Infiltration Feasibility Assessment of Town-owned Properties, Medway, MA

FINAL REPORT

DRAFT Final Report:
Water Management Act Grant
BWR 2020-01-WMA

Submitted to:
Department of Environmental Protection
One Winter Street, 5th Floor
Boston, MA 02116
ATTN: Jennifer D'Urso
Telephone: 617-654-6591

Submitted by:
Town of Medway
45B Holliston Street
Medway, MA 02053

June 30, 2020

Introduction

Town of Medway Department of Public Works (DPW) partnered with Charles River Watershed Association (CRWA) to assess the feasibility of implementing stormwater infiltration systems on Town-owned properties. The Town has identified increasing groundwater recharge as a priority for protecting the public water supply and local water resources. Increasing infiltration of rainwater is a safe and cost effective way of achieving this goal. This report summarizes the assessment methods and results, and includes concept design recommendations for infiltration opportunities at five sites in Town.

Background

The Town of Medway, located in the Charles River watershed, relies on local groundwater for potable water. Groundwater is recharged by rainfall, which is plentiful in Massachusetts, however, in urban and suburban communities, development and land use practices prevent groundwater recharge. Rainwater that hits roads, parking lots and building cannot penetrate these impervious surfaces and reach the ground. Instead it becomes stormwater runoff which carries pollutants to local streams and can cause flooding issues. As a result, many areas in Medway actually experience groundwater stress. This can cause issues for the public water supply system and for local streams and rivers which rely on groundwater for flow when it is not raining.

Medway is experiencing one of the fastest rates of new development per square mile of any community in the Commonwealth, and lies within the area MassAudubon has dubbed the “Sprawl Frontier”. The resulting development increases impervious cover and water demand. Unlike some neighboring communities that rely primarily on septic treatment of wastewater, Medway is primarily sewered and wastewater is treated at the Charles River Pollution Control District; therefore, the majority of groundwater withdrawn for drinking water supply is not replenished back into the ground.

Currently, the Town of Medway’s drinking water supply faces challenges, which are compounded by continued requests from proposed developments, and will be further exacerbated by climate change. Medway recently concluded an initial climate planning process which identified heavy rainfall, drought, wind and extreme heat as the primary hazards of concern in Medway.

Figure 1. Excerpt from project presentation (photo credit: Tim Rice)

Successfully increasing groundwater recharge across the community requires a comprehensive approach that is coordinated and integrated across multiple Town departments and initiatives, which is challenging for small communities with limited staff capacity. This study provides a roadmap to where and how resources can be allocated first to move forward with implementing more stormwater infiltration opportunities.

Feasibility Assessment

The first phase of the project involved assessing all town owned properties for their potential to infiltrate stormwater runoff. This was accomplished through an extensive desktop GIS analysis and site visits to all locations that ranked for infiltration feasibility.

Existing Conditions

The team conducted an existing conditions assessment consisting of GIS mapping at the town scale and a review of several relevant planning documents.

GIS Mapping is summarized in Appendix B.

Table 1 summarizes key areas in Town planning documents that relate to the primary goal of this project to increase infiltration of stormwater runoff in Medway.

Table 1. Summary of Town Planning Documents

Document	Drought Concern	Flooding/Dam Concerns
Town of Medway Hazard Mitigation Plan (2018)	Public Education around drinking water supply, where drinking water comes from. High priority.	Clark Street roadway and drainage improvements and resource protection. Install a bridge at Clark street over the wetland which is in the 1% Annual Chance Flood zone. MEDIUM Priority. Location: northwest Medway.
	Promote drought tolerant landscaping and site design measures Medium N/A Town-wide Planning Department Begin 2019	Flood-related Public Education on water resources such as flood prevention and stormwater management. Medium/High priority. Location: Town-wide.
		Brentwood Subdivision-Comprehensive Drainage Improvements. High priority. Northeast Medway.
		Hopping Brook Culvert Enlargement High priority. Location: northwest Medway.
		Chicken Brook & Village Street Mitigation-Hydro Analysis/Drainage Study Medium priority. Location: central Medway

		Choate Dam Restoration & Repairs Medium priority. Location: Choate Pond.
		Sanford Dam Restoration & Repairs Medium priority. Location: Charles River at Medway and Franklin.
		Chicken Brook Stream Restoration-better bank stabilization, development management, buy land around Chicken Brook. More plantings, wildlife buffer. Medway Block leaks into Chicken Brook. Establish vegetated cover. To prevent washouts. Medium Priority. Location: Chicken Brook Corridor.
		Charles River Drainage Improvements Low priority. Charles River Corridor.
MVP: Summary of Findings Report (2020)	Stormwater re-charge @ town sites, rain garden retrofit, drought-tolerant planting, roof-top solar (high school & middle school), AC in schools (solar), rain barrels/cisterns, compostable toilets, set example. HIGH priority.	Understand what new design storms would do to system ®maintenance ®$ ® Staff Needs. Planning/Cons are updating to reflect NOAA Atlas/Standards. Rainbarrel program ®Educate public ®Assess infiltration basin retrofit. MEDIUM priority.
	TownWide/Brentwood Homeowner Rain Garden Program (1). Stormwater utility (2). Adopt a catch basin program (3). Continue replacing pipes for future climate (4). Remove barriers to maintenance ® standing order from Conservation Commission for minor repairs (5). HIGH priority.	
	Route 109 - Commercial Center - Emergency Route. Stormwater maintenance; retrofit ®green infrastructure; state coordination. HIGH priority.	
Integrated Water Resource Management Plan (2019).	Promote Stormwater Capture and Infiltration. Stormwater runoff from future development may contribute to drainage/flooding issues; Groundwater infiltration will support existing streams and drinking water supply (Pg.104)	"Continued support of the Town's guidelines for site development review, the implementation of green infrastructure/LID design considerations, and site stormwater runoff control BMPs will enable the Town to meet the requirements of the 2016 MS4 Permit. The Town should also

		consider targeting properties with the intent of possibly reducing impervious cover, which may also benefit stormwater runoff pollution control." (Pg. 99)
		"Flooding due to stormwater runoff is another ongoing concern for Medway's stormwater system. The Town monitors approximately 26 locations (as depicted on Figure 7-9) for issues related to area drainage and/or flooding during heavy rain periods. The flooding may be caused by catch basin backups, low topography areas with inadequate drainage, beaver dams on private property or at culverts, inadequate pipe sizing in the infrastructure network or by an increase in the conveyance of overland flow due to impervious land development. The Town should continue to perform routine inspections of their stormwater collection system to identify maintenance issues (such as sedimentation within catch basins) especially in areas prone to frequent flooding. Design and development standards can help mitigate water quality and quantity impacts to the community. Low-lying areas and those downgradient of steep slopes may be most susceptible to flooding caused by stormwater runoff." (Pg.101)

GIS/Desktop Analysis Methods

The Town provided CRWA with a GIS layer of all town owned parcels. The file includes 128 parcels, many properties that might be thought of as one site, such as a single school, are actually comprised of multiple parcels. For example, the Town's high school is broken up into two different parcels. CRWA assessed and scored each parcel based on technical factors such as soil conditions, infiltration needs and opportunities, existing impervious cover and available space. Table 2 summarizes the scoring methodology.

As the parcel layer includes all Town-owned sites, including conservation land, parcels that include mostly mapped wetlands (>70% wetlands) were excluded from the analysis as the team determine these sites are not a priority for stormwater infiltration and are best left undisturbed to continue functioning as a healthy wetland habitat. This resulted in 12 of the 128 parcels automatically being categorized as low priority sites. CRWA also calculated the percent of each parcel that was covered by a building or other structure to determine if any sites should be excluded due to lack of space for implementing a treatment system. The highest percent building/structure cover for any site was ~25%, so this was determined to be a factor not worth including in the scoring assessment. Lastly, CRWA noted parcels that were within 200ft of a 21e site and within a Zone II Well Head Protection Area.

Table 2. Infiltration Priority Scoring Methodology

Metric	**High Score (2)**	**Medium Score (1)**	**Low/No Score (0)**
Soil Score: Max Score = 4			
Hydrologic Soil Group (HSG)	More than 10% of the parcel is A+ B soils	Less than 10% A + B soils, but more than 20% C soils	Less than 10% A + B soils, and less than 20% C soils (i.e. mostly D or unknown soils)
Depth to seasonal high groundwater (February – May)	N/A	More than 10% of the site does not have high groundwater	All other sites
Depth to any soil restrictive layer (bedrock, clay, gradient change)	N/A	More than 10% of the site does not have a mapped restrictive layer	All other sites
Infiltration Demand Score: Max score = 3			
Groundwater recharge priority need	N/A	Parcels in subbasins that are ranked as 4s or 5s for groundwater depletion in the SWMI mapping tool	All other sites
Impervious cover score	Greater than 10% impervious cover	Greater than 5% impervious cover	All other sites
Town Priority Score: Max Score = 2			
Town priority	Town indicated the site to be a priority	N/A	All other sites

The final score was calculated by adding the soil, demand, and town priority scores.

GIS/Desktop Analysis Results

Individual scores were calculated for each of the 128 parcels, although the 12 parcels that are mostly wetland area where automatically considered poor candidates for infiltration systems in the near term. Parcels were grouped into three categories based on their score as summarized in Table 3.

Table 3. Infiltration Opportunity Scoring Results

Score Range	Category	Number of Parcels
7-9	Priority Infiltration Opportunity	19
3-6	Possible Infiltration Opportunity	78
0-2	Unlikely Infiltration Opportunity (includes wetland areas)	31

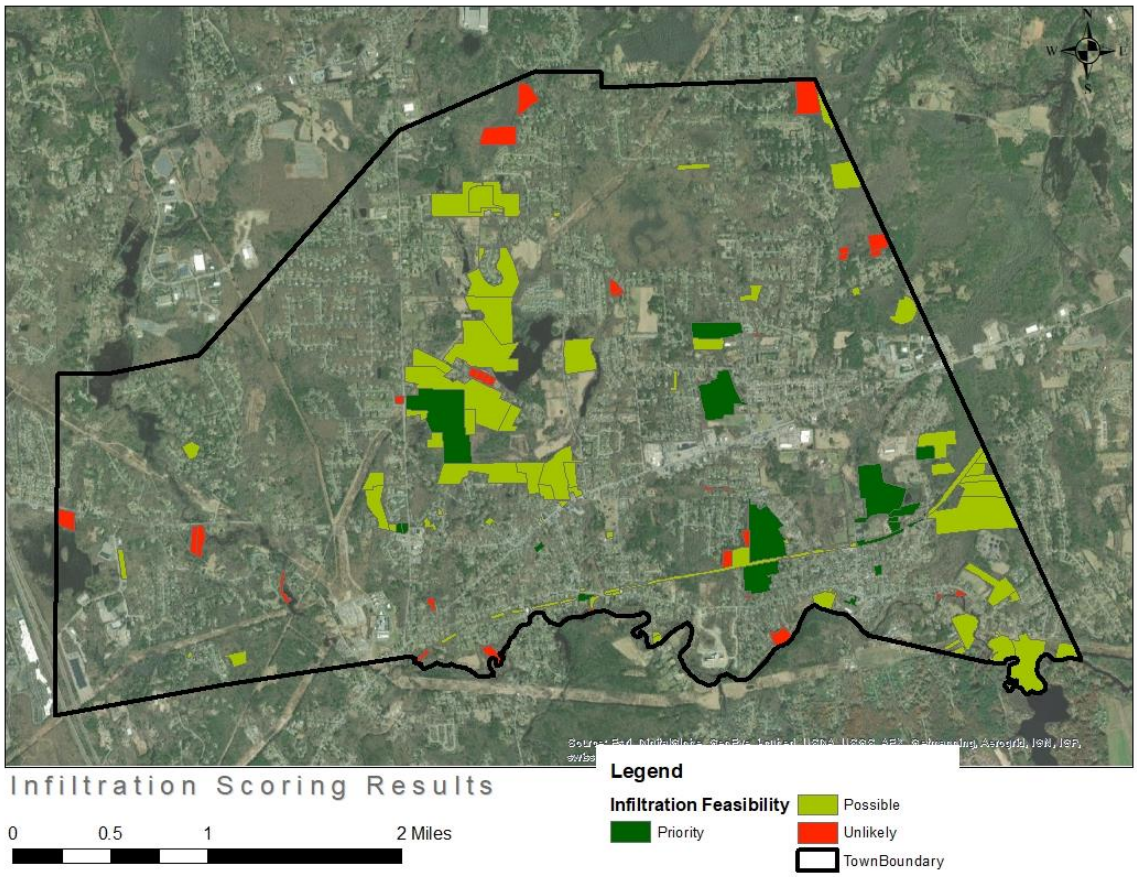


Figure 2. Infiltration Scoring Results for Town-owned Parcels

Appendix A includes the full parcel matrix of results.

Site Visits

CRWA staff conducted site visits to each of the priority infiltration opportunity parcels. Site visits were conducted in late May. CRWA staff noted areas where flooding and ponding likely occur and noted any signs indicative of existing stormwater issues. CRWA staff identified possible sites on the priority parcels where stormwater infiltration systems could be sited. They focused primarily on low lying areas and areas downslope of large amounts of impervious cover, ideally located adjacent to existing stormwater infrastructure, such as a catch basin, that could serve as an overflow. Takeaways from the site visits are included in the parcel matrix.

Infiltration Calculations

The Stormwater Calculator developed by Abt Associates and CRWA for the Water Management Act grants program was used to estimate potential annual infiltration for each of the 128 parcels with greater than half an acre of impervious cover (a total of 25 parcels). All of these parcels are either ranked as priority or possible infiltration opportunities. For ease of calculations the parcels were grouped into nine treatment system types based on the calculators input parameters (Table 4). Parcels were assigned the best infiltration quality that existing on site as long as more than 10% of the site was mapped as that soil type. For example, all sites that were mapped as having greater than 10% of the parcel area as A soils were assigned an HSG of A. Sites with <10% A soils but >10% B soils were assigned as B, and so on for C and D soil types. It was assumed that treatment systems would infiltrate runoff from all of the impervious cover on each site.

Table 4. Infiltration Calculator Summary of Inputs

Treatment System	Impervious Cover Range (acres)	Assumed IC (in calculator, acres)	HSG	Number of Parcels
1	0.51 to 1.34	1	A	10
2	0.56 to 1.04	1	B	5
3	1.65 to 2.28	2	B	2
4	2.65 to 3.49	3	A	2
5	3.06 to 3.41	3	B	2
6	2.5	3	C	1
7	4.6	5	C	1
8	9.05	9	B	1
9	11.91	12	B	1

The following infiltration rates were assumed in the calculations:

Hydrologic Soil Group	K (in/hr)
A	4.46
B	0.73
C	0.21

These 25 parcels have the potential to infiltrate 63 million gallons annually if infiltration systems were designed to infiltrate 2” of runoff from all impervious cover. Based on a more conservative assumption of infiltrating 1” of runoff from all impervious areas, the annual infiltration would be 54 million gallons. This is approximately the total amount of water the entire town uses in two months.

Selection of Priority Sites

Based on the ranking matrix results, site visits, and conversations between CRWA and the Town project lead, 7 initial high priority sites were selected. These included:

- Middle school *
- High school*
- Town Hall *
- Burke-Memorial Elementary School
- McGovern Elementary School*
- Library
- VFW*

These were then narrowed down to the five sites marked with an * for development of concept designs. The Town selected three of these sites to move forward with soil assessments, however, due to an underground utility conflict at one of the sites that caused some delays, as well as further potential concerns over underground utilities, and the tight timeline of the project, soil assessments were only conducted at two sites. Test Pit report forms are included as Appendix C.

Preliminary Designs

Concept Designs

Infiltration basins or rain gardens were proposed for each of the five priority sites. Based on observations made during the site visits and the contour data available, drainage areas were delineated for each rain garden. The rain gardens were in turn designed for the amount of impervious area they would be treating in a spreadsheet developed by CRWA (See Appendix D).

