RUTGERS
New Jersey Agricultural
Experiment Station

Impervious Cover Reduction Action Plan
for
Medford Township, Burlington County, New Jersey

Prepared for Medford Township by the
Rutgers Cooperative Extension Water Resources Program

October 14, 2016

WILLIAM PENN
FOUNDATION

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Introduction

Located in Burlington County, Medford Township covers approximately 39.8 square miles. Figures 1 and 2 illustrate that Medford Township is dominated by wetland land uses. A total of 29.7% of the municipality's land use is classified as urban. Of the urban land in Medford Township, low density residential is the dominant land use (Figure 3).

The New Jersey Department of Environmental Protection's (NJDEP) 2012 land use/land cover geographical information system (GIS) data layer categorizes Medford 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 Medford Township. Based upon the 2012 NJDEP land use/land cover data, approximately 7.8% of Medford Township has impervious cover. This level of impervious cover suggests that the streams in Medford Township are likely sensitive streams.

Methodology

Medford Township contains portions of nine 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.

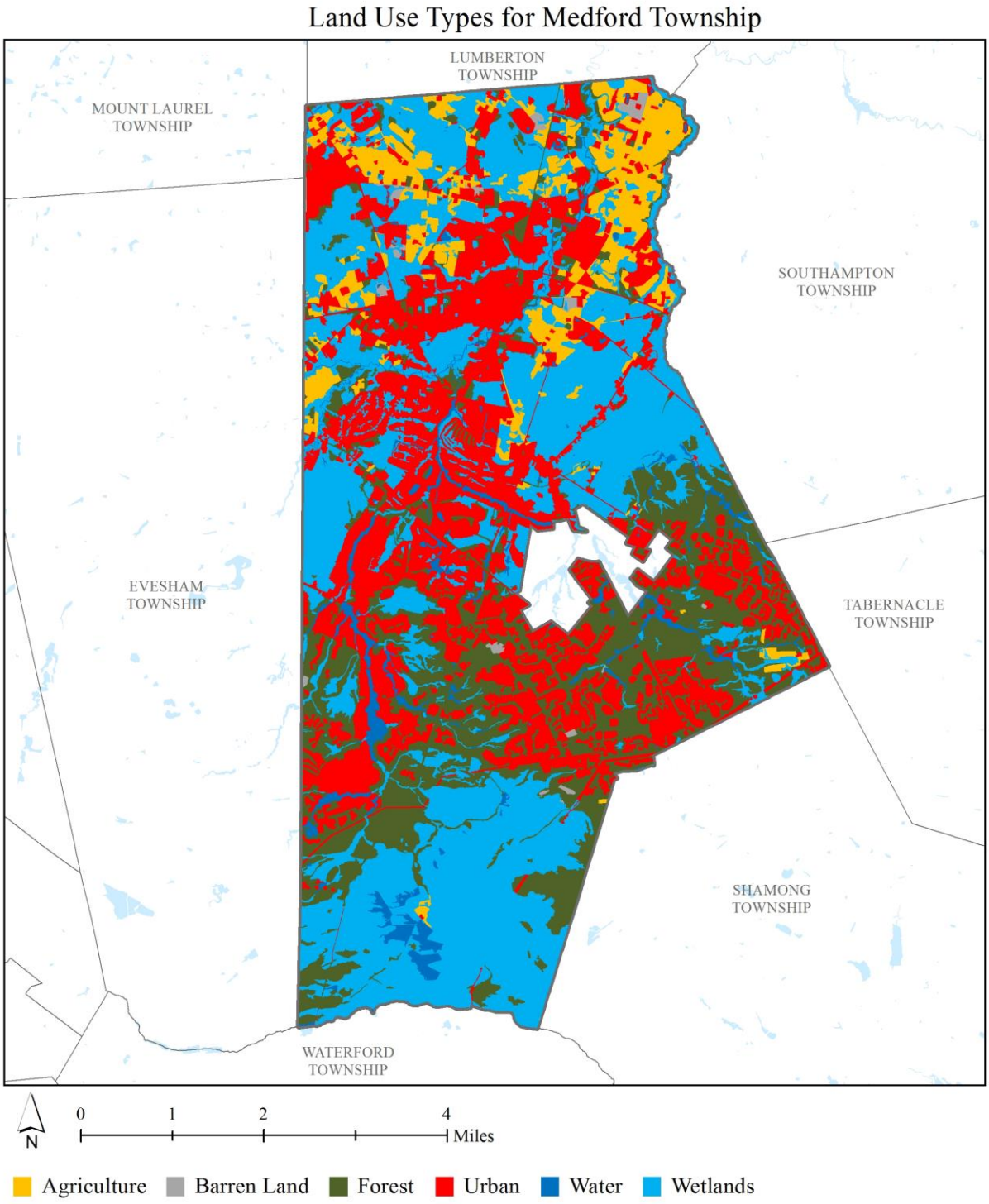


Figure 1: Map illustrating the land use in Medford Township

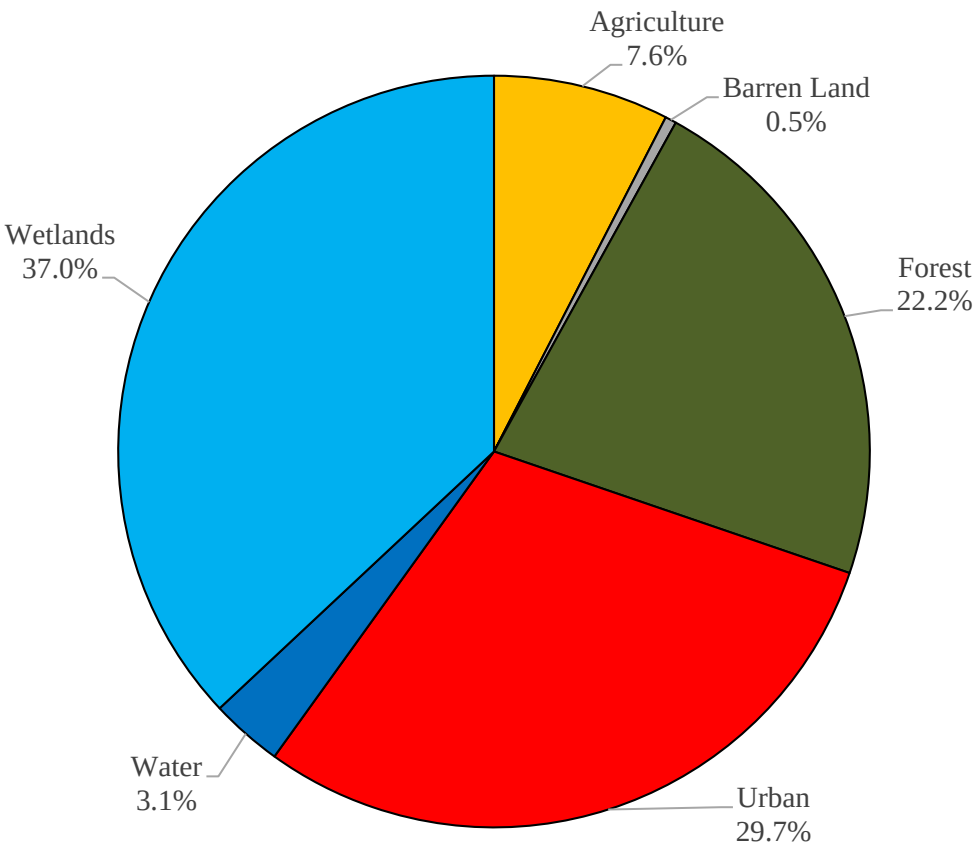


Figure 2: Pie chart illustrating the land use in Medford Township

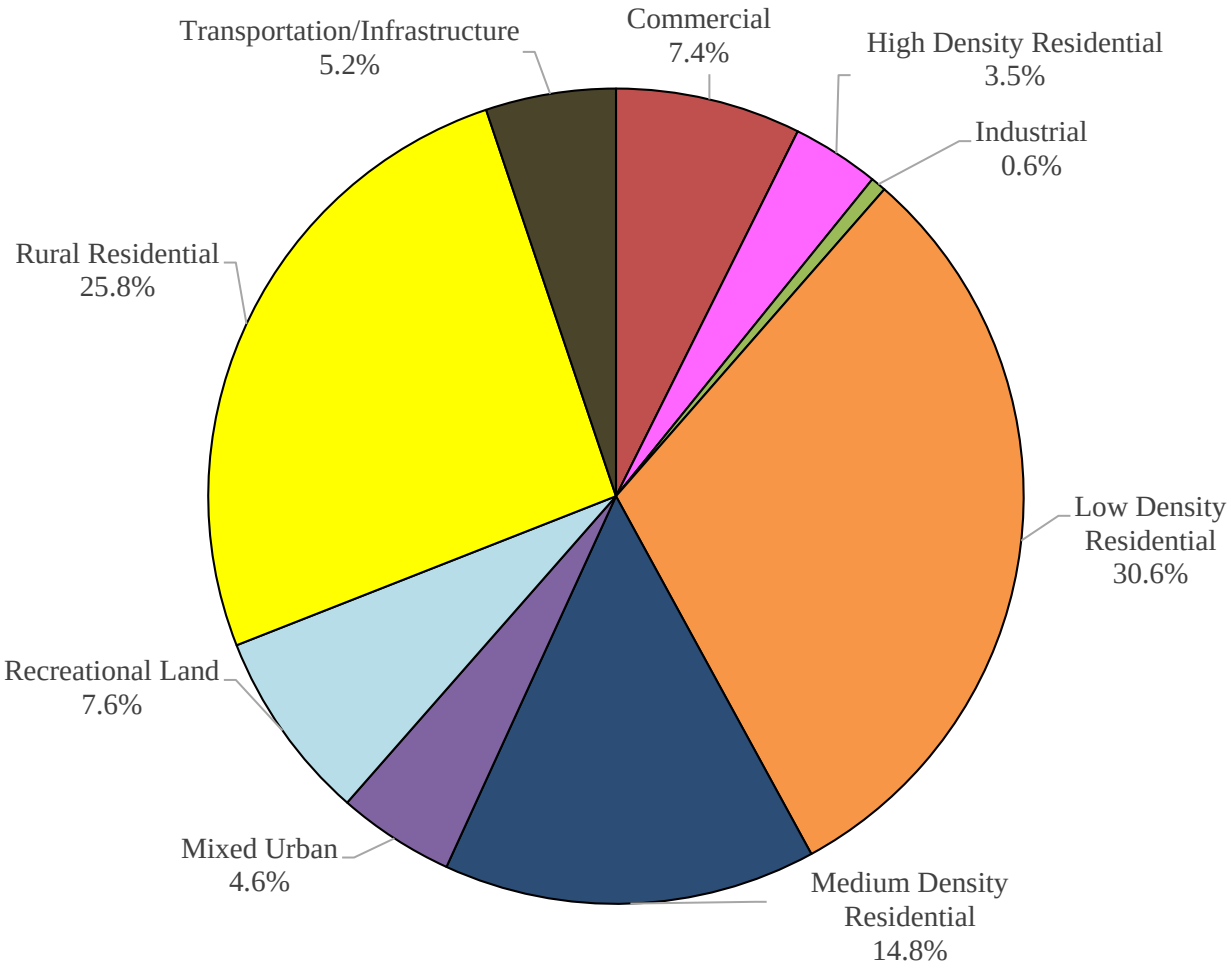


Figure 3: Pie chart illustrating the various types of urban land use in Medford Township

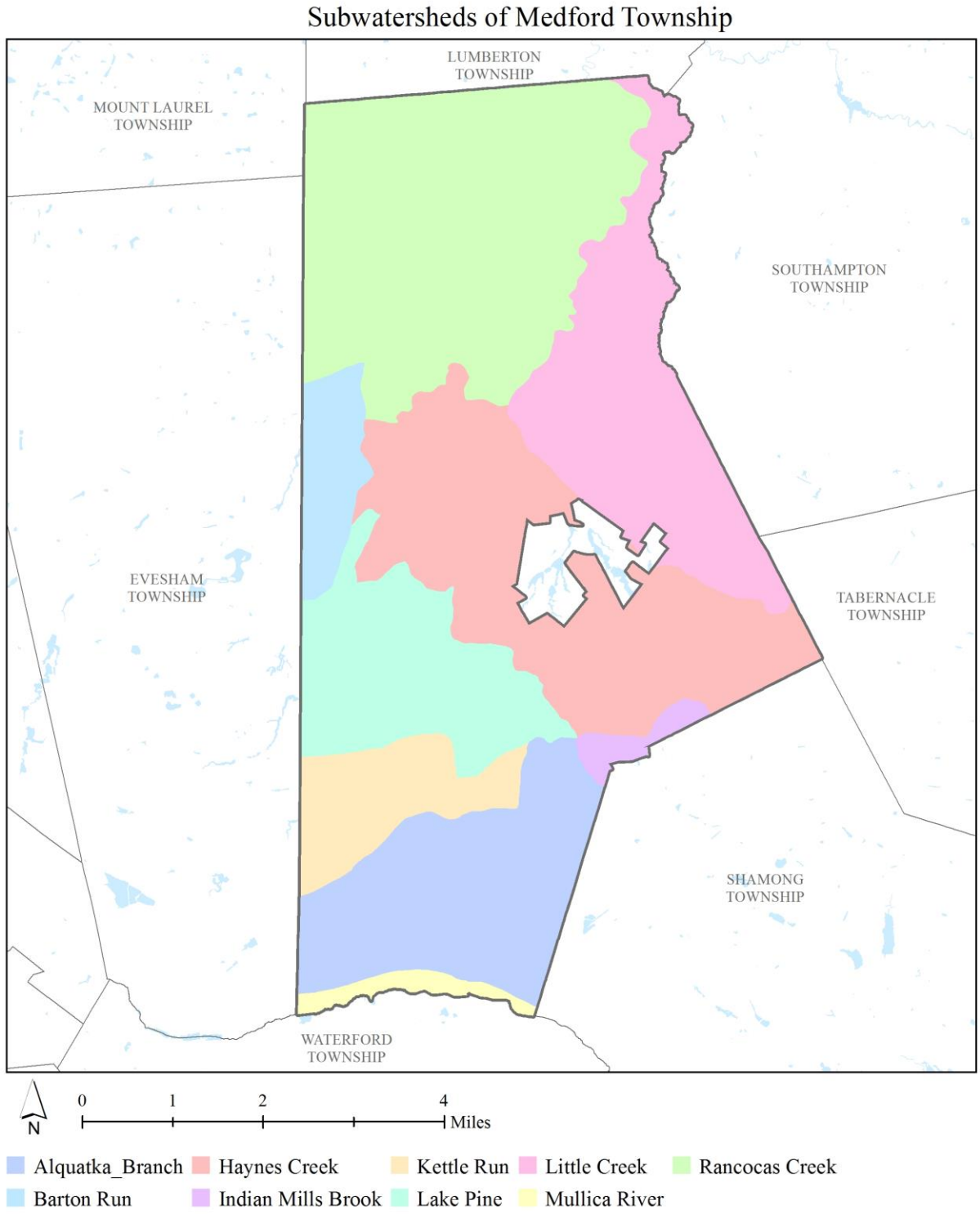


Figure 4: Map of the subwatersheds in Medford Township

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 2012 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 Medford 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[1]

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

[1] 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[2]. A wide range of green infrastructure practices have been evaluated for the potential project sites in Medford 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.




[2] 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 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. [3]

[3] 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*.

