RUTGERS
New Jersey Agricultural
Experiment Station

**Draft**

# Impervious Cover Reduction Action Plan for Delaware Township, Hunterdon County, New Jersey

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

November 10, 2015

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## Introduction

Located in Hunterdon County in central New Jersey, Delaware Township covers approximately 37.0 square miles. Figures 1 and 2 illustrate that Delaware Township is dominated by agricultural land uses. A total of 14.9% of the municipality's land use is classified as urban. Of the urban land in Delaware Township, rural residential is the dominant land use (Figure 3).

The New Jersey Department of Environmental Protection's (NJDEP) 2007 land use/land cover geographical information system (GIS) data layer categorizes Delaware 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 Delaware Township. Based upon the 2007 NJDEP land use/land cover data, approximately 2.1% of Delaware Township has impervious cover. This level of impervious cover suggests that the streams in Delaware Township are likely sensitive streams. [1]

## Methodology

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

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

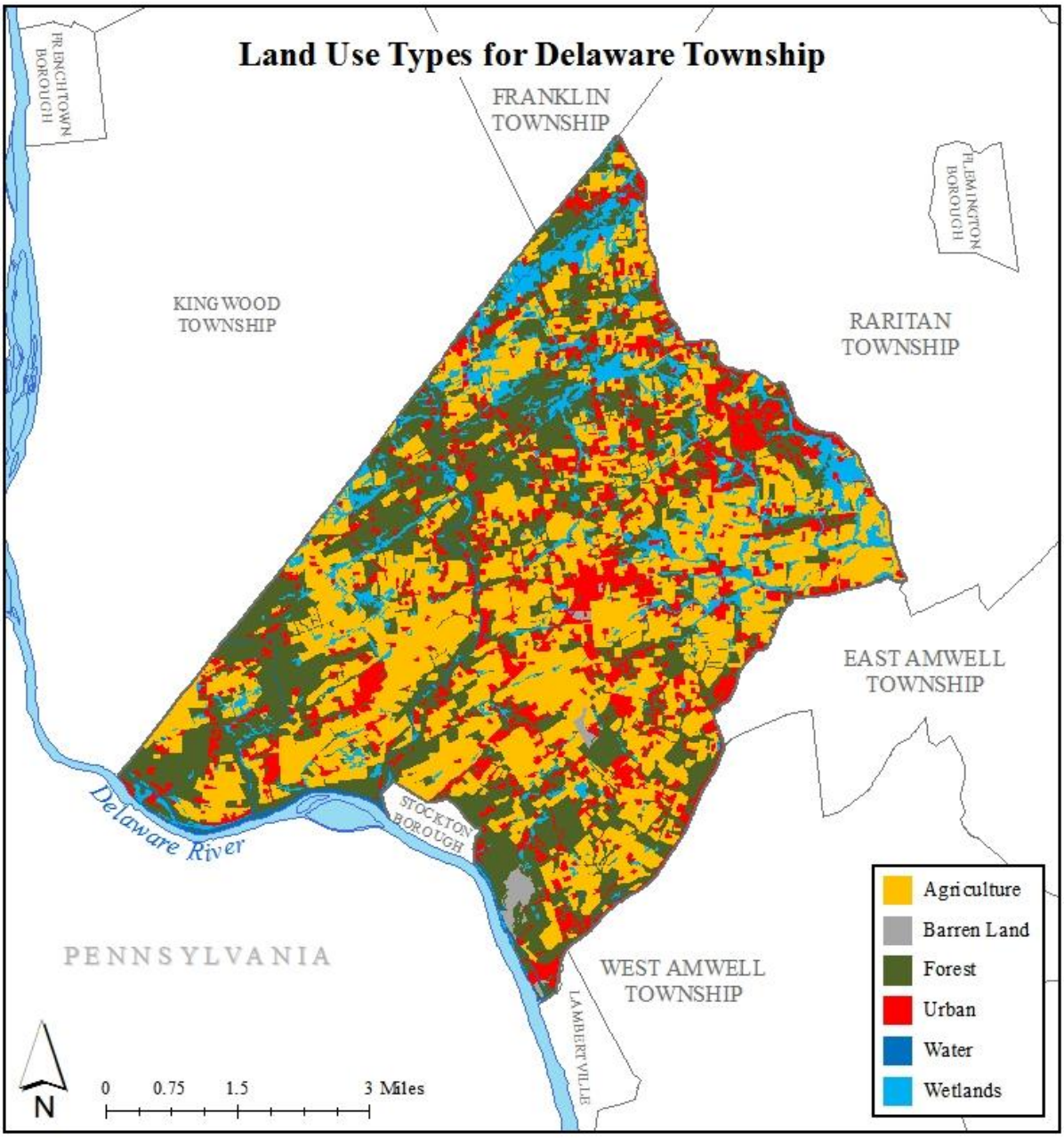



Figure 1: Map illustrating the land use in Delaware Township

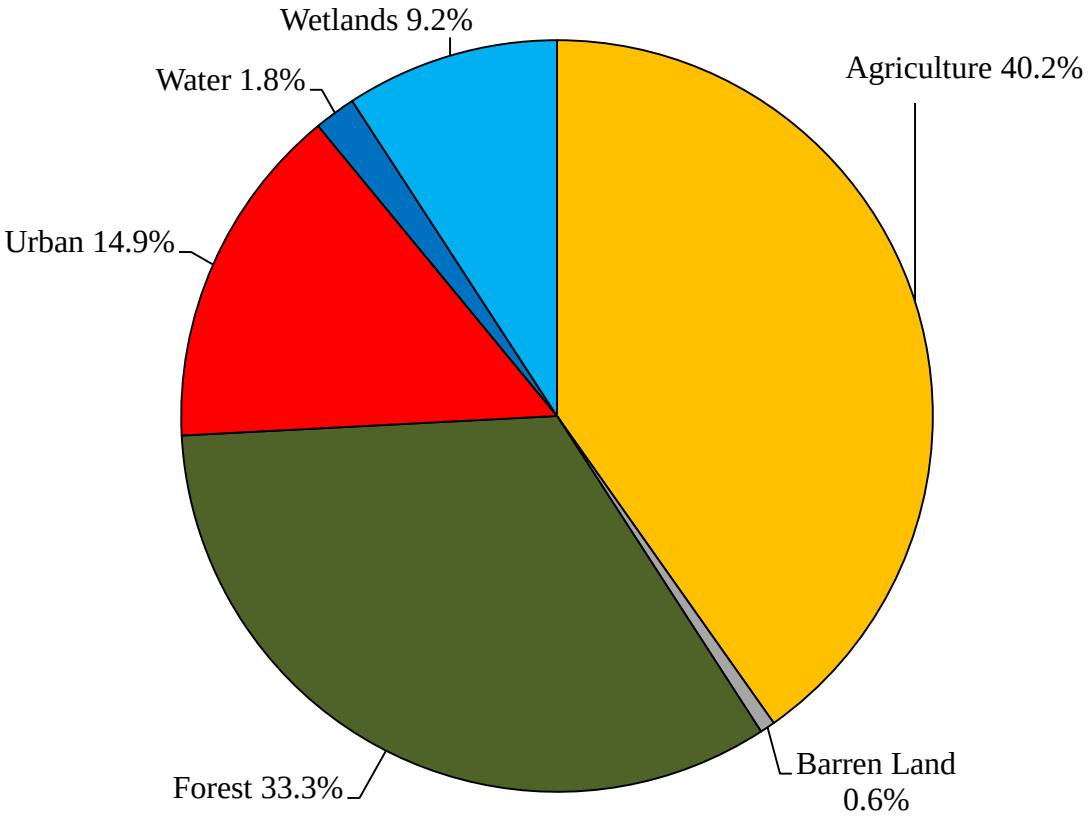



Figure 2: Pie chart illustrating the land use in Delaware Township

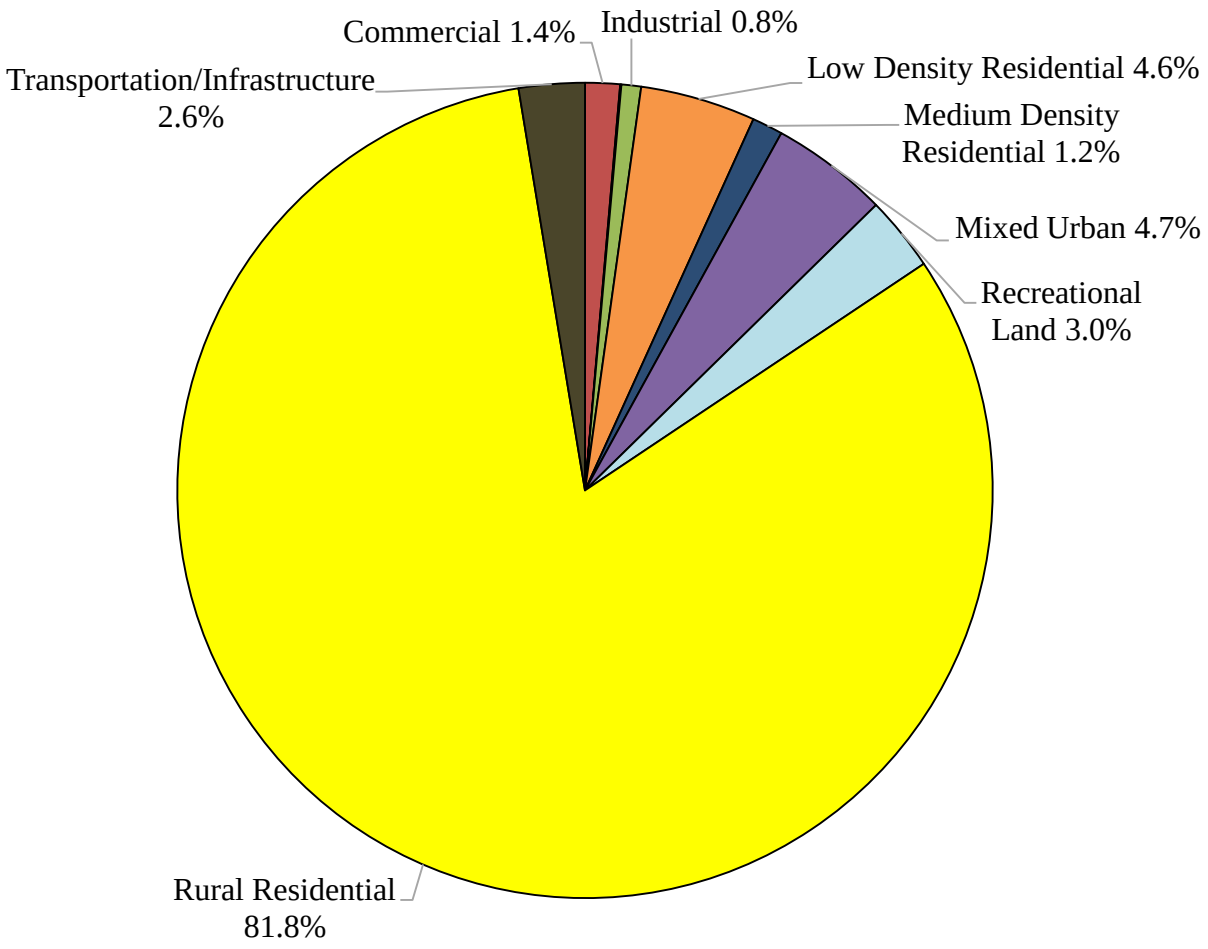



Figure 3: Pie chart illustrating the various types of urban land use in Delaware Township

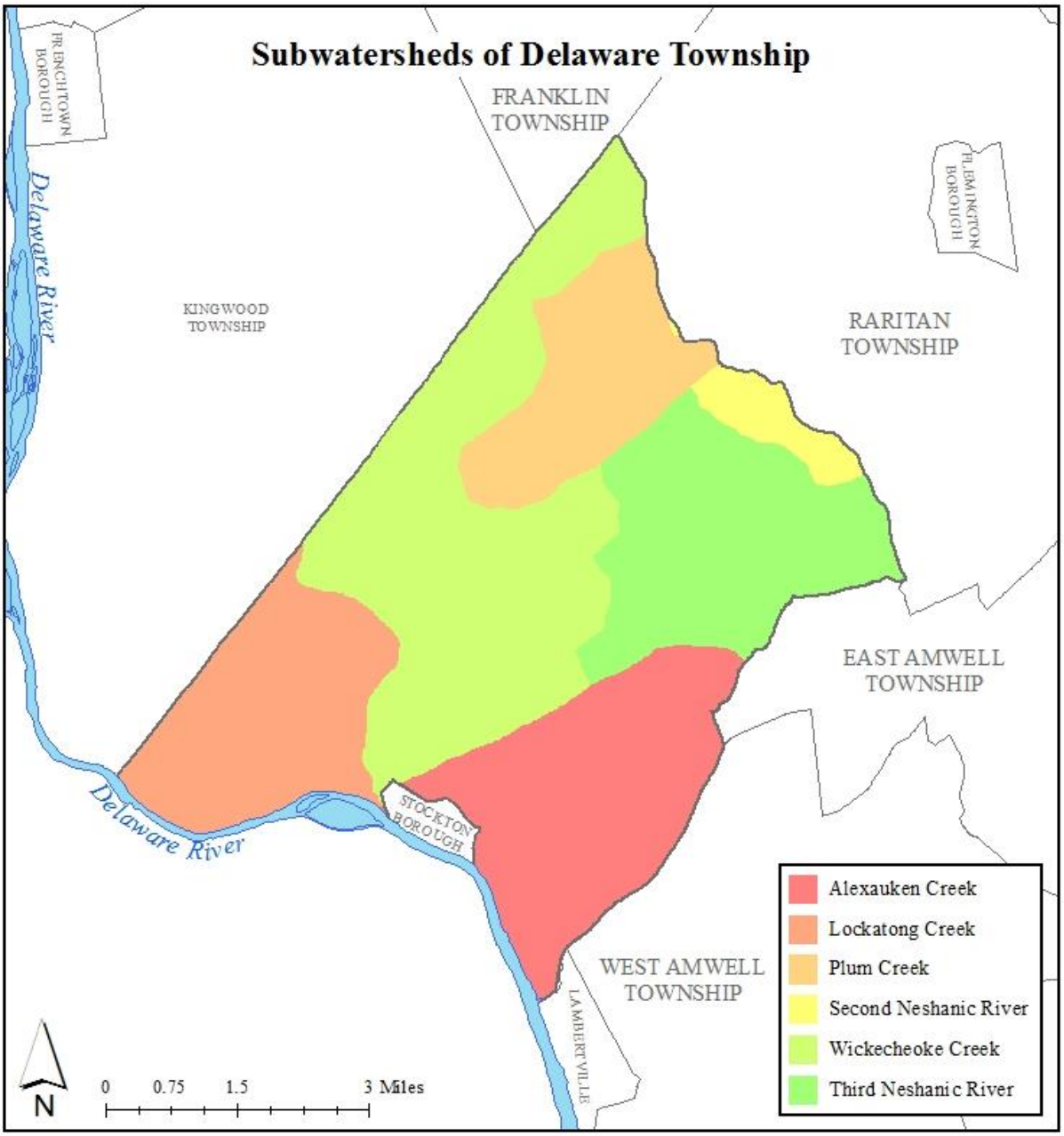



Figure 4: Map of the subwatersheds in Delaware Township

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 2007 NJDEP land use/land cover database. For impervious areas, runoff volumes were determined for the water quality design storm (1.25 inches of rain over two-hours) and for the annual rainfall total of 44 inches.

Preliminary soil assessments were conducted for each potential project site identified in Delaware 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[2]

