Far Hills Borough

Introduction

Located in Somerset County in New Jersey, Far Hills Borough covers about 4.9 square miles. With a population of 924 (2020 United States Census), Far Hills Borough consists of 27.8% of urban land uses by area. Of that urban land use, approximately 74.6% is comprised of rural residential properties (NJDEP Open Data). In addition to residential development, urban land use also includes land used for commercial, industrial, recreational, and transportation purposes. Natural lands (forests, wetlands, and water) make up approximately 53.4% of Far Hills Borough.

Far Hills Borough contains portions of four subwatersheds (Table 1). There are approximately 21.9 miles of rivers and streams within the municipality; these include tributaries to the Dead River, Mine Brook and its tributaries, and the North Branch Raritan River and its tributaries. Far Hills Borough is within the New Jersey Department of Environmental Protection (NJDEP) Watershed Management Areas (WMA) 6 (Upper Passaic, Whippany, and Rockaway) and 8 (North and South Branch Raritan).

Table 1: Subwatersheds of Far Hills Borough

Subwatershed	HUC14
Dead River (above Harrisons Brook)	02030103010080
Raritan River North Branch (Peapack Brook to McVickers Brook)	02030105060040
Raritan River North Branch (including Mine Brook to Peapack Brook)	02030105060070
Raritan River North Branch (Lamington River to Mine Brook)	02030105060090

The purpose of this report is to provide a comprehensive understanding of key, defining features within the subwatersheds throughout Far Hills Borough. This involves gathering, organizing, and presenting information about existing conditions and infrastructure within each subwatershed. It aims to serve as a tool for informed decision-making, planning, and implementation of sustainable watershed management strategies aimed to protect and enhance the health of the watershed, its associated ecosystems, and the surrounding communities.

A geographic information system (GIS) was used to visualize data pertaining to the existing stormwater infrastructure, land cover, watershed delineation, and water quality classification and impairments within separate layers. Datasets from the New Jersey Department of Environmental Protection's (NJDEP's) GIS database was used to populate the watershed inventory map, from which the relevant data were isolated. Datasets representing Far Hills Borough's existing stormwater infrastructure were provided by the municipality and were manipulated, if necessary, for the specific purposes of this report.

Analysis by Municipality

An analysis was completed by municipality. Figure 1 shows Far Hills Borough in relation to the Study Area. Figure 2 shows the portions of the four HUC14s in Far Hills Borough and highlights the HUC14s that are contained within the study area. Figure 3 illustrates the land use in Far Hills Borough. A detailed land use analysis and nonpoint source loading analysis was completed for each HUC14 in Far Hills Borough and is presented in Table 2. Figure 4 shows the impervious cover in Far Hills Borough based upon NJDEP's 2015 impervious cover layer. An impervious cover analysis was completed for each HUC14 in Far Hills Borough and is presented in Table 3.

For the area of the municipality in the study area, a stormwater facilities analysis was completed (see Figure 5). Two sources were used to identify stormwater facilities. The first data source was the New Jersey Hydrologic Modeling Database (SCS, 2024) that was prepared by the Soil Conservation Districts (SCD) and Rutgers University. The second data source was the NJDEP 2020 land use/land cover GIS Layer. Land use data uses a land use code (1499) to identify stormwater basins. Each stormwater basin was inspected (see Table 4). The detention basins in Table 4 (identified as type "D") could benefit from naturalization (i.e., conversion from a detention basin to a bioretention basin). Detention basins that are already naturalized are identified as type "N". The retention basins in Table 4 (identified as type "R") could benefit from the addition of vegetative shoreline buffers. Retention basins that already have a vegetative shoreline buffer are listed as type "RB". Only detention and infiltration basins were identified in Far Hills Borough within the study area.

The Q-Farms in Far Hills Borough have been identified (see Figure 6). Table 5 presents the data available for each Q-Farm parcel. Q-Farms are the parcels that have been qualified for farmland tax assessment. The Q-Farms in the Study Area of Far Hills Borough have been identified (see Figure 7 and Table 6). It is important to note that the land use on a Q-Farm is often not all agriculture. Figure 8 illustrates the land use on the Q-Farms, which is summarized in Table 7. There are 589.3 acres of agricultural land use in Far Hills Borough, of which, 518.3 acres lie within the study area for this Watershed Restoration and Protection Plan. There are nine Q-Farms and a portion of one Q-Farm in the study area portion of Far Hills Borough, totaling 475.7 acres. Within the nine Q-Farms and portion of one Q-Farm, there are approximately 179.0 acres of agricultural land use. Aerial photography (see Figure 9) was used to identify areas where riparian buffers may be able to be enhanced to further protect the waterways from agricultural impacts. Based upon the aerial photograph and site visits, recommendations for the agricultural lands in the study area in Far Hills Borough are presented in Table 8.

The impervious cover analysis was used to calculate targets for areas of rooftops to be treated with rain gardens and length of roadways to be managed with bioswales. Three HUC14s are included in the study area (2030105060040, 2030105060070, 2030105060090). Within these three HUC14s, there are 36.9 acres of buildings and 71.4 acres of roadway. The Watershed Restoration and Protection Plan recommends managing stormwater runoff from ¼ of 25% of the building rooftops. For the study area within Far Hills Borough, approximately 2.3 acres of rooftop runoff would be managed with 0.46 acres of rain gardens. The plan also calls for the management of 10% of the roadways with bioswales. For the study area within Far Hills Borough, approximately 7.1 acres of roadway would be managed, or 2.0 miles of roadway.

Finally, the parcel data was used to identify parcels that are classified as Property Class 15. Property Class 15 parcels are tax-exempt, and include six subcategories:

15A – Public School Property

15B- Other School Property

15C- Public Property

15D- Church and Charitable Property

15E- Cemeteries and Graveyards

15F- Other Exempt

When the municipality develops their Watershed Improvement Plan to satisfy their Municipal Separate Storm Sewer System (MS4) permit, these are the first sites that are assessed for opportunities to install watershed improvement projects. This assessment was completed for the Property Class 15 parcels in Far Hills Borough (see Figure 10). Available information for each parcel in the Far Hills Borough is presented in Table 9. All tax-exempt parcels within Far Hills Borough are within the study area. Class 15E parcels were excluded from the assessment. One of these properties offers opportunities to be retrofitted with green infrastructure to help reduce pollutant loads. This property is identified in Table 9 and represents a watershed improvement project that can be included in the municipality's Watershed Improvement Plan. Figure 11 shows parcels within the entire municipality that offer opportunities to be retrofitted with green infrastructure. These sites are included in the Impervious Cover Reduction Action Plan that was completed by the RCE Water Resources Program for the municipality.

Water Quality Classification

The New Jersey Department of Environmental Protection (NJDEP) Surface Water Quality Standards (SWQS) are regulations that govern the water quality goals and pollution limitations for surface waters in New Jersey. Surface waters are classified based on their designated uses, such as drinking water supply, aquatic life habitat, recreation, or shellfish harvesting. The SQWS are used to protect those uses and guide permitting, monitoring, and water quality restoration efforts.

Under the SWQS, freshwaters are classified as Fresh Water 1 (FW1), Fresh Water 2 (FW2), or Pinelands (PL). FW1 waters are nondegradation waters with unique ecological significance, in which man-made wastewater discharges are not permitted. FW2 waters are all other freshwaters except for Pinelands waters. FW2 waters are further classified based on their ability to support trout. Trout Production waters (TP) are designated for use by trout for spawning or nursery purposes during their first summer. Trout Maintenance waters (TM) are designated for the support of trout throughout the year. Nontrout waters (NT) are generally unsuitable for trout due to their physical, chemical, or biological characteristics. Pinelands waters – which may be either fresh or saline waters – are surface waters within the Pinelands Protection and Preservation areas.

Saline waters that are not PL are classified under the SWQS as either Saline Estuarine (SE) or Saline Coastal (SC). SE waters are further classified based on their ability to support recreation, shellfish harvesting, and warm water fish species. SE1 waters have the highest protection within the SE category, and must support the maintenance, migration, and propagation of fish and aquatic life, as well as shellfish harvesting. SE2 waters must support the maintenance, migration, and propagation of fish and aquatic life but do not need to support shellfish harvesting. SE3

waters must support the migration of fish but do not need to support permanent aquatic biota populations or shellfish harvesting. Some coastal waters have dual classifications where the waters change from freshwater to saltwater as they drain into the estuary or ocean.

Finally, there are three antidegradation classifications assigned to all New Jersey surface waters. Outstanding National Resource Waters (ONRW) is the most protective classification and applies to all F1 and PL waters. No degradation is permitted in ONRW waters. Category One waters (C1) are protected from any measurable change to existing water quality because of their exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, or exceptional fisheries resources. Category Two waters (C2) permit some measurable degradation in water quality, but the changes must be limited and justified. C2 is the default classification for all surface waters that are not categorized as F1, PL, or C1.

There are four classifications that apply to the streams in Far Hills Borough. Figure 12 depicts the water quality classifications of surface waters throughout Far Hills Borough and Table 10 summarizes the total miles and percentage of each surface water quality classification in the municipality.

Areas Prone to Flooding

Administrators from Far Hills Borough have identified Far Hills Fairgrounds within the municipality as a site particularly susceptible to flooding during heavy rainfall or storm events. Lack of adequate stormwater infrastructure under Route 202 may be a contributing factor to the observed frequent flooding at this location. There are reports that the field becomes waterlogged and the roads experience significant water accumulation following heavy rain. Figure 13 shows the location of the area of concern. There is a plan to replace a bridge at this site in the summer of 2025 with the intention to alleviate flooding concerns.

