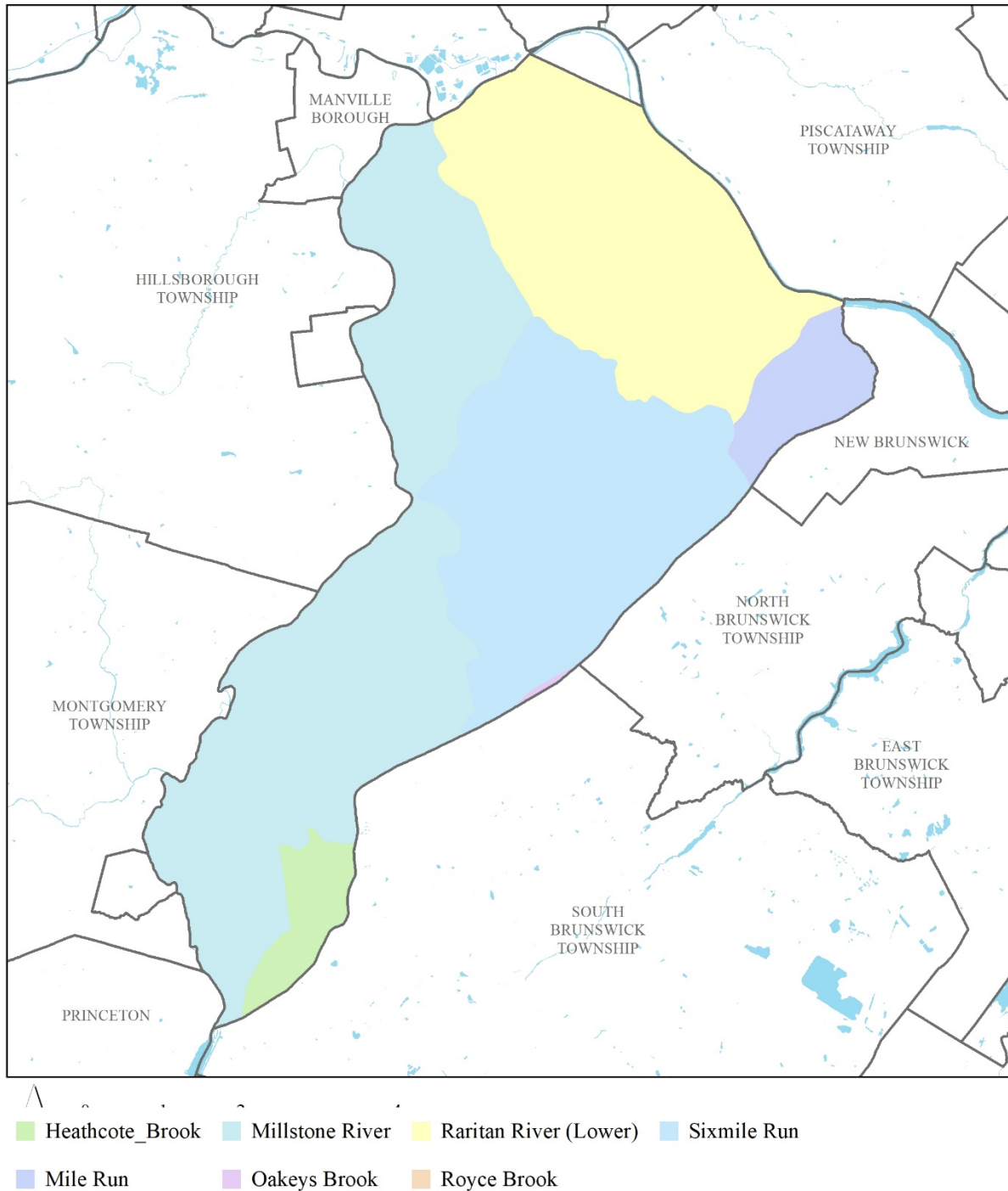


Figure 4: Map of the subwatersheds in Franklin Township

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 2015 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 Franklin Township 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<sup>2</sup>

<b>Land Cover</b>	<b>TP load (lbs/acre/yr)</b>	<b>TN load (lbs/acre/yr)</b>	<b>TSS load (lbs/acre/yr)</b>
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

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<sup>2</sup> 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 principle, 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<sup>3</sup>. A wide range of green infrastructure practices have been evaluated for the potential project sites in Franklin Township. Each practice is discussed below.

### ***Disconnected downspouts***

This is often referred to as simple disconnection. A downspout is simply disconnected, 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.



<sup>3</sup> 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](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 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.



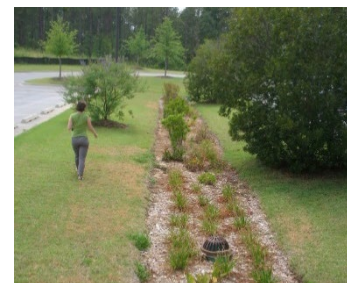
### ***Rainwater harvesting systems (cistern or rain barrel)***

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**

Appendix A contains information on potential project sites where green infrastructure practices could be installed as well as information on existing site conditions. The recommended green infrastructure practices and the drainage area that the green infrastructure practices can treat are identified for each potential project site. For each practice, the recharge potential, TSS removal potential, maximum volume reduction potential per storm, the peak reduction potential, and estimated costs 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.<sup>4</sup>

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<sup>4</sup> 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.*

### **Funding Strategy, Implementation Agenda, and Community Engagement**

Franklin Township will create a green infrastructure subcommittee of the environmental commission that meets monthly to discuss opportunities for projects and coordinates the implementation of projects. The goal is to install five to ten projects per year and possibly increase this number as funding becomes available. Projects can be designed throughout the year with most being installed in the spring, summer, and fall. These are exciting times for Franklin Township as they hope to be on the forefront of the green infrastructure movement.

#### *Funding Sources*

Franklin Township is committed to implementing green infrastructure throughout the municipality and is currently partnering with the Rutgers Cooperative Extension (RCE) Water Resources Program on a municipal-wide green infrastructure initiative. A source of funding would be through local, state, and federal grant programs. The NJDEP provides some grant funding for stormwater management projects. Other groups like the National Fish and Wildlife Foundation, US Environmental Protection Agency, Sustainable Jersey, and ANJEC (Association of New Jersey Environmental Commissions) have also provided grant funding for stormwater management projects in the past. Private foundations could be another source of funding for designing and building green infrastructure projects. The final possible source of funding is the New Jersey Water Bank (formerly known as the Environmental Infrastructure Trust) Financing Program. This program provides low interest loans for water projects. Franklin Township could seek funding from the New Jersey Water Bank for green infrastructure projects.

#### *Incentive Programs*

Franklin Township may pursue a rain garden rebate program to install rain gardens throughout the municipality. The environmental commission will seek funding for this initiative. As the green infrastructure initiative moves forward, there will be opportunities to provide additional incentive programs for homeowners and businesses to participate in the effort. As stormwater utilities become a reality in New Jersey, there may also be opportunities to offer incentives to homeowners and businesses to install green infrastructure. A stormwater utility can provide a reduced utility fee to property owners that have installed green infrastructure. A stormwater utility program can also provide direct funding to property owners to install green infrastructure.

### **Short-term Goal**

With the existing municipal impervious cover at 18.8%, Franklin Township's green infrastructure initiative short term (i.e., less than five years) impervious cover management goal is to manage stormwater runoff for 15 acres of impervious cover. This goal is highly dependent on securing adequate funding for the implementation of green infrastructure projects.

### **Conclusion**

This green infrastructure 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.

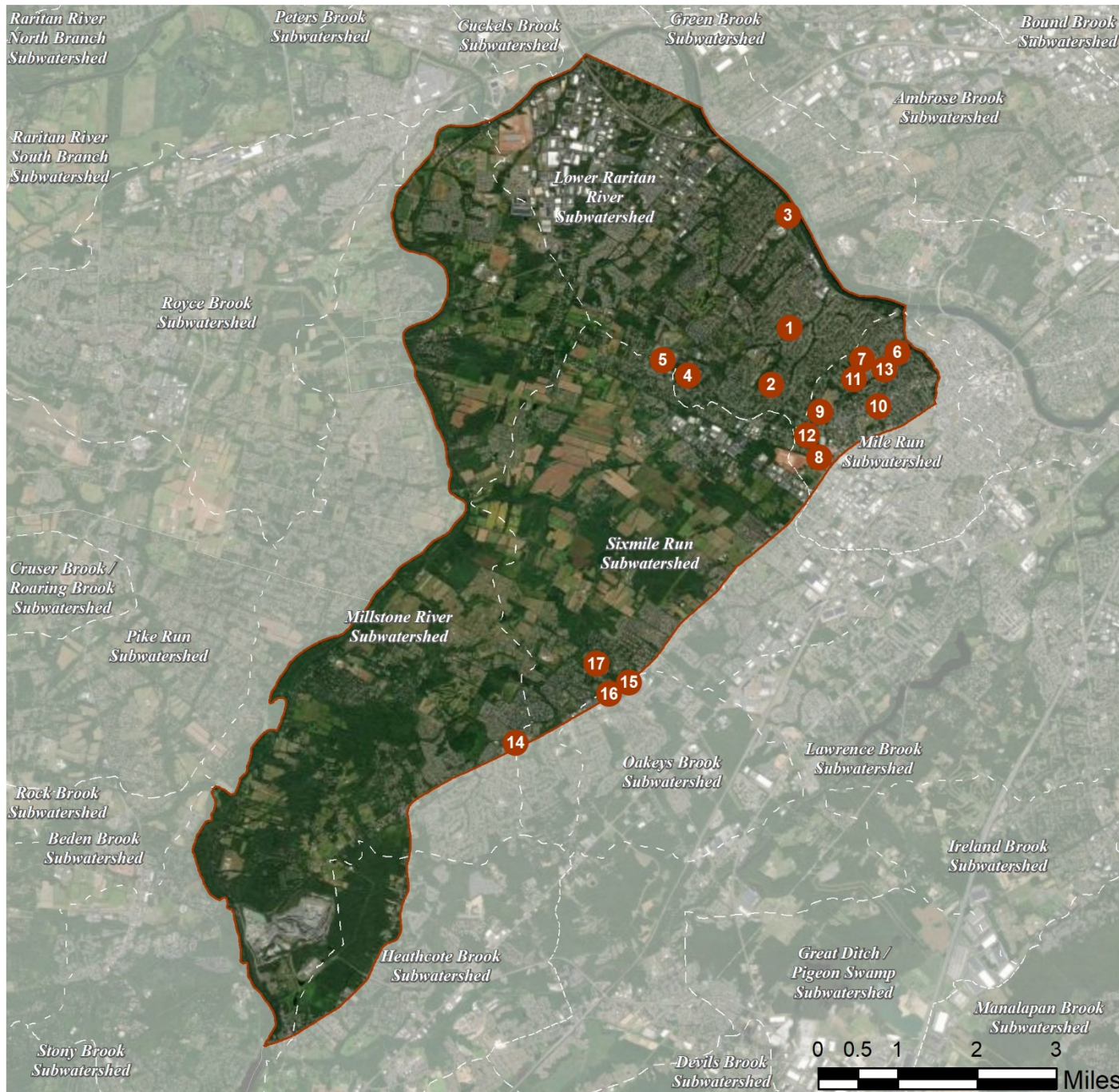
Additionally, development projects that are in need of providing off-site compensation for stormwater impacts can use the projects in this plan as a starting point. The municipality can quickly convert this green infrastructure action plan into a stormwater mitigation plan and incorporate it into the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