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

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

## Green Infrastructure Practices

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

### *Disconnected downspouts*

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

### *Pervious pavements*

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




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

***Bioretention systems/rain gardens***

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

***Downspout planter boxes***

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

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

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

***Bioswale***

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

***Stormwater planters***

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

***Tree filter boxes***

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

**Potential Project Sites**

Attachment 1 contains a list of 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 is identified for each potential project site. For each practice, the recharge potential, TSS removal potential, maximum volume reduction potential per storm, and the peak reduction potential are provided. This information is also provided so that proposed development projects that cannot satisfy the New Jersey stormwater management requirements for major development can use one of the identified projects to offset a stormwater management deficit. [4]

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

## Conclusion

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

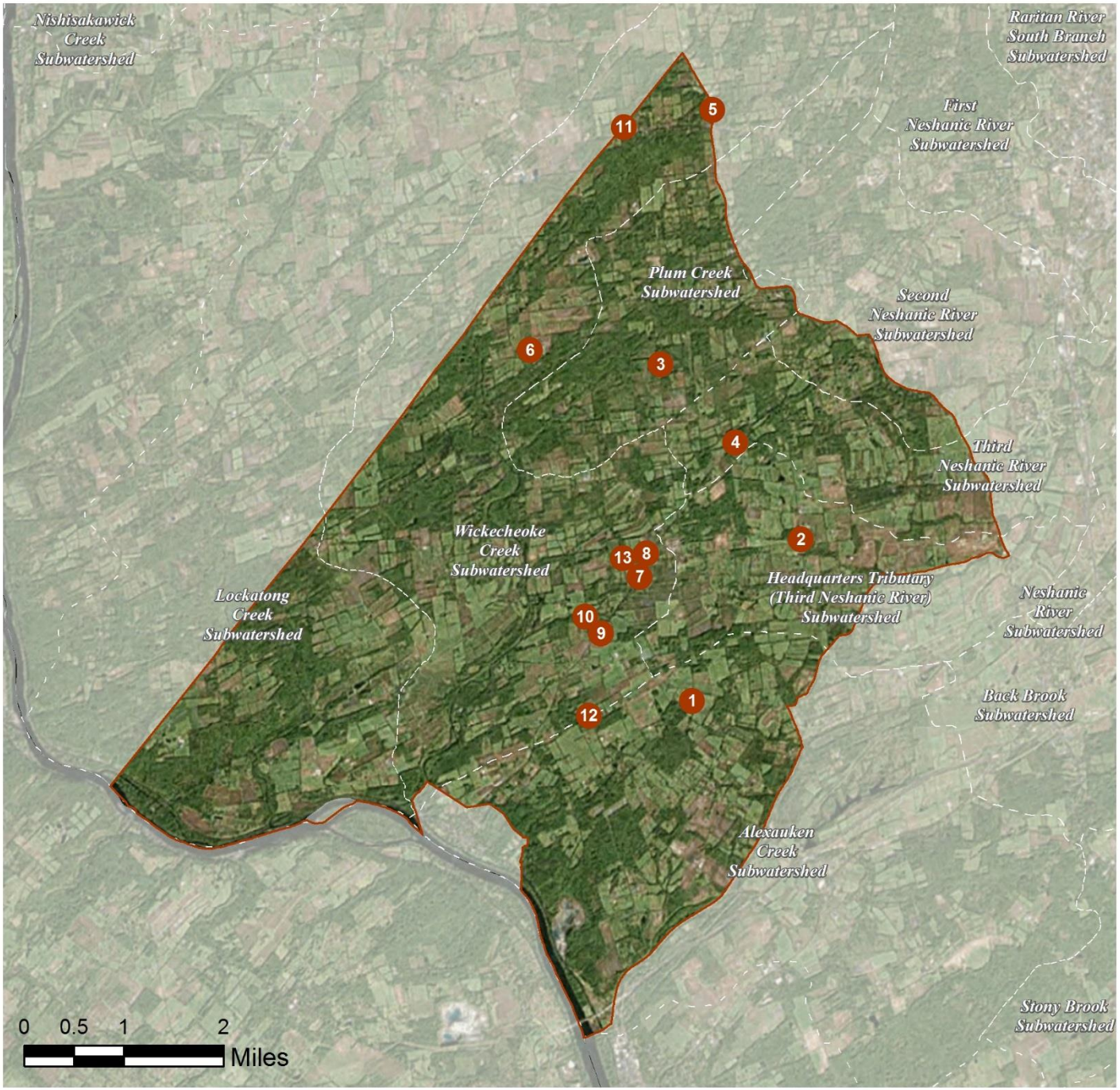
Additionally, development projects that are in need of providing off-site compensation for stormwater impacts can use the projects in this plan as a starting point. The municipality can quickly convert this impervious cover reduction action plan into a stormwater mitigation plan and incorporate it into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