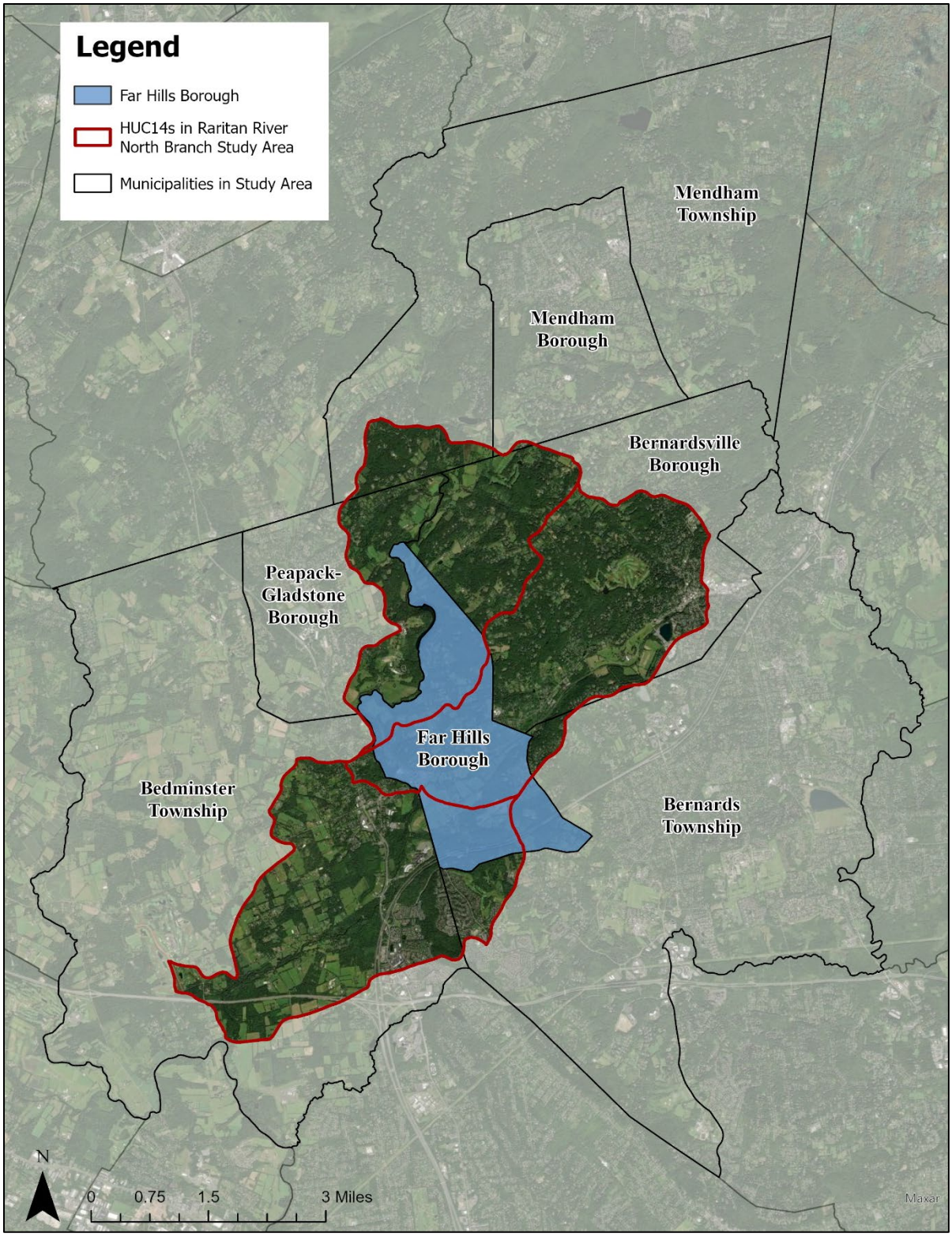


Figure 1: Municipalities in the Study Area

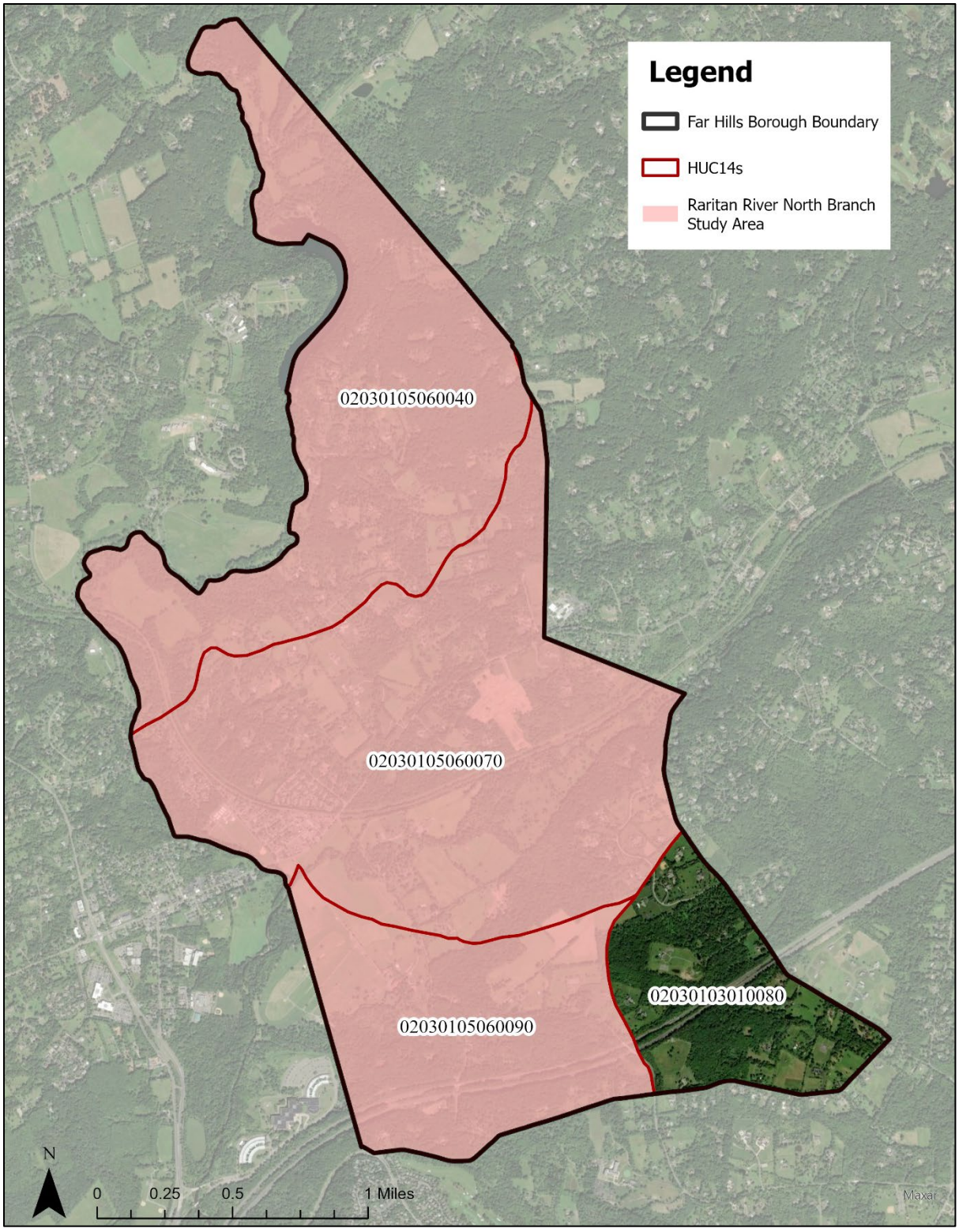


Figure 2: Portions of four HUC14s are in Far Hills Borough

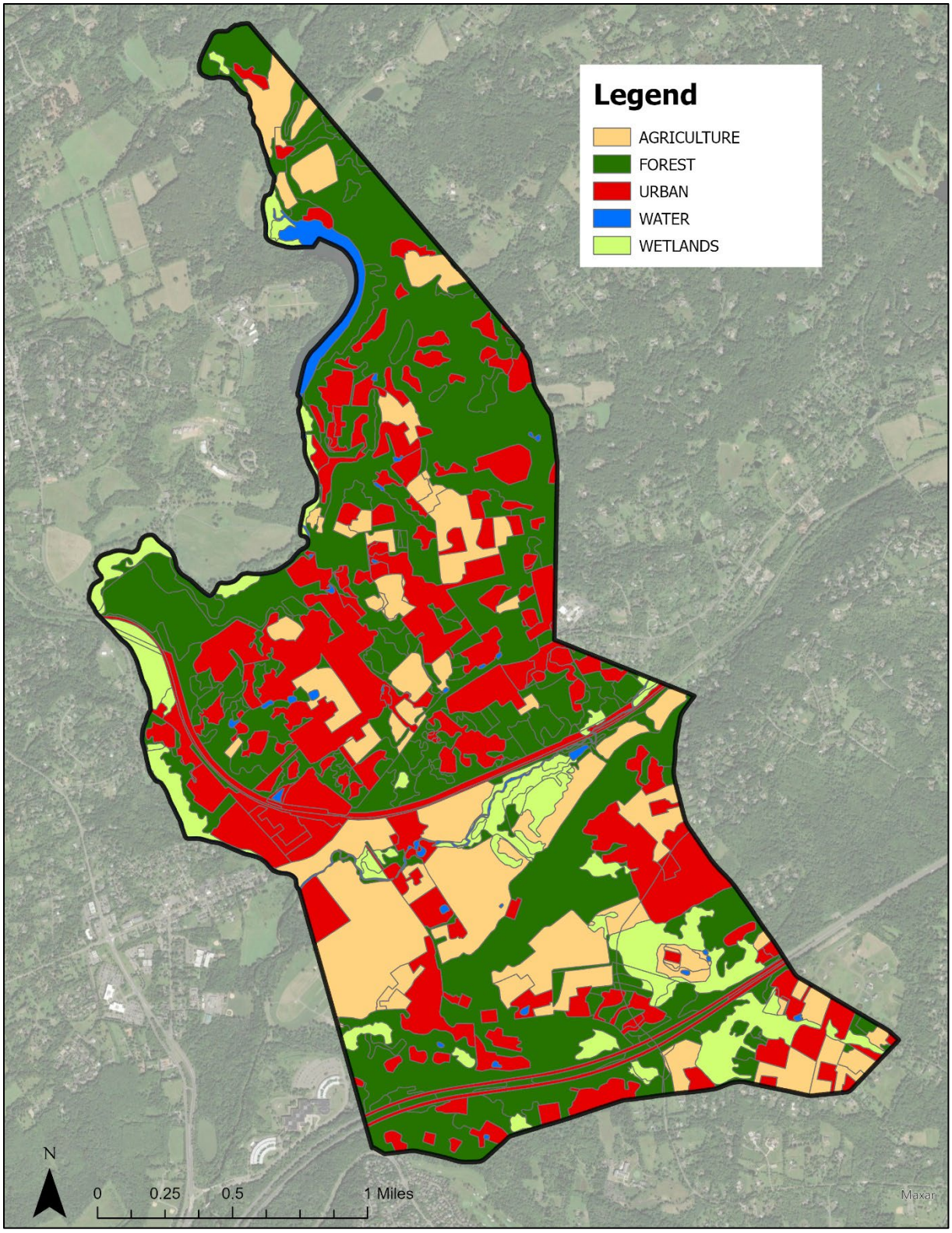


Figure 3: Land Use in Far Hills Borough

Table 2: Land Use Analysis and Nonpoint Source Loading Analysis by HUC14 for Far Hills Borough

Land Use Type	Area (acres)	TP Load (lbs/yr)	TN Load (lbs/yr)	TSS Load (lbs/yr)
02030103010080				
Agriculture	71.0	92.3	710.0	21,299.7
Barren Land	0.0	0.0	0.0	0.0
Forest	88.5	8.9	265.6	3,540.9
Urban	100.7	141.0	1,510.4	14,097.3
Water	1.0	0.1	3.0	40.6
Wetlands	88.4	8.8	265.3	3,537.5
TOTAL =	**349.7**	**251.1**	**2,754.3**	**42,515.9**
02030105060040				
Agriculture	116.4	151.3	1,164.2	34,925.4
Barren Land	0.0	0.0	0.0	0.0
Forest	546.3	54.6	1,638.9	21,852.0
Urban	204.1	285.7	3,061.1	28,570.3
Water	37.7	3.8	113.1	1,508.4
Wetlands	52.7	5.3	158.2	2,109.5
TOTAL =	**957.2**	**500.7**	**6,135.5**	**88,965.6**
02030105060070				
Agriculture	263.0	341.9	2,630.2	78,904.9
Barren Land	0.0	0.0	0.0	0.0
Forest	480.9	48.1	1,442.7	19,235.5
Urban	446.7	625.4	6,700.8	62,540.7
Water	15.3	1.5	45.8	610.3
Wetlands	81.4	8.1	244.2	3,256.6
TOTAL =	**1,287.3**	**1,025.1**	**11,063.6**	**164,548.0**
02030105060090				
Agriculture	138.9	180.6	1,389.2	41,674.5
Barren Land	0.0	0.0	0.0	0.0
Forest	265.1	26.5	795.3	10,603.6
Urban	125.2	175.3	1,878.7	17,534.7
Water	1.6	0.2	4.9	65.4
Wetlands	24.2	2.4	72.6	967.8
TOTAL =	**555.1**	**385.0**	**4,140.6**	**70,846.0**
All HUCs				
Agriculture	589.3	766.2	5,893.5	176,804.6
Barren Land	0.0	0.0	0.0	0.0
Forest	1,380.8	138.1	4,142.4	55,231.9
Urban	876.7	1,227.4	13,151.0	122,743.0
Water	55.6	5.6	166.8	2,224.6
Wetlands	246.8	24.7	740.4	9,871.5

TOTAL =	**3,149.3**	**2,161.9**	**24,094.1**	**366,875.6**

Impervious Cover Analysis

NJDEP's Open Data impervious surface GIS data layer depicts surfaces throughout Far Hills Borough that have been covered with materials that are highly resistant to infiltration by water, rendering them impervious. These surfaces include rooftops, roadways, sidewalks, and other paved areas. These impervious cover values were used to estimate the impervious coverage for Far Hills Borough. Based upon the NJDEP impervious surface data, Far Hills Borough has impervious cover totaling 8.6%. Table 3 shows impervious cover for each HUC14. The extent of the impervious cover in Far Hills Borough is shown in Figure 4.

The literature suggests a link between impervious cover and stream ecosystem impairment (Schueler, 1994; Arnold and Gibbons, 1996; May et al., 1997). Impervious cover may be linked to the quality of lakes, reservoirs, estuaries, and aquifers (Caraco et al., 1998), and the amount of impervious cover in a watershed can be used to project the current and future quality of streams. Based on scientific literature, Caraco et al. (1998) classified urbanizing streams into the following three categories: sensitive streams, impacted streams, and non-supporting streams.

Schueler (1994, 2004) developed an impervious cover model that classified "sensitive streams" as typically having a watershed impervious surface cover from 0-10%. "Impacted streams" have a watershed impervious cover ranging from 11-25% and typically show clear signs of degradation from urbanization. "Non-supporting streams" have a watershed impervious cover of greater than 25%; at this high level of impervious cover, streams are simply conduits for stormwater flow and no longer support a diverse stream community.

Schueler et al. (2009) reformulated the impervious cover model based upon new research that had been conducted. This analysis determined that stream degradation was first detected at 2 to 15% impervious cover. The updated impervious cover model recognizes the wide variability of stream degradation at impervious cover below 10%. The updated model also moves away from having a fixed line between stream quality classifications. For example, 5 to 10% impervious cover is included for the transition from sensitive to impacted, 20 to 25% impervious cover for the transition between impacted and non-supporting, and 60 to 70% impervious cover for the transition from non-supporting to urban drainage.

Based upon this information, Far Hills Borough's impervious cover percentage would suggest that its waterways are primarily sensitive and most likely preventing degradation of the state's surface water quality standards.