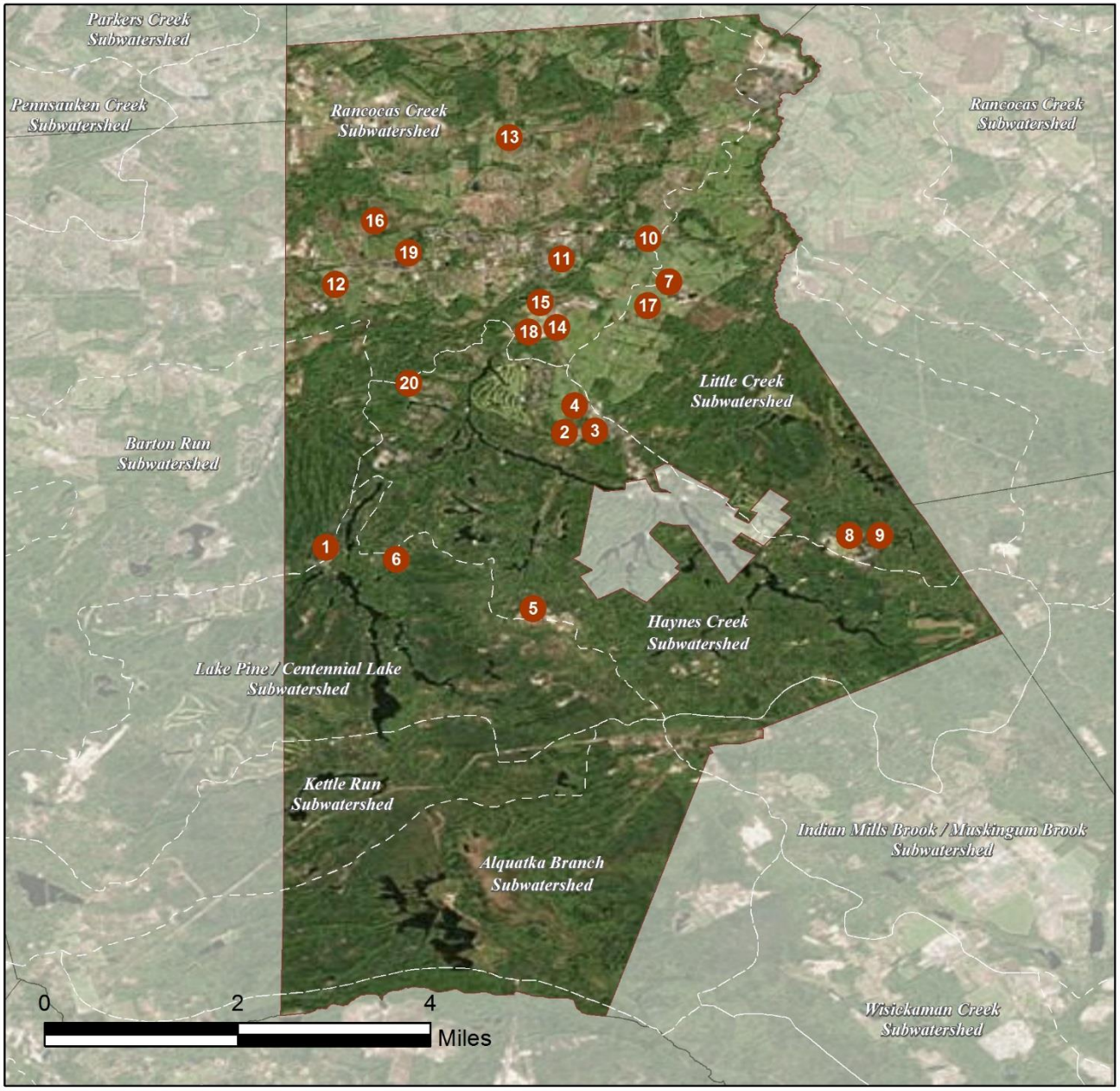
Conclusion

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. Green Infrastructure Sites

MEDFORD TOWNSHIP: GREEN INFRASTRUCTURE SITES



SITES WITHIN THE BARTON RUN SUBWATERSHED:

1. Lakes Community Chapel

SITES WITHIN THE HAYNES CREEK SUBWATERSHED:

2. Fellowship Alliance Chapel
3. Medford Emergency Medical Services
4. Medford Township Fire Station
5. Tauton Volunteer Fire Company

SITES WITHIN THE LAKE PINES/CENTENNIAL LAKE SUBWATERSHED:

6. Cranberry Pines Elementary School

SITES WITHIN THE LITTLE CREEK SUBWATERSHED:

7. Chairville Elementary School
8. Shawnee High School
9. St. Anthony Coptic Orthodox Church

SITES WITHIN THE RANCOCAS CREEK SOUTHWEST BRANCH SUBWATERSHED:

10. Calvary Lutheran Church
11. Church of Jesus Christ of Latter-Day Saints
12. Come Alive Church
13. Crossroads Academy of God
14. Faith Presbyterian Church
15. Haines Sixth Grade Center
16. Kirby's Mill Elementary School
17. Medford Township Board of Education Transportation Center
18. Medford Memorial Middle School
19. Medford Township Board of Education
20. Tauton Forge Elementary School

b. Proposed Green Infrastructure Concepts

LAKES COMMUNITY CHAPEL

Subwatershed: Barton Run

Site Area: 49,102 sq. ft.

Address: 234 Taunton Boulevard
Medford Township, NJ 08055

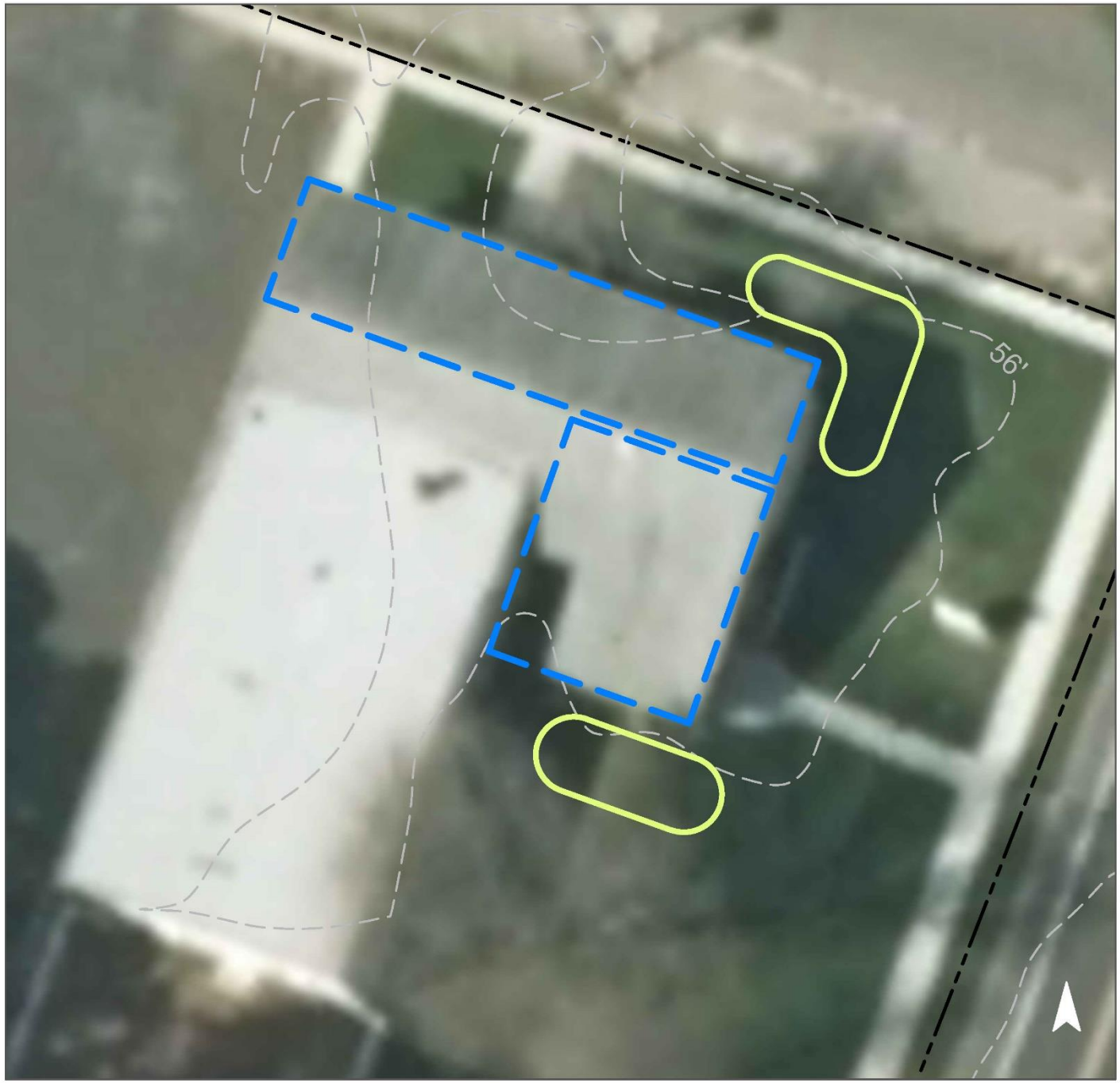
Block and Lot: Block 3201, Lot 36.02

Rain gardens adjacent to the northeast and south side of the building can capture, treat, and infiltrate roof 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"
38	18,679	0.9	9.4	85.8	0.015	0.51

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	0.054	9	3,980	0.15	535	$2,675

GREEN INFRASTRUCTURE RECOMMENDATIONS



Lakes Community Chapel

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 10' 20'

FELLOWSHIP ALLIANCE CHAPEL

Subwatershed: Haynes Creek

Site Area: 519,694 sq. ft.