## **Appendix A: Climate Resilient Green Infrastructure**

### **a. Green Infrastructure Sites**



## FRANKLIN TOWNSHIP (SOMERSET): GREEN INFRASTRUCTURE SITES



### SITES WITHIN THE LOWER RARITAN RIVER SUBWATERSHED:

1. Conerly Road School
2. MacAfee Road School
3. Rutgers Preparatory School
4. Franklin Middle School @ Sampson G. Smith Campus
5. Township Offices and Library

### SITES WITHIN THE MILE RUN SUBWATERSHED:

6. East Franklin Firehouse Company
7. Eternal Life Christian Church
8. Franklin Department of Public Works
9. Franklin Middle School @ Hamilton Street Campus & Hillcrest Elementary School
10. Franklin Street Center
11. Mount Carmel Church
12. NJ Army National Guard
13. Pine Grove Manor School

### SITES WITHIN THE MILLSTONE RIVER SUBWATERSHED:

14. Franklin Care Center

### SITES WITHIN THE OAKEYS BROOK SUBWATERSHED:

15. Franklin Park Volunteer Fire Company
16. Six Mile Run Reformed Church

### SITES WITHIN THE SIXMILE RUN SUBWATERSHED:

17. Franklin Park School

## **b. Proposed Green Infrastructure Concepts**

# CONERLY ROAD SCHOOL



**Subwatershed:** Lower Raritan River

**Site Area:** 544,676 sq. ft.

**Address:** 35 Conerly Road  
Somerset, NJ 08873

**Block and Lot:** Block 373, Lot 48



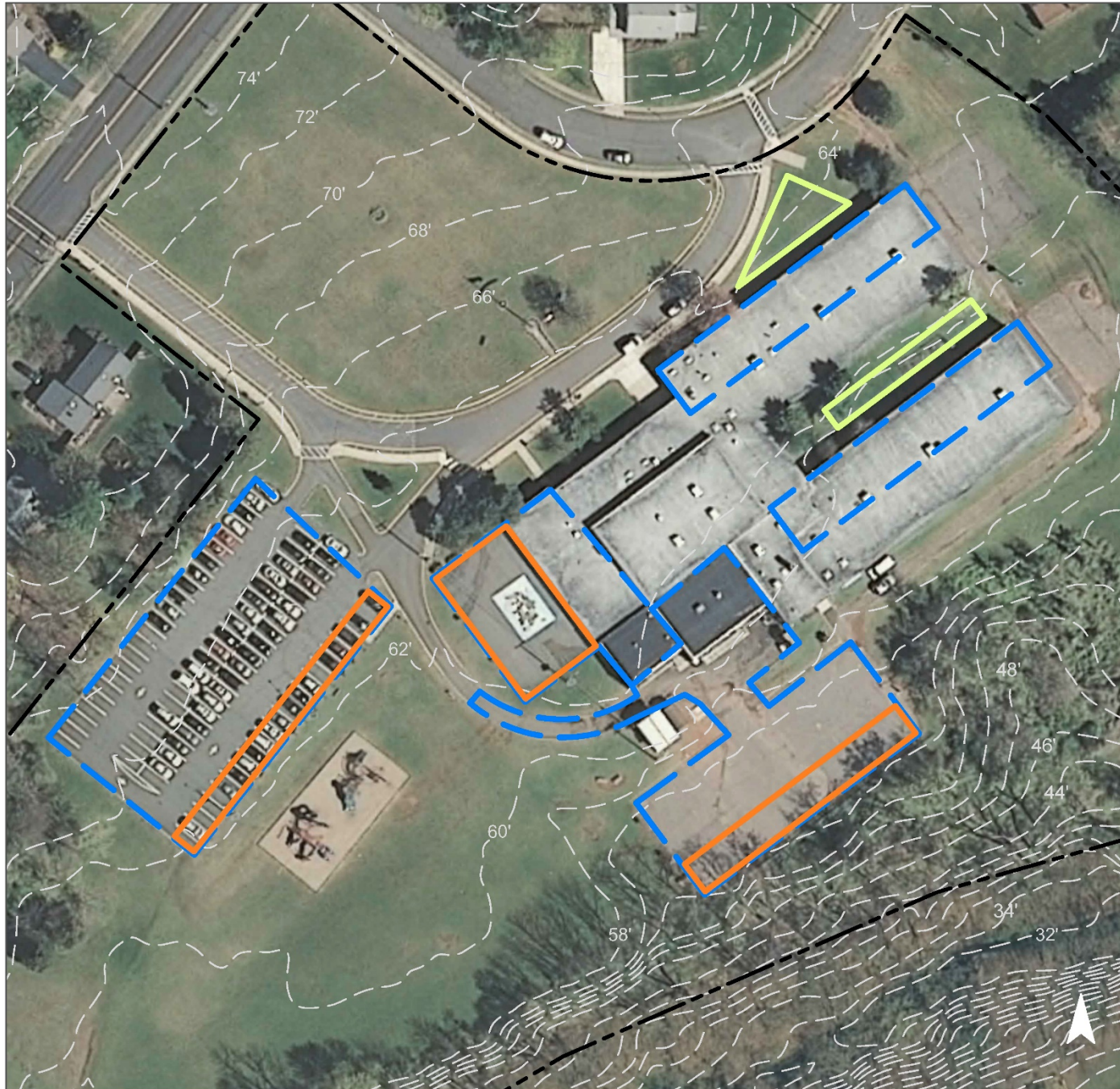
Rain gardens can be installed to capture, treat, and infiltrate roof runoff by disconnecting and redirecting nearby downspouts. These rain gardens can serve as an educational tool for students to learn about stormwater management using green infrastructure. The two play areas at the back of the school can be replaced with porous asphalt. In addition, parking spaces can also be replaced with pervious pavement to capture and infiltrate stormwater. 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"
32	173,800	8.4	87.8	798.0	0.135	4.77






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	0.365	61	26,760	1.01	3,500	\$17,500
Pervious pavement	1.400	234	102,750	3.86	13,650	\$341,250



# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Conerly Road School

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# MACAFEE ROAD SCHOOL



**Subwatershed:** Lower Raritan River

**Site Area:** 501,131 sq. ft.

**Address:** 53 MacAfee Road  
Somerset, NJ 08873

**Block and Lot:** Block 361, Lot 5



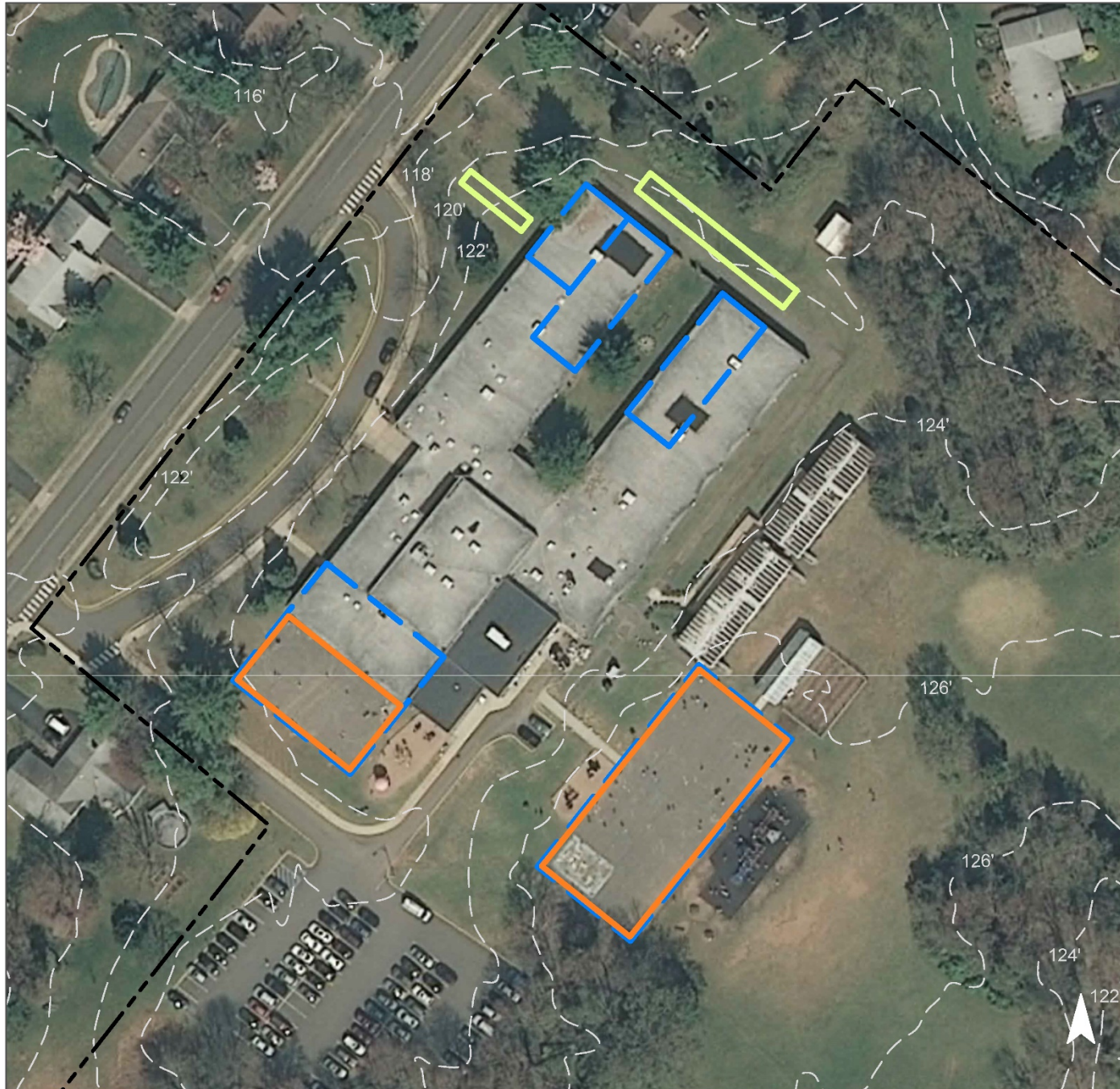
Bioretention systems can be installed to capture, treat, and infiltrate runoff. The rain garden proposed for the northeast side of the building would require connecting the downspouts from the courtyard to a main pipe to discharge into the garden. These systems will provide students with an educational tool to learn about green infrastructure, native plants, and wildlife. The two existing play areas can be replaced with porous asphalt which will allow for runoff storage and groundwater recharge. 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"
34	171,569	8.3	86.7	787.7	0.134	4.71






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	0.234	39	17,200	0.65	2,250	\$11,250
Pervious pavement	0.580	97	42,560	1.60	18,390	\$459,750