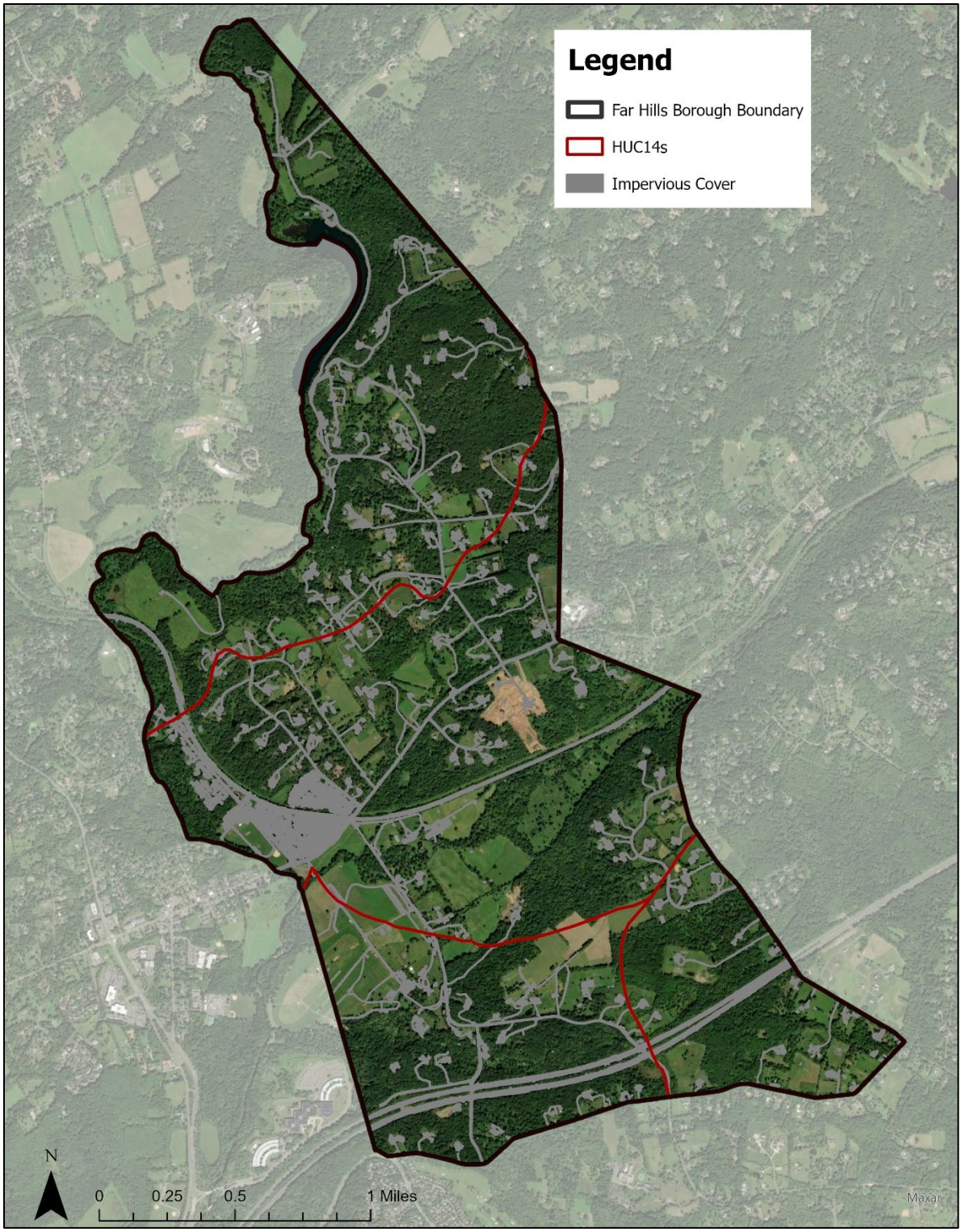


Figure 4: Impervious Cover in Far Hills Borough

Table 3: Impervious Cover Analysis by HUC14 for Far Hills Borough

Class	Area (acres)	HUC Impervious Cover (%)
02030103010080		
Building	2.49	
Other	9.32	
Road	16.58	
TOTAL =	**28.4**	**8.1%**
02030105060040		
Building	8.63	
Other	38.46	
Road	11.91	
TOTAL =	**59.0**	**6.2%**
02030105060070		
Building	24.07	
Other	73.84	
Road	29.07	
TOTAL =	**127.0**	**9.9%**
02030105060090		
Building	4.21	
Other	21.50	
Road	30.43	
TOTAL =	**56.1**	**10.1%**
All HUCs		
Building	39.40	
Other	143.13	
Road	87.99	
TOTAL =	**270.5**	**8.6%**

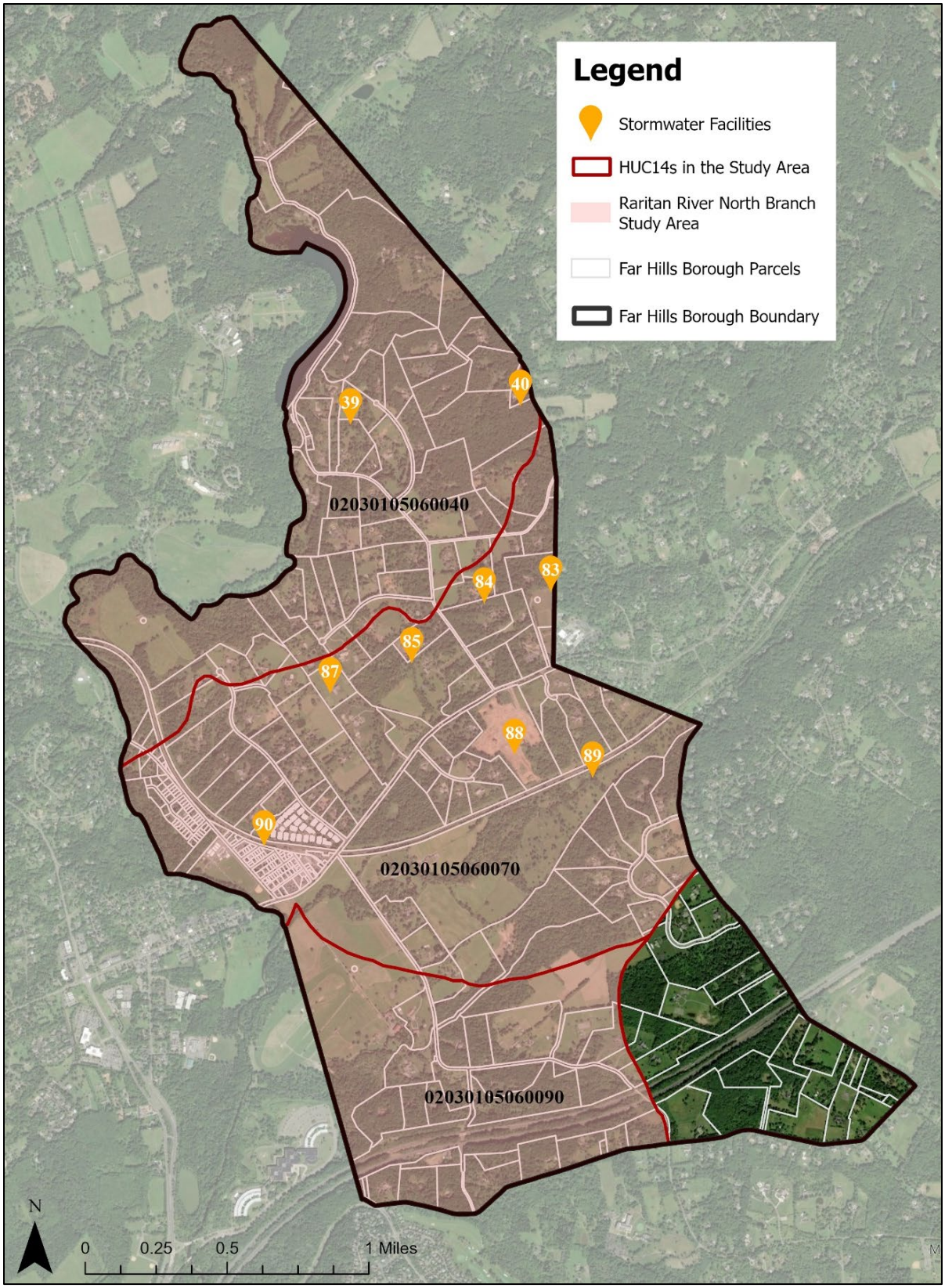


Figure 5: Stormwater Facilities in the Study Area of Far Hills Borough

Table 4: Location of Stormwater Facilities in the Study Area of Far Hills Borough

Raritan River North Branch Study Area		
ID	**Address**	**Type**
39	Papandreou, Nicholas & Amy J	I
40	Miller,Andrew & Julia	I
83	Torgovnik, Vladimir & Sandra E	I
84	Far Hills Country Day School	I
85	Frerich, Kevin & Tara	I
87	97 Spring Hollow Road,LLC	I
88	Group K Developers, LLC	D
89	Group K Developers LLC	D
90	Hurlingham Club Rd	D

"D" = Detention, "I" = Infiltration

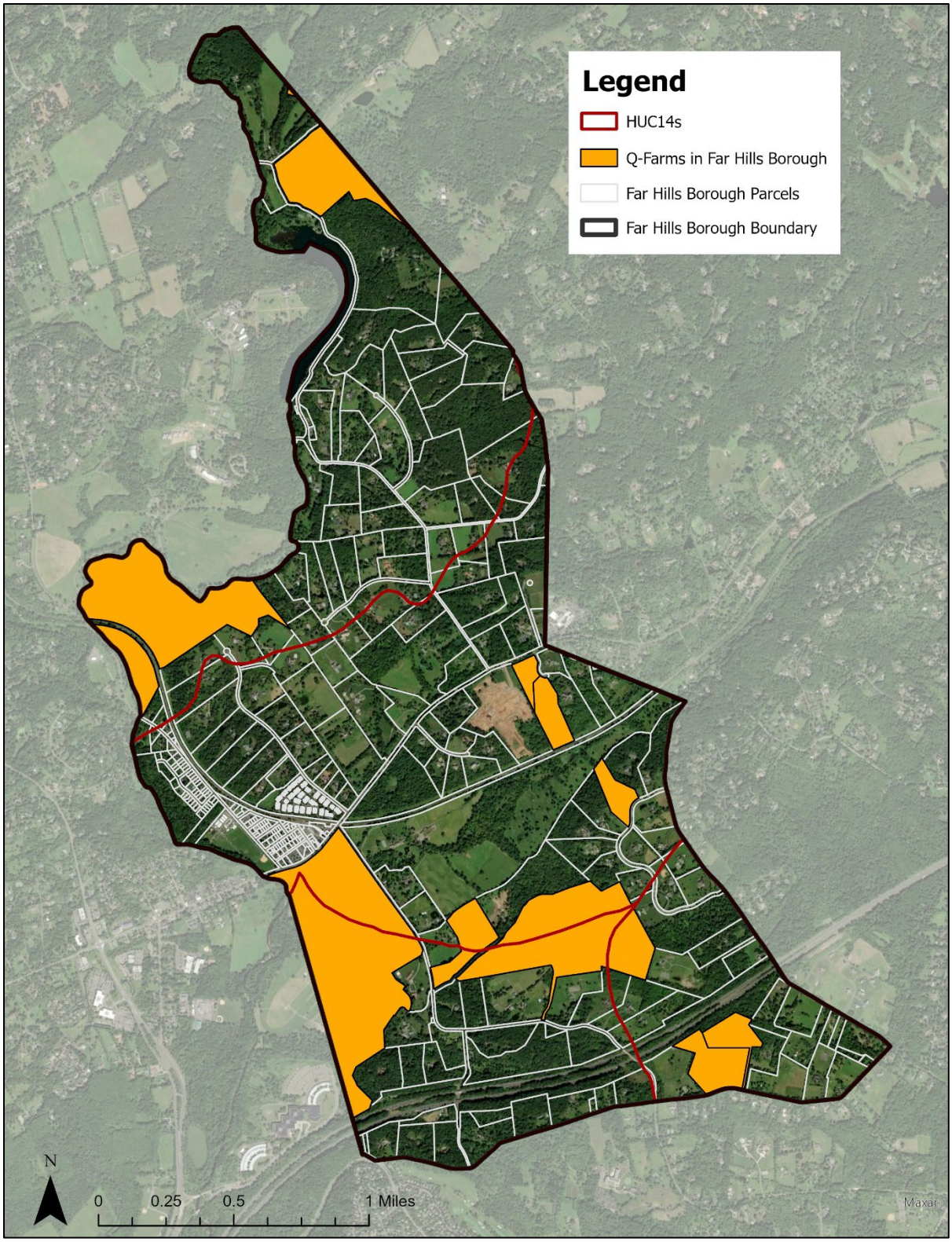


Figure 6: Q-Farm Parcels in Far Hills Borough

Table 5: Q-Farm Parcels in Far Hills Borough

Block	Lot	Q-Code	Prop Class	Location
1	2	QFARM	3B	Campbell Road
3	1	QFARM	3B	500 Lake Road
5	3.03	QFARM	3B	6 Castle Court
5	3.04	QFARM	3B	4 Castle Court
6	9	QFARM	15C	148 Peapack Road
7	1	QFARM	15C	146 Peapack Road
18	1	QFARM	3B	80-100 Liberty Corner Rd
19	6.01	QFARM	3B	131 Liberty Corner Road
19	10	QFARM	3B	261 Liberty Corner Road
19	18.12	QFARM	3B	10 Sherwood Farm Road
23	2.01	QFARM	3B	210 Douglas Road
23	2.02	QFARM	3B	228 Douglas Road