Address: 199 Church Road Medford Township, NJ 08055

Block and Lot: Block 205, Lot 3.01

Rain gardens adjacent to the south side of the building and south of the main parking lot can capture, treat, and infiltrate roof 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"
70	365,333	17.6	184.5	1,677.4	0.285	10.02

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	0.130	22	9,538	0.36	1,390	$6,950

GREEN INFRASTRUCTURE RECOMMENDATIONS

Fellowship Alliance Chapel

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

MEDFORD EMERGENCY MEDICAL SERVICES

Subwatershed: Haynes Creek

Site Area: 125,855 sq. ft.

Address: 20 Jackson Road
Medford Township, NJ 08055

Block and Lot: Block 2701.21, Lot 12.01

Two cisterns can be placed adjacent to the west side of the building. The water can then be used for watering gardens, washing vehicles, or for other non-potable uses. 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	43,138	2.1	21.8	198.1	0.034	1.18

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
Rainwater harvesting	0.065	11	4,802	0.18	2,000 (gal)	$4,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Medford Emergency Medical Services

- rainwater harvesting
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 20' 40'

MEDFORD TOWNSHIP FIRE STATION

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 68,258 sq. ft.

Address: 1 Firehouse Lane Medford Township, NJ 08055

Block and Lot: Block 1201, Lot 1.03

Three cisterns can be placed adjacent to the building. The water can then be used for watering gardens, washing vehicles, or for other non-potable uses. 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"
66	45,132	2.2	22.8	207.2	0.035	1.24

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
Rainwater harvesting	0.086	14	6,306	0.24	3,000 (gal)	$6,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Medford Township Fire Station

- rainwater harvesting
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

TAUNTON VOLUNTEER FIRE COMPANY

Subwatershed: Haynes Creek

Site Area: 128,437 sq. ft.

Address: 631B Gravelly Hollow Road
Medford Township, NJ 08055

Block and Lot: Block 5404, Lot 5.02

Parking spots by the nearby building can be replaced with porous asphalt to capture and infiltrate stormwater. A cistern can be placed adjacent to the building. The water can then be used for watering gardens, washing vehicles, or for other non-potable uses. 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"
45	58,051	2.8	29.3	266.5	0.045	1.59

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	0.200	34	14,707	0.55	1,760	$44,000
Rainwater harvesting	0.020	3	1,503	0.06	500 (gal)	$1,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Taunton Volunteer Fire Company

- pervious pavement
- rainwater harvesting
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

CRANBERRY PINES ELEMENTARY SCHOOL

Subwatershed: Lake Pines / Centennial Lake

Site Area: 3,635,684 sq. ft.

Address: 400 Fairview Road
Medford Township, NJ 08055

Block and Lot: Block 5507, Lot 10.01

Parking spots by the north side of the building and a strip of impervious pavement south of the building can be replaced with porous asphalt 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"
5	186,529	9.0	94.2	856.4	0.145	5.12

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	0.337	56	24,723	0.93	2,730	$68,250

GREEN INFRASTRUCTURE RECOMMENDATIONS

Cranberry Pines Elementary School

- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 30' 60'

CHAIRVILLE ELEMENTARY SCHOOL

Subwatershed: Little Creek

Site Area: 2,492,574 sq. ft.

Address: 36 Chairville Road
Medford Township, NJ 08055

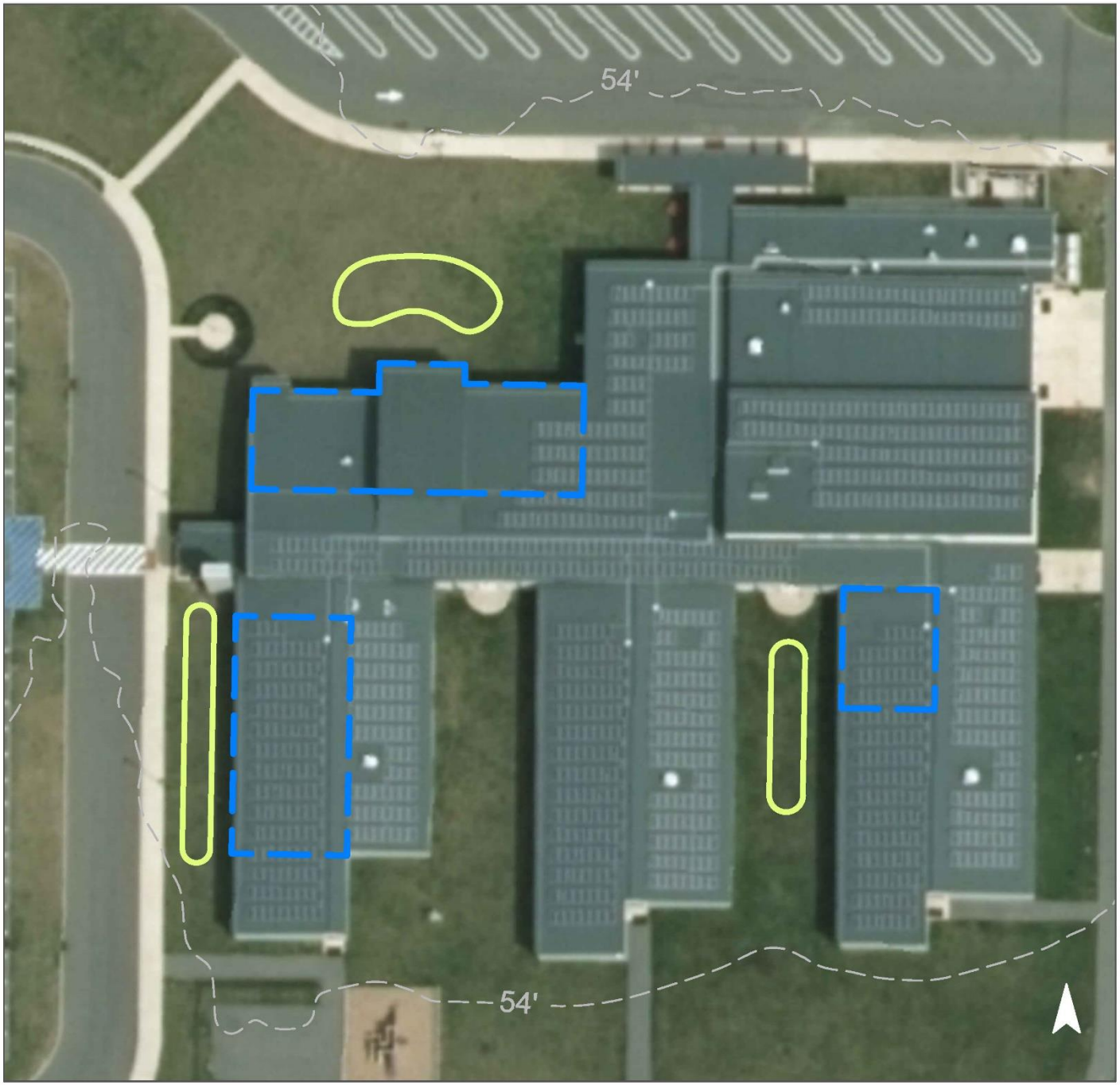
Block and Lot: Block 4106, Lot 15

Rain gardens adjacent to the north, west, and east side of the building can capture, treat, and infiltrate roof runoff. Downspouts can be disconnected and redirected into the proposed rain gardens. 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"
20	490,550	23.6	247.8	2,252.3	0.382	13.45

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	0.302	51	22,142	0.83	3,340	$16,700

GREEN INFRASTRUCTURE RECOMMENDATIONS



Chairville Elementary School

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 30' 60'

SHAWNEE HIGH SCHOOL

Subwatershed: Little Creek

Site Area: 4,302,885 sq. ft.