# GREEN INFRASTRUCTURE RECOMMENDATIONS



## MacAfee Road School

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS



# RUTGERS PREPARATORY SCHOOL



**Subwatershed:** Lower Raritan River

**Site Area:** 1,647,983 sq. ft.

**Address:** 1345 Easton Avenue  
Somerset, NJ 08873

**Block and Lot:** Block 466, Lot 1.01



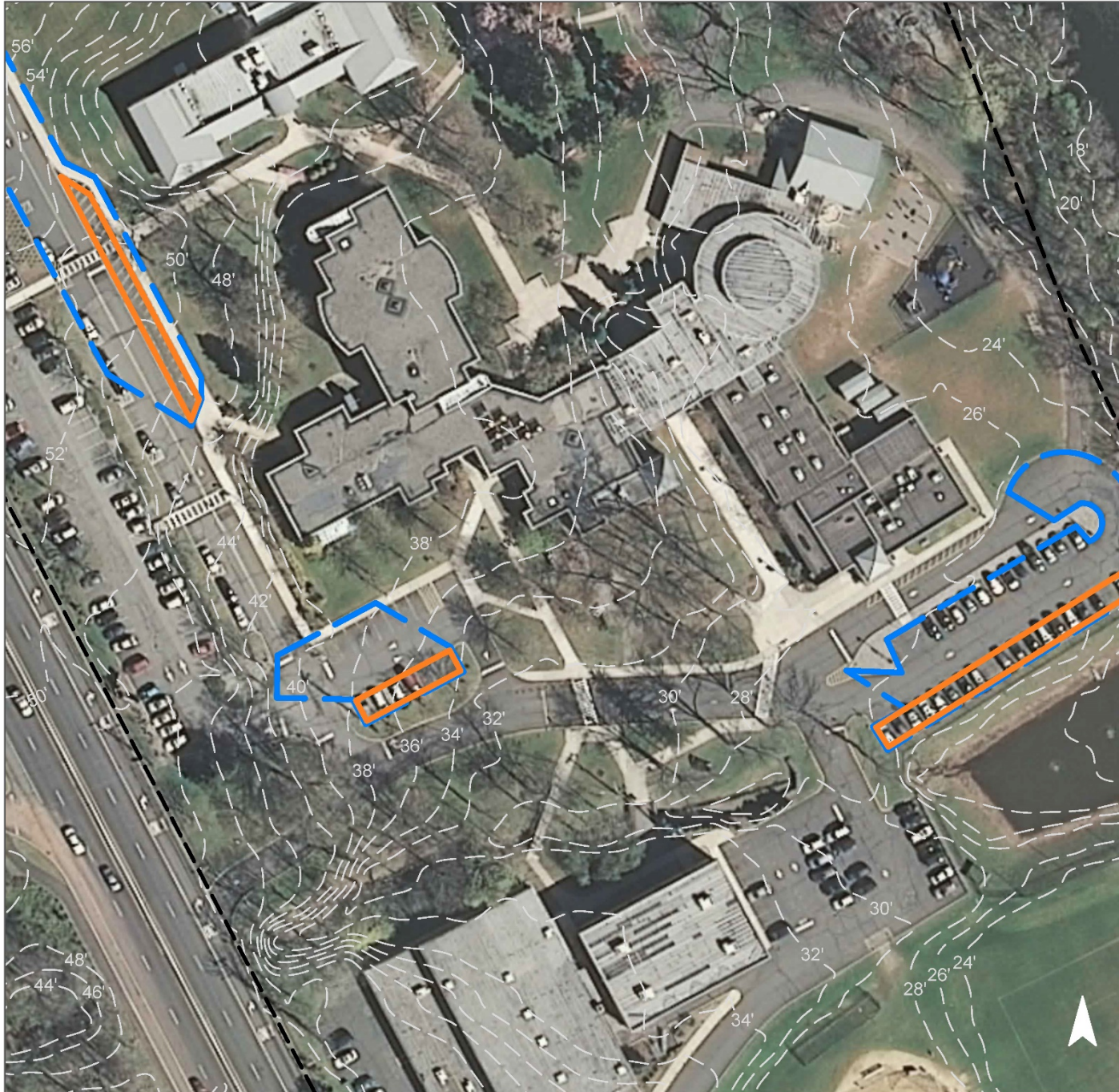
Although the parking spaces are in good condition, pervious pavement is a viable option for mitigating large runoff volumes to the detention basin. Approximately 35 parking spaces in the southern portion of the site could be replaced with pervious pavement. On the northern portion of the site, the most western parking spaces can be replaced with porous pavement. This green infrastructure practice will help reduce flooding and non-point source pollutants from reaching the local waterways. 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"
39	644,338	31.1	325.4	2,958.4	0.502	17.67





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 pavement	0.825	138	60,530	2.27	7,000	\$175,000



# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Rutgers Preparatory School

-  pervious pavement
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# FRANKLIN MIDDLE SCHOOL @ SAMPSON G. SMITH CAMPUS



**Subwatershed:** Lower Raritan River

**Site Area:** 1,384,373 sq. ft.

**Address:** 1649 Amwell Road  
Franklin Township, NJ 08873

**Block and Lot:** Block 386.04, Lot 20.02



The parking lot island near the southwestern end of the school can be converted into a rain garden to treat a portion of the parking lot runoff. Stormwater runoff flows north of the building toward a densely vegetated area. In this area, two strips of pavement can be replaced with pervious pavement, and the remainder of runoff can be captured, treated, and infiltrated by installing a rain garden. 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"
26	366,492	17.7	185.1	1,682.7	0.286	10.05

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	0.389	65	28,540	1.07	3,735	\$18,675
Pervious pavement	0.517	86	37,910	1.42	3,360	\$84,000

# GREEN INFRASTRUCTURE RECOMMENDATIONS



**Franklin Middle School @  
Sampson G. Smith Campus**

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# TOWNSHIP OFFICES AND LIBRARY



**Subwatershed:** Lower Raritan River

**Site Area:** 1,513,826 sq. ft.

**Address:** 485 Demott Lane  
Franklin Township, NJ 08873

**Block and Lot:** Block 417.01, Lot 5.04



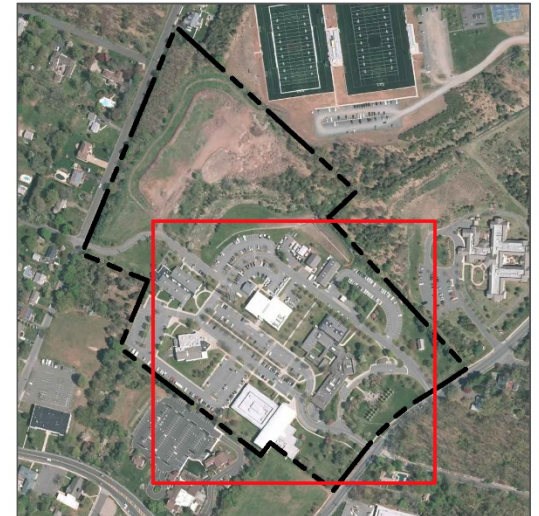
Bioretention systems can be installed to capture, treat, and infiltrate rooftop runoff. Multiple rows of parking spaces can be replaced with pervious pavement to capture and infiltrate stormwater. These practices can reduce pollutant loads, discharge volumes, and recharge local groundwater before reaching the adjacent detention basin. 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"
40	609,191	29.4	307.7	2,797.0	0.475	16.71






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	0.194	32	14,240	0.54	1,900	\$9,500
Pervious pavement	2.820	472	206,960	7.78	24,700	\$617,500



# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Township Offices and Library

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# EAST FRANKLIN FIRE COMPANY



**Subwatershed:** Mile Run

**Site Area:** 293,926 sq. ft.

**Address:** 121 Pinegrove Avenue  
Somerset, NJ 08873

**Block and Lot:** Block 242; 245  
Lot 1.01, 2.01; 1.01



A rain garden can be installed in the turfgrass area to the south of the parking area to capture, treat, and infiltrate stormwater runoff from a portion of the parking lot. Another rain garden can also be installed to capture rooftop runoff from the downspouts on the building. 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"
35	101,840	4.9	51.4	467.6	0.079	2.79

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	12,240	0.46	1,600	\$8,000

# GREEN INFRASTRUCTURE RECOMMENDATIONS



## East Franklin Firehouse Company

-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# ETERNAL LIFE CHRISTIAN CHURCH



**Subwatershed:** Mile Run

**Site Area:** 145,916 sq. ft.

**Address:** 322 Franklin Boulevard  
Somerset, NJ 08873

**Block and Lot:** Block 284, Lot 1.01

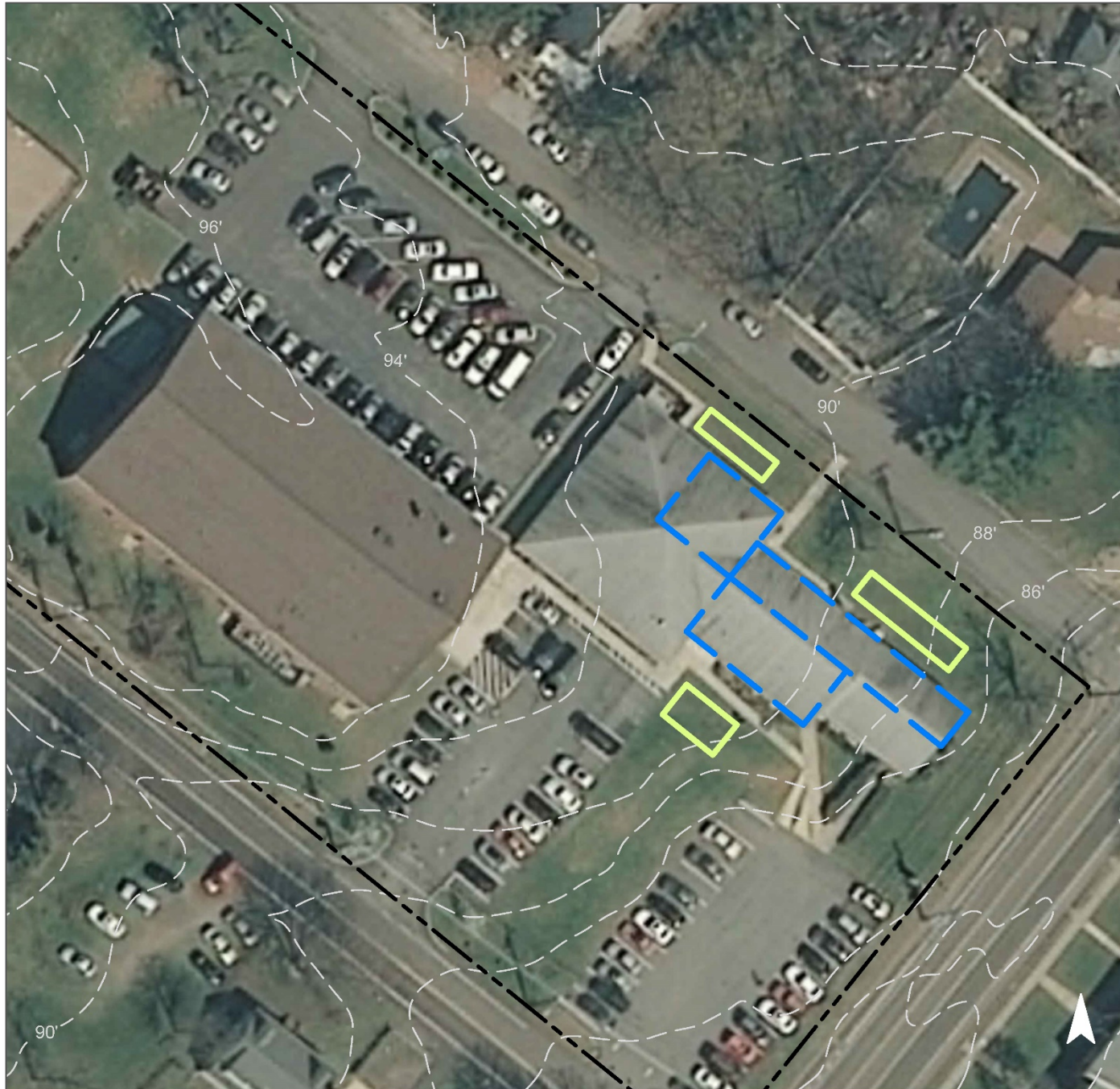


There are three opportunities to install bioretention systems at the church to capture, treat, and infiltrate rooftop runoff. The southern rain garden would require three downspouts to be disconnected and redirected into the rain garden. The two northern gardens would require a total of five disconnections. These rain gardens will prevent large runoff volumes from reaching nearby waterways. 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"
68	98,853	4.8	49.9	453.9	0.077	2.71