## a. Overview Map of the Project

# DELAWARE: CLIMATE RESILIENT GREEN INFRASTRUCTURE FOR THE RARITAN BASIN

## b. Green Infrastructure Sites

# DELAWARE: GREEN INFRASTRUCTURE SITES




**SITES WITHIN THE ALEXAUKEN CREEK SUBWATERSHED:**

1. Sarah Dilts Farm Park

**SITES WITHIN THE HEADQUARTERS TRIBUTARY SUBWATERSHED:**

2. Amwell Church of the Brethren

**SITES WITHIN THE PLUM CREEK SUBWATERSHED:**

3. Jehovah's Witnesses

**SITES WITHIN THE THIRD NESHANIC RIVER SUBWATERSHED:**

4. Maria Rosa Restaurant & Pizza

**SITES WITHIN THE WICKECHEOKE CREEK SUBWATERSHED:**

5. Brunello Trattoria
6. Cornerstone Christian Church
7. Delaware Township Fire Department
8. Delaware Township Hall Offices
9. Delaware Township Police
10. Delaware Township Public Works
11. Ruzicka Enterprise
12. Sandy Ridge Community Church
13. Sergeantsville United Methodist

## c. Proposed Green Infrastructure Concepts

# SARAH DILTS FARM PARK

**Subwatershed:** Alexauken Creek

**Site Area:** 2,730,402 sq. ft.

**Address:** 17 Buchanan Road
Stockton, NJ 08559

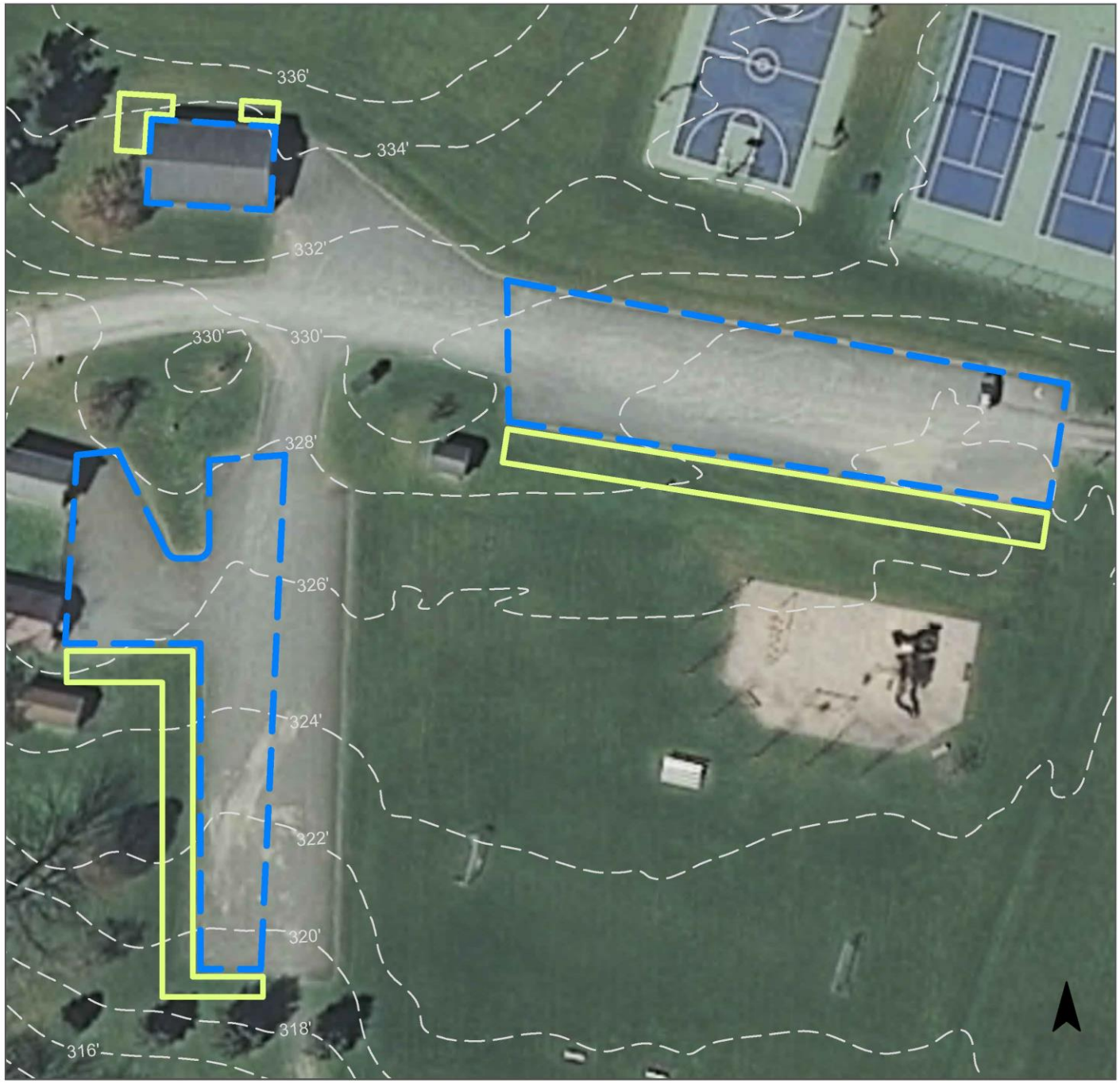
**Block and Lot:** Block 42, Lot 7

Heavy pooling occurs in the parking lots south of the tennis courts. Rain gardens can be installed along the lots to capture, treat, and infiltrate runoff, which would help remediate this issue. Additional rain gardens can be installed to manage 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" |
| 5 | 125,054 | 6.0 | 63.2 | 574.2 | 0.097 | 3.43 |

| 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 | 0.558 | 93 | 42,240 | 1.59 | 5,600 | $28,000 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS




## Sarah Dilts Farm Park

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

0 30' 60'

# AMWELL CHURCH OF THE BRETHREN

**Subwatershed:** Headquarters Tributary

**Site Area:** 74,088 sq. ft.

**Address:** 40 Sandbrook Headquarters Road Delaware Twp., NJ 08559

**Block and Lot:** Block 44, Lot 13

Rainwater on the site pools in the parking lot, and drains into the stream next to the site. Parking spots can be replaced with porous asphalt to infiltrate stormwater. A rain garden can be installed adjacent to the parking lot and east of the driveway to capture, treat, and infiltrate runoff that would otherwise go into the stream. 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" |
| 19 | 14,432 | 0.7 | 7.3 | 66.3 | 0.011 | 0.40 |

| 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 | 0.135 | 23 | 10,263 | 0.39 | 1,300 | $6,500 |
| Pervious pavements | 0.189 | 32 | 14,309 | 0.54 | 3,700 | $92,500 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS


## Amwell Church of the Brethren

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

0 20' 40'

# JEHOVAH'S WITNESSES

**Subwatershed:** Plum Creek

**Site Area:** 98,928 sq. ft.

**Address:** 160 Ferry Road
Flemington, NJ 08822

**Block and Lot:** Block 14, Lot 15.02

Rainwater drains into the lawn area west of the building. A rain garden can be built on the lawn to capture, treat, and infiltrate roof and parking lot runoff. The parking spaces southwest of the building can be replaced with porous asphalt to allow stormwater to infiltrate. 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 | 28,012 | 1.4 | 14.1 | 128.6 | 0.022 | 0.77 |

| 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 | 0.057 | 10 | 4,301 | 0.16 | 600 | $3,000 |
| Pervious pavements | 0.281 | 47 | 21,318 | 0.80 | 2,580 | $64,500 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS


## Jehovah's Witnesses

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

0 20' 40'

# MARIA ROSA RESTAURANT & PIZZA

**Subwatershed:** Third Neshanic River

**Site Area:** 267,306 sq. ft.

**Address:** 541 Sergeantsville Road
Flemington, NJ 08822

**Block and Lot:** Block 25, Lot 41


There is a detention pond to which appears rainwater drains. There is an opportunity for rain gardens to be built east of the building to capture, treat, and infiltrate runoff and the parking lot. Parking spaces north of the building can be replaced with porous asphalt to capture and infiltrate runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

| Impervious Cover | | Existing Loads from Impervious Cover (lbs/yr) | | | Runoff Volume from Impervious Cover (Mgal) | |
|---|---|---|---|---|---|---|
| % | sq. ft. | TP | TN | TSS | For the 1.25" Water Quality Storm | For an Annual Rainfall of 44" |
| 10 | 26,914 | 1.3 | 13.6 | 123.6 | 0.021 | 0.74 |

| 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 | 0.059 | 10 | 4,503 | 0.17 | 900 | $4,500 |
| Pervious pavements | 0.184 | 31 | 13,913 | 0.52 | 2,400 | $60,000 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS


## Maria Rosa Restaurant and Pizza

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

0 20' 40'