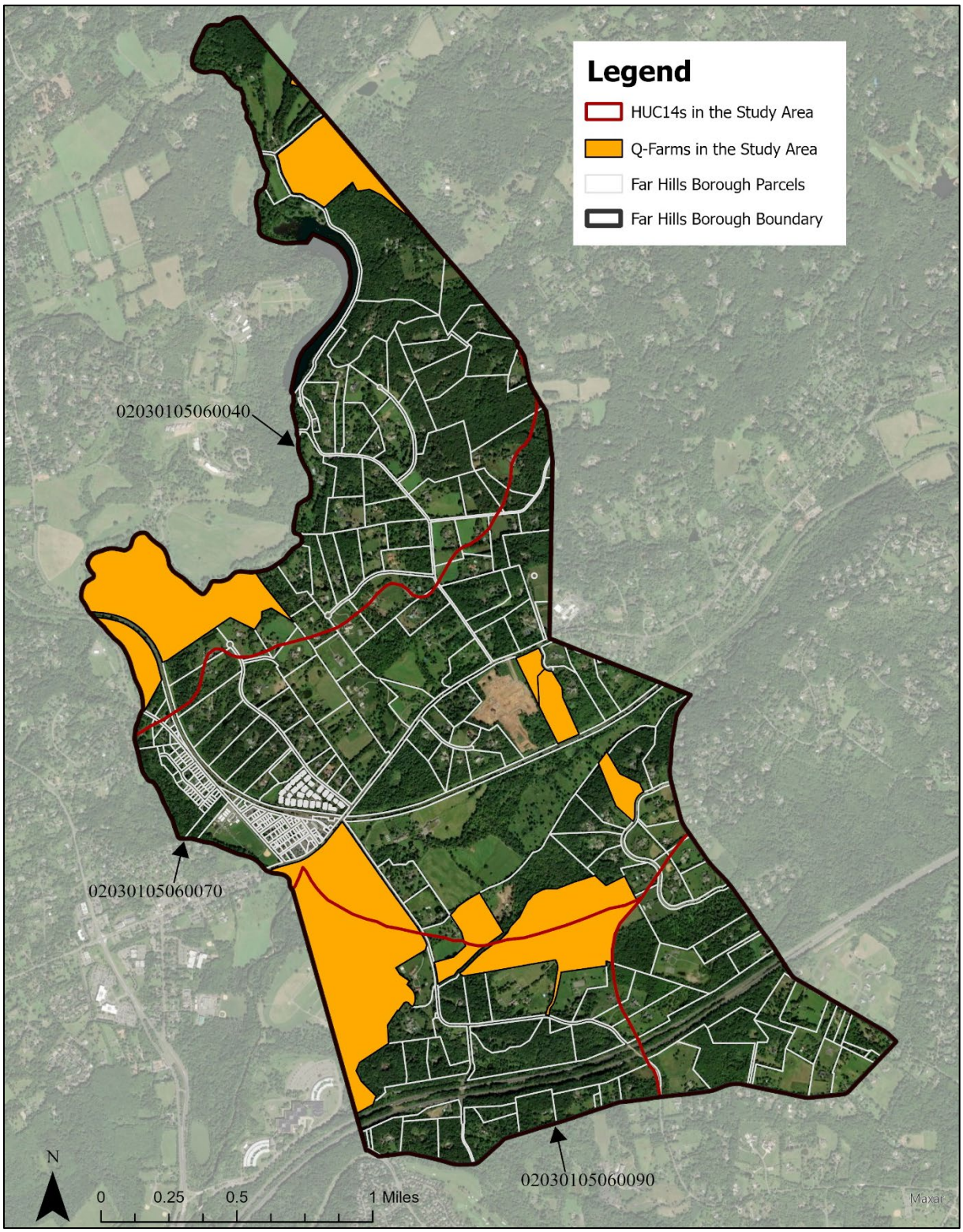


Figure 7: Q-Farm Parcels in the Study Area of Far Hills Borough

Table 6: Q-Farm Parcels in the Study Area of Far Hills Borough

Block	Lot	Q-Code	Prop Class	Location
1	2	QFARM	3B	Campbell Road
3	1	QFARM	3B	500 Lake Road
5	3.03	QFARM	3B	6 Castle Court
5	3.04	QFARM	3B	4 Castle Court
6	9	QFARM	15C	148 Peapack Road
7	1	QFARM	15C	146 Peapack Road
18	1	QFARM	3B	80-100 Liberty Corner Rd
19	6.01	QFARM	3B	131 Liberty Corner Road
*19	10	QFARM	3B	261 Liberty Corner Road
19	18.12	QFARM	3B	10 Sherwood Farm Road

*Only a portion of the Q-Farm is within the study area

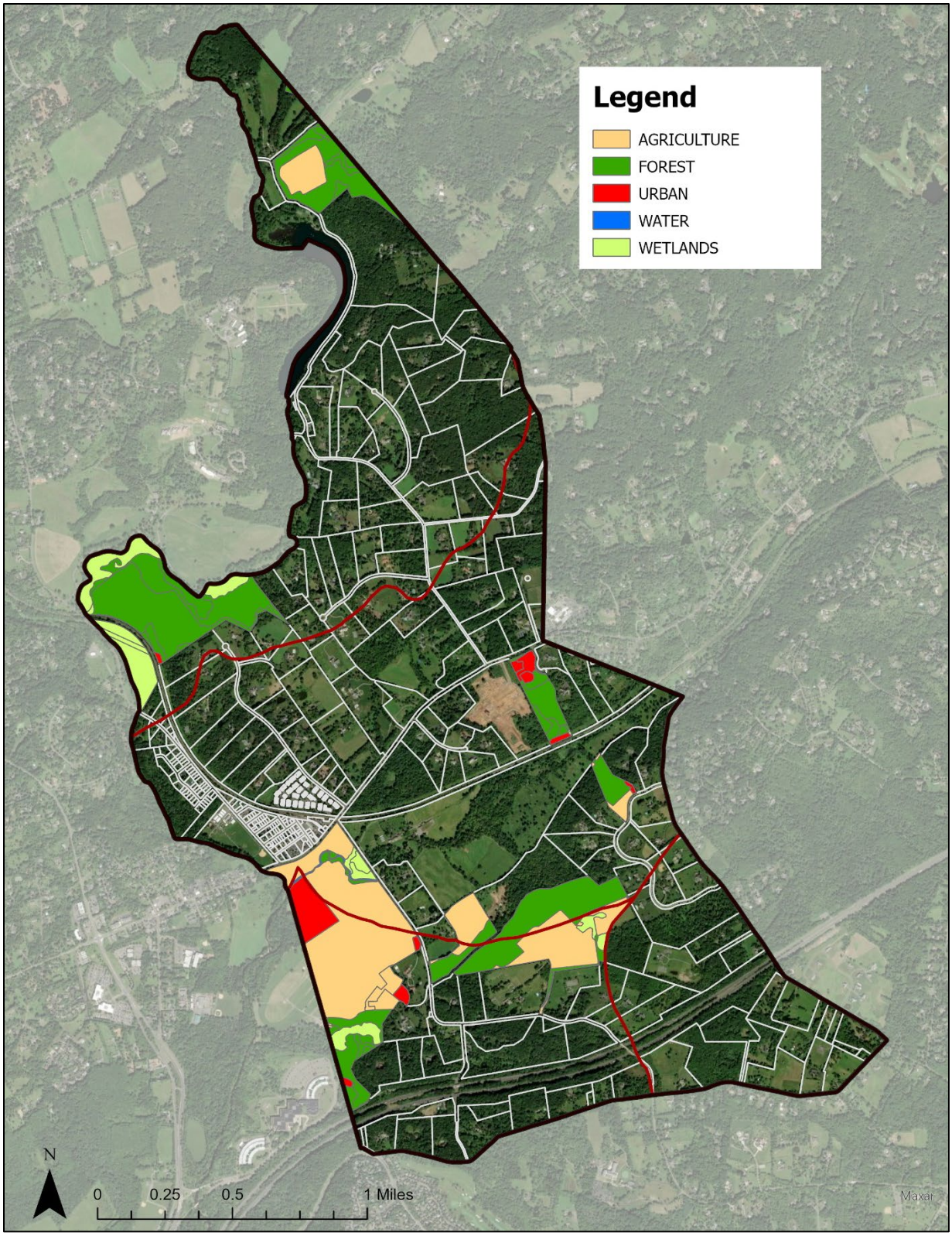


Figure 8: Land Use on Q-Farm Parcels in the Study Area of Far Hills Borough

Table 7: Land Use on Q-Farms in the Study Area of Far Hills Borough

Land Use	Area (acres)
Agriculture	179.0
Barren Land	0.0
Forest	216.8
Urban	25.6
Water	5.9
Wetlands	48.4
Total:	**475.7**

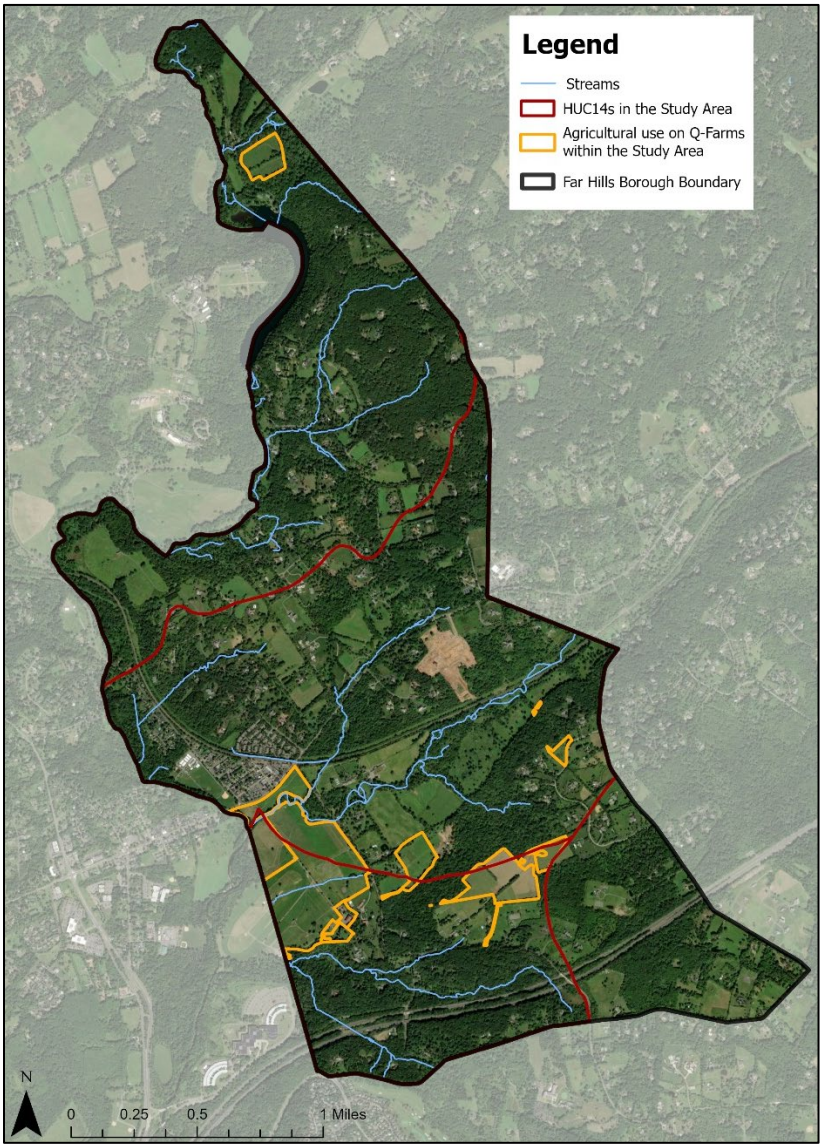


Figure 9: Aerial View of Agricultural Use on Q-Farm Parcels within the Study Area of Far Hills Borough

Table 8: Recommendations for Specific Farms in the Study Area of Far Hills Borough

North Branch Raritan River Study Area								
Block	**Lot**	**Q-Farm Code**	**Cover Crop**	**Enhanced Stream Buffer**	**Impervious Cover Mgt.**	**Rainwater Harvesting**	**Livestock Exclusion**	**Manure Mgt.**
18	1	QFARM			X	X		X

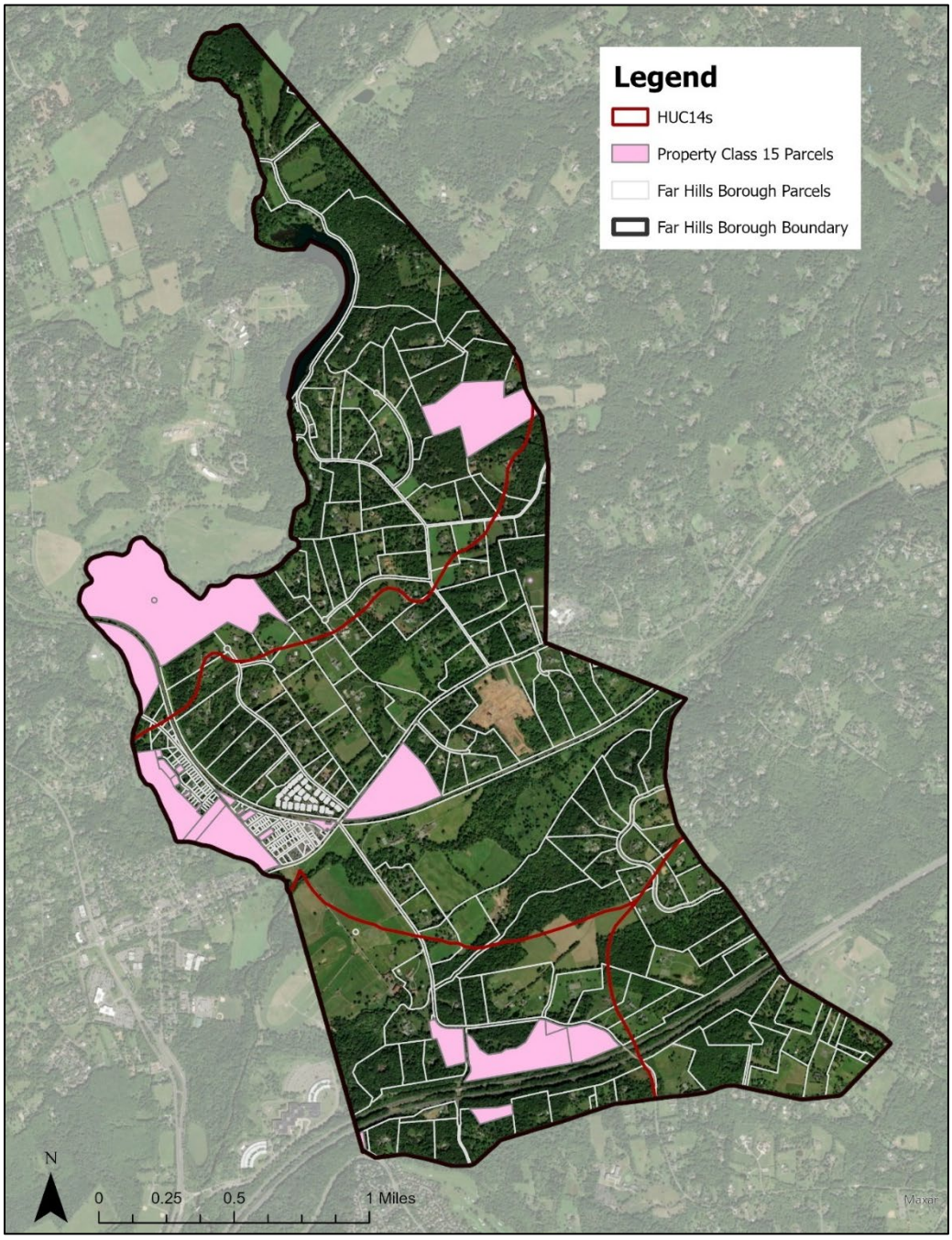


Figure 10: Property Class 15 Parcels in Far Hills Borough

Table 9: Property Class 15 Parcels in Far Hills Borough[1]