Address: 600 Tabernacle Road
Medford Township, NJ 08055

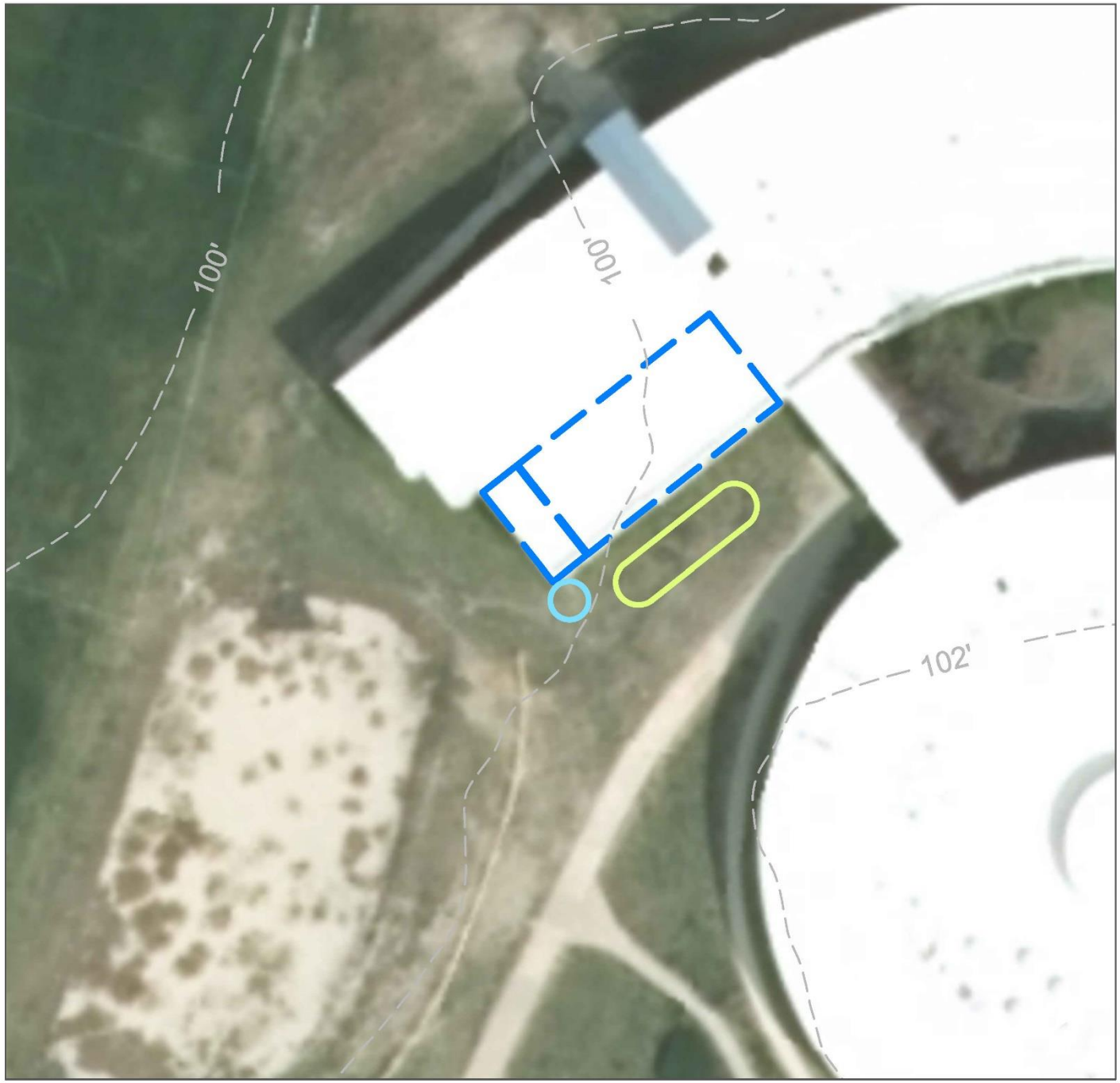
Block and Lot: Block 4704, Lot 3

A rain garden adjacent to the north side of the building can capture, treat, and infiltrate roof runoff. A cistern can be placed adjacent to the rain garden. The water can then be used for watering gardens, washing vehicles, or for other non-potable uses. 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"
25	1,080,948	52.1	545.9	4963.0	0.842	29.65

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	0.050	8	3,643	0.140	390	$1,950
Rainwater harvesting	0.009	1	651	0.020	300 (gal)	$600

GREEN INFRASTRUCTURE RECOMMENDATIONS



Shawnee High School

- bioretention system
- rainwater harvesting
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 20' 40'

ST. ANTHONY COPTIC ORTHODOX CHURCH

Subwatershed: Little Creek

Site Area: 456,095 sq. ft.

Address: 267 Hartford Road
Medford Township, NJ 08055

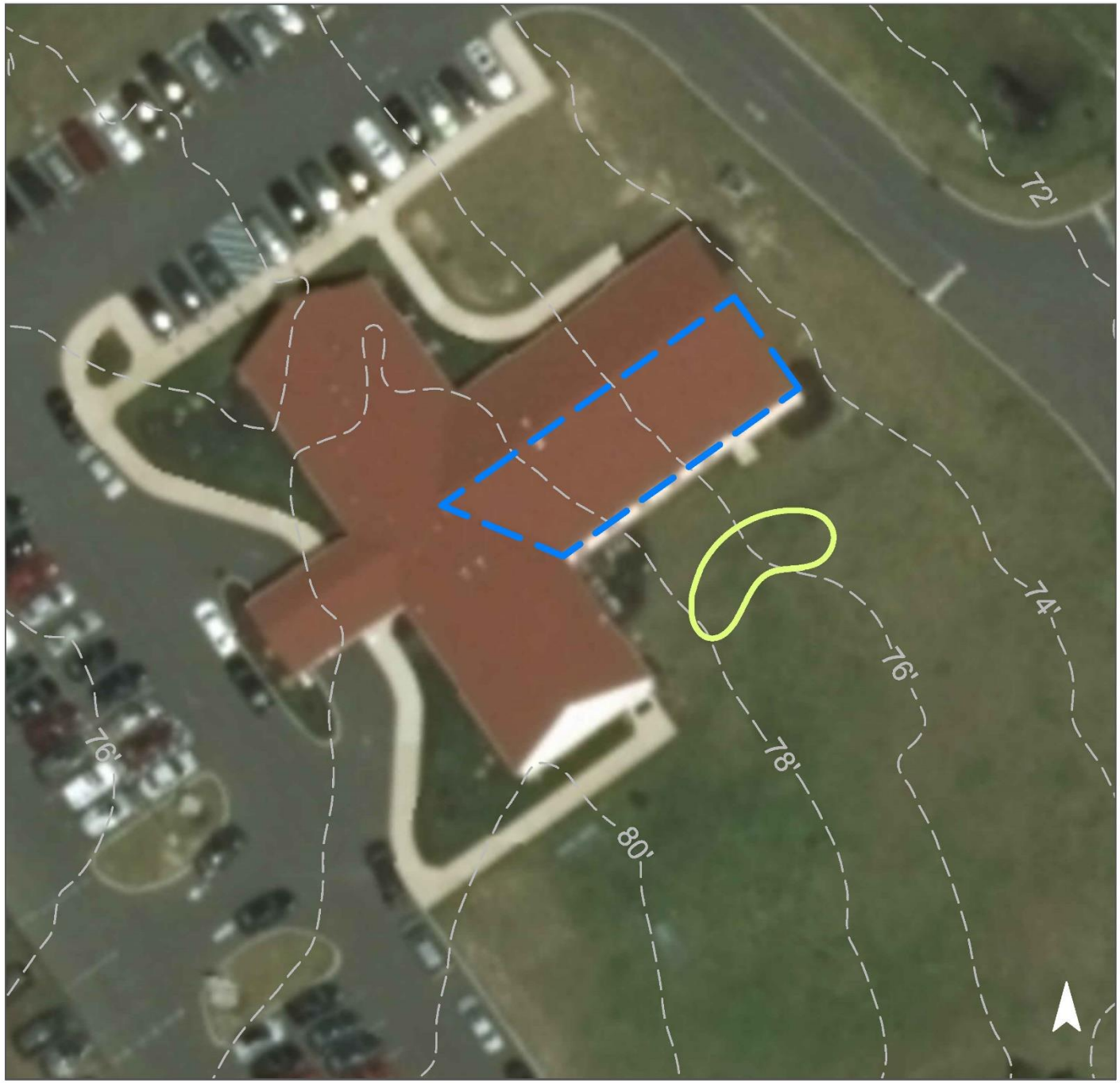
Block and Lot: Block 201, Lot 1.08

A rain garden adjacent to the northeast side of the building can capture, treat, and infiltrate roof runoff. Downspouts can be disconnected and redirected into the proposed rain garden. 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"
20	92,622	4.5	46.8	425.3	0.072	2.54

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	0.065	11	4,773	0.18	635	$3,175

GREEN INFRASTRUCTURE RECOMMENDATIONS



St. Anthony Coptic Orthodox Church

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 20' 40'

CALVARY LUTHERAN CHURCH

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 261,871 sq. ft.