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	0.117	20	8,600	0.32	1,130	\$5,650

# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Eternal Life Christian Church

-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# FRANKLIN DEPARTMENT OF PUBLIC WORKS



**Subwatershed:** Mile Run

**Site Area:** 183,906 sq. ft.

**Address:** 28-40 Churchill Avenue  
Somerset, NJ 08873

**Block and Lot:** Block 102, 110  
Lot 38.01, 40-51, 1.01



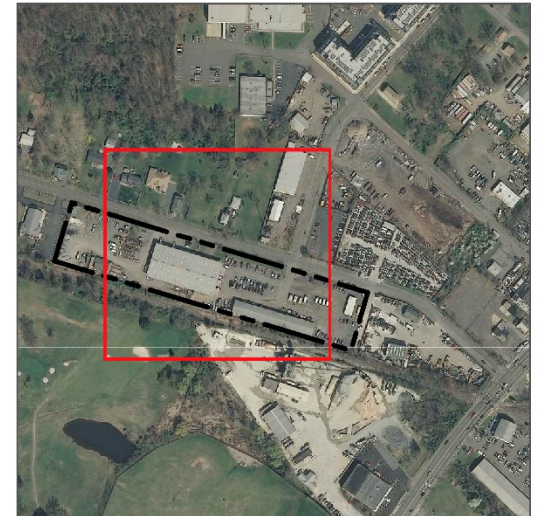
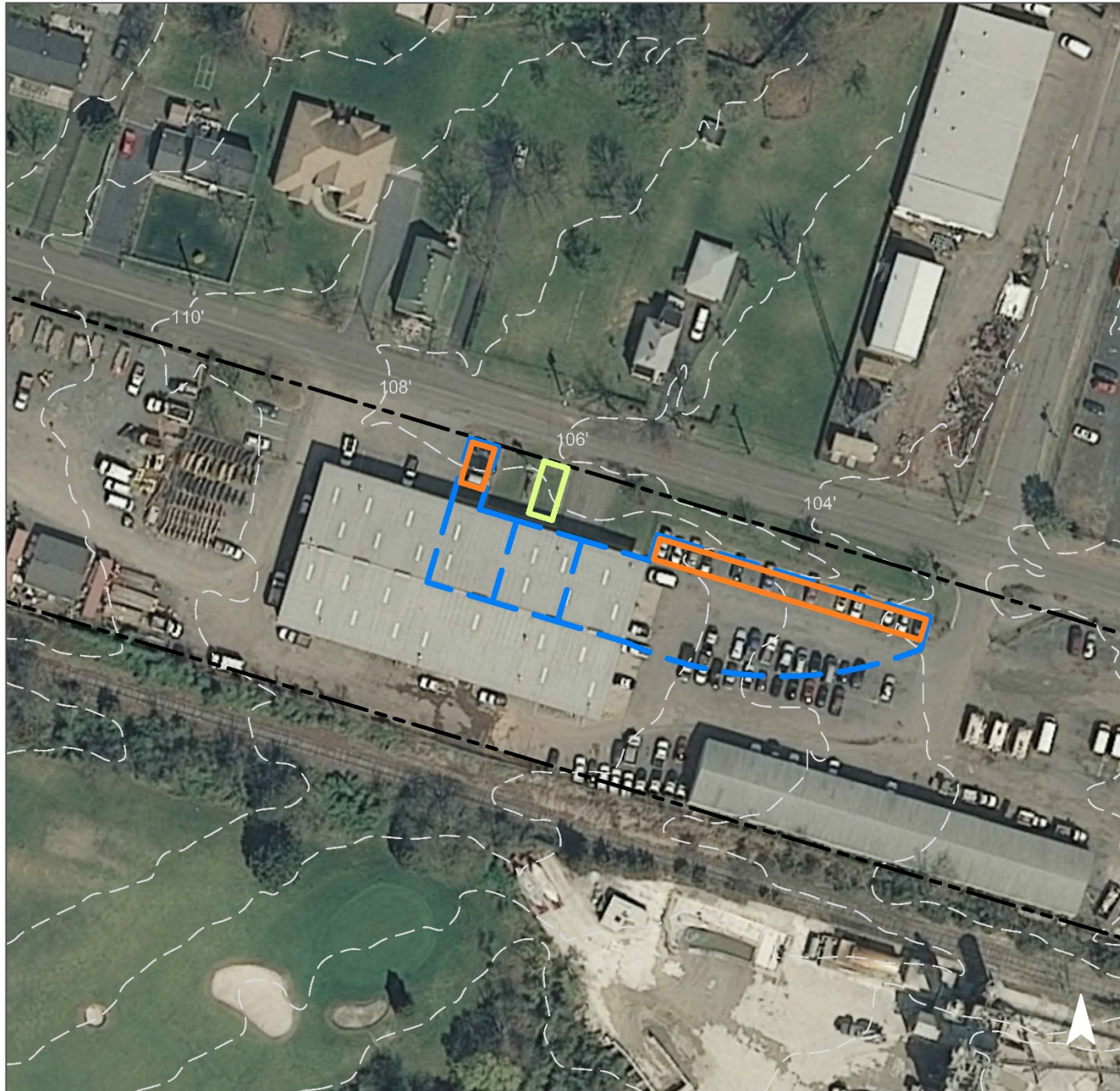
Parking spaces can be replaced with pervious pavement to capture and infiltrate stormwater. A bioretention system can be installed to capture, treat, and infiltrate rooftop runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

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"
87	160,676	7.7	81.1	737.7	0.125	4.41






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 system	0.051	9	3,730	0.14	550	\$2,750
Pervious pavement	0.625	105	45,880	1.72	9,150	\$228,750



# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Franklin Department of Public Works

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# FRANKLIN MIDDLE SCHOOL @ HAMILTON STREET CAMPUS & HILLCREST ELEMENTARY SCHOOL



**Subwatershed:** Mile Run

**Site Area:** 3,258,688 sq. ft.

**Address:** 415 Francis Street  
Franklin Township, NJ 08873

**Block and Lot:** Block 289, Lot 28.02, 95



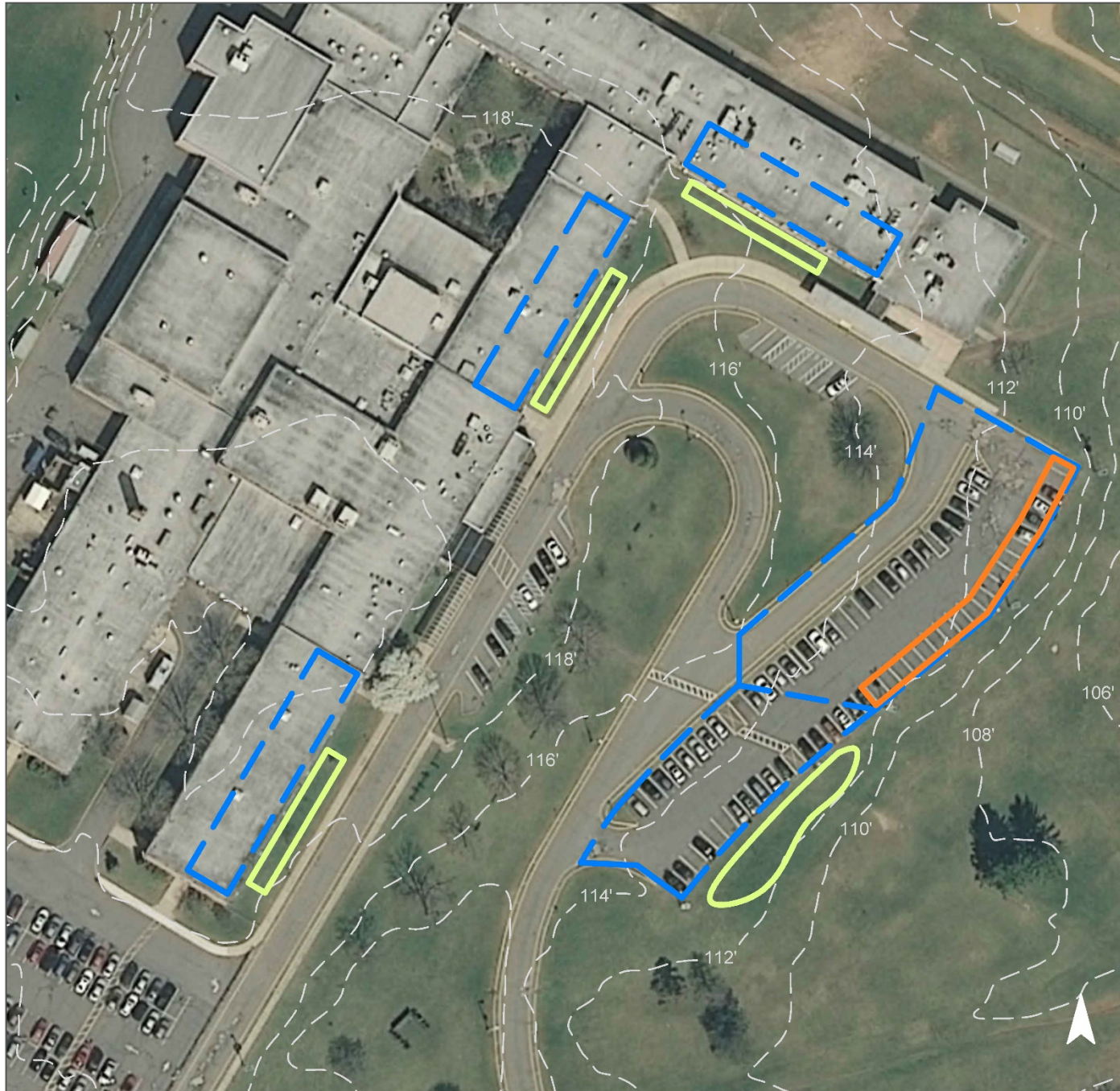
Bioretention systems can be installed to capture, treat, and infiltrate rooftop and parking lot runoff. Parking spaces can be replaced with pervious pavement to capture and infiltrate stormwater. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

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"
28	924,552	44.6	466.9	4,245.0	0.720	25.36






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	0.856	143	62,790	2.36	8,230	\$41,150
Pervious pavement	0.801	134	58,760	2.21	7,270	\$181,750