# BRUNELLO TRATTORIA

**Subwatershed:** Wickecheoke Creek

**Site Area:** 86,949 sq. ft.

**Address:** 47 Sandy Ridge Road
Stockton, NJ 08559

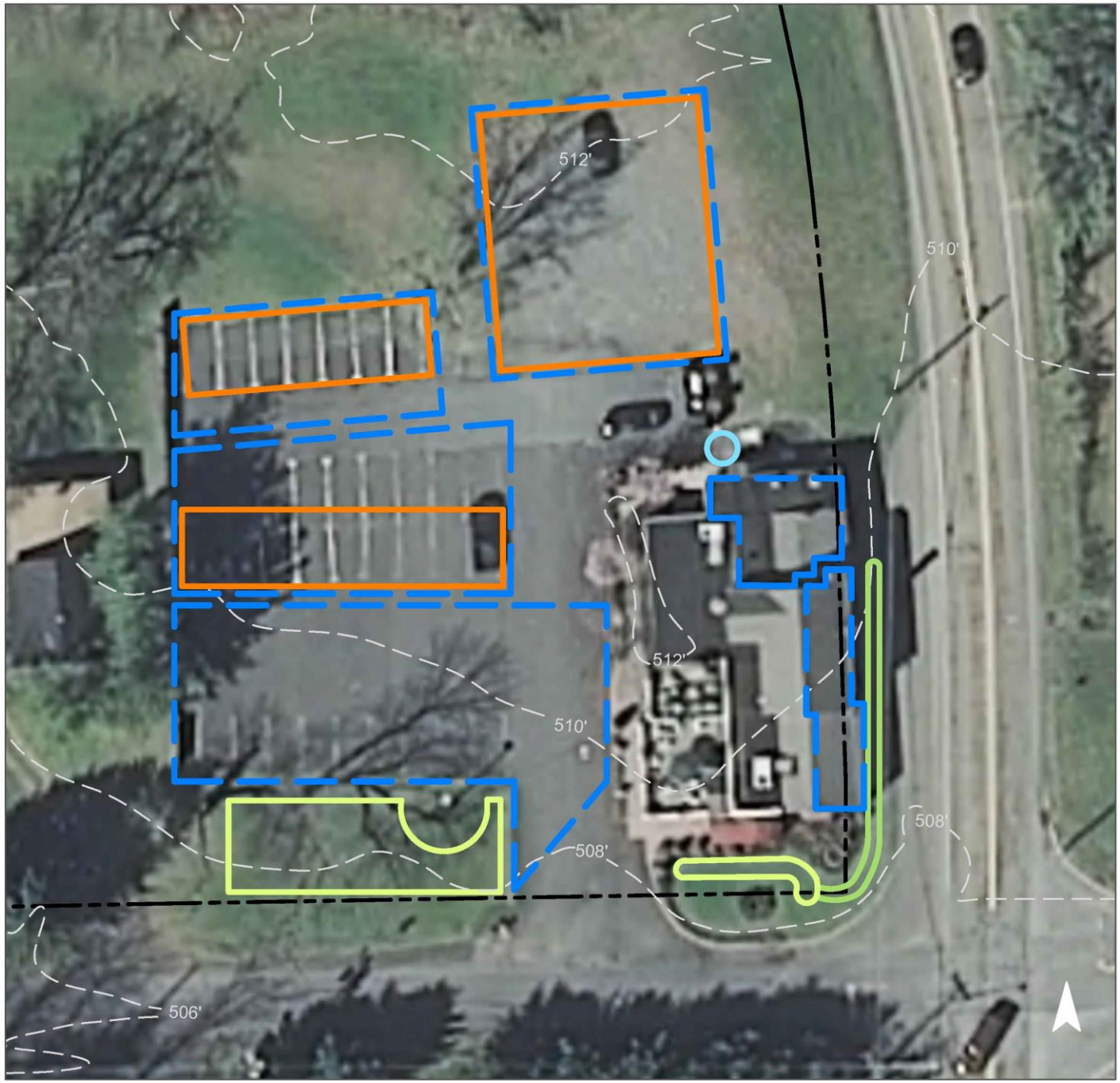
**Block and Lot:** Block 1, Lot 9

Rainwater on the site drains onto the road and pools at the entrance. Parking spaces can be replaced with porous asphalt to infiltrate stormwater. A cistern can be installed north of the building to harvest rainwater to be used by the existing garden. A bioswale and rain gardens can also be installed to capture, treat, and infiltrate 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" |
| 25 | 21,706 | 1.0 | 11.0 | 99.7 | 0.017 | 0.60 |

| 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 | 0.153 | 26 | 11,609 | 0.44 | 1,650 | $8,250 |
| Bioswales | 0.005 | 1 | 359 | 0.01 | 300 | $1,500 |
| Pervious pavements | 0.266 | 44 | 22,136 | 0.76 | 6,689 | $167,236 |
| Rainwater harvesting systems | 0.020 | 3 | 700 | 0.06 | 700 (gal) | $1,400 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS




## Brunello Trattoria

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

0 20' 40'

# CORNERSTONE CHRISTIAN CHURCH

**Subwatershed:** Wickecheoke Creek

**Site Area:** 275,207 sq. ft.

**Address:** 225 Locktown Sergeantsville Road Stockton, NJ 08559

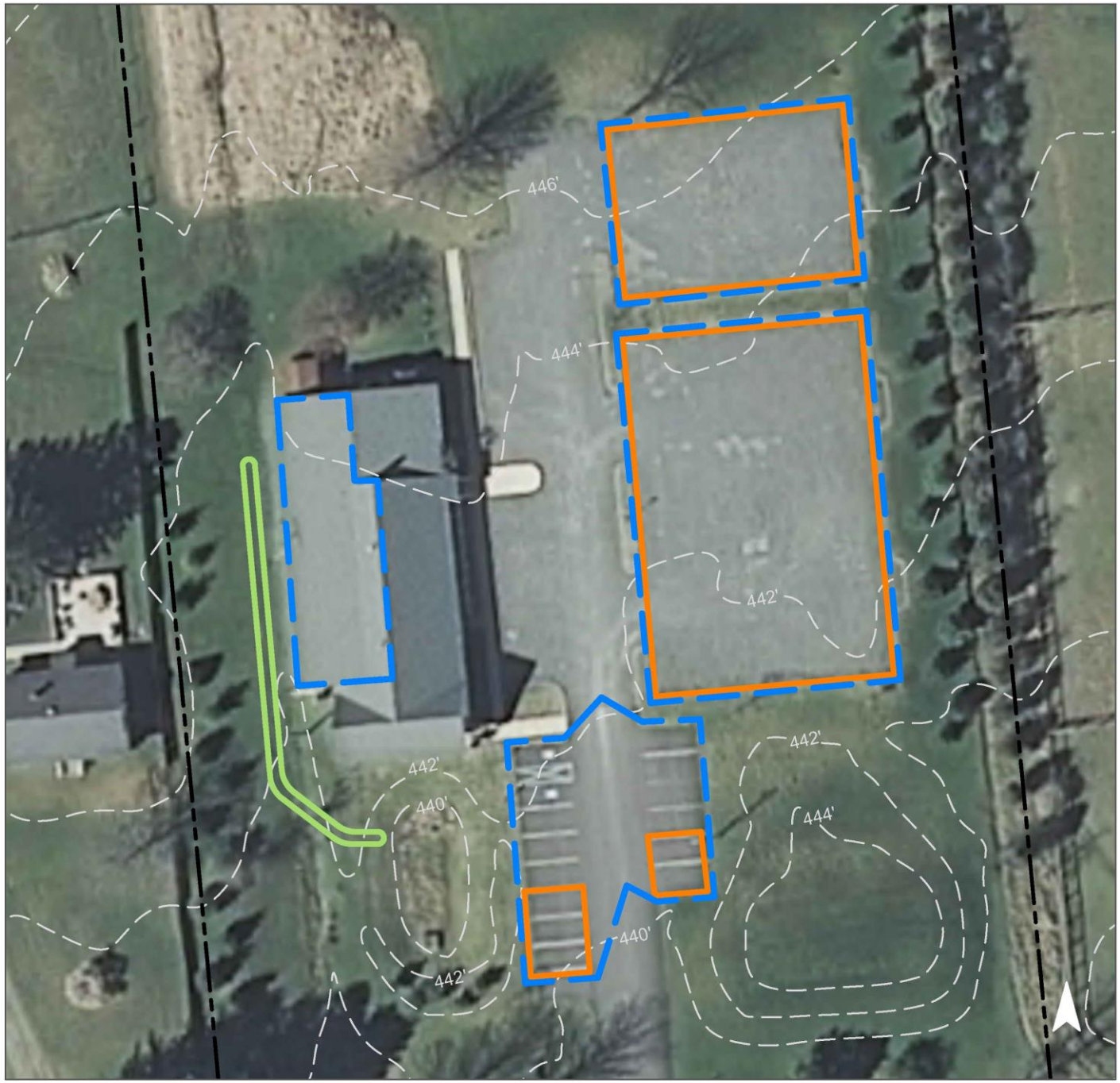
**Block and Lot:** Block 12, Lot 24.03

There is an existing detention basin. Rainwater also drains into the road from the parking lot. The parking spots east of the building can be replaced with porous asphalt capture and infiltrate runoff. The existing swale on the site can be retrofitted with vegetation to treat 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" |
| 18 | 49,965 | 2.4 | 25.2 | 229.4 | 0.039 | 1.37 |

| 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 |
|---|---|---|---|---|---|---|
| Bioswales | 0.070 | 12 | 5,311 | 0.20 | 600 | $3,000 |
| Pervious pavements | 0.502 | 84 | 38,021 | 1.43 | 14,400 | $360,000 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS




## Cornerstone Christian Church

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

0 25' 50'