Address: 3 Eayrestown Road
Medford Township, NJ 08055

Block and Lot: Block 4105, Lot 4

Parking spots by the south side of the building can be replaced with porous asphalt to capture and infiltrate stormwater. Rain gardens adjacent to north and northeast side of the building can capture, treat, and infiltrate roof runoff. A cistern can be placed adjacent to the building. The water can then be used for watering gardens, washing vehicles, or for other non-potable uses. 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	57,733	2.8	29.2	265.1	0.045	1.58

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	28	12,477	0.47	650	$3,250
Pervious pavement	0.363	61	26,614	1.00	2,800	$70,000
Rainwater harvesting	0.030	5	2,177	0.08	1,000 (gal)	$2,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Calvary Lutheran Church

- bioretention system
- pervious pavement
- rainwater harvesting
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 30' 60'

CHURCH OF JESUS CHRIST OF LATTER - DAY SAINTS

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 177,562 sq. ft.

Address: 609 Tabernacle Road Medford Township, NJ 08055

Block and Lot: Block 4702, Lot 11

Rain gardens adjacent to the north and northeast sides of the building can capture, treat, and infiltrate roof runoff. Downspouts can be disconnected and redirected into the proposed rain gardens. 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"
41	73,659	3.6	37.2	338.2	0.057	2.02

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	0.061	10	4,510	0.17	600	$3,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Church of Jesus Christ of Latter - Day Saints

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 20' 40'

COME ALIVE CHURCH

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 782,384 sq. ft.

Address: 240 Old Marlton Pike Medford Township, NJ 08055

Block and Lot: Block 905, Lot 4

A rain garden adjacent to the northwest corner of the building can capture, treat, and infiltrate roof runoff. Downspouts can be disconnected and redirected into the proposed rain garden. 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"
14	106,659	5.1	53.9	489.7	0.083	2.93

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
Bioretention system	0.026	4	1,892	0.07	255	$1,275

GREEN INFRASTRUCTURE RECOMMENDATIONS

Come Alive Church

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 10' 20'

CROSSROADS ASSEMBLY OF GOD

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 160,354 sq. ft.

Address: 233 Church Street Medford Township, NJ 08055

Block and Lot: Block 302, Lot 25.02

Parking spots north of the building can be replaced with porous asphalt 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"
41	62,212	3.1	32.9	299.4	0.051	1.79

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
Pervious pavement	0.384	64	28,200	1.06	2,915	$72,875

GREEN INFRASTRUCTURE RECOMMENDATIONS

Crossroads Assembly of God

- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

FAITH PRESBYTERIAN CHURCH

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 219,083 sq. ft.

Address: 318 Stokes Road Medford Township, NJ 08055

Block and Lot: Block 909, Lot 1.02

Parking spots by the west side of the parking lot can be replaced with porous asphalt to capture and infiltrate stormwater. A rain garden adjacent to the southeast corner of the building can capture, treat, and infiltrate roof runoff. Downspouts can be disconnected and redirected into the proposed 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"
39	84,244	4.1	42.5	386.8	0.066	2.31

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 system	0.017	3	1,227	0.05	150	$750
Pervious pavement	0.346	58	25,357	0.95	2,500	$62,500

GREEN INFRASTRUCTURE RECOMMENDATIONS

Faith Presbyterian Church

- bioretention system
- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 20' 40'

HAINES SIXTH GRADE CENTER

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 776,352 sq. ft.

Address: 162 Stokes Road Medford Township, NJ 08055

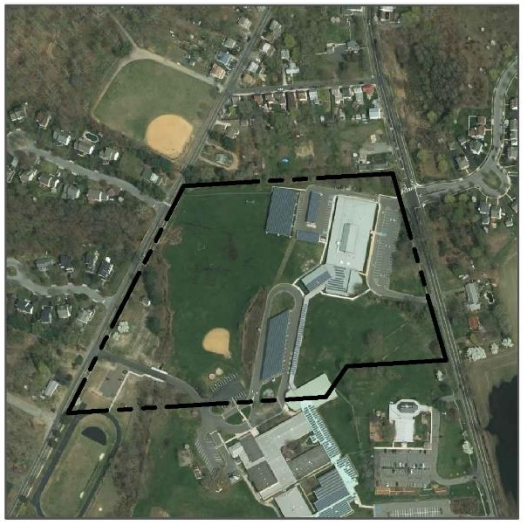
Block and Lot: Block 909, Lot 2

Rain gardens adjacent to the east side of the building can capture, treat, and infiltrate roof runoff. Downspouts can be disconnected and redirected into the proposed rain gardens. 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"
31	239,619	11.6	121.0	1100.2	0.187	6.57

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	0.222	37	16,300	0.61	2,130	$10,650

GREEN INFRASTRUCTURE RECOMMENDATIONS



Haines Sixth Grade Center

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

KIRBY'S MILL ELEMENTARY SCHOOL

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 5,601,269 sq. ft.

Address: 151 Hartford Road
Medford Township, NJ 08055

Block and Lot: Block 401, Lot 13.02

Rain gardens adjacent to the east and west sides of the building can capture, treat, and infiltrate roof runoff. A downspout can be disconnected and redirected into the proposed rain garden on the east side of 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"
6	313,060	15.1	158.5	1,437.4	0.244	8.59

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	0.890	149	65,320	2.46	8,140	$40,700

GREEN INFRASTRUCTURE RECOMMENDATIONS

Kirby's Mill Elementary School

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

MEDFORD TOWNSHIP BOARD OF EDUCATION TRANSPORTATION CENTER

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 2,492,575 sq. ft.

Address: 28 Branin Road Medford Township, NJ 08055

Block and Lot: Block 4106, Lot 15

A rain garden adjacent to the northeast corner of the building can capture, treat, and infiltrate roof runoff. A downspout can be disconnected and redirected into the proposed rain garden. 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"
20	490,550	23.6	247.8	2,252.3	0.382	13.45

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	0.012	2	860	0.03	120	$600

GREEN INFRASTRUCTURE RECOMMENDATIONS

Medford Township Board of Education Transportation Center

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 20' 40'

MEDFORD MEMORIAL MIDDLE SCHOOL

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 428,415 sq. ft.