# GREEN INFRASTRUCTURE RECOMMENDATIONS



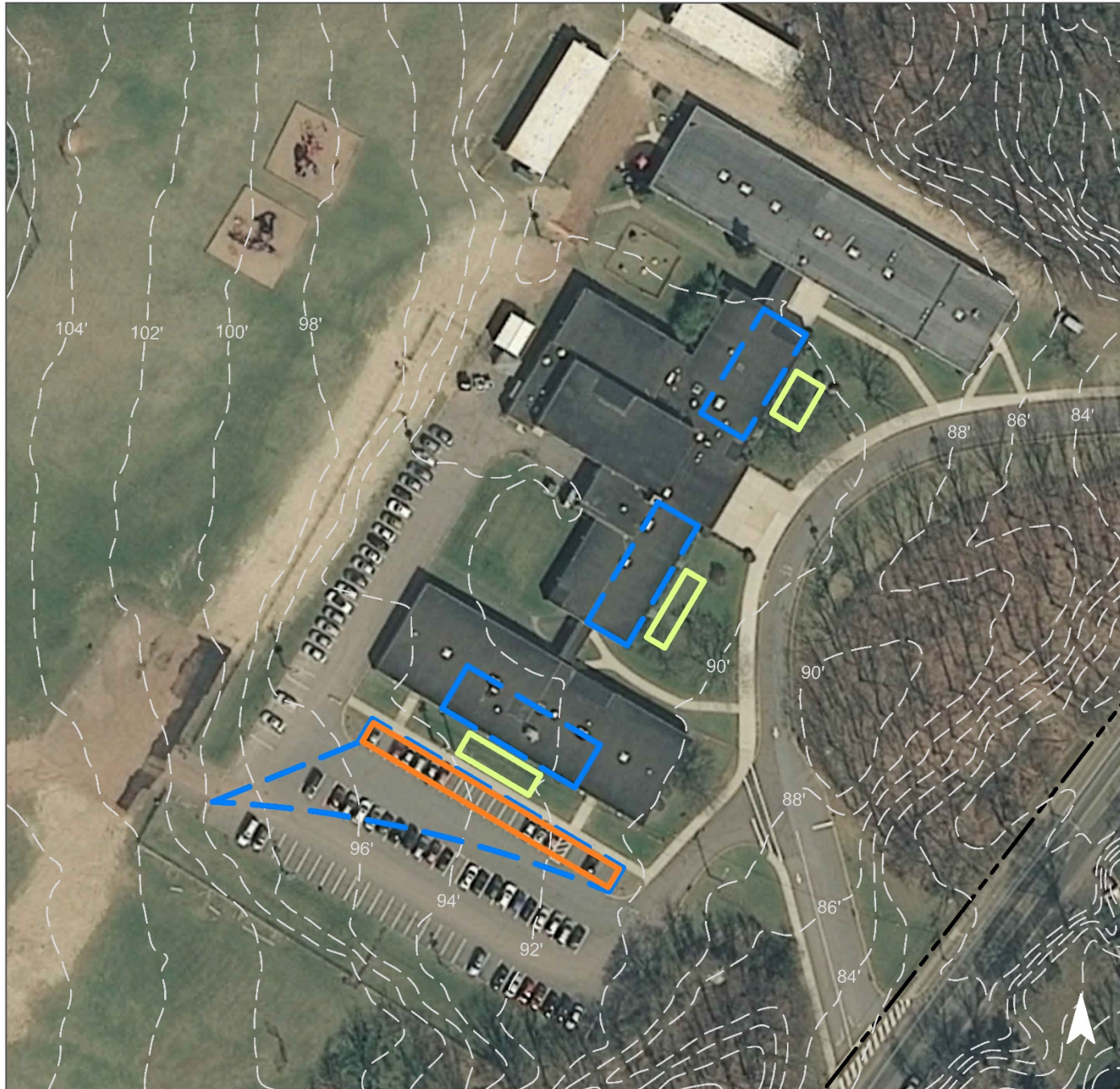
**Franklin Middle School @  
Hamilton Street Campus**

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS










# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Hillcrest Elementary School

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS







# FRANKLIN STREET CENTER



**Subwatershed:** Mile Run

**Site Area:** 354,755 sq. ft.

**Address:** 712 Hamilton Street  
Somerset, NJ 08873

**Block and Lot:** Block 154, Lot 9



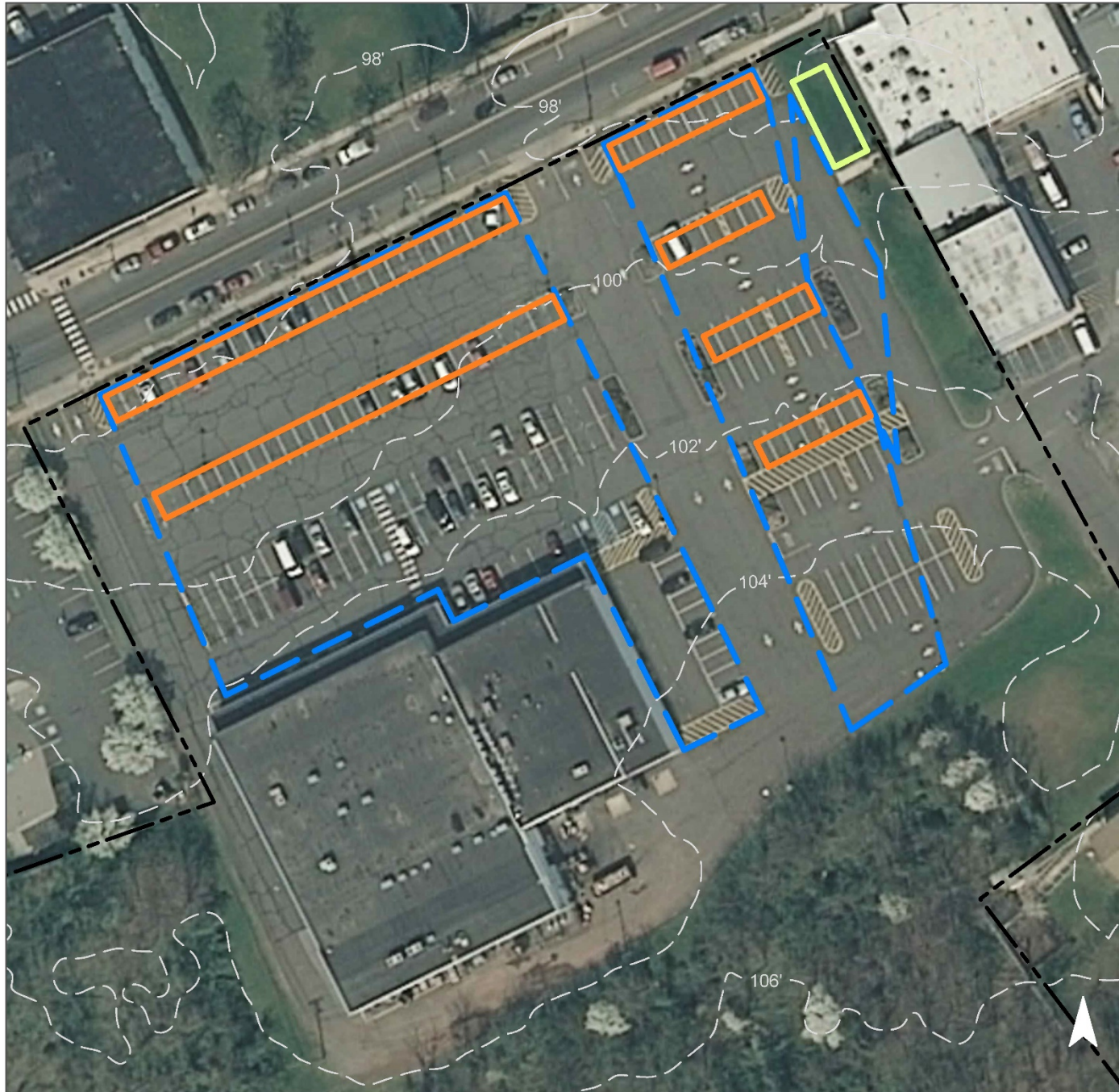
Runoff can be captured and treated by replacing the existing parking spaces with porous pavement. The site drains to an existing turfgrass area to the east where a rain garden can be installed to filter and infiltrate stormwater runoff. A preliminary soil assessment suggests that the soils have suitable 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"
49	174,899	8.4	88.3	803.0	0.136	4.80






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 system	0.096	16	7,080	0.27	925	\$4,625
Pervious pavement	1.829	306	134,180	5.04	14,525	\$363,125



# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Franklin Street Center

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# MOUNT CARMEL CHURCH



**Subwatershed:** Mile Run

**Site Area:** 136,620 sq. ft.

**Address:** 350 Franklin Boulevard  
Somerset, NJ 08873

**Block and Lot:** Block 286, Lot 14

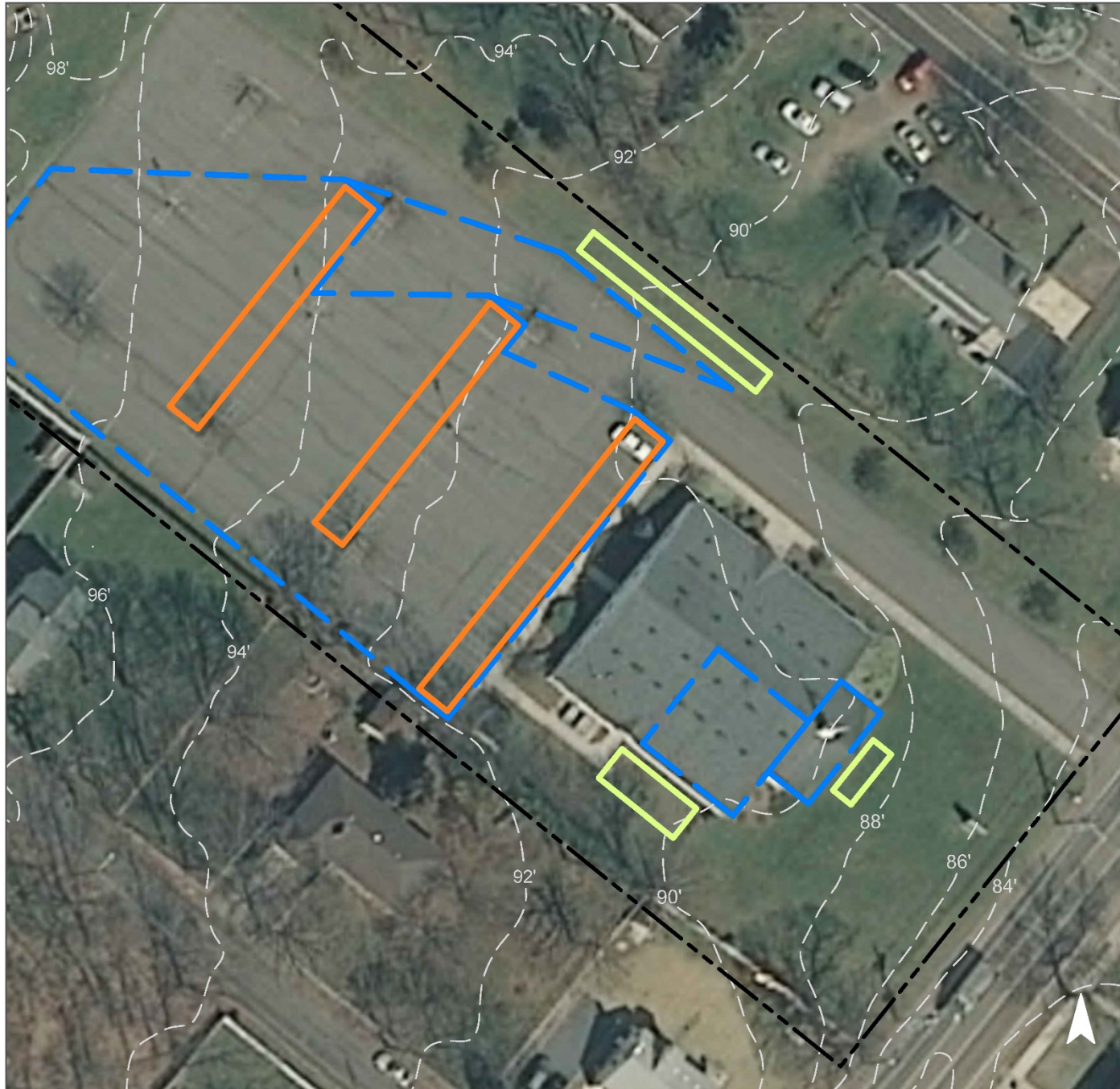


Bioretention systems can be installed to capture, treat, and infiltrate rooftop and parking lot runoff. Parking spaces can be replaced with pervious pavement to capture and infiltrate stormwater. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.