# DELAWARE TOWNSHIP FIRE DEPARTMENT

**Subwatershed:** Wickecheoke Creek

**Site Area:** 68,125 sq. ft.

**Address:** 761 Sergeantsville Road
Sergeantsville, NJ 08559

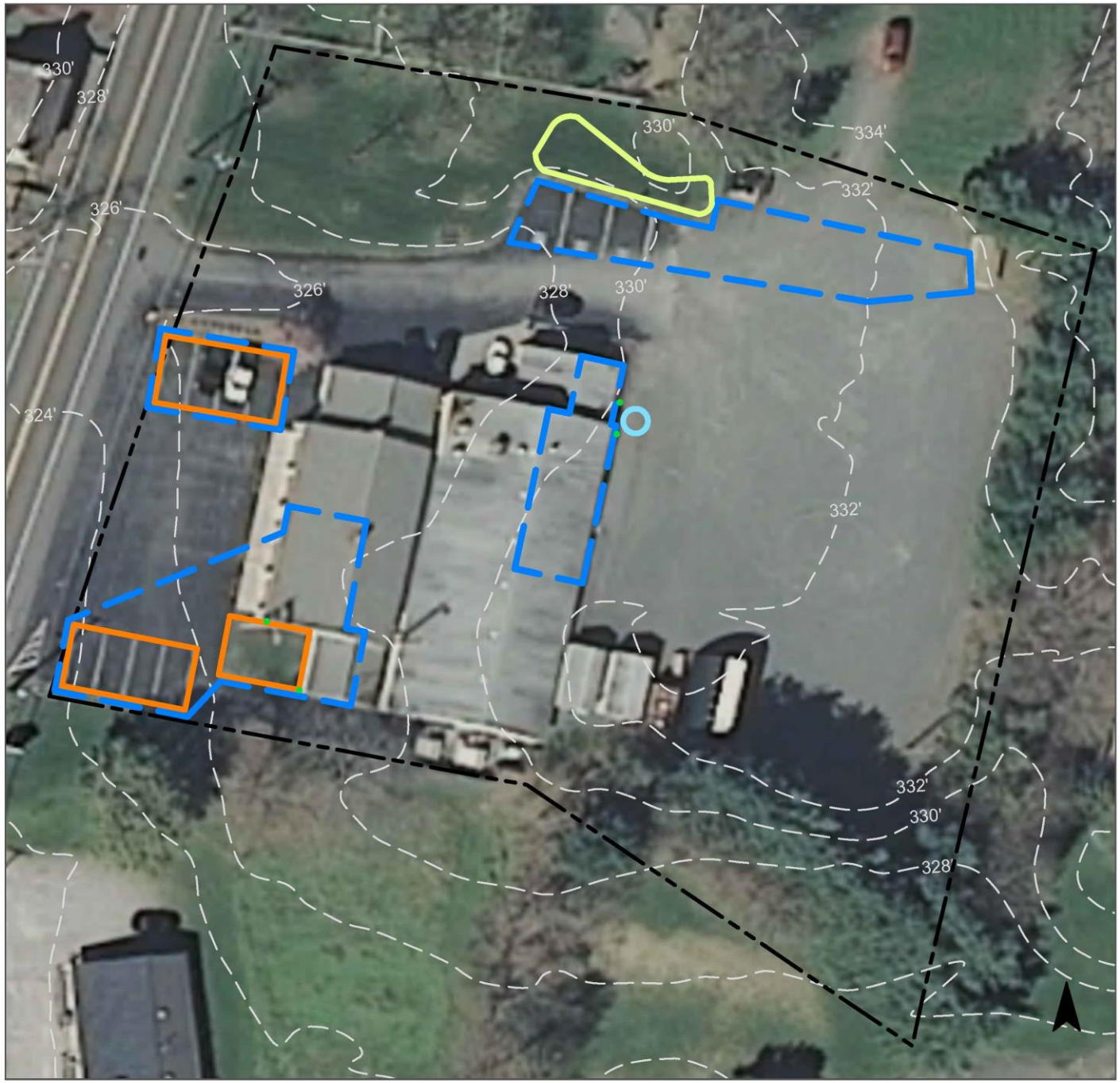
**Block and Lot:** Block 36, Lot 24

Rainwater from the site drains into the road, or pools in the parking lot. Parking spots west of the building can be replaced with porous asphalt to capture and infiltrate runoff. There is an opportunity to build a rain garden north of the building to capture, treat, and infiltrate parking lot runoff. A cistern can be set up at the northeast corner of the building to harvest rainwater to be used to wash vehicles. 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" |
| 73 | 49,836 | 2.4 | 25.2 | 228.8 | 0.039 | 1.37 |

| 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 | 0.077 | 13 | 5,864 | 0.22 | 750 | $3,750 |
| Pervious pavements | 0.144 | 24 | 10,898 | 0.41 | 2,270 | $56,750 |
| Rainwater harvesting systems | 0.021 | 3 | 800 | 0.06 | 800 (gal) | $1,600 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS




**Delaware Township Fire Department**

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

0 25' 50'

# DELAWARE TOWNSHIP HALL OFFICES

**Subwatershed:** Wickecheoke Creek

**Site Area:** 23,715 sq. ft.

**Address:** 570 Rosemont Ringoes Road Stockton, NJ 08559

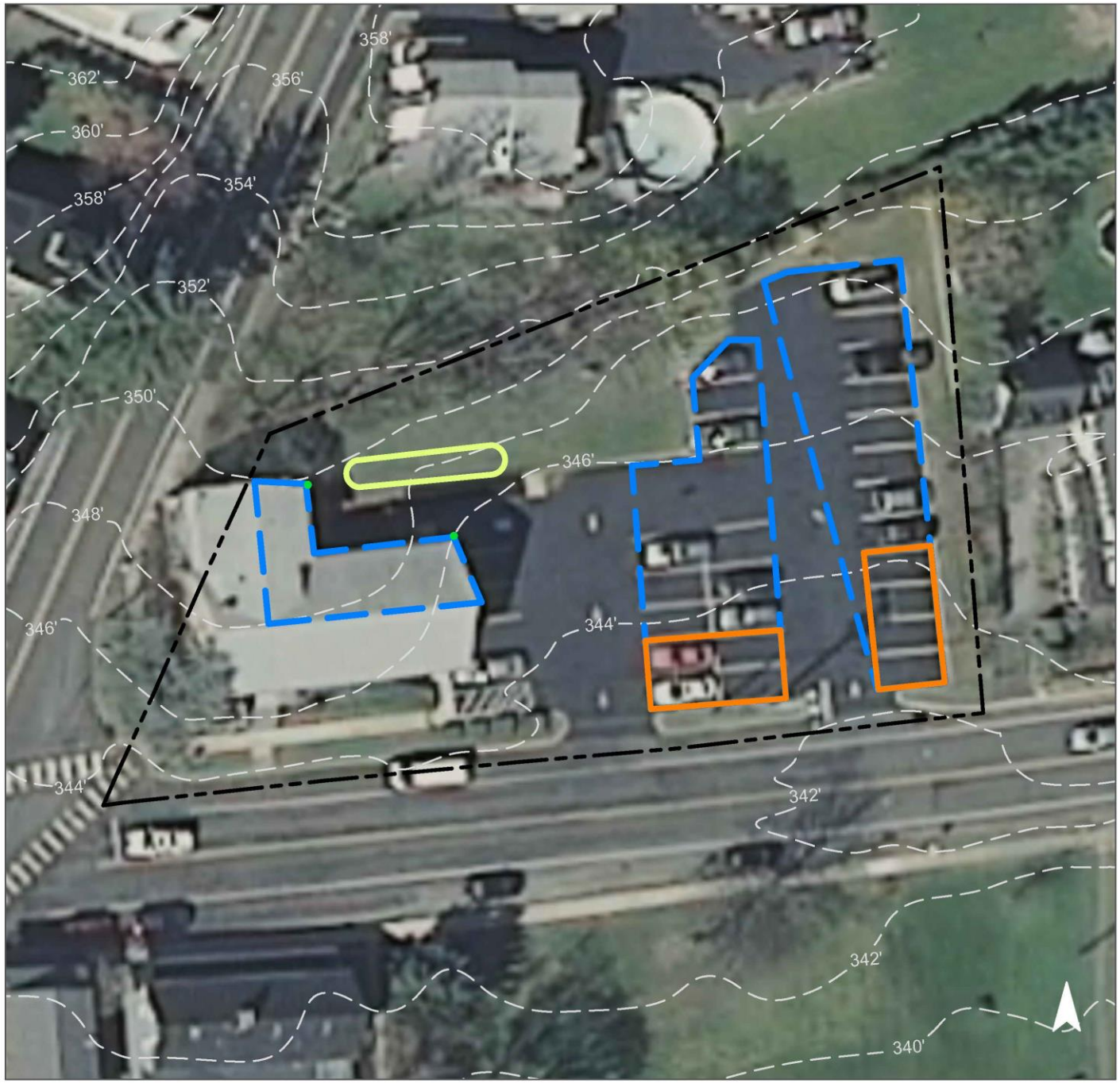
**Block and Lot:** Block 23, Lot 9

Rainwater on the site drains onto the road. The parking spots east of the building can be replaced with porous asphalt to capture runoff. There is also an opportunity for a rain garden to be installed north of the building to capture roof runoff. A preliminary soil assessment suggests that 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 | 16,587 | 0.8 | 8.4 | 76.2 | 0.013 | 0.45 |

| 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 | 0.031 | 5 | 2,341 | 0.09 | 300 | $1,500 |
| Pervious pavements | 0.151 | 25 | 11,407 | 0.43 | 1,270 | $31,750 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS




## Delaware Township Hall Offices

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

0 20' 40'

# DELAWARE TOWNSHIP POLICE

**Subwatershed:** Wickecheoke Creek

**Site Area:** 80,212 sq. ft.

**Address:** 820 Sergeantsville Road
Stockton, NJ 08559

**Block and Lot:** Block 34, Lot 12.04

There is an existing detention basin. South of the building there is an opportunity for a rain garden to be built to capture, treat, and infiltrate stormwater. A cistern can be installed north of the building to harvest rainwater to be used to wash vehicles. 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" |
| 3 | 2,676 | 0.1 | 1.4 | 12.3 | 0.002 | 0.07 |

| 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 | 0.026 | 4 | 1,975 | 0.07 | 300 | $1,500 |
| Rainwater harvesting systems | 0.010 | 2 | 400 | 0.03 | 400 (gal) | $800 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS


## Delaware Township Police

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

0 10' 20'

# DELAWARE TOWNSHIP PUBLIC WORKS

**Subwatershed:** Wickecheoke Creek

**Site Area:** 271,754 sq. ft.

**Address:** 816 Sergeantsville Road
Stockton, NJ 08559

**Block and Lot:** Block 34, Lot 12.03

Rainwater from the roof drains onto the pavement. Downspouts from the building can be redirected into a cistern to harvest rainwater to wash department vehicles. 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" |
| 14 | 37,986 | 1.8 | 19.2 | 174.4 | 0.030 | 1.04 |

| 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 systems | 0.064 | 11 | 2,300 | 0.18 | 2,300 (gal) | $4,600 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS


## Delaware Township Public Works

- rainwater harvesting
- drainage areas
- property line
- 2012 Aerial: NJOIT, OGIS

0 10' 20'

# RUZICKA ENTERPRISE

**Subwatershed:** **Wickecheoke Creek**

**Site Area:** **295,644 sq. ft.**

**Address:** **685 State Highway 12**
**Flemington, NJ 08822**

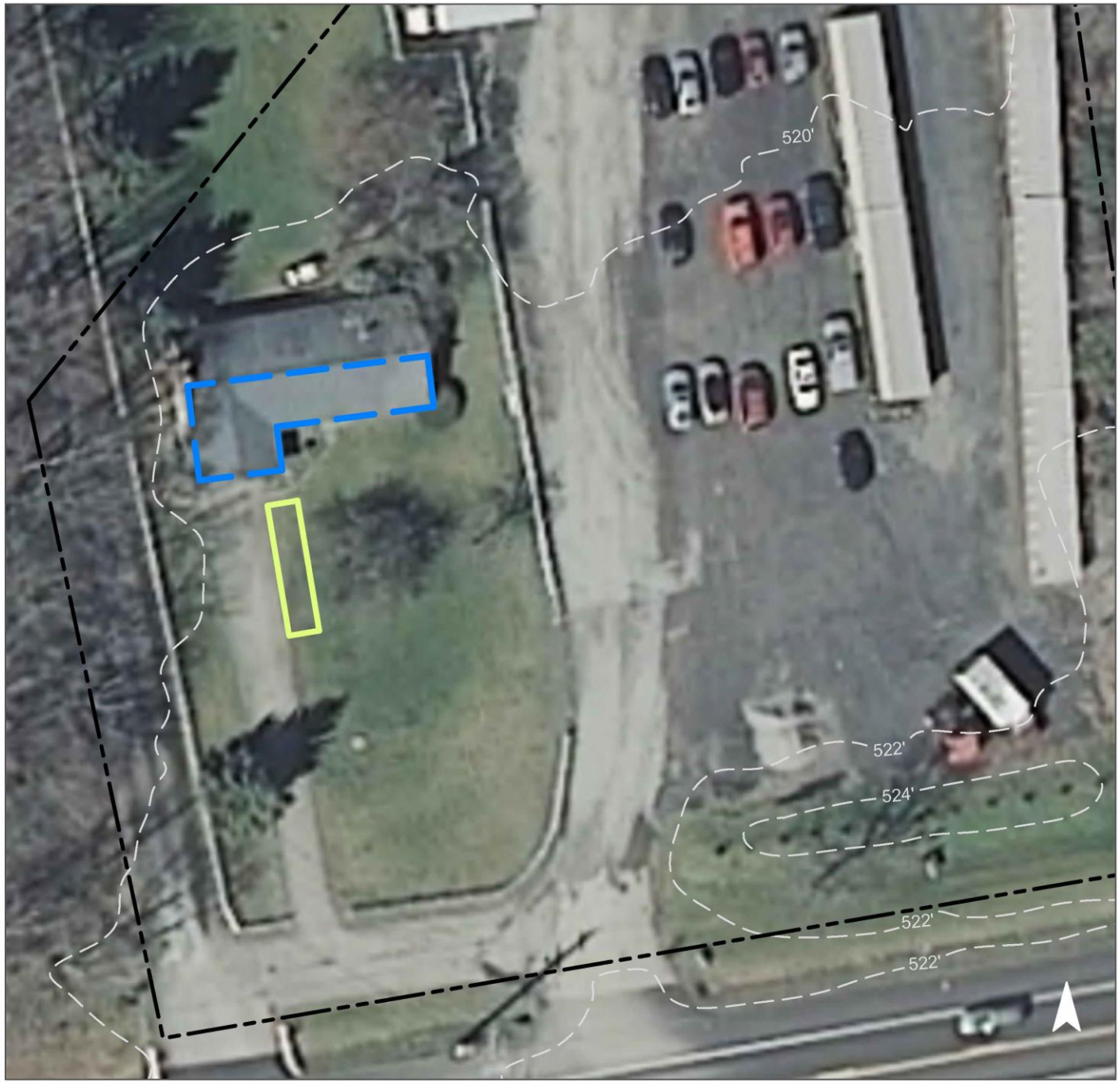
**Block and Lot:** **Block 1, Lot 29**

There is an existing bioswale that receives most of the sites rainwater. A rain garden can be built south of the house to capture, treat, and infiltrate roof 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" |
| 17 | 49,110 | 2.4 | 24.8 | 225.5 | 0.038 | 1.35 |

| 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 | 0.029 | 5 | 2,169 | 0.08 | 275 | $1,375 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS




## Ruzicka Enterprise

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

0 20' 40'

# SANDY RIDGE COMMUNITY CHURCH

**Subwatershed:** Wickecheoke Creek

**Site Area:** 264,741 sq. ft.

**Address:** 47 Sandy Ridge Road
Stockton, NJ 08559

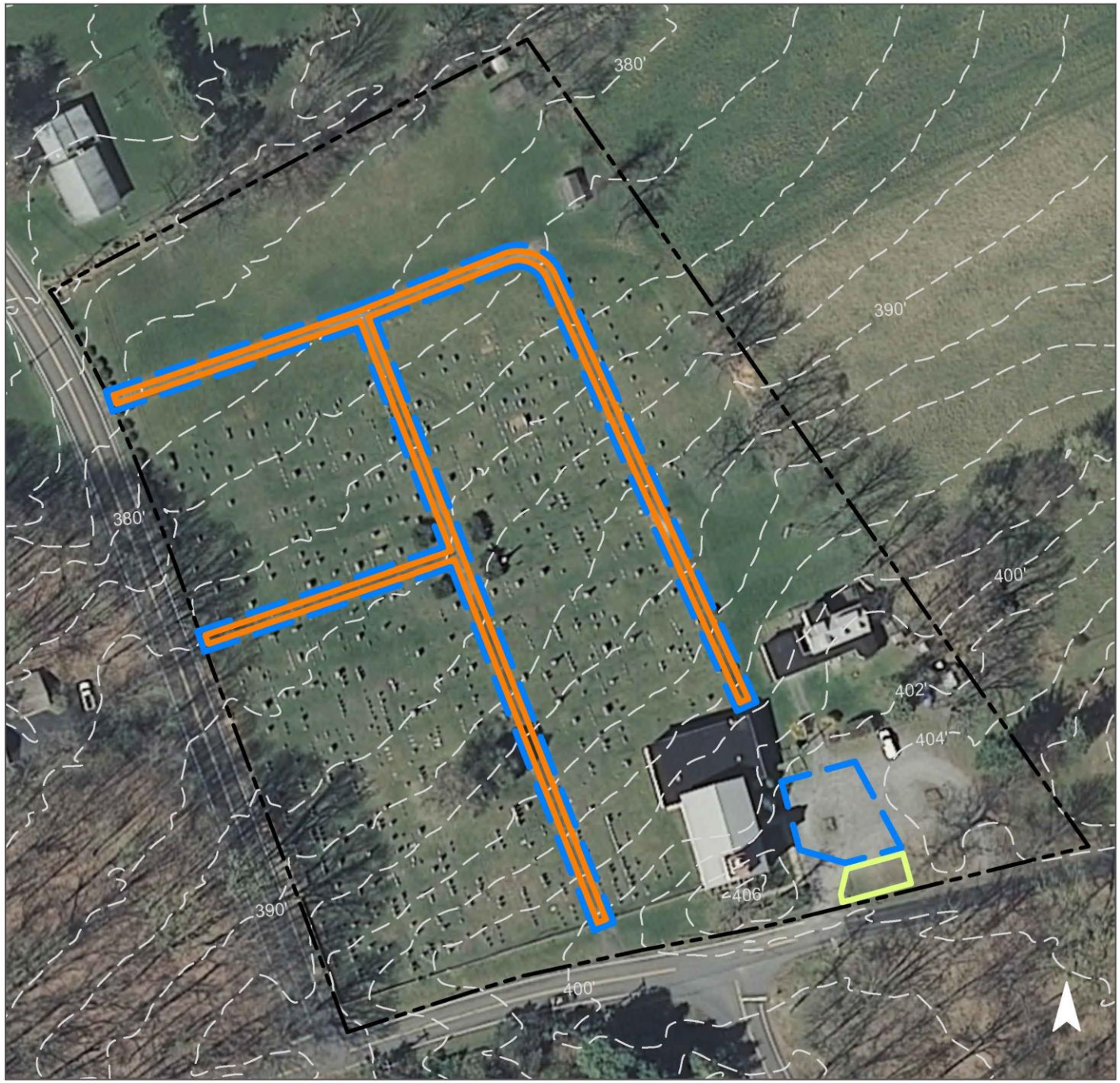
**Block and Lot:** Block 98, Lot 13, 14

Rainwater from the church parking lot drains onto the road. A rain garden could be built south of the lot to capture, treat, and infiltrate runoff. Additionally, the cracked paved walkway in the cemetery could be replaced with porous asphalt to allow water to infiltrate. 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" |
| 19 | 49,538 | 2.4 | 25.0 | 227.4 | 0.039 | 1.36 |

| 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 | 0.088 | 15 | 6,650 | 0.25 | 880 | $4,400 |
| Pervious pavements | 0.189 | 32 | 14,309 | 0.54 | 7,250 | $181,250 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS




## Sandy Ridge Community Church

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

0 50' 100'

# SERGEANTSVILLE UNITED METHODIST

**Subwatershed:** Wickecheoke Creek

**Site Area:** 94,945 sq. ft.

**Address:** 622 Rosemont Ringoes Road
Stockton, NJ 08559

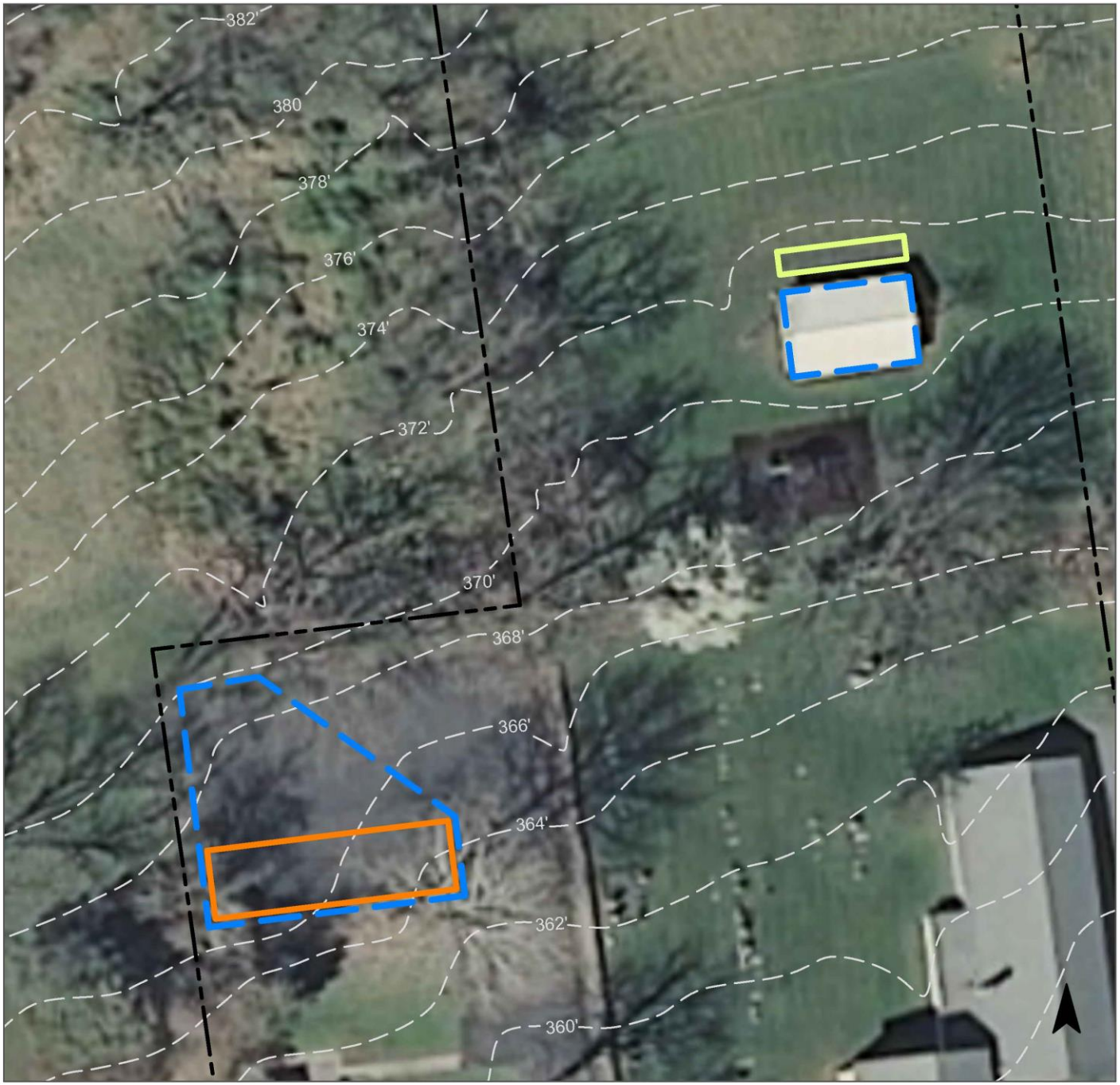
**Block and Lot:** Block 22, Lot 19

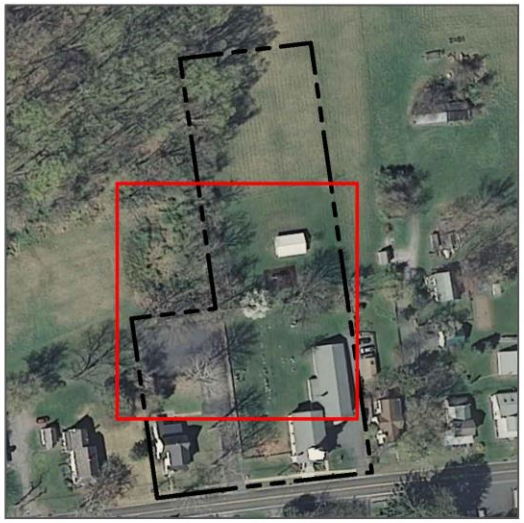
The parking lot drains into the road. Parking spaces in the lot can be replaced with porous asphalt to capture and infiltrate runoff. A rain garden can be installed next to the playground on the site to capture, treat, and infiltrate runoff from the roof of the adjacent pavilion too. A preliminary soil 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" |
| 17 | 15,813 | 0.8 | 8.0 | 72.6 | 0.012 | 0.43 |

| 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 | 0.020 | 3 | 1,481 | 0.06 | 200 | $1,000 |
| Pervious pavements | 0.086 | 14 | 6,515 | 0.24 | 1,150 | $28,750 |

# GREEN INFRASTRUCTURE RECOMMENDATIONS



## Sergeantsville United Methodist

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

0 20' 40'

## d. Summary of Existing Conditions

## Summary of Existing Site Conditions

| Subwatershed/Site Name/Total Site Info/GI Practice | Area (ac) | Area (SF) | Block | Lot | Existing Annual Loads 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ALEXAUKEN CREEK SUBWATERSHED** | **62.68** | **2,730,402** | | | **6.0** | **63.2** | **574.2** | | **2.87** | **125,054** | **0.097** | **3.43** |
| **Sarah Dilts Farm Park** | | | | | | | | | | | | |
| **Total Site Info** | 62.68 | 2,730,402 | 42 | 7 | 6.0 | 63.2 | 574.2 | 5 | 2.87 | 125,054 | 0.097 | 3.43 |
| **HEADQUARTERS TRIBUTARY SUBWATERSHED** | **1.70** | **74,088** | | | **0.7** | **7.3** | **66.3** | | **0.33** | **14,432** | **0.011** | **0.40** |
| **Amwell Church of the Brethren** | | | | | | | | | | | | |
| **Total Site Info** | 1.70 | 74,088 | 44 | 13 | 0.7 | 7.3 | 66.3 | 19 | 0.33 | 14,432 | 0.011 | 0.40 |
| **PLUM CREEK SUBWATERSHED** | **2.27** | **98,928** | | | **1.4** | **14.1** | **128.6** | | **0.64** | **28,012** | **0.022** | **0.77** |
| **Jehovah's Witnesses** | | | | | | | | | | | | |
| **Total Site Info** | 2.27 | 98,928 | 14 | 15.02 | 1.4 | 14.1 | 128.6 | 28 | 0.64 | 28,012 | 0.022 | 0.77 |
| **THIRD NESHANIC RIVER SUBWATERSHED** | **6.14** | **267,306** | | | **1.3** | **13.6** | **123.6** | | **0.62** | **26,914** | **0.021** | **0.74** |
| **Maria Rosa Restaurant & Pizza** | | | | | | | | | | | | |
| **Total Site Info** | 6.14 | 267,306 | 25 | 41 | 1.3 | 13.6 | 123.6 | 10 | 0.62 | 26,914 | 0.021 | 0.74 |
| **WICKECHEOKE SUBWATERSHED** | **28.61** | **1,246,306** | | | **13.0** | **136.0** | **1236.1** | | **6.18** | **269,233** | **0.210** | **7.38** |
| **Brunello Trattoria** | | | | | | | | | | | | |
| **Total Site Info** | 2.00 | 86,949 | 1 | 9 | 1.0 | 11.0 | 99.7 | 25 | 0.50 | 21,706 | 0.017 | 0.60 |
| **Cornerstone Christian Church** | | | | | | | | | | | | |
| **Total Site Info** | 6.32 | 275,207 | 12 | 24.03 | 2.4 | 25.2 | 229.4 | 18 | 1.15 | 49,965 | 0.039 | 1.37 |
| **Delaware Township Fire Department** | | | | | | | | | | | | |
| **Total Site Info** | 1.56 | 68,125 | 36 | 24 | 2.4 | 25.2 | 228.8 | 73 | 1.14 | 49,836 | 0.039 | 1.37 |
| **Delaware Township Hall Offices** | | | | | | | | | | | | |
| **Total Site Info** | 0.54 | 23,715 | 23 | 9 | 0.8 | 8.4 | 76.2 | 70 | 0.38 | 16,587 | 0.013 | 0.45 |