Middle School:

Two rain gardens were sited and sized within the lawn area at the entrance of the school. These would treat a combination of the driveway and parking along with the lawn area itself. The first rain garden (#4) would treat a drainage area of 0.44 acres and is sized at 543 sqft. The second(#5) would treat a drainage area of 0.59 acres and is sized at 671 sqft. Three additional rain gardens were sited and sized to treat runoff from the parking lots next to the school building. The one closest to the street (#7) would treat a drainage area of 0.19 and is sized at430 sqft. The one in the middle of the two parking lots (#6) would treat a drainage area of 0.68 acres and is sized at 1137 sqft. The final rain garden between the parking lot and the fields (#8) would treat a drainage area of 1.28 acres and is sized at 430 sqft.

High School:

Two rain gardens were sited and sized for this site. One rain garden is located in the visitor's parking lot and another is located behind the school at the end of the parking lot. The rain garden (#15) at the visitor's parking lot treats a drainage area of 1.40 acres and is sized at 3678 sqft. The second rain garden (#16) in the back of the school treats a drainage area of 2.18 acres and is sized at 1585 sqft.

Town Hall:

One rain garden is sited and sized at the south edge of the parking lot for this site. The rain garden (#1) is treating a drainage area of 0.63 acres and is sized at 1000 sqft. The rain garden would treat runoff

from the parking lot and building and would be located on a substantial slope along trees and wooded area.

McGovern Elementary School:

Three rain gardens were sited and sized to drain the two parking lots as well as the driveway area behind the school building. The first rain garden (#12) treats a drainage area of 0.69 acres and sized at 1768 sqft. The second rain garden (#13) treats a drainage area of 0.70 acres and is sized at 779 sqft. The third rain garden (#14) at the back of the building treats 0.28 acres and is sized at 1105 sqft.

VFW:

Three rain gardens were sited and sized to treat the large parking lot in front of the building. These rain gardens have been sited along the three edges of the parking lot to capture runoff that is currently sheet flowing from the site. The first rain garden (#9) treats a drainage area of 0.52 acres and is sized at 1170 sqft. The second rain garden (#10) treats a drainage area of 0.74 acres and is sized at 1633 sqft. The third rain garden (#11) between the parking lot and the field is treating a drainage area of 0.47 acres and is sized at 1104 sqft.

Pollution Reduction and Recharge Benefit Calculations

For the proposed concept designs the team calculated the potential pollution reduction and recharge benefits in more detail. Annual recharge was calculated in the same manner described above using the Water Management Act program recharge calculator. Annual recharge was calculated for each infiltration system proposed based on the impervious cover of the drainage area and the soil conditions at the infiltration basin site.

Phosphorus load reductions were calculated using the method described in the Massachusetts Small MS4 permit Appendix F. Existing loads were calculated for each drainage area of the proposed infiltration system. Land use for all sites was assumed to be developed open land. All of the proposed treatment systems are treating at least a 2 inch design storm and therefore pollution reduction at each proposed site is either 99% (for B and C soils) or 100% (for A soils). Results are summarized in Table 5.

Table 5. Annual Pollution and Recharge Estimates from Proposed Infiltration Systems

Treatment System ID	Parcel ID	Site	Annual Recharge (mgy)	Phosphorus Reduction (lb/yr)
1	60-23	Town Hall	0.53	0.76
4	49-65	Medway Middle School	0.22	0.27
5	49-65	Medway Middle School	0.22	0.33
6	49-65	Medway Middle School	0.63	0.87
7	49-65	Medway Middle School	0.11	0.22
8	49-65	Medway Middle School	1.06	1.60
9	22-104	VFW	0.53	0.72
10	22-104	VFW	0.74	1.00
11	22-104	VFW	0.42	0.67

12	59-39	McGovern Elementary School	0.22	0.75
13	59-39	McGovern Elementary School	0.21	0.50
14	59-39	McGovern Elementary School	0.22	0.48
15	38-85	High School	1.31	1.88
16	38-85	High School	0.74	1.15
Total			**7.16**	**11.20**

Final Presentation

Due to the current pandemic the team was unable to hold an in person public meeting; however, the project was presented as part of CRWA's virtual event series. CRWA launched a virtual event series in April as a way to stay connected with our members and grow our reach to new watershed residents that may be unlikely or unable to attend an in person event. The project was presented as part of a presentation on CRWA's climate adaptation work and how we are working with communities to advance adaptation at the local level. The virtual event was held on June 25 and was a joint presentation between Julie Wood from CRWA and Stephanie Carlisle from the Town of Medway. The registration list is included as Appendix E.

The team also presented the findings at the Board of Selectmen meeting held on July 6 to ensure the information was relayed to Town leaders and residents. The presentation is included for reference as Appendix F. This was not possible to complete during the project timeline due to delays from the pandemic.

Conclusion

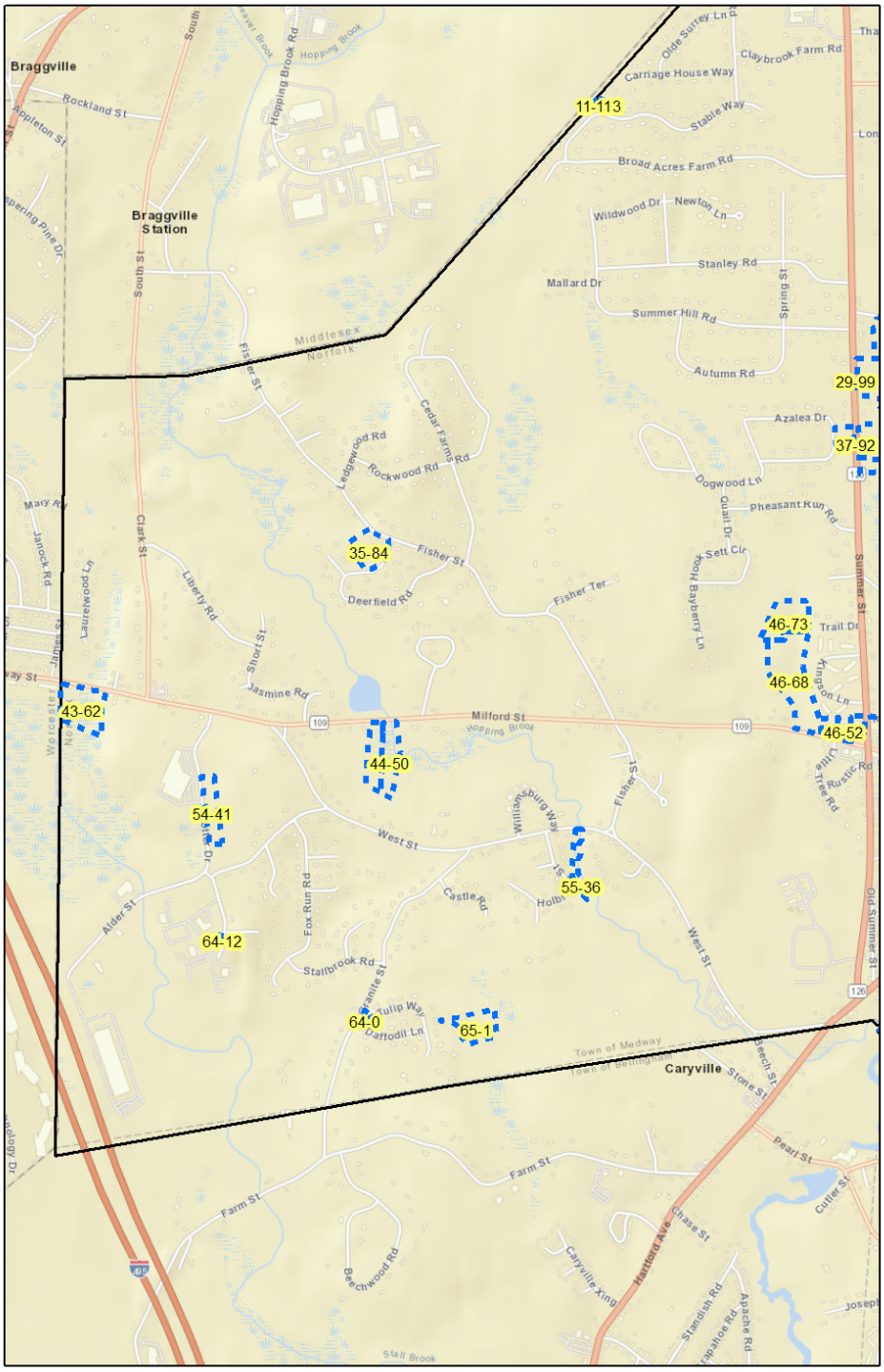
Through this project, multiple Town-owned properties were identified as possible sites to pursue for stormwater infiltration systems. The Town can use the rating matrix going forward to plan stormwater management projects both for infiltration mitigation and for MS4 compliance. The Town plans to move forward with additional design work and community engagement for at least one, if not more, of the preliminary design sites.

Town Parcel Matrix

Parcel_ID	Street Number	Street Name	Parcel Area (acres)	Owned by Con Comm	Zone II	21e adjacent (w/in 200 ft)	Exclusion Greater Than 70% wetland area	Soil Conditions				Infiltration Demand			Town Priority	Total Score	Preliminary Classification	Preliminary Recharge Calculation	
								HSG Score	Groundwater Score	No Soil Restrictions	Soil Total	GW Recharge Priority	Impervious Cover Score	Infiltration Demand Total				Treatment System	Annual Recharge 1" Design (mgy)
50-74	46	BROAD ST	29.37	No	Yes	No	No	2	1	1	4	1	2	3	2	9	Priority	4	2.70
49-65	45	HOLLISTON ST	28.87	No	Yes	No	No	2	1	1	4	1	2	3	2	9	Priority	8	8.10
31-96	9	LOVERING ST	23.98	No	No	No	No	2	1	1	4	1	2	3	2	9	Priority	5	2.70
42-81	76	OAKLAND ST	4.08	No	Yes	No	No	2	1	1	4	1	2	3	2	9	Priority	1	0.90
46-53	44	MILFORD ST	1.05	No	No	No	No	2	1	1	4	1	2	3	2	9	Priority	2	0.90
60-23	155	VILLAGE ST	1.22	No	No	No	No	2	1	0	3	1	2	3	2	8	Priority	1	0.90
59-39	16	CASSIDY LN	14.48	No	No	No	No	1	1	1	3	1	2	3	2	8	Priority	7	4.50
58-27	315	VILLAGE ST	1.63	No	No	No	No	2	1	1	4	0	2	2	2	8	Priority	1	0.90
57-44	26	HIGH ST	0.97	No	No	No	No	2	1	0	3	0	2	2	2	7	Priority	2	0.90
51-63	0	OAKLAND ST	4.73	No	Yes	No	No	2	1	1	4	1	2	3	0	7	Priority	1	0.90
51-48	0	VILLAGE ST	4.14	No	Yes	Yes	No	2	1	1	4	1	2	3	0	7	Priority	0	0.00
51-55	0	CROOKS ST	1.73	No	Yes	No	No	2	1	1	4	1	2	3	0	7	Priority	1	0.90
60-37	0	NORTH ST	1.21	No	Yes	No	No	2	1	1	4	1	2	3	0	7	Priority	0	0.00
38-85	88	SUMMER ST	13.78	No	No	No	No	2	1	0	3	0	2	2	2	7	Priority	3	1.80
37-92	88	SUMMER ST	33.89	No	No	No	No	2	1	0	3	0	2	2	2	7	Priority	9	10.80
46-52	46	MILFORD ST	0.99	No	No	No	No	2	1	1	4	1	2	3	0	7	Priority	0	0.00
22-104	123	HOLLISTON ST	12.43	No	No	No	No	1	1	0	2	1	2	3	2	7	Priority	6	2.70
51-59	13	CHESTNUT ST	0.81	No	Yes	No	No	2	1	1	4	1	2	3	0	7	Priority	0	0.00
47-46	6	FREEDOM TRA	0.17	Yes	No	No	No	2	1	1	4	1	2	3	0	7	Priority	0	0.00
64-12	18	TROTTER DR	0.10	No	Yes	No	No	2	1	0	3	1	2	3	0	6	Possible	0	0.00
39-82	1	CHOATE PARK	18.44	Yes	No	No	No	2	1	1	4	0	2	2	0	6	Possible	4	2.70
51-42	0	VILLAGE ST	13.84	No	No	No	No	2	1	1	4	1	1	2	0	6	Possible	2	0.90
60-33	193	VILLAGE ST	0.18	No	No	No	No	2	1	0	3	1	2	3	0	6	Possible	0	0.00
42-87	82	OAKLAND ST	11.25	No	Yes	No	No	2	1	1	4	1	1	2	0	6	Possible	1	0.90
71-14	19	POPULATIC ST	9.83	No	Yes	No	No	2	1	1	4	1	1	2	0	6	Possible	1	0.90
72-11	41	VILLAGE ST	9.51	No	Yes	No	No	2	1	1	4	1	1	2	0	6	Possible	1	0.90
48-67	158	MAIN ST	1.51	No	No	No	No	2	1	0	3	0	1	1	2	6	Possible	0	0.00
37-89	88	SUMMER ST	2.51	No	No	No	No	1	1	0	2	0	2	2	2	6	Possible	0	0.00
39-64	0	OAK ST	0.06	Yes	No	No	No	2	1	1	4	0	2	2	0	6	Possible	0	0.00
57-26	2	SHERWOOD D	0.04	No	No	No	No	2	1	1	4	1	1	2	0	6	Possible	0	0.00
51-66	44	OAKLAND ST	40.84	Yes	Yes	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
29-105	54	ADAMS ST	38.16	No	No	No	No	2	1	1	4	0	1	1	0	5	Possible	5	2.70
58-30	302	VILLAGE ST	0.41	No	No	No	No	2	1	0	3	0	2	2	0	5	Possible	0	0.00
10-123	0	BIRCH BARK R	11.80	No	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
62-38	0	PINE RIDGE DI	11.53	Yes	Yes	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
51-71	0	OAKLAND ST	10.54	No	Yes	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
48-47	6	CUTLER ST	0.71	No	No	No	No	2	1	0	3	0	2	2	0	5	Possible	1	0.90
46-68	48	MILFORD ST	9.69	Yes	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
24-107	0	JAYAR RD	8.45	No	Yes	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
51-83	0	VILLAGE ST	6.62	No	Yes	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
72-5	0	RYAN RD	5.52	Yes	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
60-29	203	VILLAGE ST	5.44	Yes	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
05-127	33	CAUSEWAY ST	5.16	No	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
47-58	1	MECHANIC ST	0.20	No	No	No	No	2	1	0	3	0	2	2	0	5	Possible	0	0.00
46-73	4	TRAIL DRIVE	4.50	Yes	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
42-76	66	OAKLAND ST	4.22	No	Yes	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
22-110	132	HOLLISTON ST	3.69	Yes	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
35-84	0	DEERFIELD RD	3.30	Yes	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
47-70	2	OAK ST	3.36	No	No	No	No	2	1	0	3	0	0	0	2	5	Possible	0	0.00
71-3	32	POPULATIC ST	1.40	No	Yes	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
62-31	10	CANDLEWOOD	1.38	No	Yes	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
46-56	6	INDEPENDENC	1.33	Yes	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00