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	66,121	3.2	33.4	303.6	0.052	1.81

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	0.170	29	12,490	0.47	1,635	\$8,175
Pervious pavement	7.847	1,314	575,750	21.64	6,560	\$164,000

# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Mount Carmel Church

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# NJ ARMY NATIONAL GUARD



**Subwatershed:** Mile Run

**Site Area:** 877,145 sq. ft.

**Address:** 1060 Hamilton Street  
Somerset, NJ 08873

**Block and Lot:** Block 103, Lot 1,2

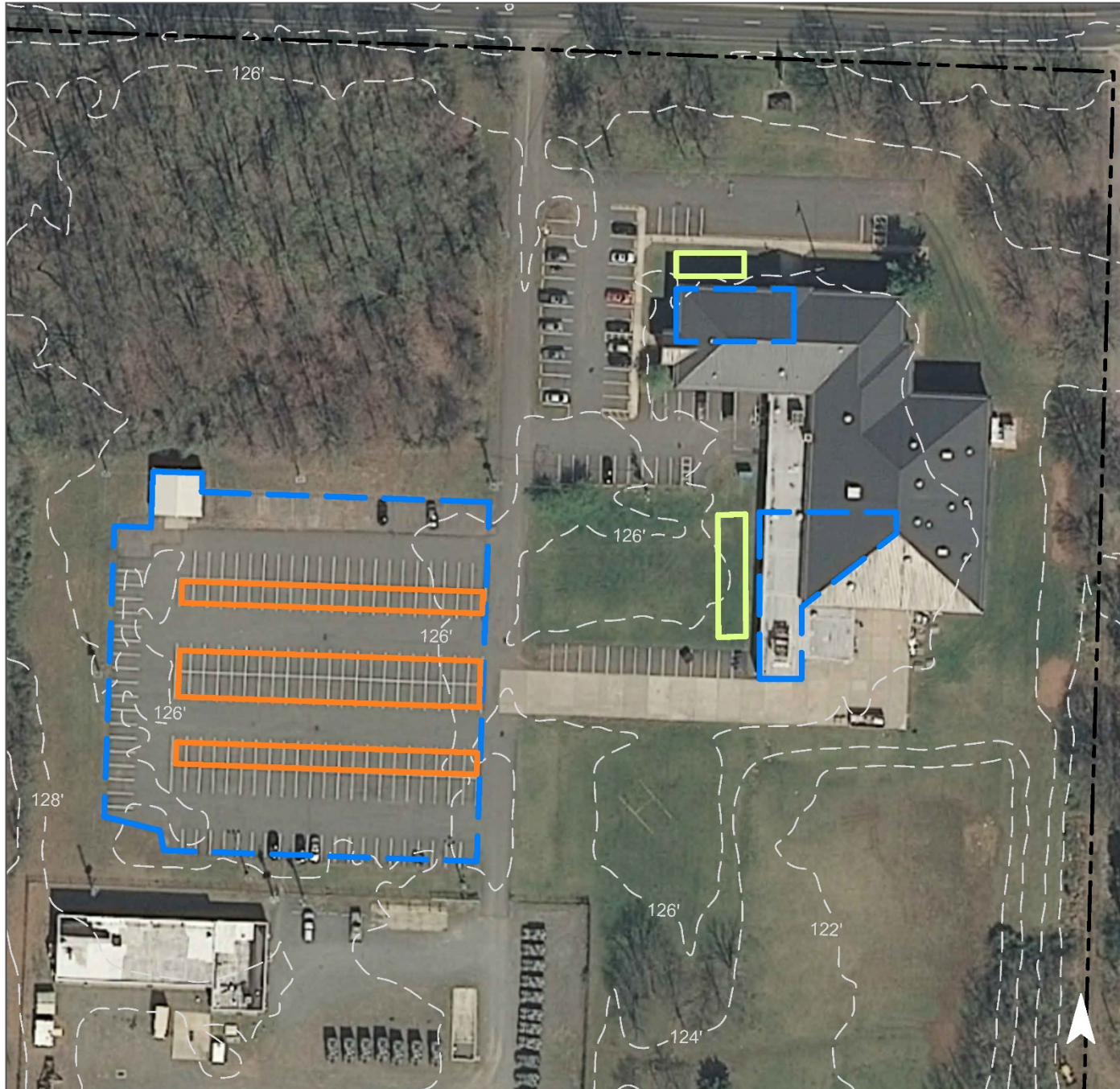


Rows of parking spaces in the southwest parking lot can be replaced with pervious pavement to capture and infiltrate stormwater. Bioretention systems can be installed to capture, treat, and infiltrate rooftop runoff. A preliminary soil assessment suggests that more soil testing would be required before 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"
34	298,992	14.4	151.0	1,372.8	0.233	8.20

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	0.205	34	15,030	0.56	1,975	\$9,875
Pervious pavement	1.445	242	106,010	3.98	13,900	\$347,500

# GREEN INFRASTRUCTURE RECOMMENDATIONS



## NJ Army National Guard

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# PINE GROVE MANOR SCHOOL



**Subwatershed:** Mile Run

**Site Area:** 751,635 sq. ft.

**Address:** 130 Highland Avenue  
Somerset, NJ 08873

**Block and Lot:** Block 240, Lot 1



Parking spaces can be replaced with pervious pavement to capture and infiltrate stormwater. A rain garden can be installed in the turfgrass area adjacent to the parking lot to capture and infiltrate additional runoff from the parking lot. Another rain garden can be installed near the main entrance of the school to manage rooftop runoff from the building. 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"
27	202,284	9.8	102.2	928.8	0.158	5.55






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	0.143	24	10,460	0.39	1,375	\$6,875
Pervious pavement	0.919	154	67,450	2.53	13,435	\$335,875



# GREEN INFRASTRUCTURE RECOMMENDATIONS



**Pine Grove Manor School**

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# FRANKLIN CARE CENTER

**Subwatershed:** Millstone River

**Site Area:** 265,588 sq. ft.

**Address:** 3371 NJ-27  
Franklin Township, NJ 08873

**Block and Lot:** Block 32, Lot 1.01

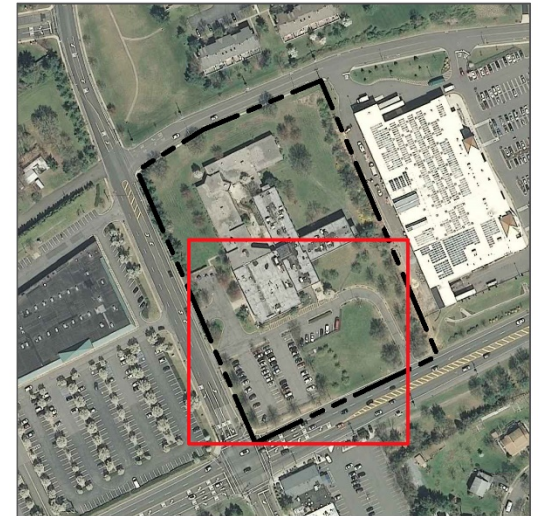


A bioretention system can be installed to capture, treat, and infiltrate parking lot runoff. Pervious pavement can be installed to capture and infiltrate additional parking lot runoff. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability 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"
54	144,336	7.0	72.9	662.7	0.112	3.96

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 system	0.089	15	6,500	0.24	850	\$4,250
Pervious pavement	0.229	38	16,820	0.63	2,175	\$54,375

# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Franklin Care Center

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS

0 30' 60'



# FRANKLIN PARK VOLUNTEER FIRE COMPANY



**Subwatershed:** Oakeys Brook

**Site Area:** 45,112 sq. ft.

**Address:** 2 Claremont Road  
Franklin Township, NJ 08873

**Block and Lot:** Block 48, Lot 6



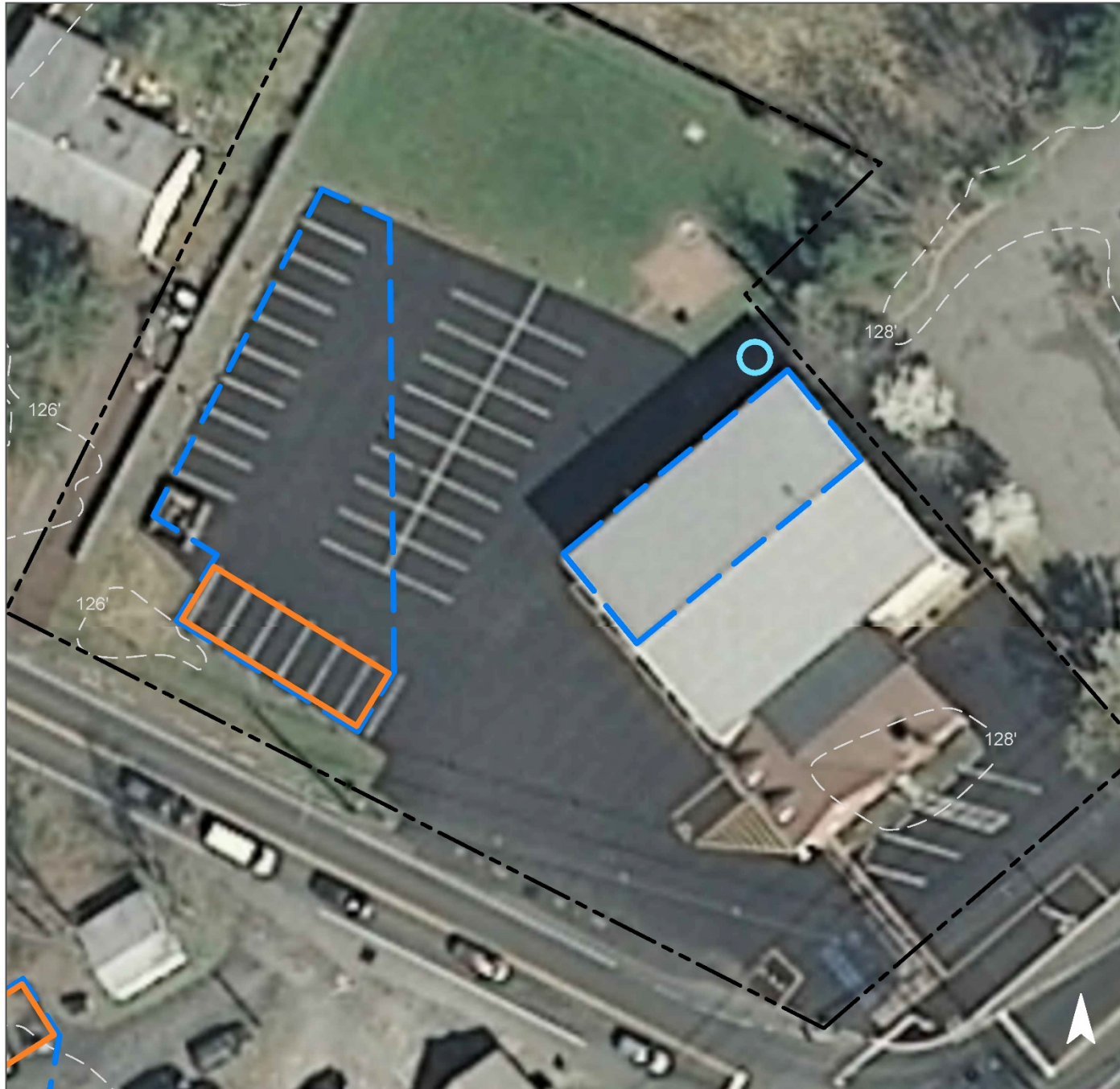
Rainwater from a section of the building's rooftop can be harvested in a cistern. The water can be used for washing emergency vehicles. The southernmost parking spaces in the parking lot could also be replaced with pervious pavement to capture and infiltrate stormwater runoff from the parking lot. A 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"
81	36,567	1.8	18.5	167.9	0.028	1.00