Block	Lot	Prop Class	Location	Facility Type
4	11	15B	279 Route 202	Far Hills C Day Sch
3	21	15C	185 Pennbrook Road	Recreation Center
5	7	15C	80 Route 202	Community Center
6	9	15C	148 Peapack Road	Farm
6	9	15C	148 Peapack Road	Barn
7	1	15C	146 Peapack Road	Farm
***11**	**1**	**15C**	**6 Prospect St**	**Municipal Bldg.**
15	7	15C	61 Route 202	Parking Areas
16	1	15C	1 Peapack Road	Community Center
16	2	15C	63 Peapack Road	Community Center
18	6	15C	186 Liberty Corner Road	Conservation
20	2	15C	11 Layton Road	Park
21	1	15C	2 Douglas Road	Farm
22	1	15C	Layton Road	Park
9	1	15D	34 Peapack Road	Church
16	14.02	15D	9 Schley Road	Pastors Home
8	1	15F	46 Peapack Road	Affordable Housing
8	3	15F	38 Peapack Road	Disabled Veteran
16	10	15F	47 Schley Road	Water Shed
16	17	15F	21 Schley Road	Water Shed
16	18	15F	31 Schley Road	Water Shed
16	19	15F	46 Schley Road	Water Shed
16	24	15F	26 Schley Road	Water Shed
20	3	15F	300 Liberty Corner Road	Water Shed

*** Sites that can be retrofitted with green infrastructure**

[1] All tax-exempt parcels within Far Hills Borough are within the study area

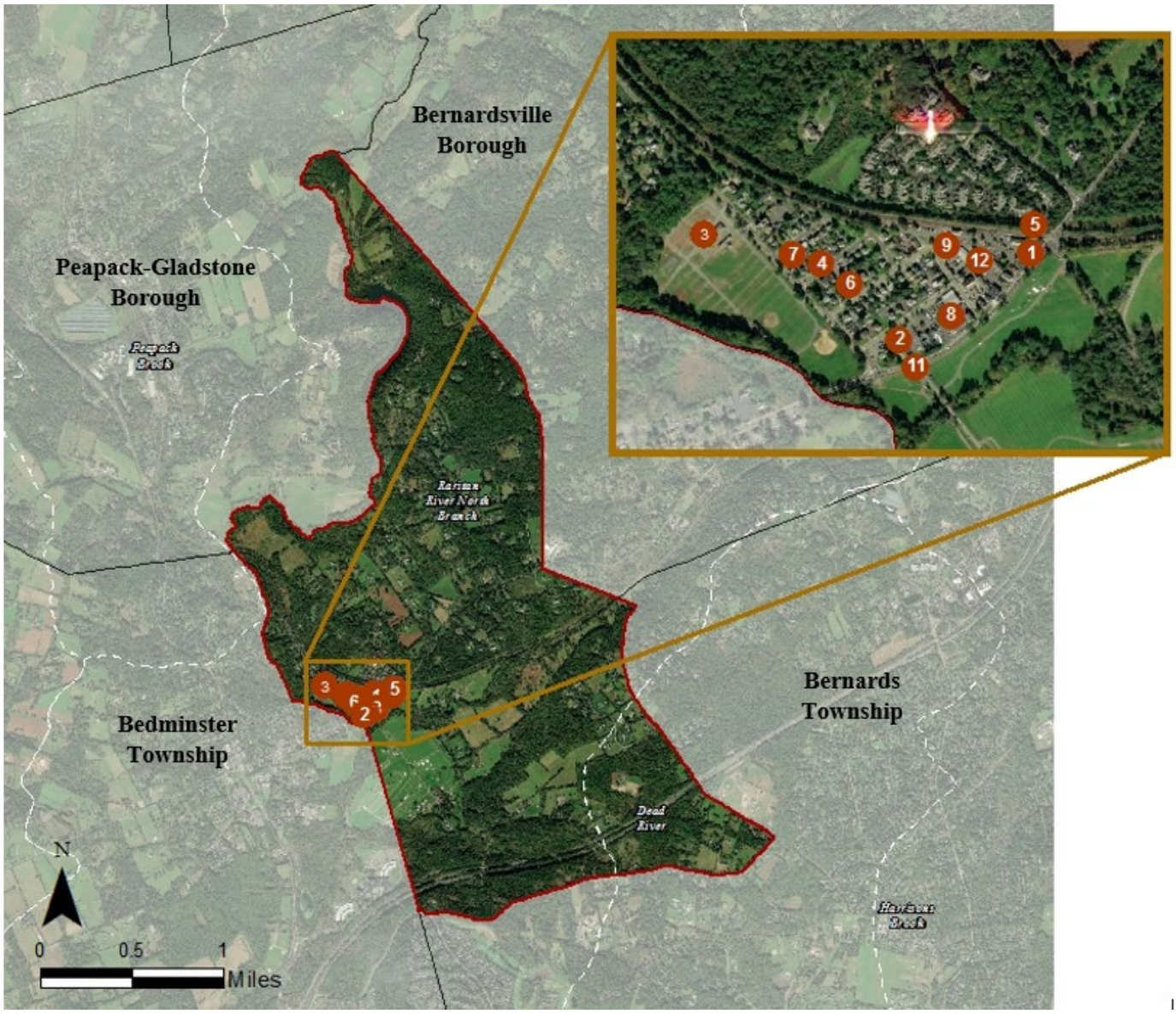


Figure 11: Sites with Green Infrastructure Opportunities in Far Hills Borough

EDIBLE ARRANGEMENTS

RAP ID: 1

Subwatershed: Raritan River North Branch

Site Area: 6,128 sq. ft.

Address: 55 US Route 202
Far Hills, NJ 07931

Block and Lot: Block 15, Lot 8

Parking spaces in the parking lot to the north of the building can be converted to porous pavement to capture and infiltrate stormwater runoff from the parking lot and roof. The downspout on the front of the building can be directed to downspout planter boxes to help capture 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"
89	5,474	0.3	2.6	23.9	0.004	0.14

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	0.122	20	8,946	0.34	1,135	$28,375
Planter boxes	n/a	2	n/a	n/a	2 (boxes)	$2,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Edible Arrangements

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

0 10' 20'

EXPRESS YOURSELF SALON

RAP ID: 2

Subwatershed: Raritan River North Branch

Site Area: 17,100 sq. ft.

Address: US Route 202 & Peapack Road
Far Hills, NJ 07931

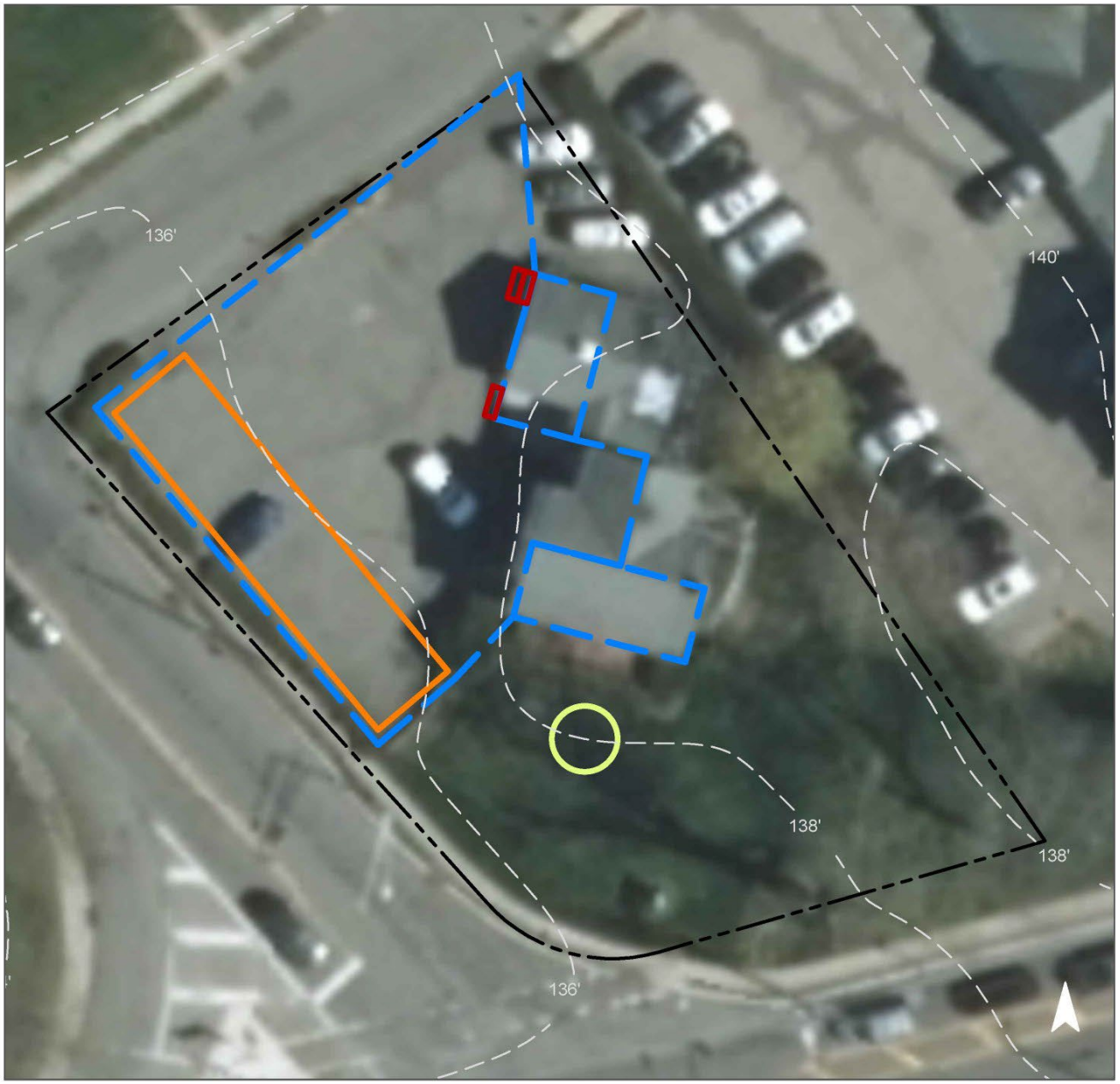
Block and Lot: Block 14, Lot 1

Parking spaces can be converted to porous pavement to capture and infiltrate stormwater runoff from the parking lot and roof. On the south side of the building a bioretention system can be installed to help capture, treat, and infiltrate stormwater from the building's roof. Downspout planter boxes can be installed on the parking lot side of the building to help capture additional 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"
89	15,275	0.7	7.7	70.1	0.012	0.42

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	0.014	2	1,002	0.04	130	$650
Pervious pavement	0.172	29	12,649	0.48	1,460	$36,500
Planter boxes	n/a	2	n/a	n/a	3 (boxes)	$3,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Express Yourself Salon

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

0 15' 30'

FAR HILLS FAIRGROUNDS

RAP ID: 3

Subwatershed: Raritan River North Branch

Site Area: 851,544 sq. ft.

Address: 42 Peapack Road
Far Hills, NJ 07931

Block and Lot: Block 15, Lot 2

A section of parking spaces can be converted to porous pavement to capture and infiltrate runoff from the parking area. An area of turfgrass can be converted to a rain garden to capture, treat, and infiltrate stormwater runoff from the basketball courts on the property. 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	210,233	10.1	106.2	965.3	0.164	5.77

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 system	0.068	11	5,012	0.19	655	$3,275
Pervious pavement	0.095	16	6,956	0.26	650	$16,250

GREEN INFRASTRUCTURE RECOMMENDATIONS

Far Hills Fairgrounds

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

0 50' 100'

FAR HILLS POLICE DEPARTMENT

RAP ID: 4

Subwatershed: Raritan River North Branch

Site Area: 31,316 sq. ft.