Parcel_ID	Street Number	Street Name	Parcel Area (acres)	Owned by Con Comm	Zone II	21e adjacent (w/in 200 ft)	Exclusion Greater Than 70% wetland area	Soil Conditions				Infiltration Demand			Town Priority	Total Score	Preliminary Classification	Preliminary Recharge Calculation	
								HSG Score	Groundwater Score	No Soil Restrictions	Soil Total	GW Recharge Priority	Impervious Cover Score	Infiltration Demand Total				Treatment System	Annual Recharge 1" Design (mgy)
39-79	11	WINTHROP ST	4.35	No	No	No	No	2	1	0	3	0	2	2	0	5	Possible	1	0.90
68-7	0	SHAW ST	1.31	Yes	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
71-6	28	POPULATIC ST	1.18	No	Yes	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
23-109	12	GREEN VALLE	1.07	No	Yes	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
37-86	42	HIGHLAND ST	3.60	No	No	No	No	2	1	0	3	0	2	2	0	5	Possible	3	1.80
38-88	84	SUMMER ST	4.58	No	No	No	No	2	1	0	3	0	2	2	0	5	Possible	2	0.90
28-100	61	ADAMS ST	7.97	No	No	No	No	2	1	0	3	0	0	0	0	3	Possible	0	0.00
46-51	46	MILFORD ST	0.95	No	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
47-57	14	HIGHLAND ST	0.73	No	No	No	No	2	1	1	4	0	1	1	0	5	Possible	0	0.00
47-61	8	INDEPENDENC	0.36	Yes	No	No	No	2	1	1	4	0	1	1	0	5	Possible	0	0.00
58-34	318	VILLAGE ST	0.27	No	No	No	No	2	1	1	4	0	1	1	0	5	Possible	0	0.00
07-121	6	WARDS LN	10.19	Yes	No	No	No	2	1	0	3	0	2	2	0	5	Possible	2	0.90
46-54	0	INDEPENDENC	0.02	No	No	No	No	2	1	1	4	1	0	1	0	5	Possible	0	0.00
64-0	1	TULIP WAY	0.41	No	No	No	No	2	1	0	3	1	0	1	0	4	Possible	0	0.00
65-1	13	TULIP WAY	3.53	No	No	No	No	2	1	0	3	1	0	1	0	4	Possible	0	0.00
29-99	0	ADAMS ST	42.11	No	No	No	No	2	1	1	4	0	0	0	0	4	Possible	0	0.00
67-8	0	VILLAGE ST	0.92	No	No	No	No	2	1	0	3	1	0	1	0	4	Possible	0	0.00
68-9	0	SHAW ST	0.57	Yes	No	No	No	2	1	0	3	1	0	1	0	4	Possible	0	0.00
67-16	0	VILLAGE ST	0.61	No	No	No	No	2	0	1	3	1	0	1	0	4	Possible	0	0.00
58-18	5	HAVEN ST	0.09	No	No	No	No	2	1	0	3	1	0	1	0	4	Possible	0	0.00
57-19	0	VILLAGE ST	1.28	No	No	No	No	2	1	0	3	1	0	1	0	4	Possible	0	0.00
13-115	151	LOVERING ST	23.76	Yes	No	No	No	2	1	1	4	0	0	0	0	4	Possible	0	0.00
20-106	54	ADAMS ST	23.33	No	No	No	No	2	1	1	4	0	0	0	0	4	Possible	0	0.00
07-119	8	WARDS LN	19.31	Yes	No	No	No	2	1	1	4	0	0	0	0	4	Possible	0	0.00
54-41	15	TROTTER DR	2.80	No	Yes	No	No	2	1	0	3	1	0	1	0	4	Possible	0	0.00
07-120	4	WARDS LN	10.49	Yes	No	No	No	2	1	1	4	0	0	0	0	4	Possible	0	0.00
51-43	0	VILLAGE ST	1.76	No	Yes	Yes	No	2	1	0	3	1	0	1	0	4	Possible	0	0.00
50-45	37	HOLLISTON ST	0.27	No	No	No	No	1	0	0	1	1	2	3	0	4	Possible	0	0.00
51-72	0	OAKLAND ST	4.20	No	Yes	No	No	2	0	1	3	1	0	1	0	4	Possible	0	0.00
42-75	0	OAKLAND ST	3.25	No	Yes	No	No	2	0	1	3	1	0	1	0	4	Possible	0	0.00
42-80	0	OAKLAND ST	2.09	No	Yes	No	No	2	0	1	3	1	0	1	0	4	Possible	0	0.00
51-35	0	VILLAGE ST	1.04	No	No	No	No	2	1	1	4	0	0	0	0	4	Possible	0	0.00
58-28	304	VILLAGE ST	0.30	No	No	No	No	2	1	1	4	0	0	0	0	4	Possible	0	0.00
09-122	169	HOLLISTON ST	2.53	Yes	No	No	No	2	1	0	3	1	0	1	0	4	Possible	0	0.00
72-10	2	CYNTHIA CIR	27.23	No	Yes	No	No	1	0	1	2	1	0	1	0	3	Possible	0	0.00
67-15	0	VILLAGE ST	0.78	No	No	No	No	2	0	0	2	1	0	1	0	3	Possible	0	0.00
58-21	0	VILLAGE ST	0.83	No	No	No	No	2	1	0	3	0	0	0	0	3	Possible	0	0.00
58-22	313	VILLAGE ST	0.97	Yes	No	No	No	2	1	0	3	0	0	0	0	3	Possible	0	0.00
38-77	16	OAK ST	23.90	Yes	No	No	No	2	1	0	3	0	0	0	0	3	Possible	0	0.00
47-78	0	OAK ST	8.91	Yes	No	No	No	2	1	0	3	0	0	0	0	3	Possible	0	0.00
38-90	25	ADAMS ST	6.12	No	No	No	No	2	1	0	3	0	0	0	0	3	Possible	0	0.00
31-95	35	LOVERING ST	1.47	No	No	No	No	1	0	0	1	0	2	2	0	3	Possible	0	0.00
30-101	50	WINTHROP ST	16.76	Yes	No	No	No	1	0	0	1	0	0	0	2	3	Possible	0	0.00
31-102	115	HOLLISTON ST	5.88	No	No	No	No	1	1	0	2	1	0	1	0	3	Possible	0	0.00
14-118	2	PARTRIDGE ST	0.48	No	No	No	No	2	1	0	3	0	0	0	0	3	Possible	0	0.00
66-2	0	VILLAGE ST	1.17	No	No	No	No	0	0	1	1	1	0	1	0	2	Unlikely	0	0.00
70-13	0	CHARLES VIEW	4.76	Yes	No	No	No	1	0	0	1	1	0	1	0	2	Unlikely	0	0.00
59-24	4	CENTER ST	0.33	No	No	No	No	1	0	0	1	1	0	1	0	2	Unlikely	0	0.00
61-25	14	CANAL ST	0.33	No	Yes	Yes	No	1	0	0	1	1	0	1	0	2	Unlikely	0	0.00
61-32	57	VILLAGE ST	0.77	Yes	Yes	No	No	1	0	0	1	1	0	1	0	2	Unlikely	0	0.00
55-36	5	HOLBROOK ST	1.76	Yes	No	No	No	0	0	1	1	1	0	1	0	2	Unlikely	0	0.00
59-40	0	CENTER ST	2.49	No	No	No	No	1	0	0	1	1	0	1	0	2	Unlikely	0	0.00

Parcel_ID	Street Number	Street Name	Parcel Area (acres)	Owned by Con Comm	Zone II	21e adjacent (w/in 200 ft)	Exclusion Greater Than 70% wetland area	Soil Conditions				Infiltration Demand			Town Priority	Total Score	Preliminary Classification	Preliminary Recharge Calculation	
								HSG Score	Groundwater Score	No Soil Restrictions	Soil Total	GW Recharge Priority	Impervious Cover Score	Infiltration Demand Total				Treatment System	Annual Recharge 1" Design (mgy)
44-50	93	MILFORD ST	3.50	Yes	No	No	No	0	0	1	1	1	0	1	0	2	Unlikely	0	0.00
49-60	13	DEAN ST	2.07	No	No	No	No	1	0	0	1	1	0	1	0	2	Unlikely	0	0.00
49-69	0	HENRY ST	0.82	No	No	No	No	1	0	0	1	1	0	1	0	2	Unlikely	0	0.00
28-91	33	AZALEA DR	1.02	Yes	No	No	No	1	1	0	2	0	0	0	0	2	Unlikely	0	0.00
29-93	40	ADAMS ST	1.01	No	No	No	No	2	0	0	2	0	0	0	0	2	Unlikely	0	0.00
29-94	42	ADAMS ST	1.01	No	No	No	No	2	0	0	2	0	0	0	0	2	Unlikely	0	0.00
29-97	44	ADAMS ST	1.01	No	No	No	No	2	0	0	2	0	0	0	0	2	Unlikely	0	0.00
29-98	46	ADAMS ST	1.01	No	No	No	No	2	0	0	2	0	0	0	0	2	Unlikely	0	0.00
22-103	0	MORNINGSIDE	0.22	Yes	No	No	No	1	0	0	1	1	0	1	0	2	Unlikely	0	0.00
21-108	85	LOVERING ST	0.79	Yes	No	No	No	1	1	0	2	0	0	0	0	2	Unlikely	0	0.00
21-111	87	LOVERING ST	1.85	Yes	No	No	No	1	1	0	2	0	0	0	0	2	Unlikely	0	0.00
11-113	26	STABLE WAY	0.18	No	No	No	No	1	0	0	1	1	0	1	0	2	Unlikely	0	0.00
67-4	14	WATERVIEW D	3.22	Yes	No	No	Excluded	2	0	0	2	1	0	1	0	0	Unlikely	0	0.00
58-17	313	VILLAGE ST	0.34	Yes	No	No	Excluded	0	1	1	2	1	0	1	0	0	Unlikely	0	0.00
56-20	3	ARDMORE CIR	1.11	Yes	No	No	Excluded	2	1	0	3	1	0	1	0	0	Unlikely	0	0.00
44-49	93	MILFORD ST	3.02	Yes	No	No	Excluded	0	0	1	1	1	0	1	0	0	Unlikely	0	0.00
43-62	137	MILFORD ST	5.46	Yes	Yes	No	Excluded	2	0	1	3	1	0	1	0	0	Unlikely	0	0.00
16-112	0	SADDLE HILL R	1.00	Yes	No	No	Excluded	0	0	1	1	1	0	1	0	0	Unlikely	0	0.00
16-114	5	MAPLE LEAF L	0.97	Yes	Yes	No	Excluded	2	1	1	4	1	0	1	0	0	Unlikely	0	0.00
16-116	0	SADDLE HILL R	0.99	Yes	No	No	Excluded	0	0	1	1	1	0	1	0	0	Unlikely	0	0.00
16-117	4	MAPLE LEAF L	5.23	Yes	Yes	No	Excluded	2	1	1	4	1	0	1	0	0	Unlikely	0	0.00
02-124	17	COLONIAL RD	10.66	No	No	No	Excluded	2	1	1	4	0	0	0	0	0	Unlikely	0	0.00
02-125	18	ALEXSANDRIA	7.18	Yes	No	No	Excluded	2	1	1	4	0	0	0	0	0	Unlikely	0	0.00
05-126	190	HOLLISTON ST	12.99	Yes	No	No	Excluded	0	1	1	2	1	0	1	0	0	Unlikely	0	0.00