**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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Delaware Township Police** | | | | | | | | | | | | |
| **Total Site Info** | 1.84 | 80,212 | 34 | 12.04 | 0.1 | 1.4 | 12.3 | 3 | 0.06 | 2,676 | 0.002 | 0.07 |
| **Delaware Township Public Works** | | | | | | | | | | | | |
| **Total Site Info** | 6.24 | 271,754 | 34 | 12.03 | 1.8 | 19.2 | 174.4 | 14 | 0.87 | 37,986 | 0.030 | 1.04 |
| **Ruzicka Enterprise** | | | | | | | | | | | | |
| **Total Site Info** | 6.79 | 295,644 | 1 | 29 | 2.4 | 24.8 | 225.5 | 17 | 1.13 | 49,110 | 0.038 | 1.35 |
| **Sandy Ridge Community Church** | | | | | | | | | | | | |
| **Total Site Info** | 1.14 | 49,755 | 98 | 13,14 | 1.2 | 12.9 | 117.3 | 51 | 0.59 | 25,552 | 0.020 | 0.70 |
| **Sergeantsville United Methodist** | | | | | | | | | | | | |
| **Total Site Info** | 2.18 | 94,945 | 22 | 19 | 0.8 | 8.0 | 72.6 | 17 | 0.36 | 15,813 | 0.012 | 0.43 |

# e. Summary of Proposed Green Infrastructure Practices

**Summary of Proposed Green Infrastructure Practices**

| | Subwatershed/Site Name/Total Site Info/GI Practice | Potential Management Area Area (SF) | Potential Management Area Area (ac) | Recharge Potential (Mgal/yr) | TSS Removal Potential (lbs/yr) | Max Volume Reduction Potential (gal/storm) | Peak Discharge Reduction Potential (cfs) | Size of BMP (SF) | Unit Cost ($) | Unit | Total Cost ($) | I.C. Treated % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **ALEXAUKEN CREEK SUBWATERSHED** | **21,400** | **0.49** | **0.558** | **93** | **42,240** | **1.59** | **5,600** | | | **$28,000** | **17.1%** |
| 1 | **Sarah Dilts Farm Park** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 21,400 | 0.49 | 0.558 | 93 | 42,240 | 1.59 | 5,600 | 5 | SF | $28,000 | 17.1% |
| | **Total Site Info** | **21,400** | **0.49** | **0.558** | **93** | **42,240** | **1.59** | **5,600** | | | **$28,000** | **17.1%** |
| | **HEADQUARTERS TRIBUTARY SUBWATERSHED** | **12,450** | **0.29** | **0.324** | **54** | **24,572** | **0.93** | **5,000** | | | **$99,000** | **86.3%** |
| 2 | **Amwell Church of the Brethren** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 5,200 | 0.12 | 0.135 | 23 | 10,263 | 0.39 | 1,300 | 5 | SF | $6,500 | 36.0% |
| | Pervious pavements | 7,250 | 0.17 | 0.189 | 32 | 14,309 | 0.54 | 3,700 | 25 | SF | $92,500 | 50.2% |
| | **Total Site Info** | **12,450** | **0.29** | **0.324** | **54** | **24,572** | **0.93** | **5,000** | | | **$99,000** | **86.3%** |
| | **PLUM CREEK SUBWATERSHED** | **12,980** | **0.30** | **0.338** | **57** | **25,619** | **0.96** | **3,180** | | | **$67,500** | **46.3%** |
| 3 | **Jehovah's Witnesses** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 2,180 | 0.05 | 0.057 | 10 | 4,301 | 0.16 | 600 | 5 | SF | $3,000 | 7.8% |
| | Pervious pavements | 10,800 | 0.25 | 0.281 | 47 | 21,318 | 0.80 | 2,580 | 25 | SF | $64,500 | 38.6% |
| | **Total Site Info** | **12,980** | **0.30** | **0.338** | **57** | **25,619** | **0.96** | **3,180** | | | **$67,500** | **46.3%** |
| | **THIRD NESHANIC RIVER SUBWATERSHED** | **9,330** | **0.21** | **0.243** | **41** | **18,416** | **0.69** | **3,300** | | | **$64,500** | **34.7%** |
| 4 | **Maria Rosa Restaurant & Pizza** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 2,280 | 0.05 | 0.059 | 10 | 4,503 | 0.17 | 900 | 5 | SF | $4,500 | 8.5% |
| | Pervious pavements | 7,050 | 0.16 | 0.184 | 31 | 13,913 | 0.52 | 2,400 | 25 | SF | $60,000 | 26.2% |
| | **Total Site Info** | **9,330** | **0.21** | **0.243** | **41** | **18,416** | **0.69** | **3,300** | | | **$64,500** | **34.7%** |

## Summary of Proposed Green Infrastructure Practices

| | Subwatershed/Site Name/Total Site Info/GI Practice | Potential Management Area | | Recharge Potential | TSS Removal Potential | Max Volume Reduction Potential | Peak Discharge Reduction Potential | Size of BMP | Unit Cost | Unit | Total Cost | I.C. Treated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Area (SF) | Area (ac) | (Mgal/yr) | (lbs/yr) | (gal/storm) | (cfs) | (SF) | ($) | | ($) | % |
| | **WICKECHEOKE SUBWATERSHED** | **71,085** | **1.63** | **1.852** | **310** | **136,581** | **5.28** | **40,934** | | | **$855,061** | **26.4%** |
| 5 | **Brunello Trattoria** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 5,880 | 0.13 | 0.153 | 26 | 11,609 | 0.44 | 1,650 | 5 | SF | $8,250 | 27.1% |
| | Bioswales | 180 | 0.00 | 0.005 | 1 | 359 | 0.01 | 300 | 5 | SF | $1,500 | 0.8% |
| | Pervious pavements | 10,200 | 0.23 | 0.266 | 44 | 20,136 | 0.76 | 6,689 | 25 | SF | $167,236 | 47.0% |
| | Rainwater harvesting systems | 770 | 0.02 | 0.020 | 3 | 700 | 0.06 | 700 | 2 | gal. | $1,400 | 3.5% |
| | **Total Site Info** | **17,030** | **0.39** | **0.444** | **74** | **32,804** | **1.27** | **9,339** | | | **$178,386** | **78.5%** |
| | **Cornerstone Christian Church** | | | | | | | | | | | |
| 6 | Bioswales | 2,690 | 0.06 | 0.070 | 12 | 5,311 | 0.20 | 600 | 5 | SF | $3,000 | 5.4% |
| | Pervious pavements | 19,260 | 0.44 | 0.502 | 84 | 38,021 | 1.43 | 14,400 | 25 | SF | $360,000 | 38.5% |
| | **Total Site Info** | **21,950** | **0.50** | **0.572** | **96** | **43,332** | **1.63** | **15,000** | | | **$363,000** | **43.9%** |
| 7 | **Delaware Township Fire Department** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 2,970 | 0.07 | 0.077 | 13 | 5,864 | 0.22 | 750 | 5 | SF | $3,750 | 6.0% |
| | Pervious pavements | 5,520 | 0.13 | 0.144 | 24 | 10,898 | 0.41 | 2,270 | 25 | SF | $56,750 | 11.1% |
| | Rainwater harvesting systems | 800 | 0.02 | 0.021 | 3 | 800 | 0.06 | 800 | 2 | gal. | $1,600 | 1.6% |
| | **Total Site Info** | **5,520** | **0.13** | **0.144** | **24** | **10,898** | **0.41** | **2,270** | | | **$56,750** | **11.1%** |
| 8 | **Delaware Township Hall Offices** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 1,185 | 0.03 | 0.031 | 5 | 2,341 | 0.09 | 300 | 5 | SF | $1,500 | 7.1% |
| | Pervious pavements | 5,780 | 0.13 | 0.151 | 25 | 11,407 | 0.43 | 1,270 | 25 | SF | $31,750 | 34.8% |
| | **Total Site Info** | **6,965** | **0.16** | **0.181** | **30** | **13,748** | **0.52** | **1,570** | | | **$33,250** | **42.0%** |
| 9 | **Delaware Township Police** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 1,000 | 0.02 | 0.026 | 4 | 1,975 | 0.07 | 300 | 5 | SF | $1,500 | 37.4% |
| | Rainwater harvesting systems | 400 | 0.01 | 0.010 | 2 | 400 | 0.03 | 400 | 2 | gal. | $800 | 14.9% |
| | **Total Site Info** | **1,400** | **0.03** | **0.036** | **6** | **2,375** | **0.10** | **700** | | | **$2,300** | **52.3%** |
| 10 | **Delaware Township Public Works** | | | | | | | | | | | |
| | Rainwater harvesting systems | 2,450 | 0.06 | 0.064 | 11 | 2,300 | 0.18 | 2,300 | 2 | gal. | $4,600 | 6.4% |
| | **Total Site Info** | **2,450** | **0.06** | **0.064** | **11** | **2,300** | **0.18** | **2,300** | | | **$4,600** | **6.4%** |
| 11 | **Ruzicka Enterprise** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 1,100 | 0.03 | 0.029 | 5 | 2,169 | 0.08 | 275 | 5 | SF | $1,375 | 2.2% |
| | **Total Site Info** | **1,100** | **0.03** | **0.029** | **5** | **2,169** | **0.08** | **275** | | | **$1,375** | **2.2%** |

**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 % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | **Sandy Ridge Community Church** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 3,370 | 0.08 | 0.088 | 15 | 6,650 | 0.25 | 880 | 5 | SF | $4,400 | 13.2% |
| | Pervious pavements | 7,250 | 0.17 | 0.189 | 32 | 14,309 | 0.54 | 7,250 | 25 | SF | $181,250 | 28.4% |
| | **Total Site Info** | **10,620** | **0.24** | **0.277** | **46** | **20,959** | **0.79** | **8,130** | | | **$185,650** | **41.6%** |
| 13 | **Sergeantsville United Methodist** | | | | | | | | | | | |
| | Bioretention systems/rain gardens | 750 | 0.02 | 0.020 | 3 | 1,481 | 0.06 | 200 | 5 | SF | $1,000 | 4.7% |
| | Pervious pavements | 3,300 | 0.08 | 0.086 | 14 | 6,515 | 0.24 | 1,150 | 25 | SF | $28,750 | 20.9% |
| | **Total Site Info** | **4,050** | **0.09** | **0.106** | **18** | **7,996** | **0.30** | **1,350** | | | **$29,750** | **25.6%** |