Address: 6 Prospect Street
Far Hills, NJ 07931

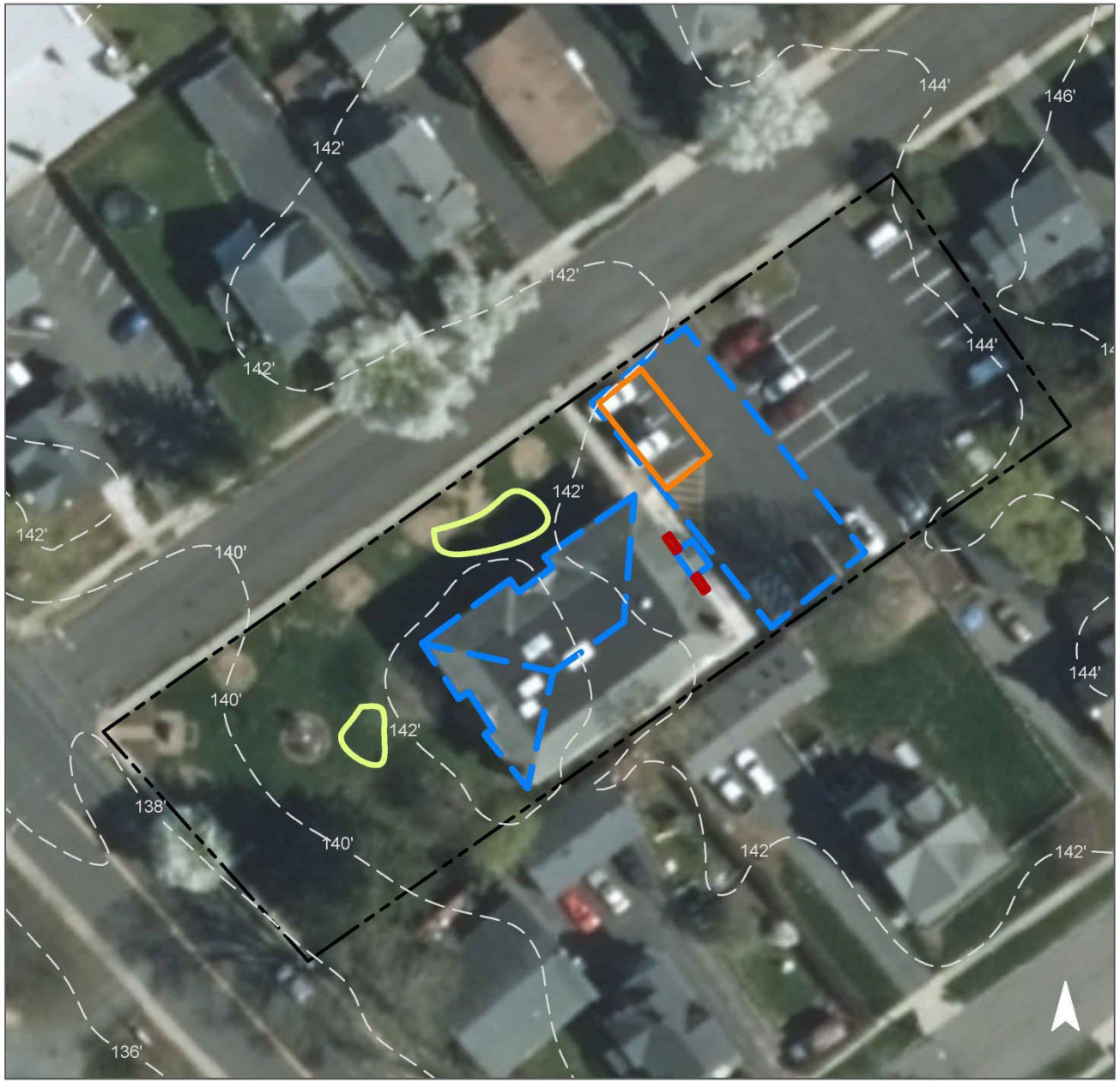
Block and Lot: Block 11, Lot 1

Turfgrass areas to the northwest and southwest of the building can be converted to a bioretention system to capture, treat, and infiltrate stormwater runoff from the roof. Pervious pavement can be installed in the southwest corner of the parking lot to capture and infiltrate stormwater. Downspout planter boxes can be installed at the parking lot entrance awning to help capture 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"
80	24,973	1.2	12.6	114.7	0.019	0.68

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	0.068	11	5,012	0.19	655	$3,275
Pervious pavement	0.095	16	6,956	0.26	650	$16,250
Planter boxes	n/a	0	n/a	n/a	2 (boxes)	$2,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Far Hills Police Department

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

0 25' 50'

FAR HILLS STATION

RAP ID: 5

Subwatershed: Raritan River North Branch

Site Area: 1,394,613 sq. ft.

Address: 57 US Route 202
Far Hills, NJ 07931

Block and Lot: Block 101, Lot 1

Downspouts on the north and south of the building can be disconnected and converted to planter boxes to capture stormwater runoff from the roof. Sections of parking spaces can be converted to porous pavement to capture and infiltrate stormwater runoff from the parking lot. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
7	92,792	4.5	46.9	426.0	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
Pervious pavement	0.607	102	6,956	0.26	4,730	$118,250
Planter boxes	n/a	5	n/a	n/a	6 (boxes)	$6,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Far Hills Station

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

0 25' 50'

JOSEPH D'APOLITO & SON

RAP ID: 6

Subwatershed: Raritan River North Branch

Site Area: 15,641 sq. ft.

Address: 16 Peapack Road
Far Hills, NJ 07931

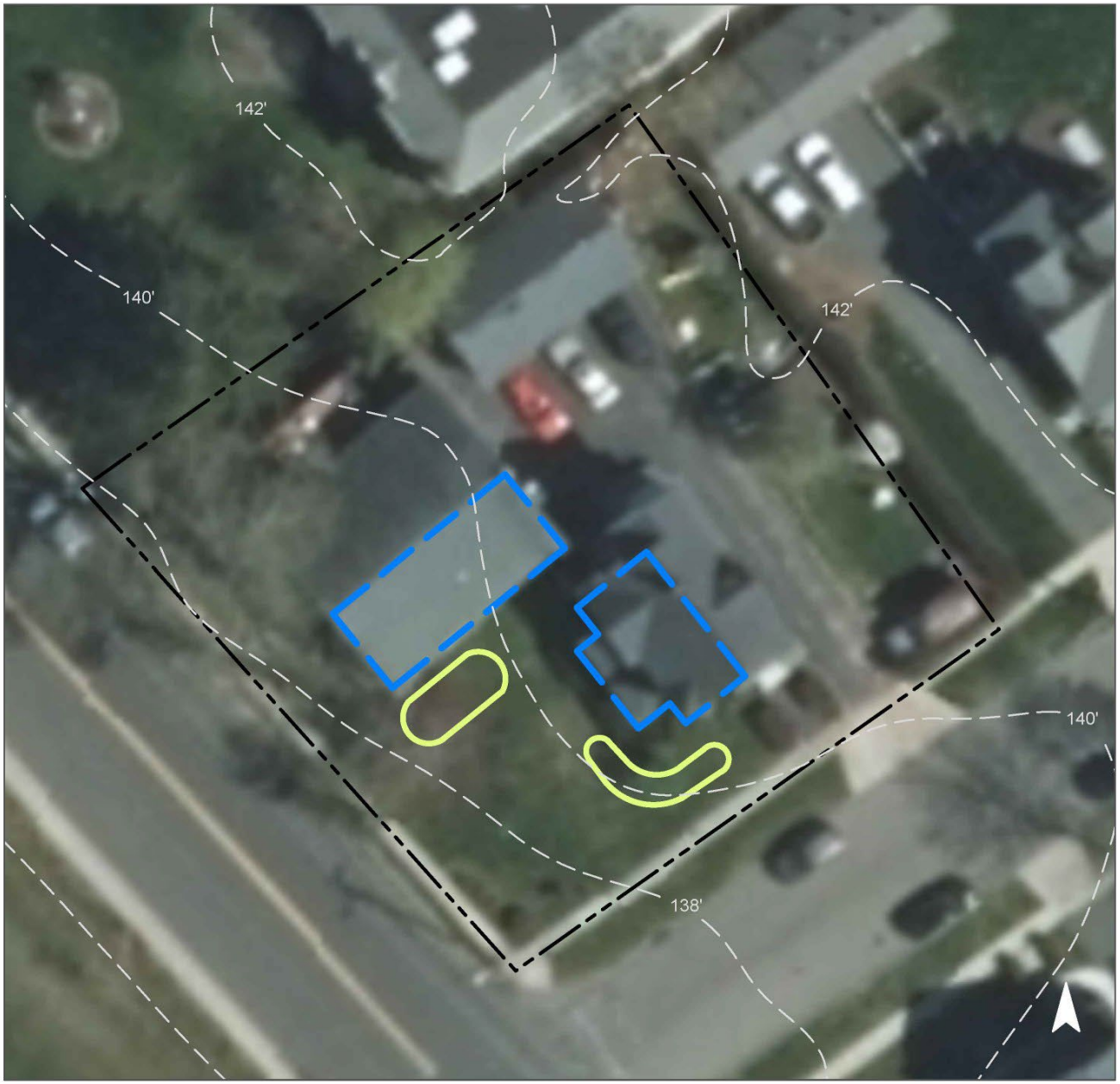
Block and Lot: Block 11, Lot 2

Two bioretention systems can be installed in the turfgrass area to the southeast of the building to capture, treat, and infiltrate stormwater runoff from the roof. 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"
74	11,559	0.6	5.8	53.1	0.009	0.32

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	0.038	6	2,775	0.10	380	$1,900

GREEN INFRASTRUCTURE RECOMMENDATIONS



Joseph D'Apolito & Son

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

0 15' 30'

LIVING PLATE

RAP ID: 7

Subwatershed: Raritan River North Branch

Site Area: 5,674 sq. ft.

Address: 22 Peapack Road
Far Hills, NJ 07931

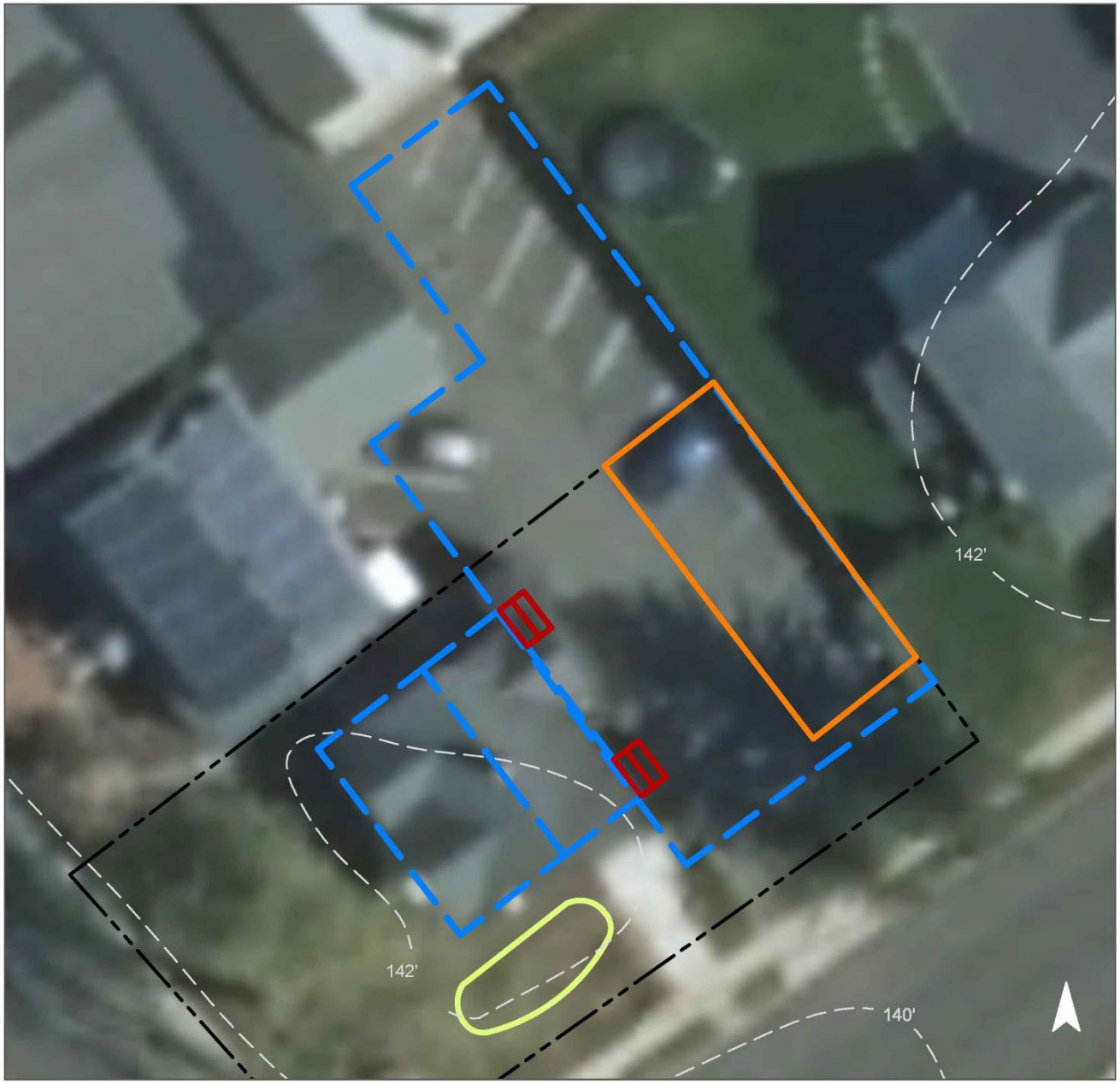
Block and Lot: Block 10, Lot 3

The turfgrass to the southeast of the building can be converted to a bioretention system to capture, treat, and infiltrate stormwater runoff from the roof. The western edge of the parking lot can be converted to pervious pavement to help capture and infiltrate stormwater runoff. On the western side of the building downspout planter boxes can be installed to also help with capturing stormwater 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"
80	4,525	0.2	2.3	20.8	0.004	0.12

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
Bioretention system	0.019	3	1,369	0.05	180	$900
Pervious pavement	0.072	12	5,296	0.20	790	$19,750
Planter boxes	n/a	1	n/a	n/a	4 (boxes)	$4,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Living Plate

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

0 10' 20'

M&M PERROTTI'S PREPARED FOODS

RAP ID: 8

Subwatershed: Raritan River North Branch

Site Area: 58,525 sq. ft.