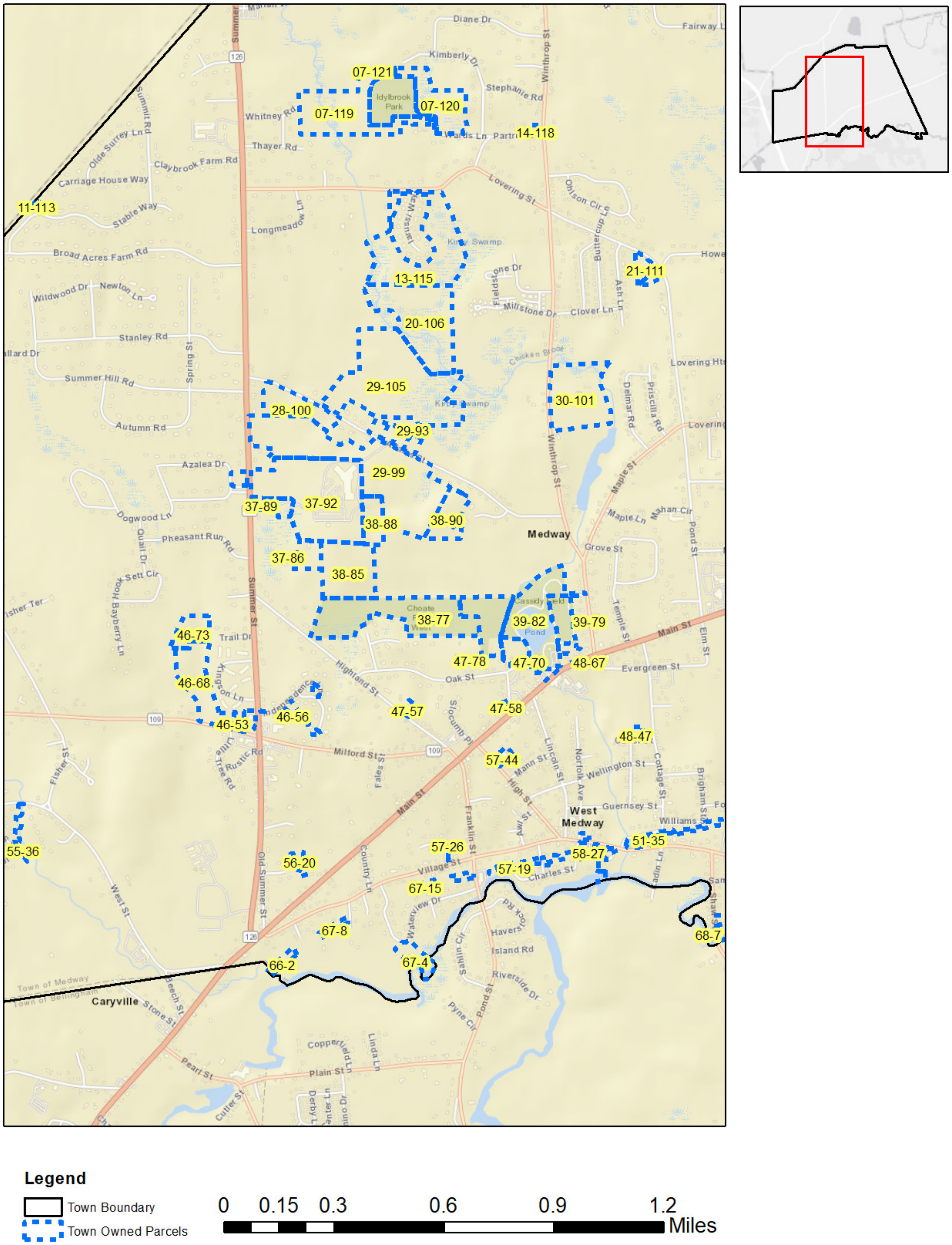


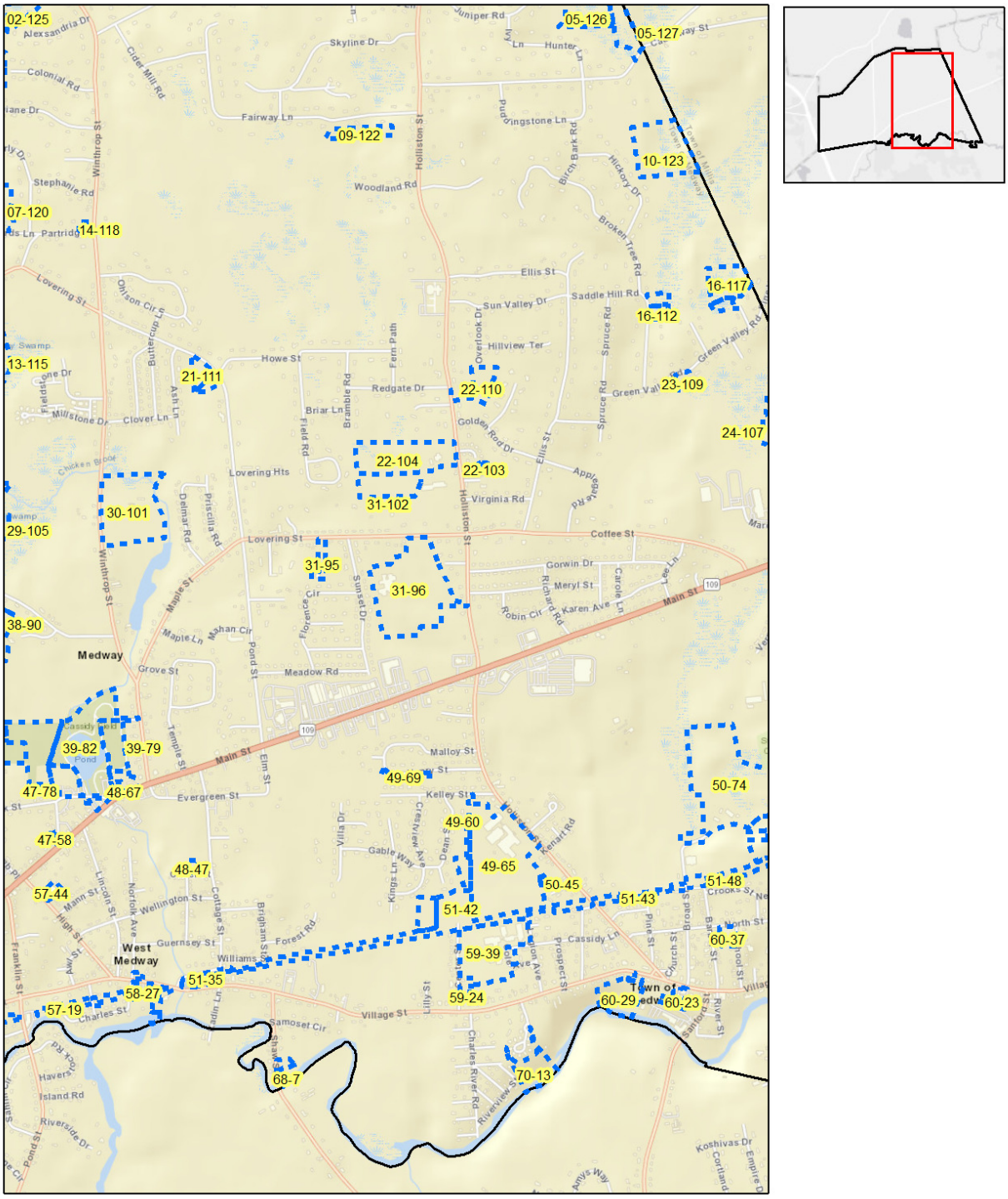
Legend

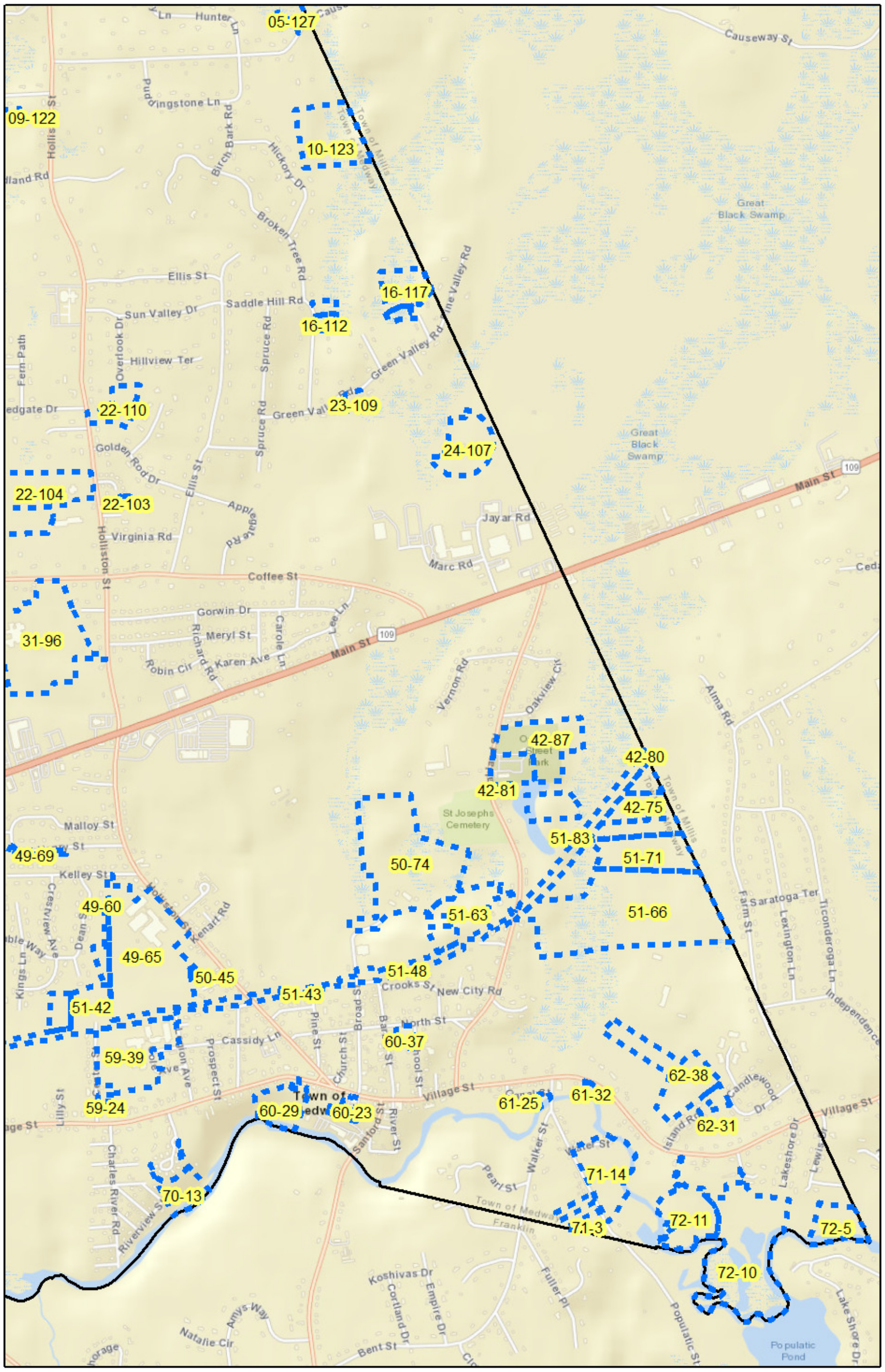
Town Boundary

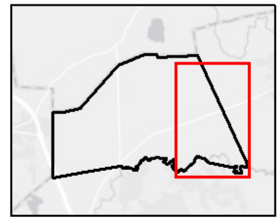
Town Owned Parcels

0 0.15 0.3 0.6 0.9 1.2 Miles


07-121
07-119
07-120
14-118
11-113
13-115
21-111
20-106
29-105
30-101
28-100
29-93
29-99
37-89
37-92
38-88
38-90
37-86
38-85
38-77
39-82
39-79
46-73
47-78
47-70
48-67
46-68
47-57
47-58
46-53
46-56
48-47
57-44
55-36
57-26
58-27
51-35
56-20
57-19
67-15
67-8
68-7
66-2
67-4
Medway
West Medway
Caryville
Legend
Town Boundary
Town Owned Parcels
0 0.15 0.3 0.6 0.9 1.2
Miles


02-125
05-126
05-127
09-122
10-123
07-120
14-118
16-117
16-112
13-115
21-111
22-110
23-109
24-107
22-104
22-103
31-102
30-101
29-105
31-95
31-96
38-90
Medway
39-82
39-79
47-78
48-67
49-69
50-74
49-60
47-58
48-47
49-65
57-44
50-45
51-48
51-43
51-42
West Medway
59-39
60-37
58-27
51-35
57-19
59-24
60-29
60-23
68-7
70-13
Legend
Town Boundary
Town Owned Parcels
0 0.15 0.3 0.6 0.9 1.2
Miles



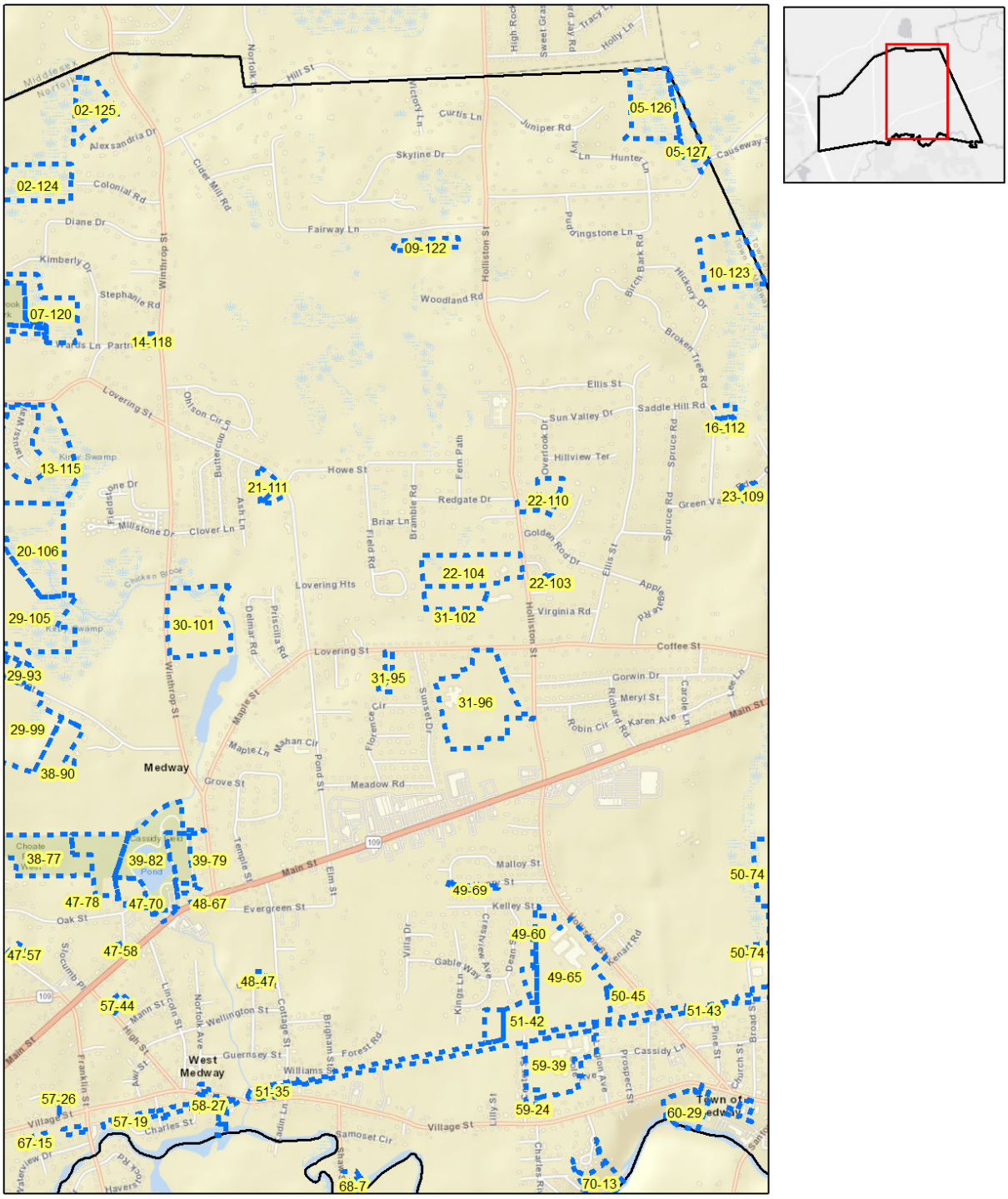


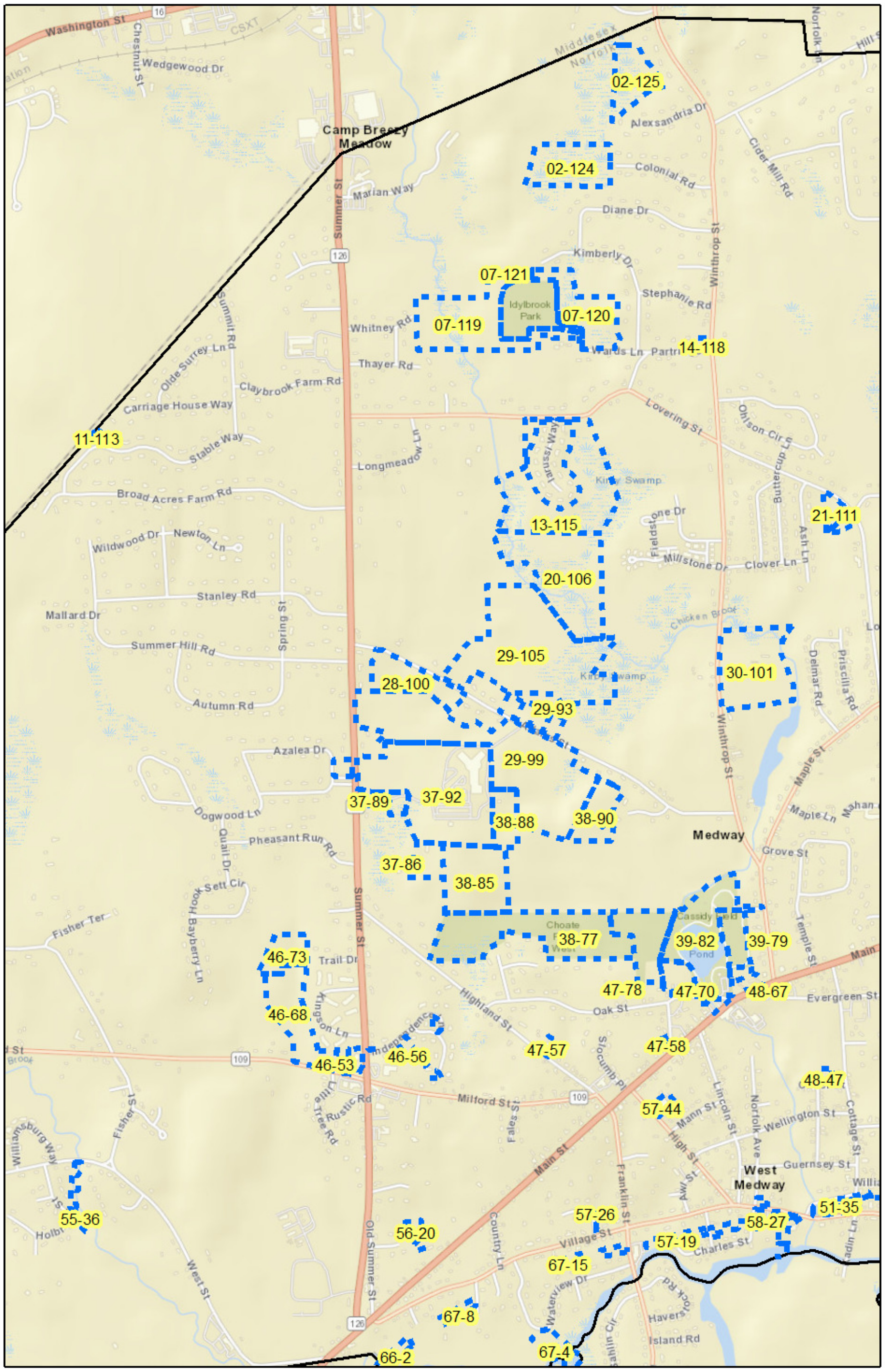
Legend

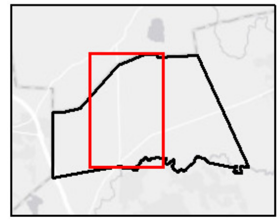
Town Boundary

Town Owned Parcels

0 0.15 0.3 0.6 0.9 1.2 Miles


02-125
02-124
07-120
14-118
13-115
20-106
29-105
29-93
29-99
38-90
38-77
39-82
39-79
47-78
47-70
48-67
47-57
47-58
57-44
48-47
57-26
58-27
57-19
67-15
68-7
51-35
59-39
59-24
70-13
60-29
51-42
49-60
49-65
49-69
50-45
50-74
51-43
31-95
31-96
31-102
22-104
22-103
22-110
21-111
30-101
09-122
10-123
16-112
23-109
05-126
05-127
Medway
West Medway
Town of Medway
Legend
Town Boundary
Town Owned Parcels
0 0.15 0.3 0.6 0.9 1.2
Miles