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 pavement	0.145	24	10,610	0.40	990	\$24,750
Rainwater harvesting	0.059	10	1,800	0.07	1,800 (gal)	\$3,600



# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Franklin Park Volunteer Fire Company

-  pervious pavement
-  rainwater harvesting
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS



# SIX MILE RUN REFORMED CHURCH



**Subwatershed:** Oakeys Brook

**Site Area:** 54,316 sq. ft.

**Address:** 3037 NJ-27  
Franklin Township, NJ 08873

**Block and Lot:** Block 35, Lot 4



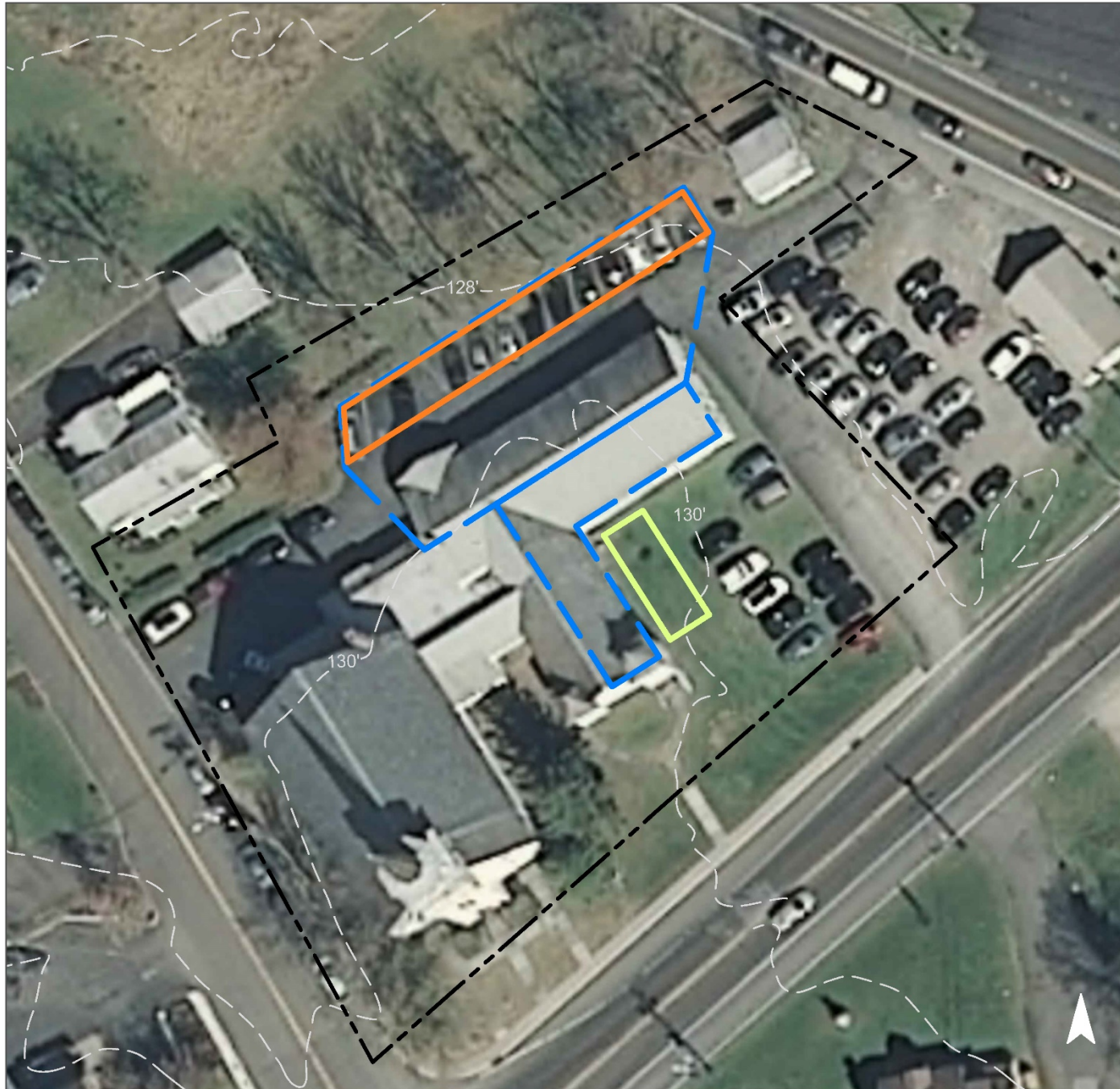
Parking spaces north of the church can be replaced with pervious pavement to capture and infiltrate stormwater. A bioretention system can be installed to capture, treat, and infiltrate roof runoff from the church. A preliminary soil assessment suggests that more soil testing would be required before 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"
78	42,115	2.0	21.3	193.4	0.033	1.16






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 system	0.063	11	4,650	0.17	750	\$3,750
Pervious pavement	0.145	24	10,610	0.40	1,690	\$42,250



# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Six Mile Run Reformed Church

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS





# FRANKLIN PARK SCHOOL



**Subwatershed:** Sixmile Run

**Site Area:** 1,612,348 sq. ft.

**Address:** 30 Eden Street  
Franklin Township, NJ 08873

**Block and Lot:** Block 37.02; 49  
Lot 12,13,14; 14



Parking spaces can be replaced with pervious pavement to capture and infiltrate stormwater. The paved play area to the west of the school can also be converted to pervious pavement to capture and infiltrate additional stormwater. Two bioretention systems can be installed to capture, treat, and infiltrate rooftop 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"
22	354,095	17.1	178.8	1,625.8	0.276	9.71






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	0.215	36	15,790	0.59	2,065	\$10,325
Pervious pavement	1.916	321	140,560	5.28	36,350	\$908,750



# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Franklin Park School

-  pervious pavement
-  bioretention system
-  drainage area
-  property line
-  2012 Aerial: NJOIT, OGIS







### **c. Summary of Existing Conditions**





Summary of Existing Conditions

Subwatershed/Site Name/Total Site Info/GI Practice	Area (ac)	Area (SF)	Block	Lot	I.C. %	I.C. Area (ac)	I.C. Area (SF)	Existing Annual Loads (Commercial)			Runoff Volumes from I.C.		Runoff Volumes from I.C.	
								TP (lb/yr)	TN (lb/yr)	TSS (lb/yr)	Water Quality Storm (1.25" over 2-hours) (cu.ft.)	Annual (cu.ft.)	Water Quality Storm (1.25" over 2-hours) (Mgal)	Annual (Mgal)
LOWER RARITAN RIVER SITES	128.37	5,591,990				45.12	1,965,389	94.8	992.6	9,023.8	204,728	7,206,428	1.531	53.90
1 Conerly Road School Total Site Info	12.50	544,676	373	48	32	3.99	173,800	8.4	87.8	798.0	18,104	637,266	0.135	4.77
2 MacAfee Road School Total Site Info	11.50	501,131	361	5	34	3.94	171,569	8.3	86.7	787.7	17,872	629,088	0.134	4.71
3 Rutgers Preparatory School Total Site Info	37.83	1,647,983	466	1.01	39	14.79	644,338	31.1	325.4	2,958.4	67,119	2,362,573	0.502	17.67
4 Franklin Middle School @ Sampson G. Smith Campus Total Site Info	31.78	1,384,373	386.04	20.02	26	8.41	366,492	17.7	185.1	1,682.7	38,176	1,343,803	0.286	10.05
5 Township Offices and Library Total Site Info	34.75	1,513,826	417.01	5.04	40	13.99	609,191	29.4	307.7	2,797.0	63,457	2,233,699	0.475	16.71
MILE RUN SITES	137.80	6,002,593				46.56	2,028,218	97.8	1024.4	9,312.3	211,273	7,436,799	1.580	55.63
6 East Franklin Fire Company Total Site Info	6.75	293,926	242;245	1.01,2.01;1.01	35	2.34	101,840	4.9	51.4	467.6	10,608	373,414	0.079	2.79
7 Eternal Life Christian Church Total Site Info	3.35	145,916	284	1.01	68	2.27	98,853	4.8	49.9	453.9	10,297	362,462	0.077	2.71
8 Franklin Department of Public Works Total Site Info	4.22	183,906	102; 110	38.01, 40-51;1.01	87	3.69	160,676	7.7	81.1	737.7	16,737	589,146	0.125	4.41
9 Franklin Middle School @ Hamilton Street Campus & Hillcrest Elementary School Total Site Info	74.81	3,258,688	289	28.02, 95	28	21.22	924,552	44.6	466.9	4,245.0	96,307	3,390,023	0.720	25.36
10 Franklin Street Center Total Site Info	8.14	354,755	154	9	49	4.02	174,899	8.4	88.3	803.0	18,219	641,298	0.136	4.80
11 Mount Carmel Church Total Site Info	3.14	136,620	286	14	48	1.52	66,121	3.2	33.4	303.6	6,888	242,444	0.052	1.81
12 NJ Army National Guard Total Site Info	20.14	877,145	103	1,2	34	6.86	298,992	14.4	151.0	1,372.8	31,145	1,096,305	0.233	8.20
13 Pine Grove Manor School Total Site Info	17.26	751,635	240	1	27	4.64	202,284	9.8	102.2	928.8	21,071	741,708	0.158	5.55