Address: 27 US Route 202
Far Hills, NJ 07931

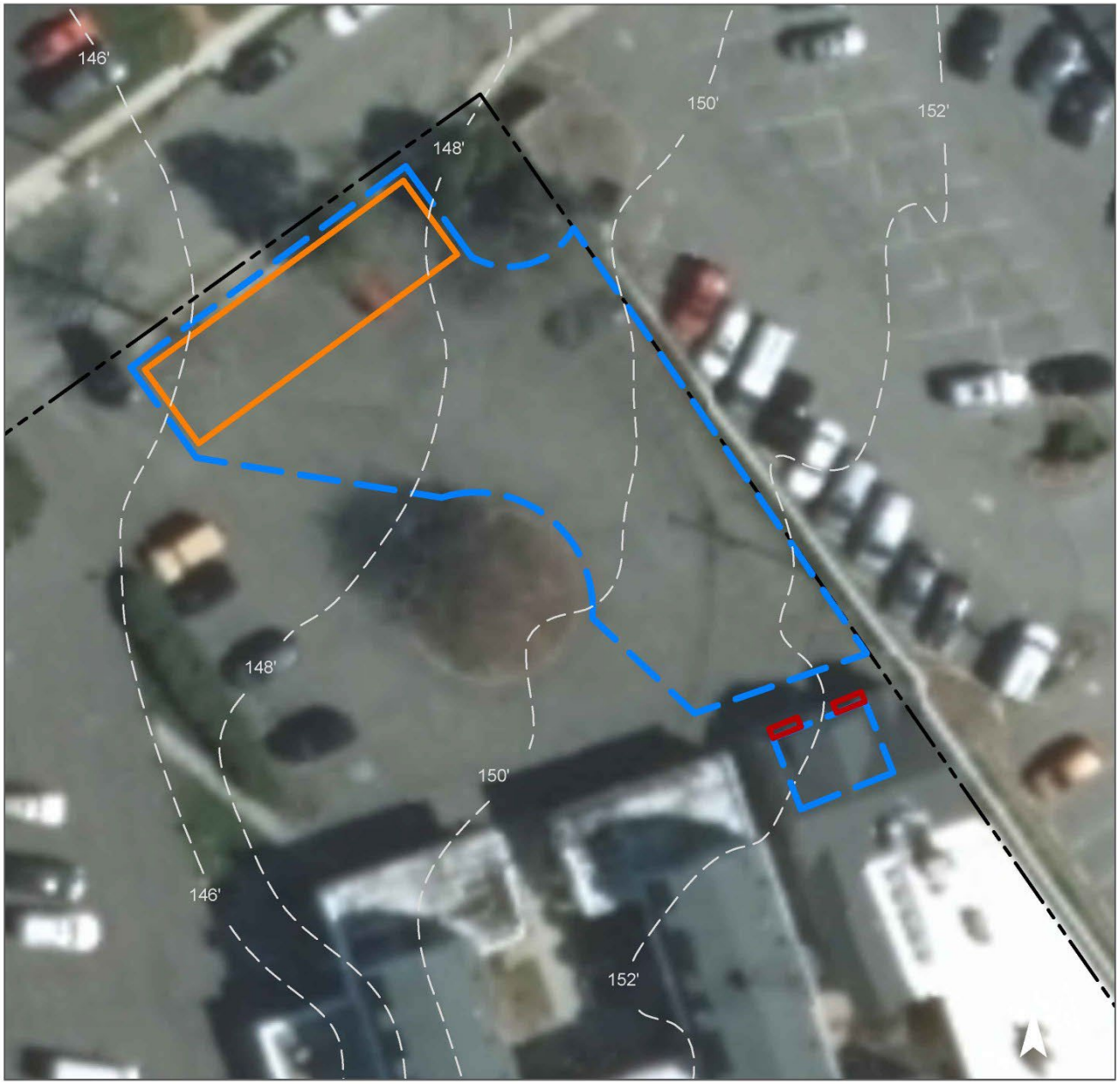
Block and Lot: Block 14, Lot 3

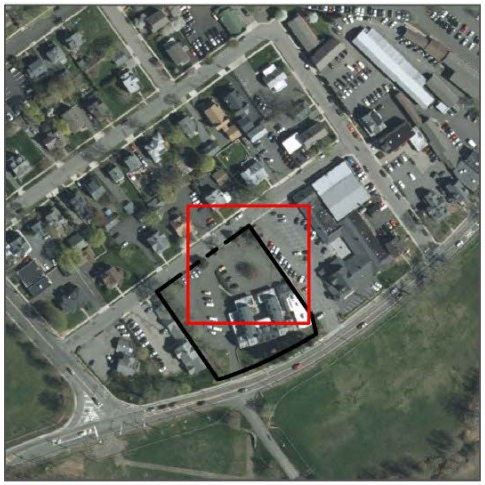
Parking spaces in the parking lot to the north of the building can be converted to porous pavement to capture and infiltrate stormwater runoff from the parking lot. On the north side of the building downspout planter boxes can be installed to help capture stormwater runoff from the building's roof. A 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"
89	52,280	2.5	26.4	240.0	0.041	1.43

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
Pervious pavement	0.165	28	12,133	0.46	1,135	$28,375
Planter boxes	n/a	1	n/a	n/a	2 (boxes)	$2,000

GREEN INFRASTRUCTURE RECOMMENDATIONS





M&M Perrotti's Prepared Foods

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

0 15' 30'

PEAPACK-GLADSTONE BANK

RAP ID: 9

Subwatershed: Raritan River North Branch

Site Area: 12,932 sq. ft.

Address: 26 Dumont Road
Far Hills, NJ 07931

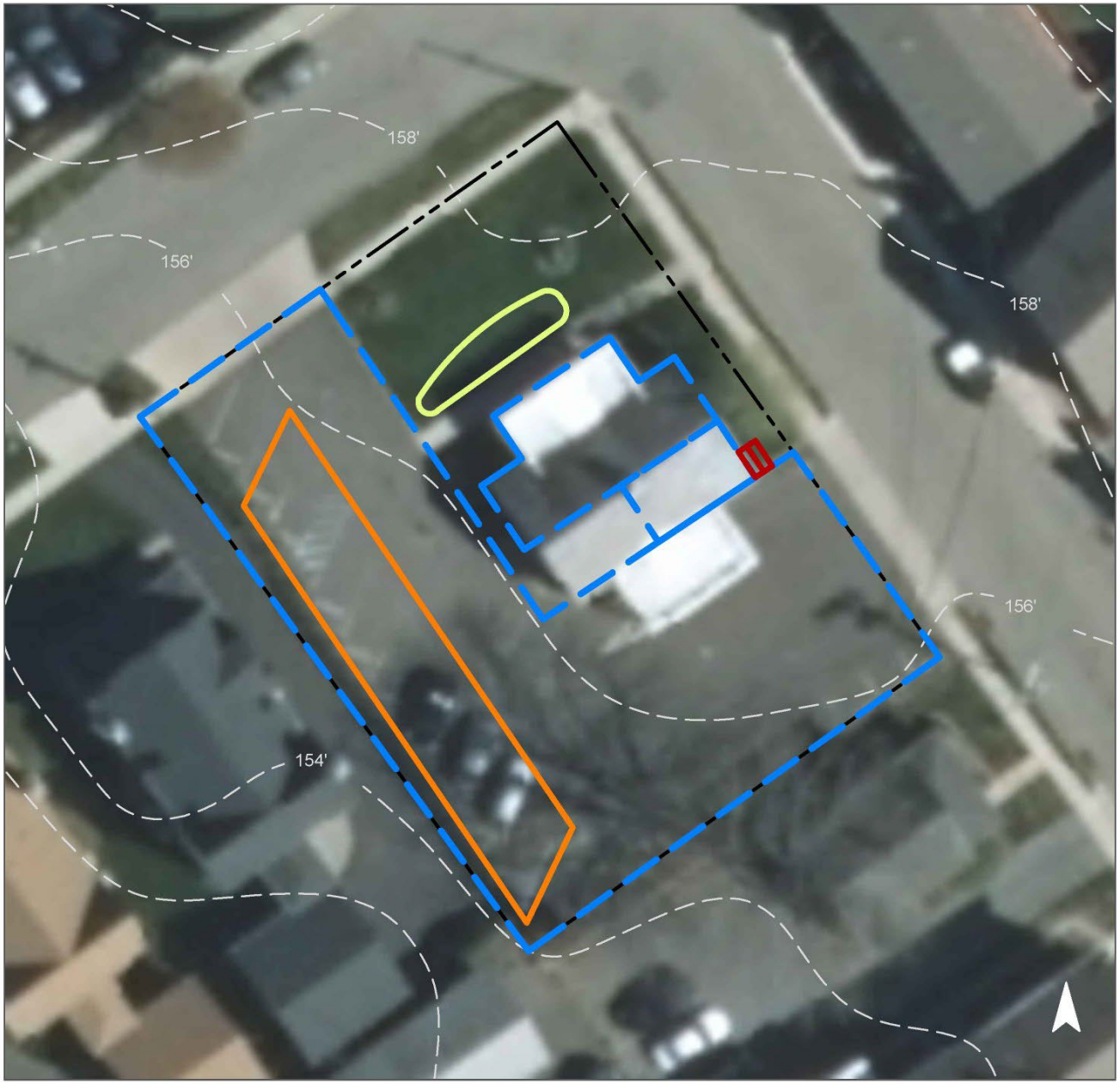
Block and Lot: Block 13, Lot 12

The turfgrass area to the northwest of the building can be converted to a bioretention system to capture, treat, and infiltrate stormwater runoff from the roof. The western area of the parking lot can be converted to pervious pavement to help capture and infiltrate stormwater runoff from the lot. A downspout planter box can be placed on the eastern side of the building to help capture stormwater 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"
87	11,253	0.5	5.7	51.7	0.009	0.31

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention system	0.025	4	1,855	0.07	245	$1,225
Pervious pavement	0.219	37	16,082	0.60	1,785	$44,625
Planter boxes	n/a	1	n/a	n/a	2 (boxes)	$2,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Peapack-Gladstone Bank

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

0 15' 30'

TURPIN REAL ESTATE

RAP ID: 10

Subwatershed: Raritan River North Branch

Site Area: 20,658 sq. ft.

Address: 21 US Route 202
Far Hills, NJ 07931

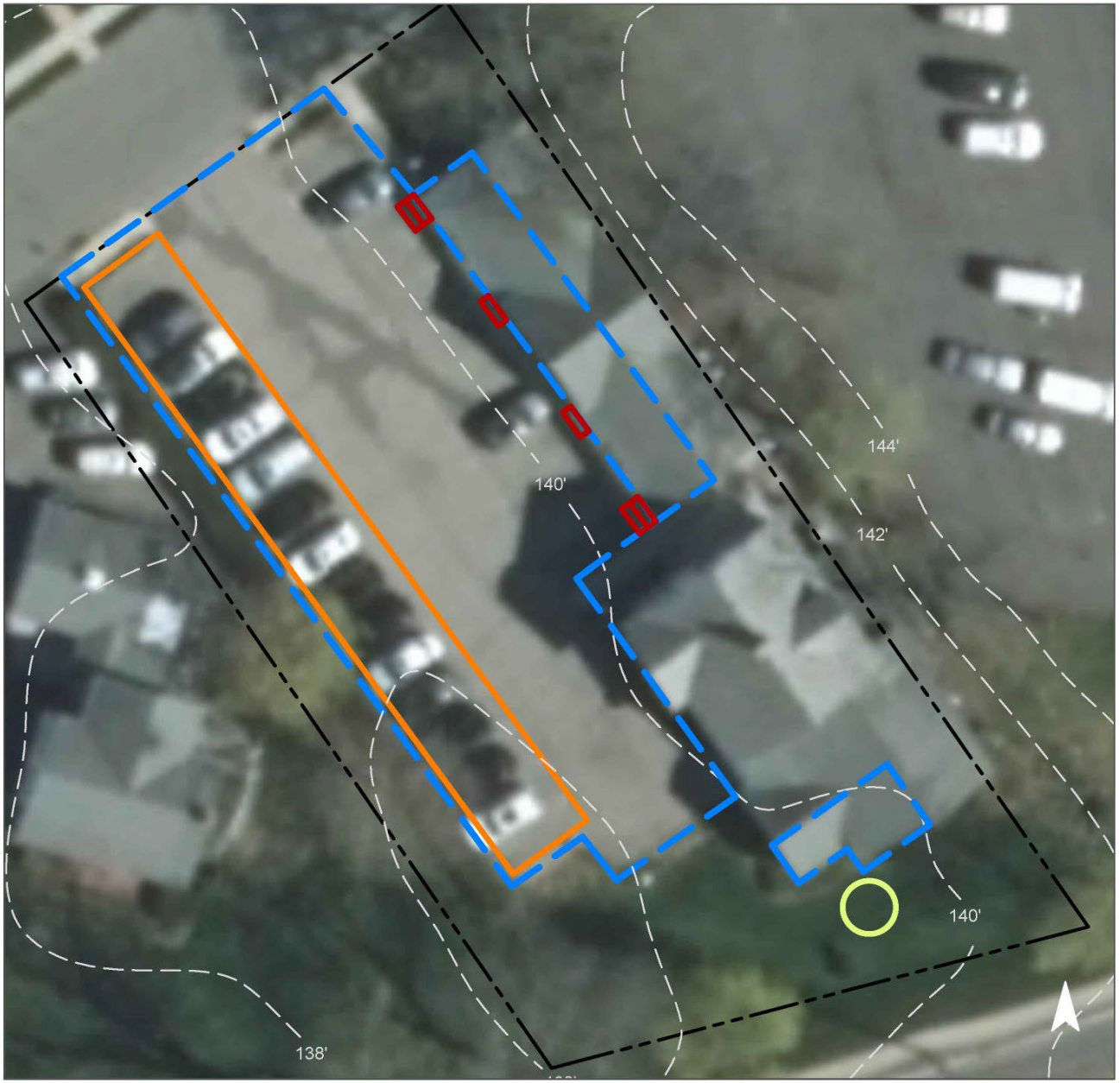
Block and Lot: Block 14, Lot 2

The turfgrass to the southeast of the building can be converted to a bioretention system to help capture, treat, and infiltrate stormwater runoff from the building's roof. Parking spaces in the western portion of the parking lot can be converted to pervious pavement to capture and infiltrate stormwater runoff from the lot. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
89	18,453	0.9	9.3	84.7	0.014	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 system	0.009	1	651	0.02	85	$425
Pervious pavement	0.240	40	17,645	0.66	2,570	$64,250
Planter boxes	n/a	4	n/a	n/a	6 (boxes)	$6,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Turpin Real Estate

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

0 15' 30'

WEALTH PLANNING ADVISORS

RAP ID: 11

Subwatershed: Raritan River North Branch

Site Area: 6,576 sq. ft.