Legend

Town Boundary

Town Owned Parcels

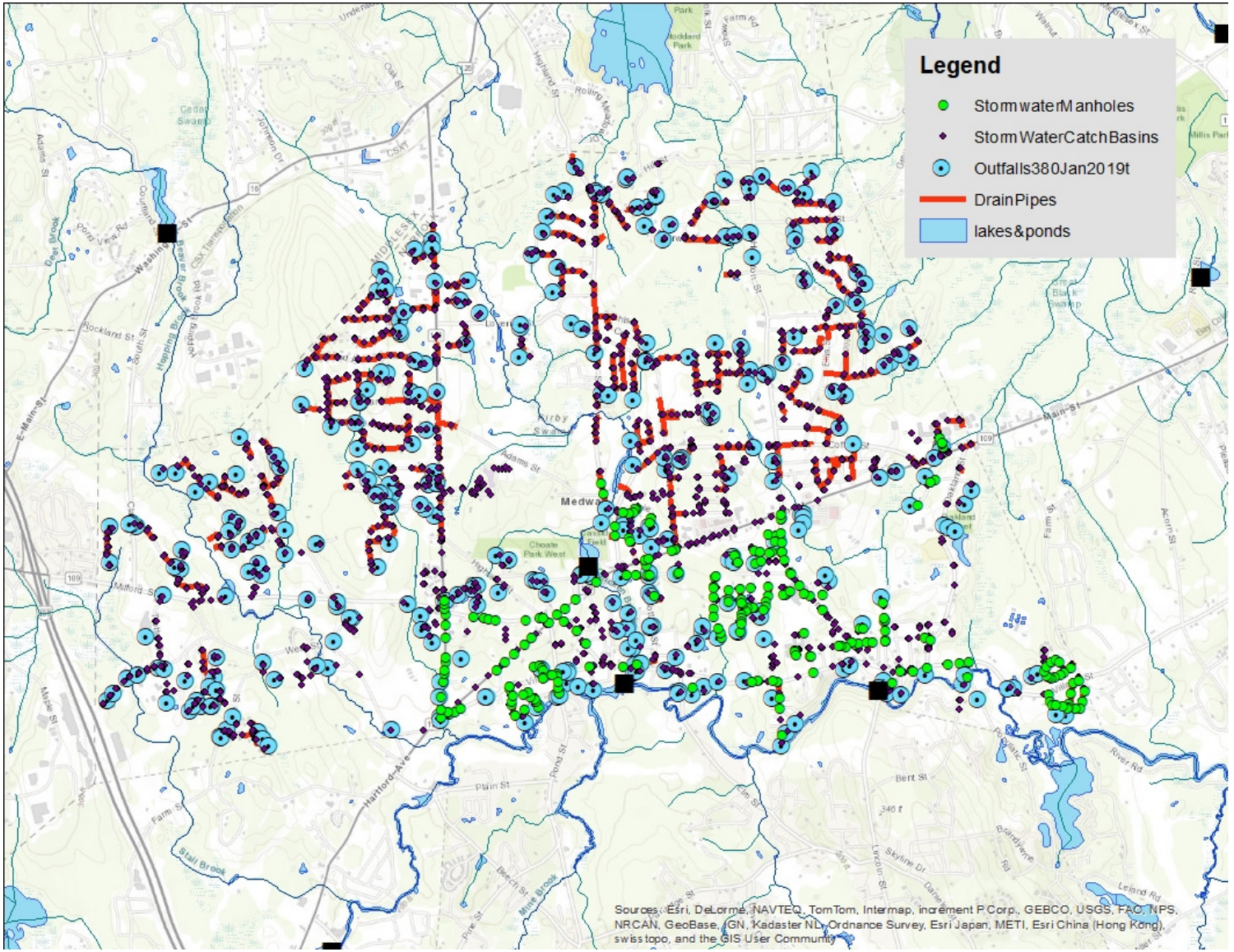
0 0.15 0.3 0.6 0.9 1.2 Miles

Infiltration Feasibility Assessment of Town-owned Properties, Medway, MA

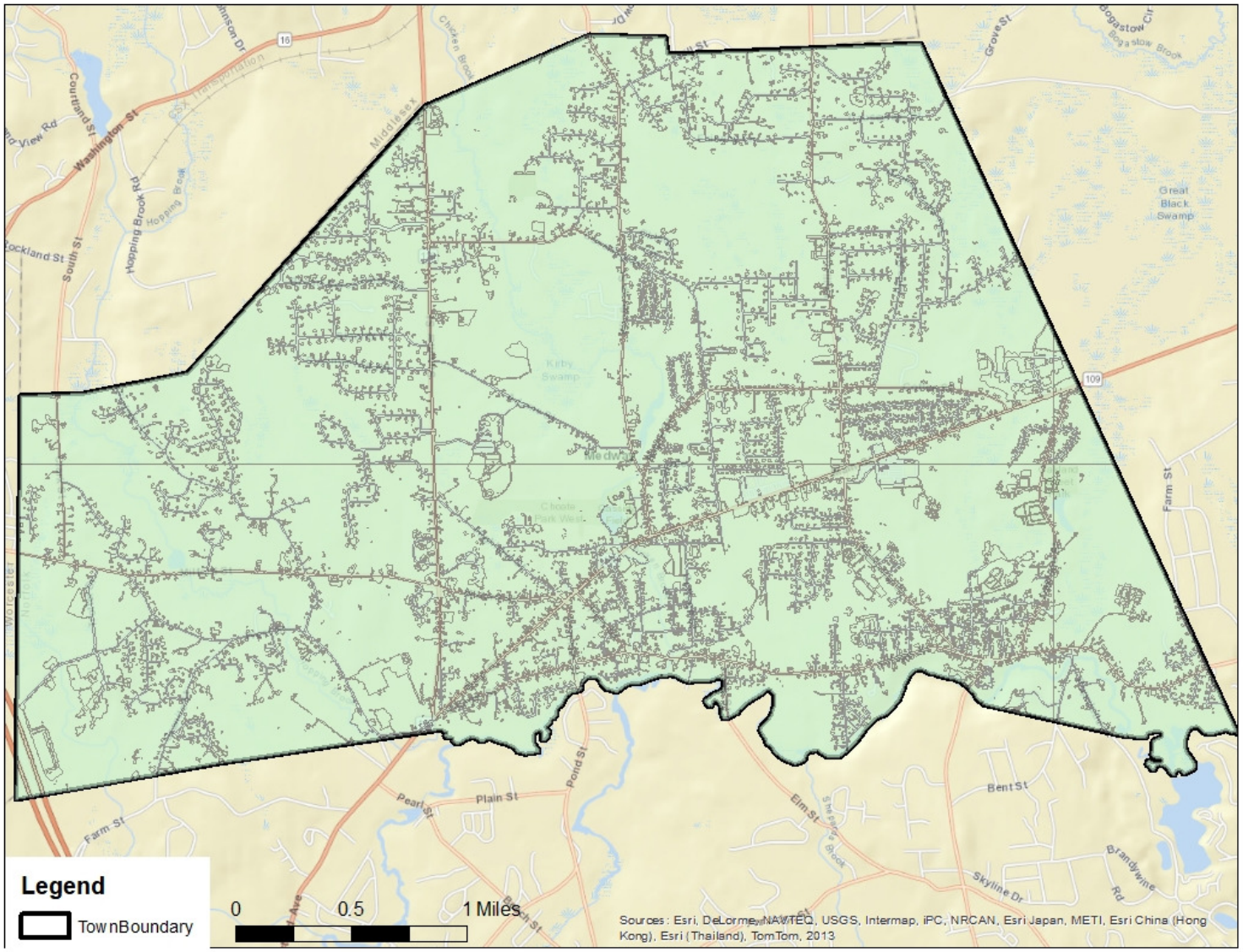
Existing Conditions Mapping

May 2020

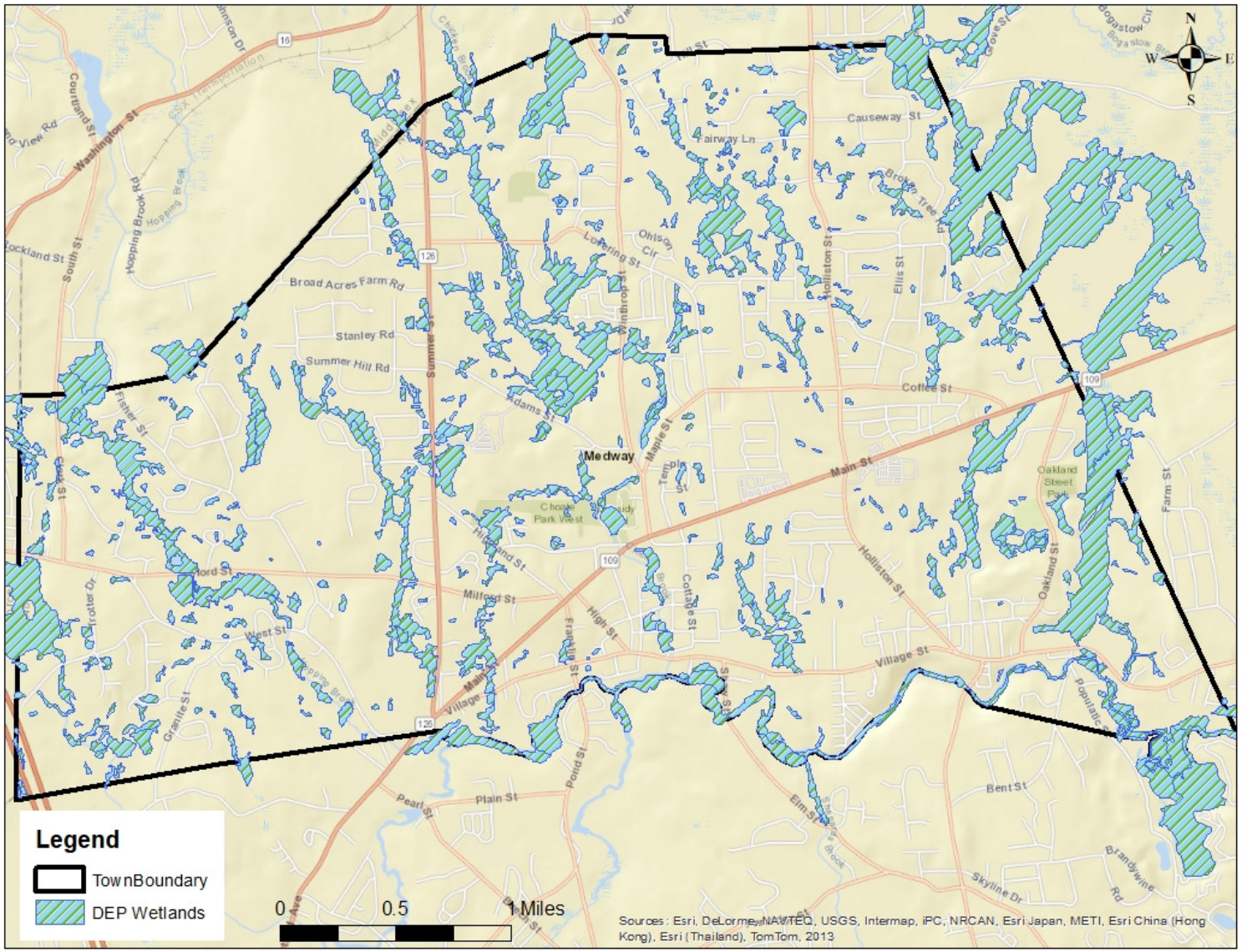
Stormwater Infrastructure



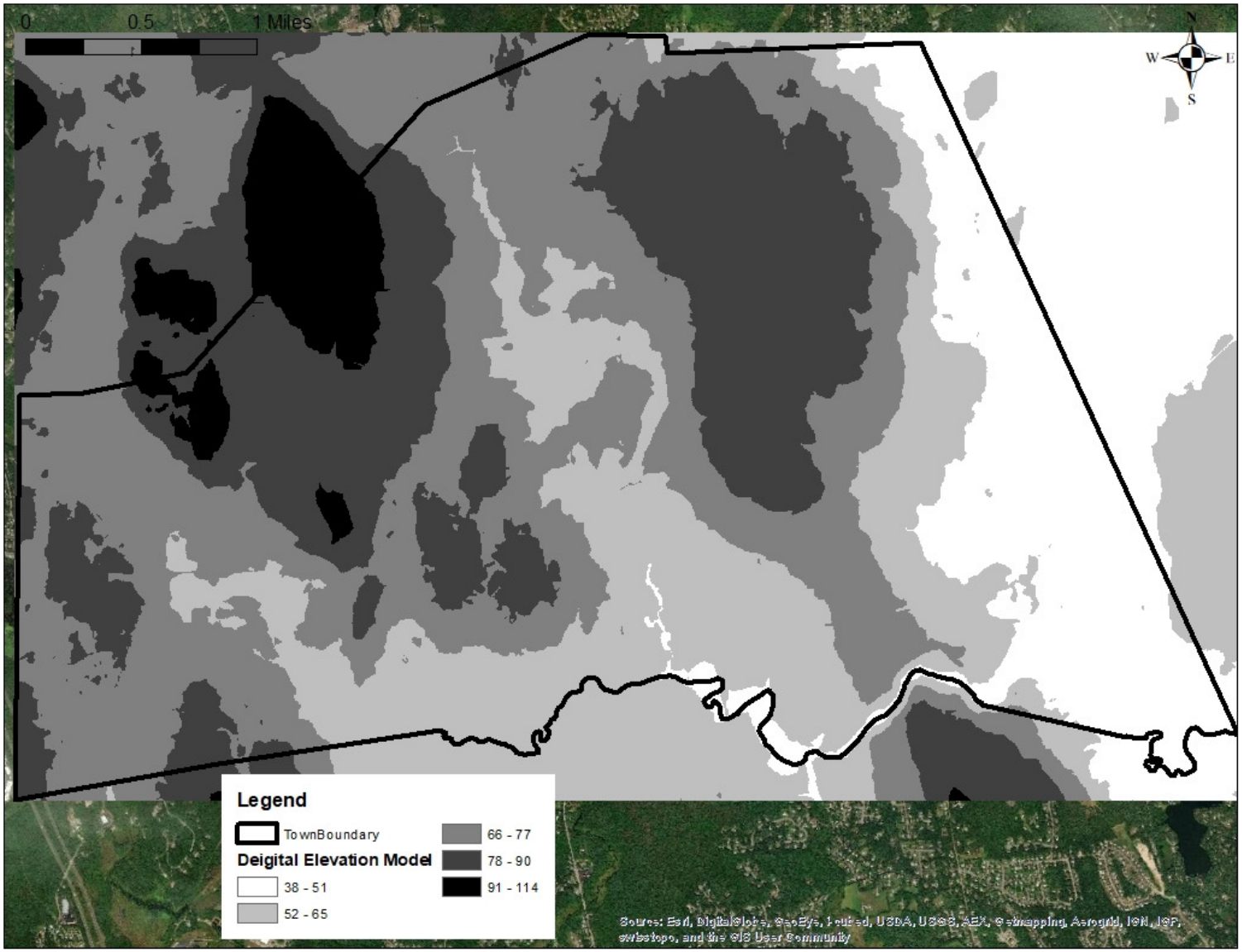
Impervious Cover



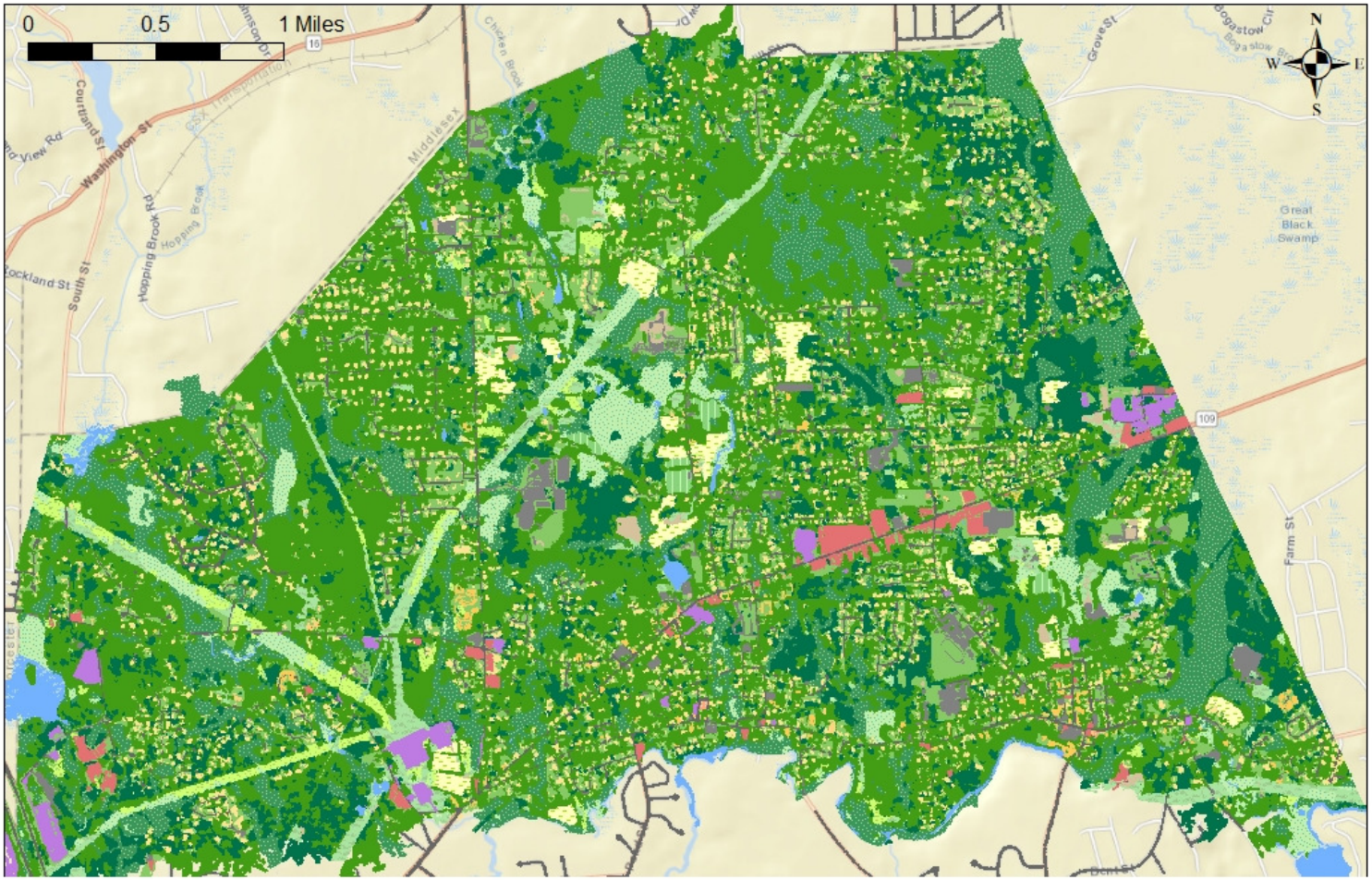
Wetlands


Legend
TownBoundary
DEP Wetlands
0
0.5
1 Miles
Medway
Main St
Village St
Milford St
Broad Acres Farm Rd
Stanley Rd
Summer Hill Rd
Causeway St
Fairway Ln
Coffee St
Plain St
Pearl St
Bent St
Skyline Dr
Brandywine Rd
Washington St
Hopping Brook Rd
Hopping Brook
Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

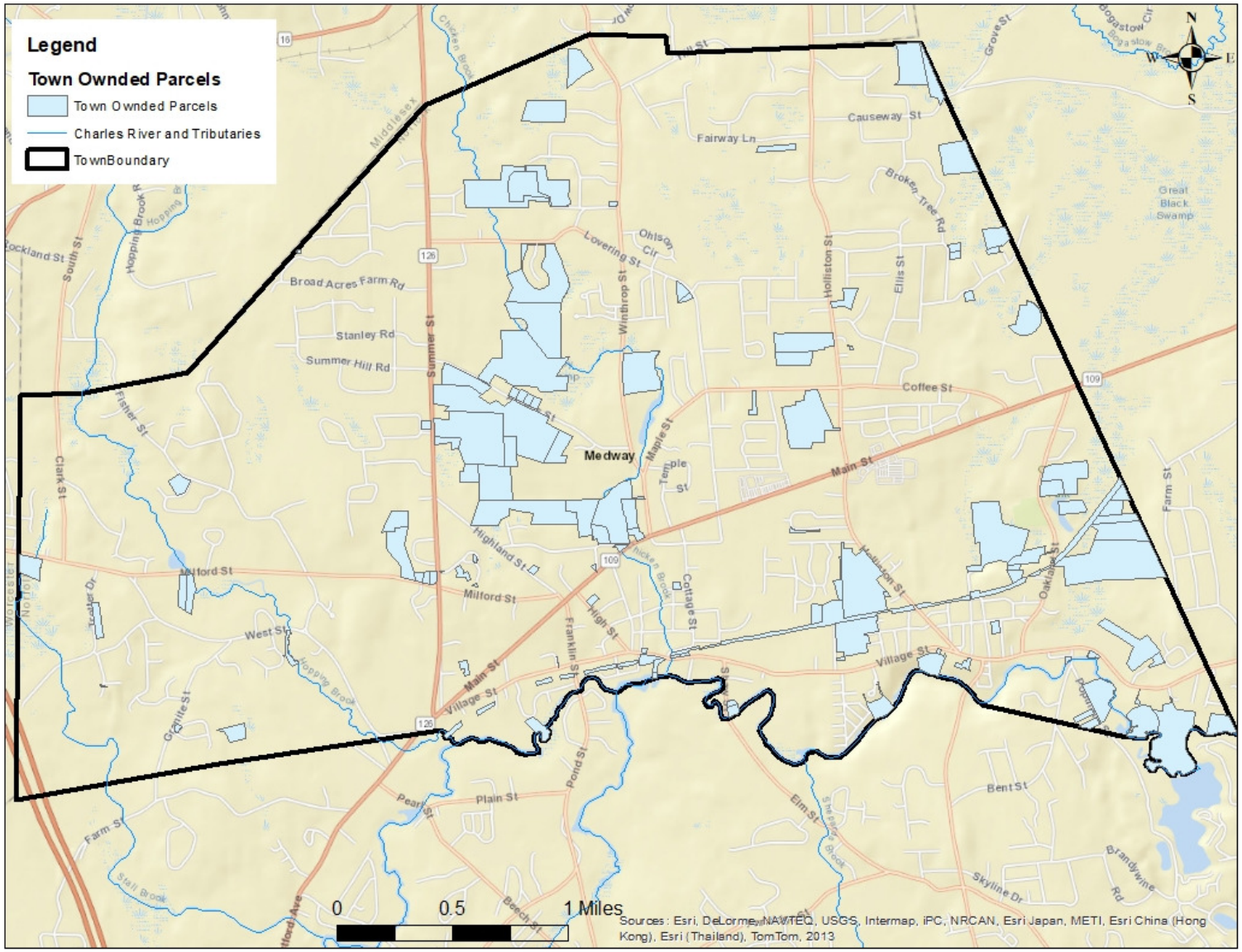
Elevation


0
0.5
1 Miles
N
W
E
S
Legend
TownBoundary
Deigital Elevation Model
38 - 51
52 - 65
66 - 77
78 - 90
91 - 114
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