Address: 55 Mill Street
Medford Township, NJ 08055

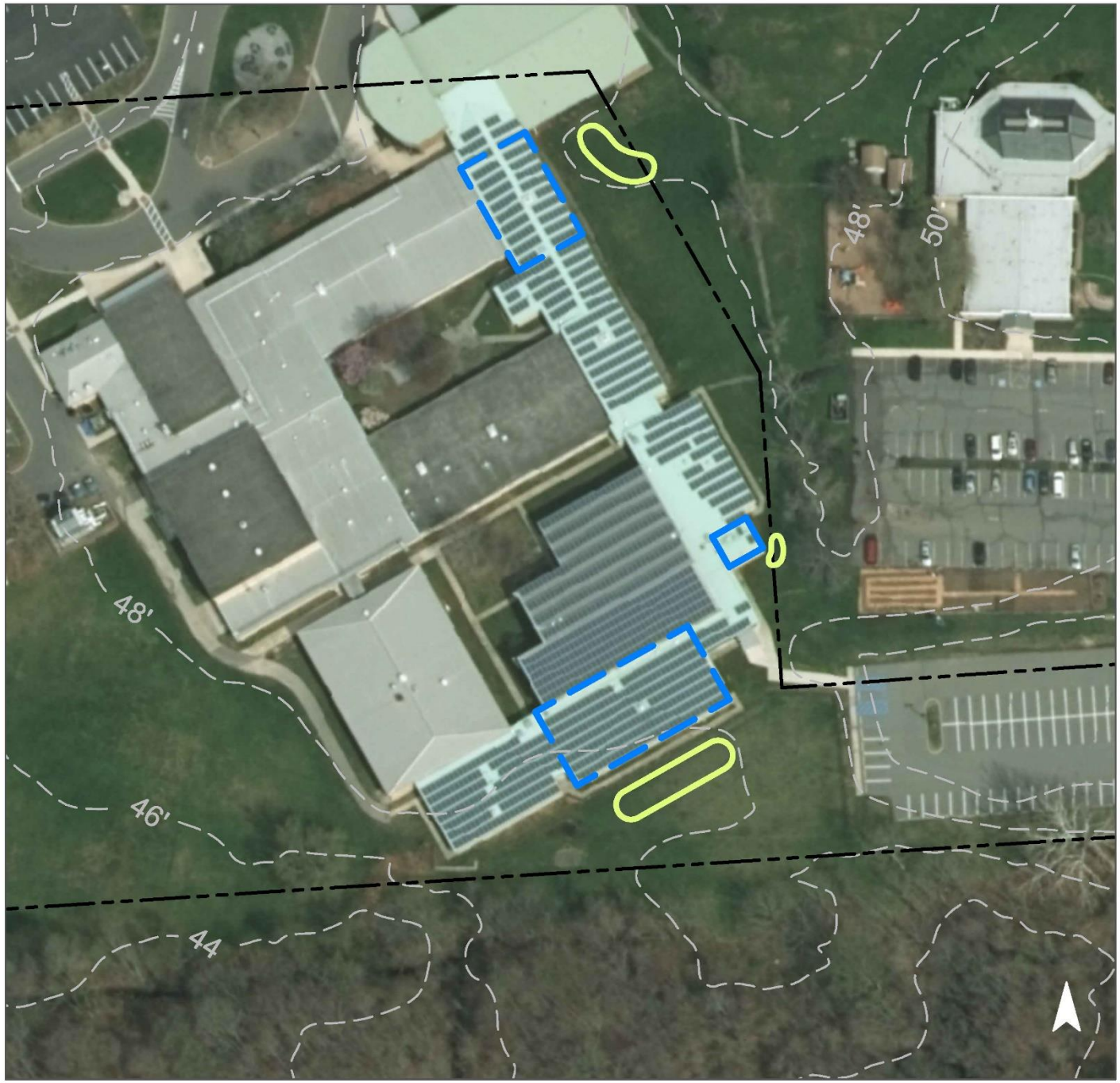
Block and Lot: Block 909, Lot 1.03

Rain gardens adjacent to the north, east, and south side of the building can capture, treat, and infiltrate roof runoff. Downspouts can be disconnected and redirected into the proposed rain gardens. 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"
49	209,229	10.1	105.7	960.6	0.163	5.74

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	0.278	47	20,407	0.77	2,650	$13,250

GREEN INFRASTRUCTURE RECOMMENDATIONS



Medford Memorial Middle School

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

MEDFORD TOWNSHIP BOARD OF EDUCATION

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 137,891 sq. ft.

Address: 135 Hartford Road
Medford Township, NJ 08055

Block and Lot: Block 401, Lot 16

Parking spots north of the building can be replaced with porous asphalt to capture and infiltrate stormwater. A rain garden adjacent to the east side of the building can capture, treat, and infiltrate roof runoff. Downspouts can be disconnected and redirected into the proposed rain garden. 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"
13	17,885	0.9	9.0	82.1	0.014	0.49

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	0.013	2	972	0.04	130	$650
Pervious pavement	0.047	8	3,471	0.13	350	$8,750

GREEN INFRASTRUCTURE RECOMMENDATIONS

Medford Township Board of Education

- bioretention system
- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 20' 40'

TAUNTON FORGE ELEMENTARY SCHOOL

Subwatershed: Rancocas Creek Southwest Branch

Site Area: 855,816 sq. ft.

Address: 32 Evergreen Trail
Medford Township, NJ 08055

Block and Lot: Block 2702, Lot 1

Rain gardens adjacent to the north and south sides of the building can capture, treat, and infiltrate roof 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"
18	158,227	7.6	79.9	726.5	0.123	4.34

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	0.097	16	7,143	0.27	950	$4,750

GREEN INFRASTRUCTURE RECOMMENDATIONS

Taunton Forge Elementary School

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

c. 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 TP (lb/yr)	Existing Annual Loads TN (lb/yr)	Existing Annual Loads TSS (lb/yr)	I.C. %	I.C. Area (ac)	I.C. Area (SF)	Runoff Volumes from I.C. Water Quality Storm (1.25" over 2-hours) (Mgal)	Runoff Volumes from I.C. Annual (Mgal)
BARTON RUN SUBWATERSHED	**1.13**	**49,102**			**0.9**	**9.4**	**85.8**		**0.43**	**18,679**	**0.015**	**0.51**
Lakes Community Chapel												
Total Site Info	1.13	49,102	3201	36.02	0.9	9.4	85.8	38	0.43	18,679	0.015	0.51
HAYNES CREEK SUBWATERSHED	**17.77**	**773,986**			**22.5**	**235.6**	**2,142.0**		**10.71**	**466,522**	**0.363**	**12.80**
Fellowship Alliance Chapel												
Total Site Info	11.93	519,694	205	3.01	17.6	184.5	1,677.4	70	8.39	365,333	0.285	10.02
Medford Emergency Medical Services												
Total Site Info	2.89	125,855	2701.21	12.01	2.1	21.8	198.1	34	0.99	43,138	0.034	1.18
Medford Township Fire Station												
Total Site Info	1.57	68,258	1201	1.03	2.2	22.8	207.2	66	1.04	45,132	0.035	1.24
Taunton Volunteer Fire Company												
Total Site Info	2.95	128,437	5404	5.02	2.8	29.3	266.5	45	1.33	58,051	0.045	1.59
LAKE PINES / CENTENNIAL LAKE SUBWATERSHED	**83.46**	**3,635,684**			**9.0**	**94.2**	**856.4**		**4.28**	**186,529**	**0.145**	**5.12**
Cranberry Pines Elementary School												
Total Site Info	83.46	3,635,684	5507	10.01	9.0	94.2	856.4	5	4.28	186,529	0.145	5.12
LITTLE CREEK SUBWATERSHED	**166.47**	**7,251,554**			**80.2**	**840.5**	**7,640.6**		**38.20**	**1,664,120**	**1.297**	**45.64**
Chairville Elementary School												
Total Site Info	57.22	2,492,574	4106	15	23.6	247.8	2,252.3	20	11.26	490,550	0.382	13.45
Shawnee High School												
Total Site Info	98.78	4,302,885	4704	3	52.1	545.9	4,963.0	25	24.82	1,080,948	0.842	29.65
St. Anthony Coptic Orthodox Church												
Total Site Info	10.47	456,095	201	1.08	4.5	46.8	425.3	20	2.13	92,622	0.072	2.54

Summary of Existing Site Conditions

Subwatershed/Site Name/Total Site Info/GI Practice	Area (ac)	Area (SF)	Block	Lot	Existing Annual Loads TP (lb/yr)	Existing Annual Loads TN (lb/yr)	Existing Annual Loads TSS (lb/yr)	I.C. %	I.C. Area (ac)	I.C. Area (SF)	Runoff Volumes from I.C. Water Quality Storm (1.25" over 2-hours) (Mgal)	Runoff Volumes from I.C. Annual (Mgal)
RANCOCAS CREEK SOUTHWEST BRANCH SUBWATERSHED	**274.61**	**11,961,830**			**89.7**	**940.0**	**8,545.5**		**42.73**	**1,861,209**	**1.450**	**51.05**
Calvary Lutheran Church												
Total Site Info	6.01	261,871	4105	4	2.8	29.2	265.1	22	1.33	57,733	0.045	1.58
Church of Jesus Christ of Latter - Day Saints												
Total Site Info	4.08	177,562	4702	11	3.6	37.2	338.2	41	1.69	73,659	0.057	2.02
Come Alive Church												
Total Site Info	17.96	782,384	905	4	5.1	53.9	489.7	14	2.45	106,659	0.083	2.93
Crossroads Assembly of God												
Total Site Info	3.68	160,354	302	25.02	3.1	32.9	299.4	41	1.50	65,212	0.051	1.79
Faith Presbyterian Church												
Total Site Info	5.03	219,083	909	1.02	4.1	42.5	386.8	38	1.93	84,244	0.066	2.31
Haines Sixth Grade Center												
Total Site Info	17.82	776,352	909	2	11.6	121.0	1,100.2	31	5.50	239,619	0.187	6.57
Kirby's Mill Elementary School												
Total Site Info	128.59	5,601,269	401	13.02	15.1	158.1	1,437.4	6	7.19	313,060	0.244	8.59
Medford Township Board of Education Transportation Center												
Total Site Info	57.22	2,492,575	4106	15	23.6	247.8	2,252.3	20	11.26	490,550	0.382	13.45
Medford Memorial Middle School												
Total Site Info	9.84	428,415	909	1.03	10.1	105.7	960.6	49	4.80	209,229	0.163	5.74
Medford Township Board of Education												
Total Site Info	3.17	137,891	401	16	0.9	9.0	82.1	13	0.41	17,885	0.014	0.49
Taunton Forge Elementary School												
Total Site Info	19.65	855,816	2702	1	7.6	79.9	726.5	18	3.63	158,227	0.123	4.34