Address: 37 Dumont Road
Far Hills, NJ 07931

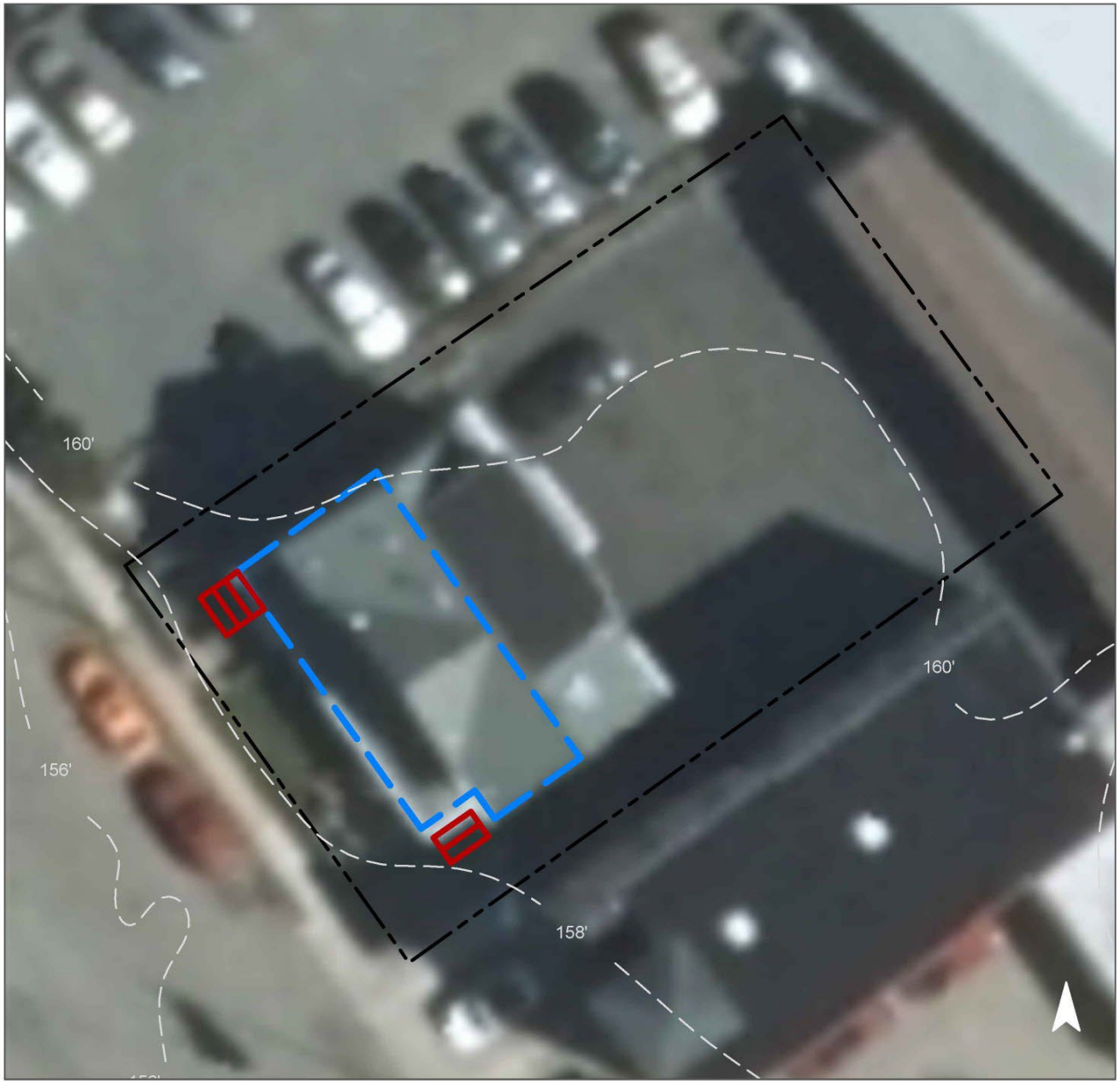
Block and Lot: Block 15, Lot 2

Downspouts on the northwest and southeast corners of the building can be disconnected and converted to planter boxes to capture stormwater runoff from the roof. 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"
89	5,874	0.3	3.0	27.0	0.005	0.16

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Planter boxes	n/a	2	n/a	n/a	5 (boxes)	$5,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Wealth Planning Advisors

- planter box
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 10' 20'

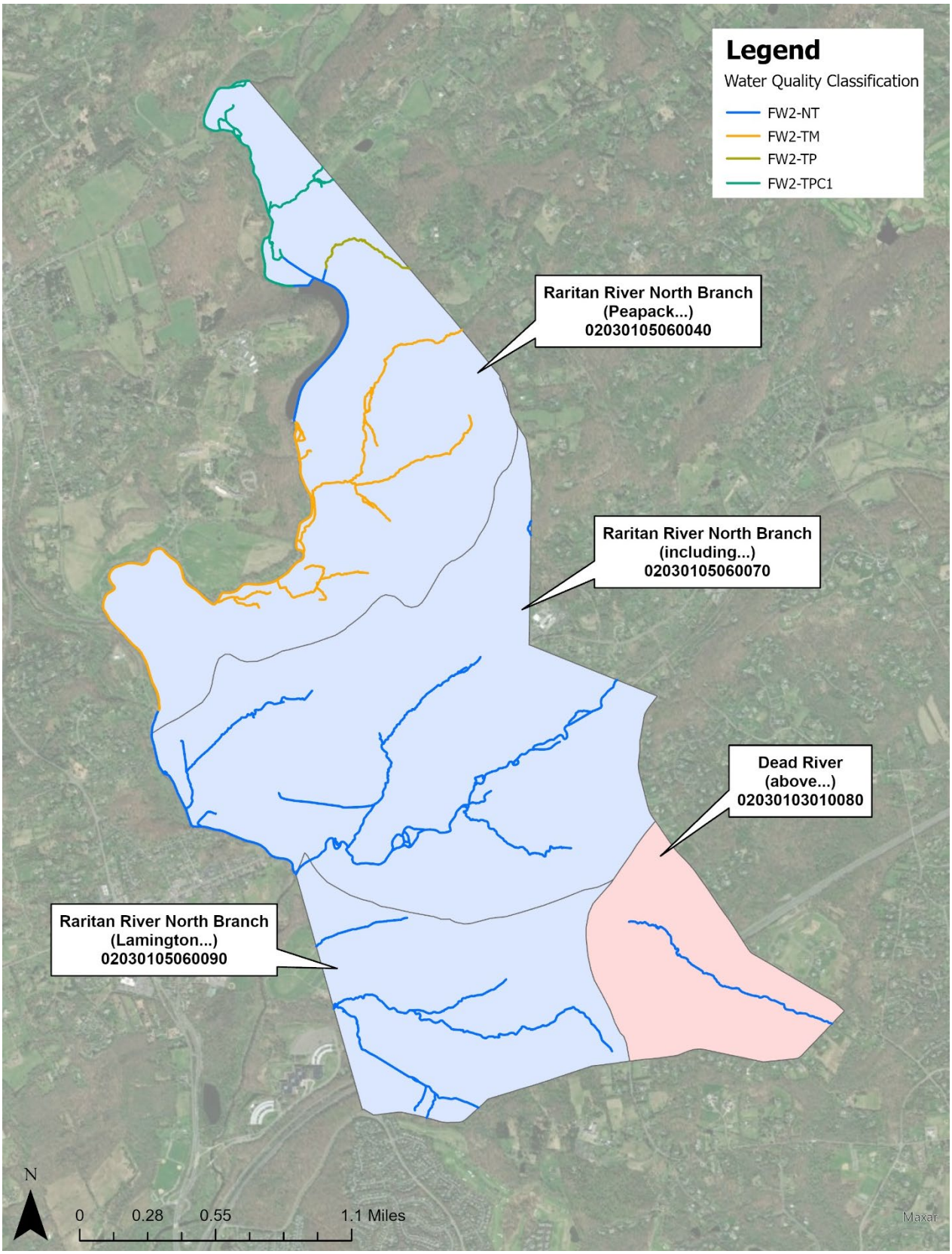


Figure 12. Water Quality Classification of Surface Waters in Far Hills Borough

Table 10. Water Quality Classification of Surface Waters in Far Hills Borough

Surface Water Quality Classification	Surface Water Quality Code	Miles	Percent of Municipal Streams
Freshwater 2, non-trout	FW2-NT	12.8	58.4%
Freshwater 2, trout production, Category One	FW2-TPC1	2.3	10.6%
Freshwater 2, trout maintenance	FW2-TM	6.3	28.8%
Freshwater 2, trout production	FW2-TP	0.5	2.2%

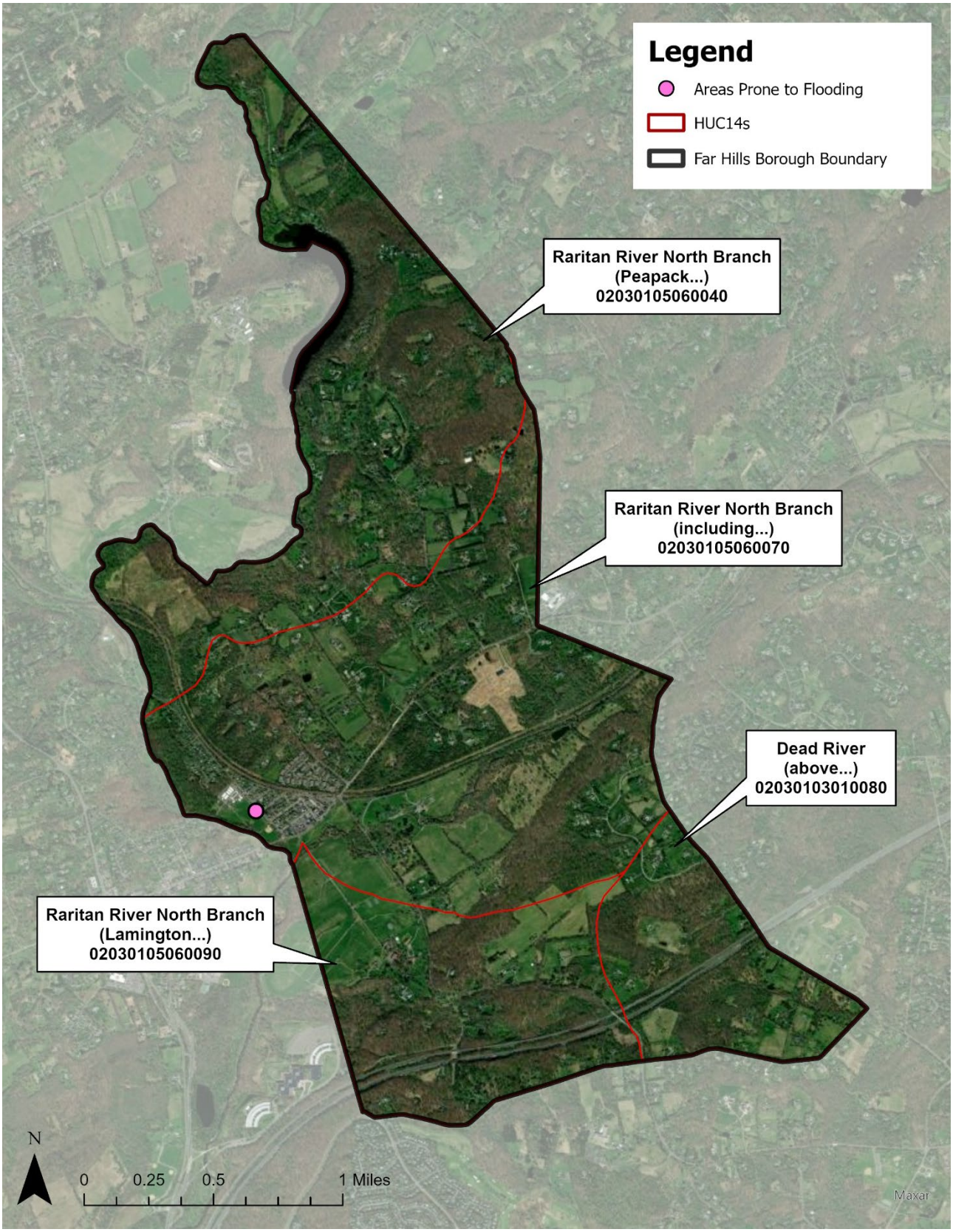


Figure 13. Areas Prone to Flooding in Far Hills Borough