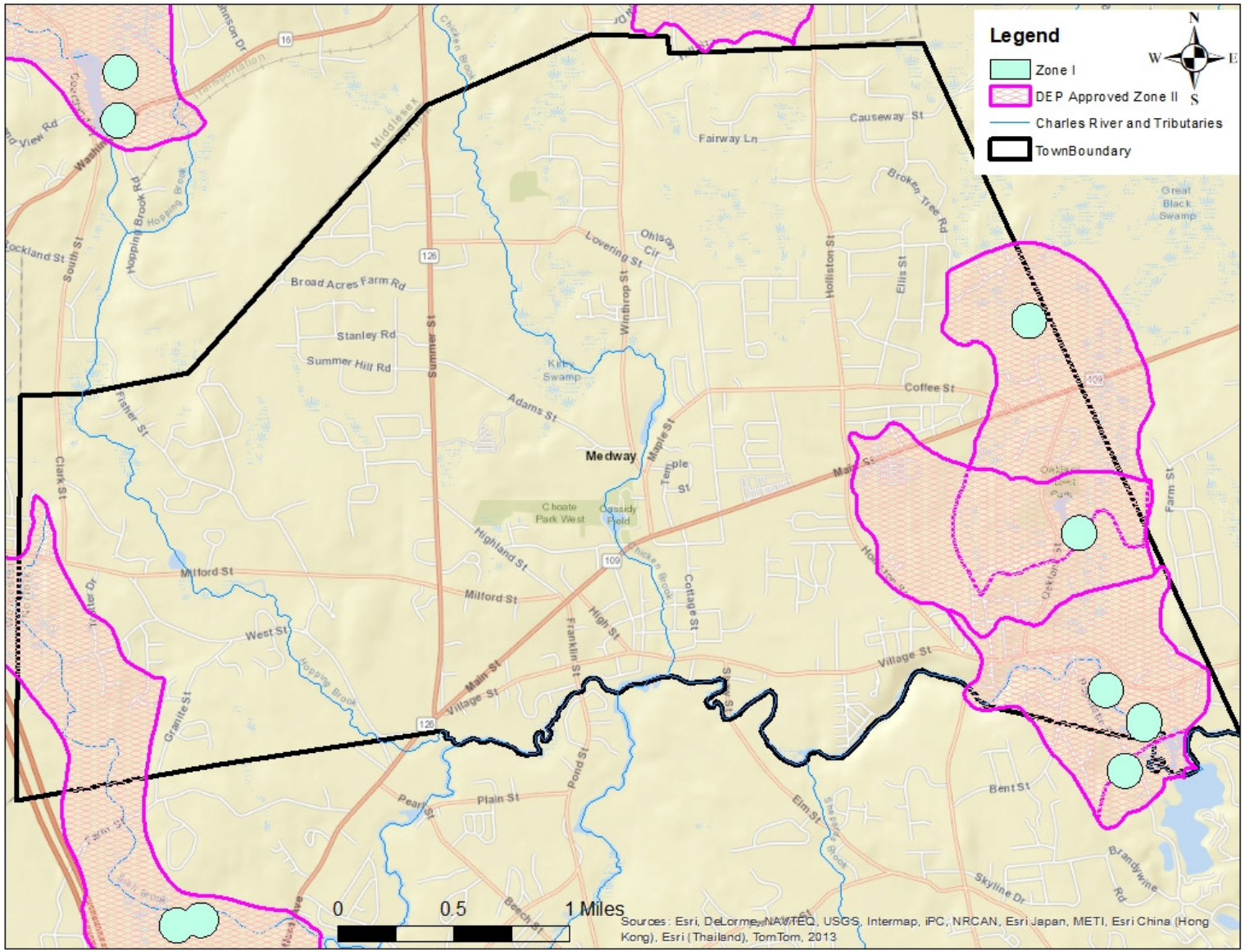
Land Use / Land Cover



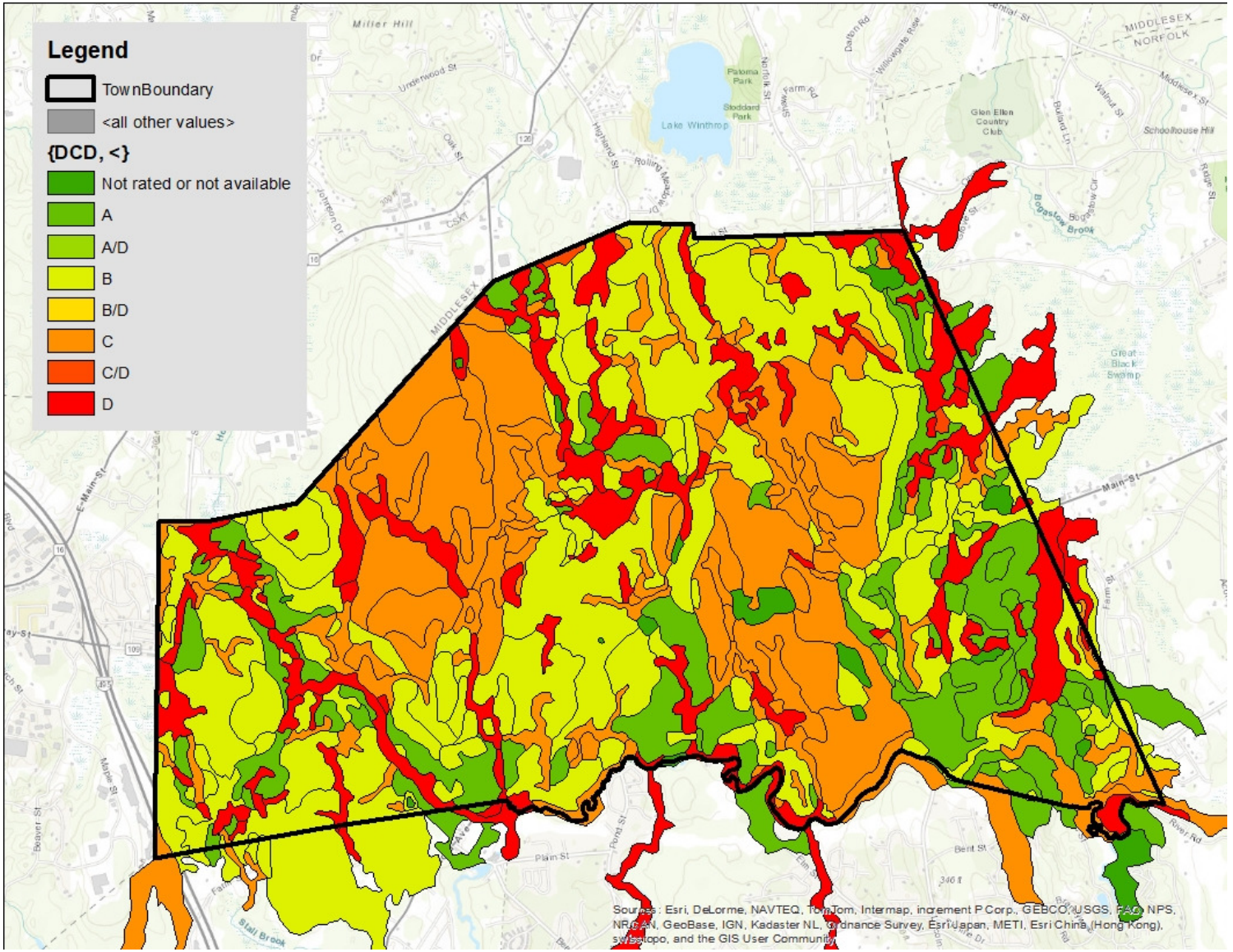
Town Owned Parcels



Water Supply Protection Zones

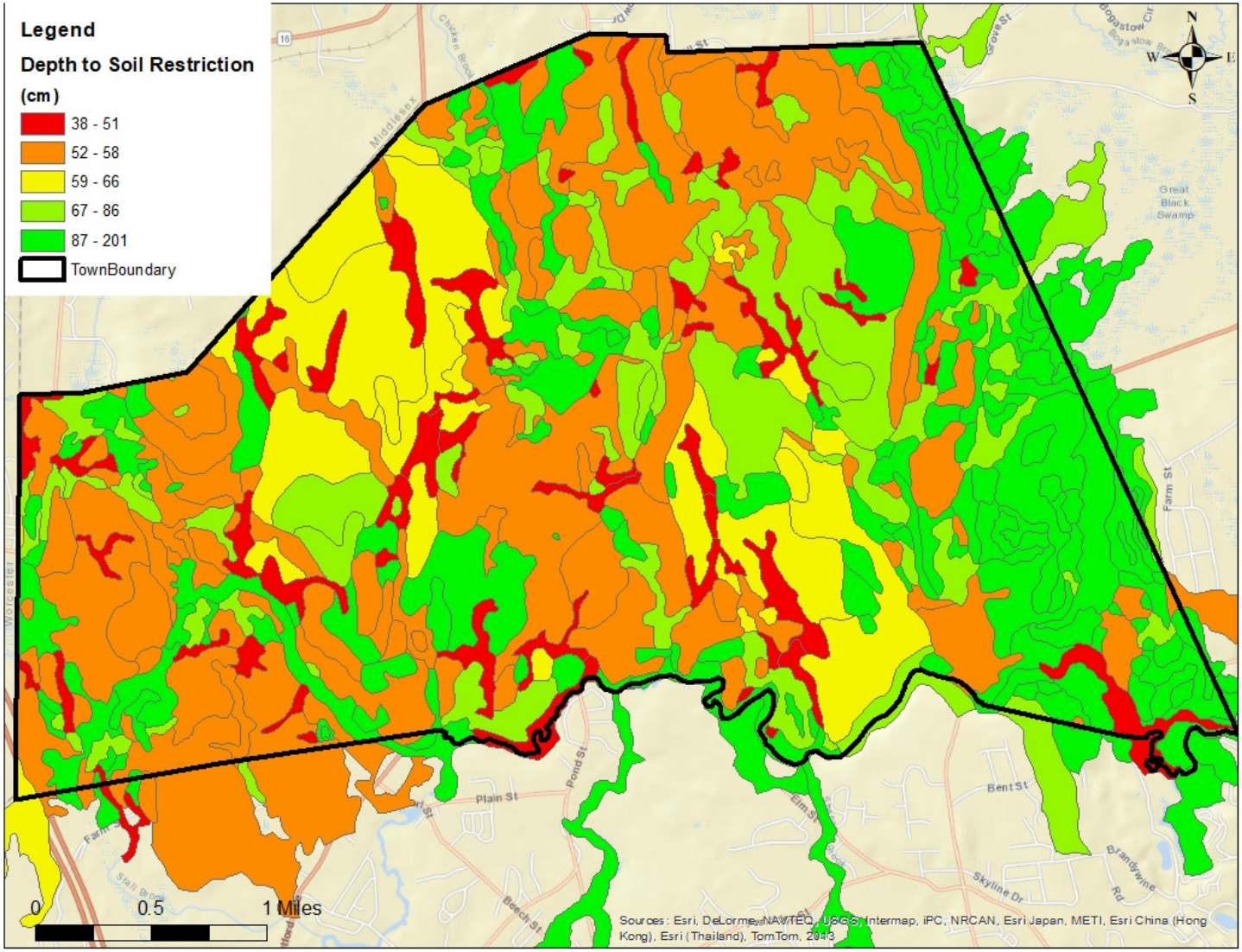


Hydrologic Soil Group



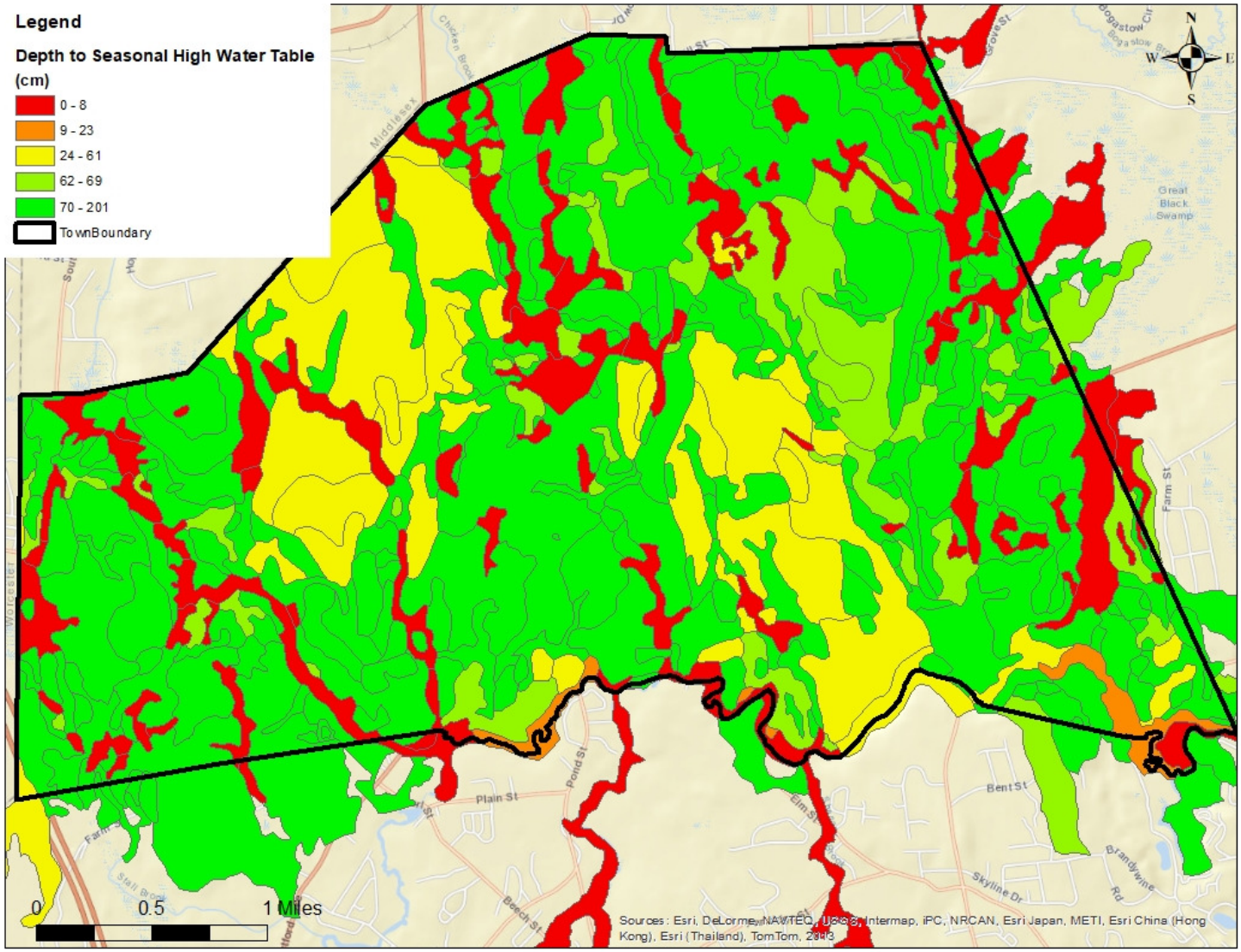
Data source: Natural Resources Conservation Service (NRCS) accessed though Soil Data View ArcMap extension

Depth to Soil Restriction



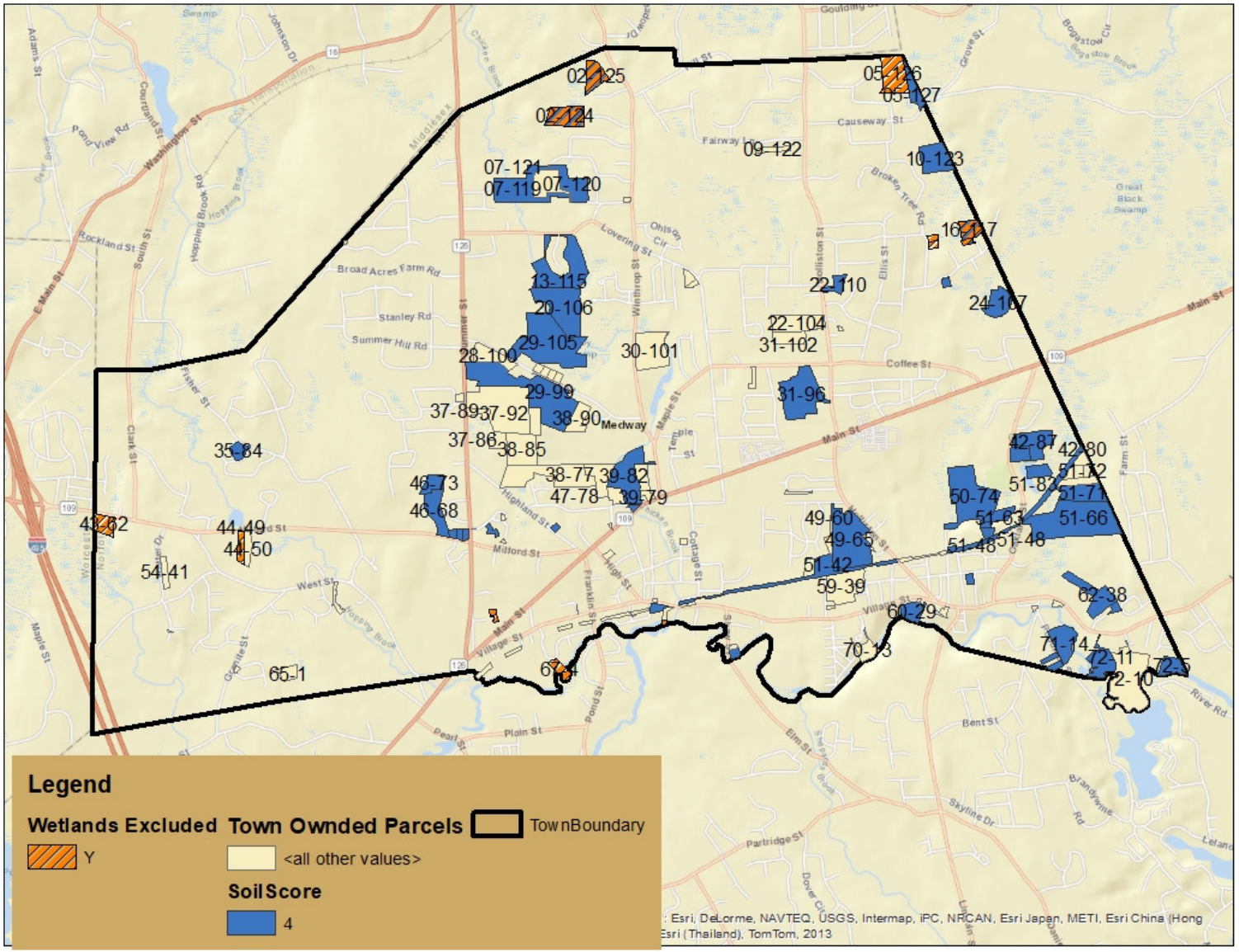
Data source: Natural Resources Conservation Service (NRCS) accessed though Soil Data View ArcMap extension

Seasonal High Water Table



Data source: Natural Resources Conservation Service (NRCS) accessed though Soil Data View ArcMap extension. Season = February – May.

Town Owned Parcels:
Wetland Exclusions and High Soil Scores



McClure Engineering, Inc.
119 Worcester Road
Charlton, MA 01507
508.248.2005

TEST PIT REPORT FORM

Project: Town of Medway 155 Village Street Medway, MA 02053	**Client:** Town of Medway 155 Village Street Medway, MA 02053	**Test Pit Number:** T.P. # 1 at 88 Summer Street Medway High School **Date performed:** June 17, 2020
Contractor: David Perry Dowling Corp. Wrentham, MA	**McClure Observer:** Peter Engle, P.E.	**Weather:** 80's Clear
Contractor personnel on site: 1 Operator w/ Mini Excavator	**Others on site:** Stephanie Carlisle, Town	**Approx. Ground Elevation (feet):** 265.5 +/-