d. 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 %
	BARTON RUN SUBWATERSHED	**2,080**	**0.05**	**0.054**	**9**	**3,980**	**0.15**	**535**			**$2,675**	**11.1%**
1	**Lakes Community Chapel**											
	Bioretention systems/rain gardens	2,080	0.05	0.054	9	3,980	0.15	535	5	SF	$2,675	11.1%
	Total Site Info	**2,080**	**0.05**	**0.054**	**9**	**3,980**	**0.15**	**535**			**$2,675**	**11.1%**
	HAYNES CREEK SUBWATERSHED	**19,275**	**0.44**	**0.502**	**84**	**36,856**	**1.39**	**8,650**			**$61,950**	**4.1%**
2	**Fellowship Alliance Chapel**											
	Bioretention systems/rain gardens	4,990	0.11	0.130	22	9,538	0.36	1,390	5	SF	$6,950	1.4%
	Total Site Info	**4,990**	**0.11**	**0.130**	**22**	**9,538**	**0.36**	**1,390**			**$6,950**	**1.4%**
3	**Medford Emergency Medical Services**											
	Rainwater harvesting system: cistern	2,510	0.06	0.065	11	4,802	0.18	2,000	2	gal	$4,000	5.8%
	Total Site Info	**2,510**	**0.06**	**0.065**	**11**	**4,802**	**0.18**	**2,000**			**$4,000**	**5.8%**
4	**Medford Township Fire Station**											
	Rainwater harvesting system: cistern	3,300	0.08	0.086	14	6,306	0.24	3,000	2	gal	$6,000	7.3%
	Total Site Info	**3,300**	**0.08**	**0.086**	**14**	**6,306**	**0.24**	**3,000**			**$6,000**	**7.3%**
5	**Taunton Volunteer Fire Company**											
	Pervious pavements	7,690	0.18	0.200	34	14,707	0.55	1,760	25	SF	$44,000	13.2%
	Rainwater harvesting system: cistern	785	0.02	0.020	3	1,503	0.06	500	2	gal	$1,000	1.4%
	Total Site Info	**8,475**	**0.19**	**0.221**	**37**	**16,210**	**0.61**	**2,260**			**$45,000**	**14.6%**
	LAKE PINES / CENTENNIAL LAKE SUBWATERSHED	**12,930**	**0.30**	**0.337**	**56**	**24,723**	**0.93**	**2,730**			**$68,250**	**6.9%**
6	**Cranberry Pines Elementary School**											
	Pervious pavements	12,930	0.30	0.337	56	24,723	0.93	2,730	25	SF	$68,250	6.9%
	Total Site Info	**12,930**	**0.30**	**0.337**	**56**	**24,723**	**0.93**	**2,730**			**$68,250**	**6.9%**

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 %
	LITTLE CREEK SUBWATERSHED	**16,320**	**0.37**	**0.425**	**71**	**31,209**	**1.17**	**4,665**			**$22,425**	**1.0%**
7	**Chairville Elementary School**											
	Bioretention systems/rain gardens	11,580	0.27	0.302	51	22,142	0.83	3,340	5	SF	$16,700	2.4%
	Total Site Info	**11,580**	**0.27**	**0.302**	**51**	**22,142**	**0.83**	**3,340**			**$16,700**	**2.4%**
8	**Shawnee High School**											
	Bioretention systems/rain gardens	1,905	0.04	0.050	8	3,643	0.140	390	5	SF	$1,950	0.2%
	Rainwater harvesting system: cistern	340	0.01	0.009	1	651	0.020	300	2	gal	$600	0.0%
	Total Site Info	**2,245**	**0.05**	**0.058**	**10**	**4,294**	**0.160**	**690**			**$2,550**	**0.2%**
9	**St. Anthony Coptic Orthodox Church**											
	Bioretention systems/rain gardens	2,495	0.06	0.065	11	4,773	0.18	635	5	SF	$3,175	2.7%
	Total Site Info	**2,495**	**0.06**	**0.065**	**11**	**4,773**	**0.18**	**635**			**$3,175**	**2.7%**
	SUBWATERSHED	**113,465**	**2.60**	**2.956**	**495**	**216,927**	**8.16**	**25,340**			**$295,000**	**6.1%**
10	**Calvary Lutheran Church**											
	Bioretention systems/rain gardens	6,525	0.15	0.170	28	12,477	0.47	650	5	SF	$3,250	11.3%
	Pervious pavements	13,920	0.32	0.363	61	26,614	1.00	2,800	25	SF	$70,000	24.1%
	Rainwater harvesting system: cistern	1,140	0.03	0.030	5	2,177	0.08	1,000	2	gal	$2,000	2.0%
	Total Site Info	**21,585**	**0.50**	**0.562**	**94**	**41,267**	**1.55**	**4,450**			**$75,250**	**37.4%**
11	**Church of Jesus Christ of Latter - Day Saints**											
	Bioretention systems/rain gardens	2,360	0.05	0.061	10	4,510	0.17	600	5	SF	$3,000	3.2%
	Total Site Info	**2,360**	**0.05**	**0.061**	**10**	**4,510**	**0.17**	**600**			**$3,000**	**3.2%**
12	**Come Alive Church**											
	Bioretention systems/rain gardens	990	0.02	0.026	4	1,892	0.07	255	5	SF	$1,275	0.9%
	Total Site Info	**990**	**0.02**	**0.026**	**4**	**1,892**	**0.07**	**255**			**$1,275**	**0.9%**
13	**Crossroads Assembly of God**											
	Pervious pavements	14,750	0.34	0.384	64	28,200	1.06	2,915	25	SF	$72,875	22.6%
	Total Site Info	**14,750**	**0.34**	**0.384**	**64**	**28,200**	**1.06**	**2,915**			**$72,875**	**22.6%**

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 %
14	**Faith Presbyterian Church**											
	Bioretention systems/rain gardens	640	0.01	0.017	3	1,227	0.05	150	5	SF	$750	0.8%
	Pervious pavements	13,265	0.30	0.346	58	25,357	0.95	2,500	25	SF	$62,500	15.7%
	Total Site Info	**13,905**	**0.32**	**0.362**	**61**	**26,584**	**1.00**	**2,650**			**$63,250**	**16.5%**
15	**Haines Sixth Grade Center**											
	Bioretention systems/rain gardens	8,525	0.20	0.222	37	16,300	0.61	2,130	5	SF	$10,650	3.6%
	Total Site Info	**8,525**	**0.20**	**0.222**	**37**	**16,300**	**0.61**	**2,130**			**$10,650**	**3.6%**
16	**Kirby's Mill Elementary School**											
	Bioretention systems/rain gardens	34,165	0.78	0.890	149	65,320	2.46	8,140	5	SF	$40,700	10.9%
	Total Site Info	**34,165**	**0.78**	**0.890**	**149**	**65,320**	**2.46**	**8,140**			**$40,700**	**10.9%**
17	**Medford Township Board of Education Transportation Center**											
	Bioretention systems/rain gardens	450	0.01	0.012	2	860	0.03	120	5	SF	$600	0.1%
	Total Site Info	**450**	**0.01**	**0.012**	**2**	**860**	**0.03**	**120**			**$600**	**0.1%**
18	**Medford Memorial Middle School**											
	Bioretention systems/rain gardens	10,675	0.25	0.278	47	20,407	0.77	2,650	5	SF	$13,250	5.1%
	Total Site Info	**10,675**	**0.25**	**0.278**	**47**	**20,407**	**0.77**	**2,650**			**$13,250**	**5.1%**
19	**Medford Township Board of Education**											
	Bioretention systems/rain gardens	510	0.01	0.013	2	972	0.04	130	5	SF	$650	2.9%
	Pervious pavements	1,815	0.04	0.047	8	3,471	0.13	350	25	SF	$8,750	10.1%
	Total Site Info	**2,325**	**0.05**	**0.061**	**10**	**4,443**	**0.17**	**480**			**$9,400**	**13.0%**
20	**Taunton Forge Elementary School**											
	Bioretention systems/rain gardens	3,735	0.09	0.097	16	7,143	0.27	950	5	SF	$4,750	2.4%
	Total Site Info	**3,735**	**0.09**	**0.097**	**16**	**7,143**	**0.27**	**950**			**$4,750**	**2.4%**