Summary of Existing Conditions

Subwatershed/Site Name/Total Site Info/GI Practice	Area (ac)	Area (SF)	Block	Lot	I.C. %	I.C. Area (ac)	I.C. Area (SF)	Existing Annual Loads (Commercial)			Runoff Volumes from I.C.		Runoff Volumes from I.C.	
								TP (lb/yr)	TN (lb/yr)	TSS (lb/yr)	Water Quality Storm (1.25" over 2-hours)	Annual (cu.ft.)	Water Quality Storm (1.25" over 2-hours)	Annual (Mgal)
											(cu.ft.)		(Mgal)	
MLLSTONE RIVER SITES	6.10	265,588				3.31	144,336	7.0	72.9	662.7	15,035	529,233	0.112	3.96
14 Franklin Care Center Total Site Info	6.10	265,588	32	1.01	54	3.31	144,336	7.0	72.9	662.7	15,035	529,233	0.112	3.96
OAKEYS BROOK SITES	2.28	99,427				1.81	78,682	3.8	39.7	361.3	8,196	288,501	0.061	2.16
15 Franklin Park Volunteer Fire Company Total Site Info	1.04	45,112	48	6	81	0.84	36,567	1.8	18.5	167.9	3,809	134,078	0.028	1.00
16 Six Mile Run Reformed Church Total Site Info	1.25	54,316	35	4	78	0.97	42,115	2.0	21.3	193.4	4,387	154,423	0.033	1.16
SIXMILE RUN SITES	37.01	1,612,348				8.13	354,095	17.1	178.8	1,625.8	36,885	1,298,349	0.276	9.71
17 Franklin Park School Total Site Info	37.01	1,612,348	37.02; 49	12,13,14; 14	22	8.13	354,095	17.1	178.8	1,625.8	36,885	1,298,349	0.276	9.71



#### **d. Summary of Proposed Green Infrastructure Practices**





Summary of Proposed Green Infrastructure Practices

Subwatershed/Site Name/Total Site Info/GI Practice	Potential Management Area		Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP	Unit Cost (\$/unit)	Unit	Total Cost (\$)	I.C. Treated %
	Area (SF)	Area (ac)									
LOWER RARITAN RIVER SITES	281,120	6.45	7.325	1,226	537,450	20.20				\$1,734,425	14.3%
1 Conerly Road School											
Bioretention systems	14,000	0.32	0.365	61	26,760	1.01	3,500	\$5	SF	\$17,500	8.1%
Pervious pavement	53,740	1.23	1.400	234	102,750	3.86	13,650	\$25	SF	\$341,250	30.9%
Total Site Info	67,740	1.56	1.765	295	129,510	4.87				\$358,750	39.0%
2 MacAfee Road School											
Bioretention systems	9,000	0.21	0.234	39	17,200	0.65	2,250	\$5	SF	\$11,250	5.2%
Pervious pavement	22,260	0.51	0.580	97	42,560	1.60	18,390	\$25	SF	\$459,750	13.0%
Total Site Info	31,260	0.72	0.814	136	59,760	2.25				\$471,000	18.2%
3 Rutgers Preparatory School											
Pervious pavement	31,660	0.73	0.825	138	60,530	2.27	7,000	\$25	SF	\$175,000	4.9%
Total Site Info	31,660	0.73	0.825	138	60,530	2.27				\$175,000	4.9%
4 Franklin Middle School @ Sampson G. Smith Campus											
Bioretention systems	14,930	0.34	0.389	65	28,540	1.07	3,735	\$5	SF	\$18,675	4.1%
Pervious pavement	19,830	0.46	0.517	86	37,910	1.42	3,360	\$25	SF	\$84,000	5.4%
Total Site Info	34,760	0.80	0.906	152	66,450	2.49				\$102,675	9.5%
5 Township Offices and Library											
Bioretention systems	7,450	0.17	0.194	32	14,240	0.54	1,900	\$5	SF	\$9,500	1.2%
Pervious pavement	108,250	2.49	2.820	472	206,960	7.78	24,700	\$25	SF	\$617,500	17.8%
Total Site Info	115,700	2.66	3.015	505	221,200	8.32				\$627,000	19.0%
MILE RUN SITES	586,060	13.45	15.270	2,556	1,120,450	42.09				\$1,708,100	28.9%
6 East Franklin Fire Company											
Bioretention systems	6,400	0.15	0.167	28	12,240	0.46	1,600	\$5	SF	\$8,000	6.3%
Total Site Info	6,400	0.15	0.167	28	12,240	0.46				\$8,000	6.3%

Summary of Proposed Green Infrastructure Practices

Subwatershed/Site Name/Total Site Info/GI Practice	Potential Management Area		Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP	Unit Cost (\$/unit)	Unit	Total Cost (\$)	I.C. Treated %
	Area (SF)	Area (ac)									
7 <b>Eternal Life Christian Church</b>											
Bioretention systems	4,500	0.10	0.117	20	8,600	0.32	1,130	\$5	SF	\$5,650	4.6%
<b>Total Site Info</b>	<b>4,500</b>	<b>0.10</b>	<b>0.117</b>	<b>20</b>	<b>8,600</b>	<b>0.32</b>				<b>\$5,650</b>	<b>4.6%</b>
8 <b>Franklin Department of Public Works</b>											
Bioretention system	1,950	0.04	0.051	9	3,730	0.14	550	\$5	SF	\$2,750	1.2%
Pervious pavement	24,000	0.55	0.625	105	45,880	1.72	9,150	\$25	SF	\$228,750	14.9%
<b>Total Site Info</b>	<b>25,950</b>	<b>0.60</b>	<b>0.676</b>	<b>113</b>	<b>49,610</b>	<b>1.86</b>				<b>\$231,500</b>	<b>16.2%</b>
9 <b>Franklin Middle School @ Hamilton Street Campus &amp; Hillcrest Elementary School</b>											
Bioretention systems	32,845	0.75	0.856	143	62,790	2.36	8,230	\$5	SF	\$41,150	3.6%
Pervious pavement	30,735	0.71	0.801	134	58,760	2.21	7,270	\$25	SF	\$181,750	3.3%
<b>Total Site Info</b>	<b>63,580</b>	<b>1.46</b>	<b>1.657</b>	<b>277</b>	<b>121,550</b>	<b>4.57</b>				<b>\$222,900</b>	<b>6.9%</b>
10 <b>Franklin Street Center</b>											
Bioretention system	3,700	0.08	0.096	16	7,080	0.27	925	\$5	SF	\$4,625	2.1%
Pervious pavement	70,180	1.61	1.829	306	134,180	5.04	14,525	\$25	SF	\$363,125	40.1%
<b>Total Site Info</b>	<b>73,880</b>	<b>1.70</b>	<b>1.925</b>	<b>322</b>	<b>141,260</b>	<b>5.31</b>				<b>\$367,750</b>	<b>42.2%</b>
11 <b>Mount Carmel Church</b>											
Bioretention systems	6,535	0.15	0.170	29	12,490	0.47	1,635	\$5	SF	\$8,175	9.9%
Pervious pavement	301,150	6.91	7.847	1,314	575,750	21.64	6,560	\$25	SF	\$164,000	455.5%
<b>Total Site Info</b>	<b>307,685</b>	<b>7.06</b>	<b>8.017</b>	<b>1,342</b>	<b>588,240</b>	<b>22.11</b>				<b>\$172,175</b>	<b>465.3%</b>
12 <b>NJ Army National Guard</b>											
Bioretention systems	7,860	0.18	0.205	34	15,030	0.56	1,975	\$5	SF	\$9,875	2.6%
Pervious pavement	55,450	1.27	1.445	242	106,010	3.98	13,900	\$25	SF	\$347,500	18.5%
<b>Total Site Info</b>	<b>63,310</b>	<b>1.45</b>	<b>1.650</b>	<b>276</b>	<b>121,040</b>	<b>4.54</b>				<b>\$357,375</b>	<b>21.2%</b>
13 <b>Pine Grove Manor School</b>											
Bioretention systems	5,475	0.13	0.143	24	10,460	0.39	1,375	\$5	SF	\$6,875	2.7%
Pervious pavement	35,280	0.81	0.919	154	67,450	2.53	13,435	\$25	SF	\$335,875	17.4%
<b>Total Site Info</b>	<b>40,755</b>	<b>0.94</b>	<b>1.062</b>	<b>178</b>	<b>77,910</b>	<b>2.92</b>				<b>\$342,750</b>	<b>20.1%</b>



Summary of Proposed Green Infrastructure Practices

Subwatershed/Site Name/Total Site Info/GI Practice	Potential Management Area		Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP	Unit Cost (\$/unit)	Unit	Total Cost (\$)	I.C. Treated %
	Area (SF)	Area (ac)									
<b>MLLSTONE RIVER SITES</b>	<b>12,200</b>	<b>0.28</b>	<b>0.318</b>	<b>53</b>	<b>23,320</b>	<b>0.87</b>				<b>\$58,625</b>	<b>8.5%</b>
14 <b>Franklin Care Center</b>											
Bioretention system	3,400	0.08	0.089	15	6,500	0.24	850	\$5	SF	\$4,250	2.4%
Pervious pavement	8,800	0.20	0.229	38	16,820	0.63	2,175	\$25	SF	\$54,375	6.1%
<b>Total Site Info</b>	<b>12,200</b>	<b>0.28</b>	<b>0.318</b>	<b>53</b>	<b>23,320</b>	<b>0.87</b>				<b>\$58,625</b>	<b>8.5%</b>
<b>OAKEYS BROOK SITES</b>	<b>15,780</b>	<b>0.36</b>	<b>0.411</b>	<b>69</b>	<b>27,670</b>	<b>1.04</b>				<b>\$74,350</b>	<b>20.1%</b>
15 <b>Franklin Park Volunteer Fire Company</b>											
Pervious pavement	5,550	0.13	0.145	24	10,610	0.40	990	\$25	SF	\$24,750	15.2%
Rainwater harvesting	2,250	0.05	0.059	10	1,800	0.07	1,800	\$2	gal	\$3,600	6.2%
<b>Total Site Info</b>	<b>7,800</b>	<b>0.18</b>	<b>0.203</b>	<b>34</b>	<b>12,410</b>	<b>0.47</b>				<b>\$28,350</b>	<b>21.4%</b>
16 <b>Six Mile Run Reformed Church</b>											
Bioretention system	2,430	0.06	0.063	11	4,650	0.17	750	\$5	SF	\$3,750	5.8%
Pervious pavement	5,550	0.13	0.145	24	10,610	0.40	1,690	\$25	SF	\$42,250	13.2%
<b>Total Site Info</b>	<b>7,980</b>	<b>0.18</b>	<b>0.208</b>	<b>35</b>	<b>15,260</b>	<b>0.57</b>				<b>\$46,000</b>	<b>18.9%</b>
<b>SIXMILE RUN SITES</b>	<b>81,780</b>	<b>1.88</b>	<b>2.131</b>	<b>357</b>	<b>156,350</b>	<b>5.87</b>				<b>\$919,075</b>	<b>23.1%</b>
17 <b>Franklin Park School</b>											
Bioretention systems	8,260	0.19	0.215	36	15,790	0.59	2,065	\$5	SF	\$10,325	2.3%
Pervious pavement	73,520	1.69	1.916	321	140,560	5.28	36,350	\$25	SF	\$908,750	20.8%
<b>Total Site Info</b>	<b>81,780</b>	<b>1.88</b>	<b>2.131</b>	<b>357</b>	<b>156,350</b>	<b>5.87</b>				<b>\$919,075</b>	<b>23.1%</b>