Depth (Inches)	USDA Soil Textural Classification	Moisture By feel	Redox Features (Inches)	% Fines < .05 mm	% Coarse > 2.0 mm
0 - 24	Top Soil & Fill				
24-84	C – Very Gravelly Loamy Sand 2.5Y5/2	Dry	N/A	<20	>10
Note:					

Comments: No groundwater weeping or standing observed in Test Pit.	**Ground water @:** >84" **Refusal @:** >84"

McClure Engineering, Inc.
119 Worcester Road
Charlton, MA 01507
508.248.2005

TEST PIT REPORT FORM

Project: Town of Medway 155 Village Street Medway, MA 02053	**Client:** Town of Medway 155 Village Street Medway, MA 02053	**Test Pit Number:** T.P. # 2 at 88 Summer Street Medway High School **Date performed:** June 17, 2020
Contractor: David Perry Dowling Corp. Wrentham, MA	**McClure Observer:** Peter Engle, P.E.	**Weather:** 80's Clear
Contractor personnel on site: 1 Operator w/ Mini Excavator	**Others on site:** Stephanie Carlisle, Town	**Approx. Ground Elevation (feet):** 230.0 +/-

Depth (Inches)	USDA Soil Textural Classification	Moisture By feel	Redox Features (Inches)	% Fines < .05 mm	% Coarse > 2.0 mm
0 - 42	Top Soil & Fill				
42-48	A_B - Buried Top Soil				
48-72	C – Very Gravelly Loamy Sand 2.5Y5/2	Dry	48" 10YR5/8	<20	>10
Note:					

Comments: No groundwater weeping or standing observed in Test Pit.	**ESHGW @:** 48" Determined by Redox **Refusal @:** 72"

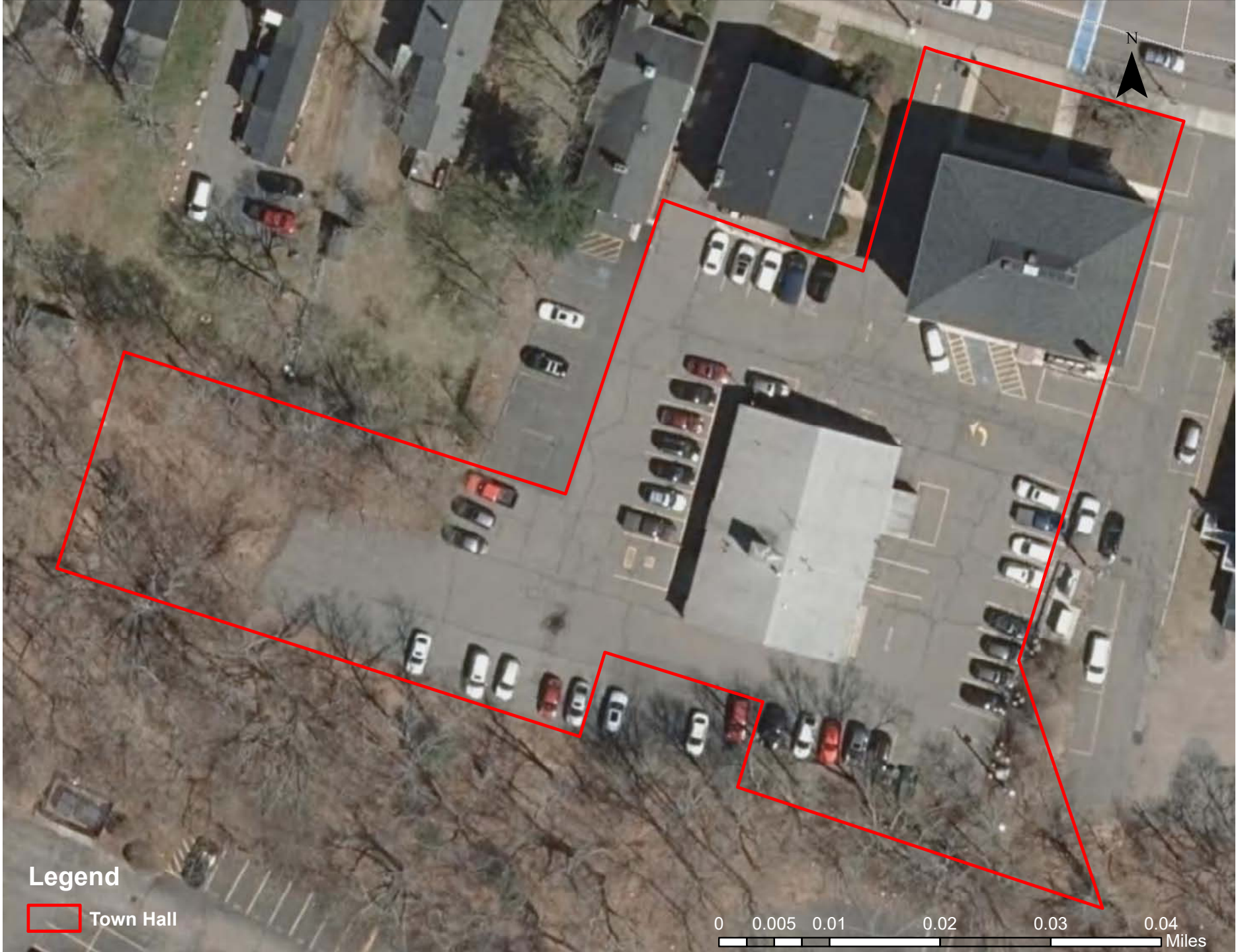
McClure Engineering, Inc.
119 Worcester Road
Charlton, MA 01507
508.248.2005

TEST PIT REPORT FORM

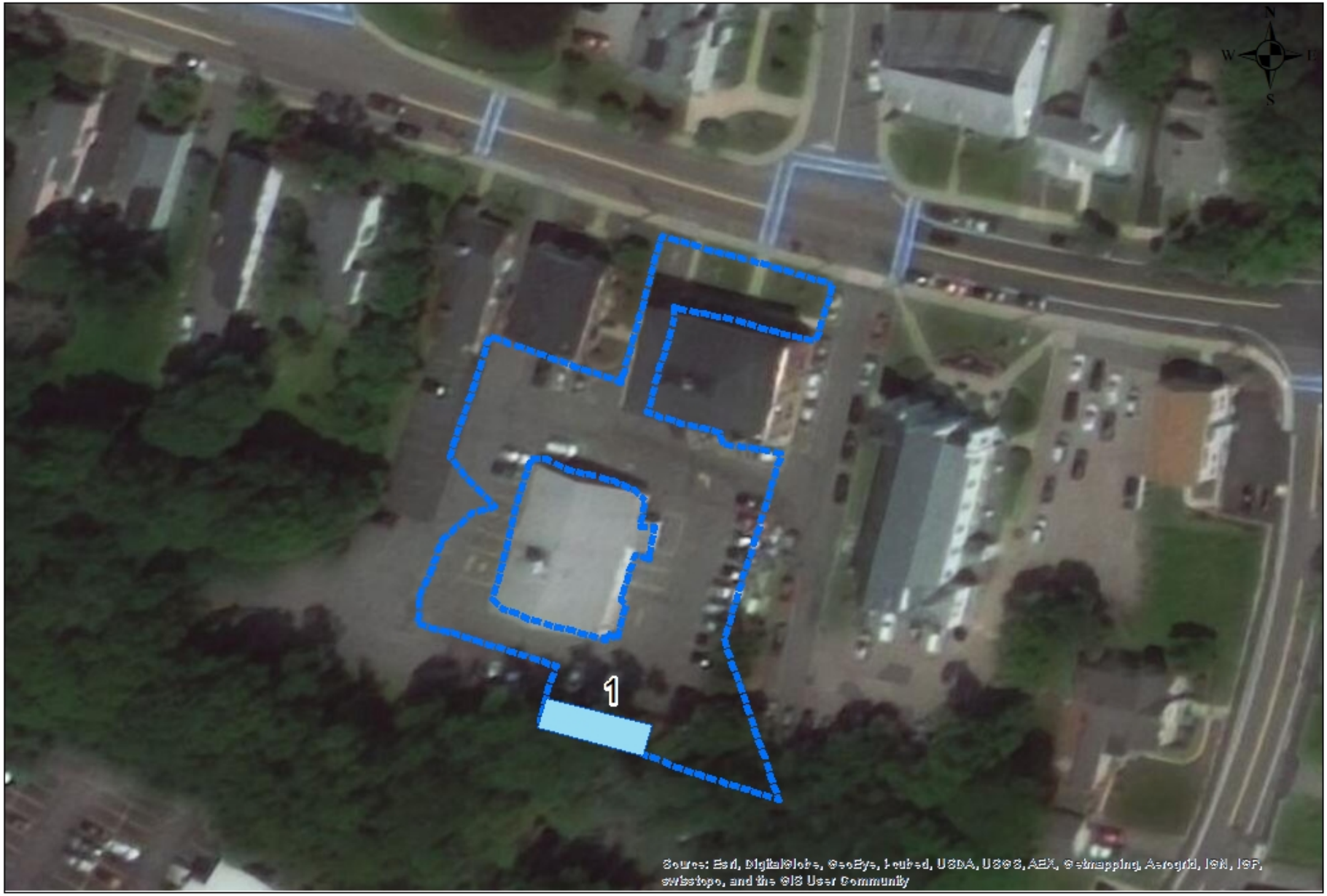
Project: Town of Medway 155 Village Street Medway, MA 02053	**Client:** Town of Medway 155 Village Street Medway, MA 02053	**Test Pit Number:** T.P. # 1 at 45 Holliston Street Medway Middle School **Date performed:** June 17, 2020
Contractor: David Perry Dowling Corp. Wrentham, MA	**McClure Observer:** Peter Engle, P.E.	**Weather:** 80's Clear
Contractor personnel on site: 1 Operator w/ Excavator	**Others on site:** Stephanie Carlisle, Town	**Approx. Ground Elevation (feet):** 216.5 +/-

Depth (Inches)	USDA Soil Textural Classification	Moisture By feel	Redox Features (Inches)	% Fines < .05 mm	% Coarse > 2.0 mm
0 - 96	Fill		N/A		
Note:	Unknown Sewer Line Struck at 84", Test Pit Digging Postponed				

Comments: No groundwater weeping or standing observed in Test Pit.	**Ground water @:** >96" **Refusal @:** >96"


N
Legend
Town Hall
0 0.005 0.01 0.02 0.03 0.04
Miles


Town Hall
We're
all
in this together



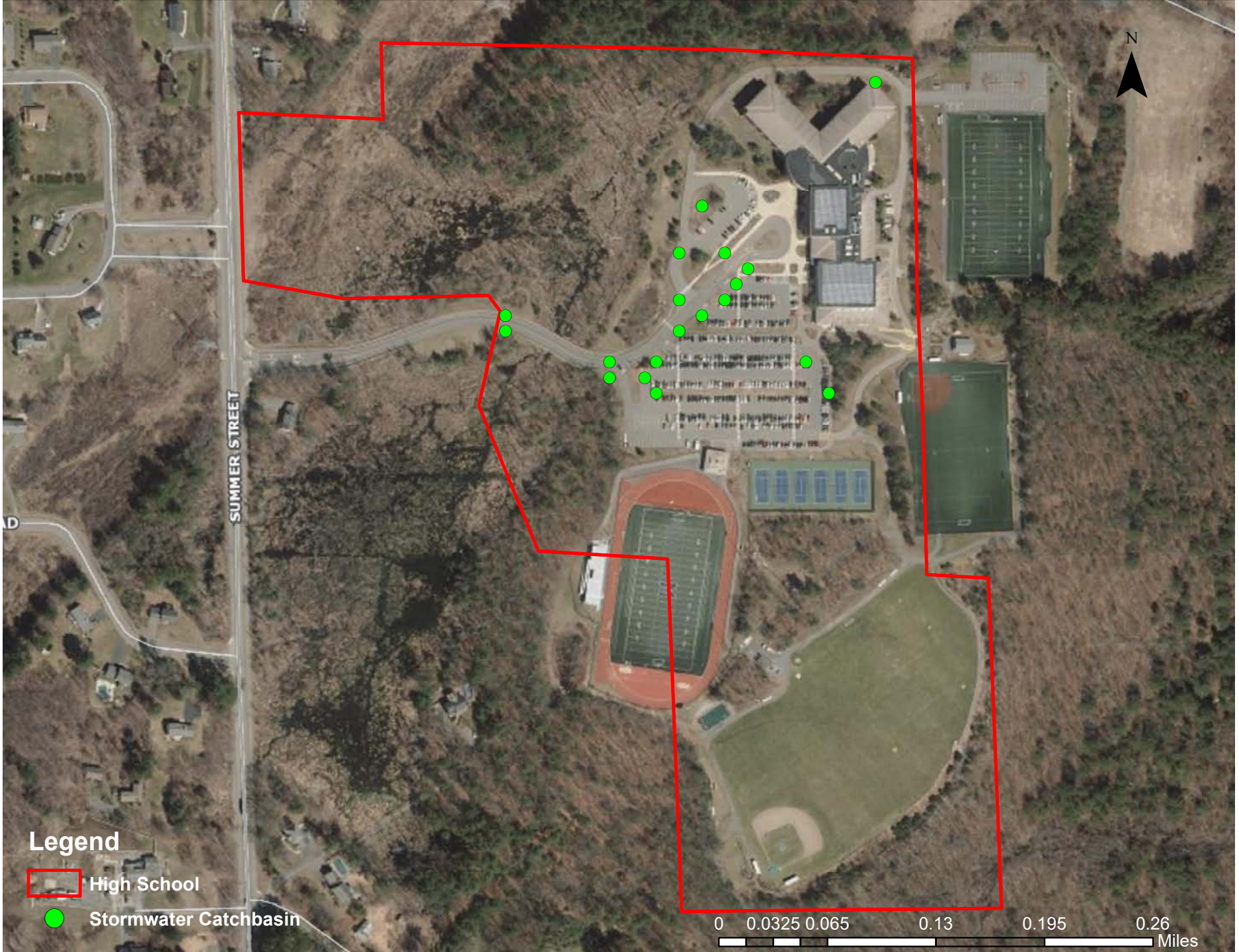
Priority Site: Town Hall

0 50 100 200 Feet

Legend

Proposed Infiltration System (IS)

IS Drainage Area


N
SUMMER STREET
Legend
High School
Stormwater Catchbasin
0 0.0325 0.065 0.13 0.195 0.26
Miles

Priority Site: Medway High School

0 0.05 0.1 Miles

Legend

Proposed Infiltration System (IS)

IS Drainage Area


KELLEY STREET
CRESTVIEW AVENUE
DEAN STREET
KENNEY DRIVE
HOLLISTON STREET
KENART ROAD
N
Legend
Stormwater Catchbasin
Medway Middle School
Stormwater Manhole
0 0.0275 0.055 0.11 0.165 0.22
Miles

Priority Site: Medway Middle School

0 75 150 300 Feet

Legend

Proposed Infiltration System (IS)

IS Drainage Area


LOVERING STREET
LOVERING STREET
N
WILLOW CREST WAY
SUNSET DRIVE
HOLLISTON STREET
Legend
Stormwater Catchbasin
Burke Memorial Elementary School
0 0.0225 0.045 0.09 0.135 0.18
Miles

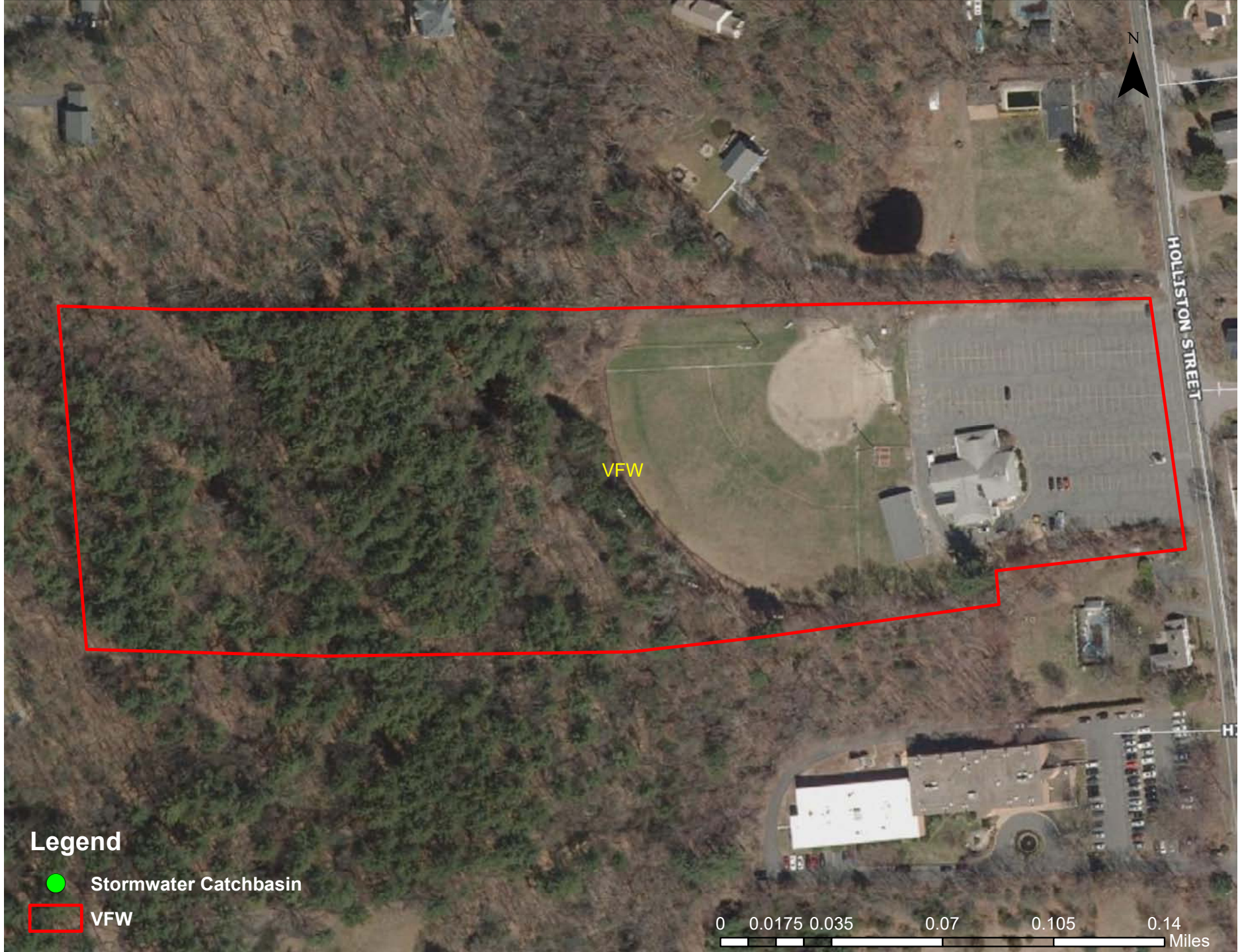
Priority Site: McGovern Elementary School

0 100 200 Feet

Legend

- Proposed Infiltration Basin
- Drainage Areas


WHO BUT
W.B.MASON


N
HOLLISTON STREET
VFW
Legend
Stormwater Catchbasin
VFW
0 0.0175 0.035 0.07 0.105 0.14
Miles

Priority Site: VFW

0 50 100 200 Feet

Legend

Proposed Infiltration System (IS)

IS Drainage Area


Stormwater
transformed into a
Work of Art

Registration Report
Attendee Details
A. Schofield
D. Burau
M. Reilly Meagher
J. Hook
K. Dye
K. Swoboda
D. Foster
K. Smith
L. Cameron
A. Field-Juma
E. Gildesgame
R. Krupa
K. T
C. Buzby
P. King
B. Martin
A. Ferrario
B. Popolow
C. Toole
L. Rothstein
M. Gorchels
M. Zettek
F. Delavy
D. Sundell
B. Ravanesi
L. mclane
j. m
C. woodbury
M. King
I. Gambill
J. Sanders
F. O'Brien
C. Watson
N. Porter

Capturing Rainwater to Protect and Preserve our Drinking Water

Julie Wood, Deputy Director
July 6, 2020

Charles River Watershed Association

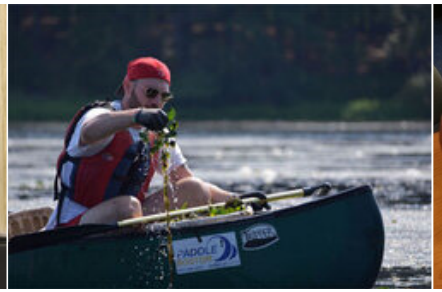
Charles River Watershed Association

Charles River Watershed Association

CRWA's mission is to protect, restore, and enhance the Charles River and its watershed through science, advocacy, and law.

- Founded in 1965 by concerned citizens
- One of oldest watershed associations in the country
- Work with EPA, state agencies, and 35 watershed municipalities
- Interdisciplinary staff
- Program Areas:
  - River Science
  - Blue Cities Initiative
  - Climate Change Adaptation
  - Law, Advocacy, and Policy




Charles River Watershed Association

Charles River Watershed Association

Rainfall in Massachusetts

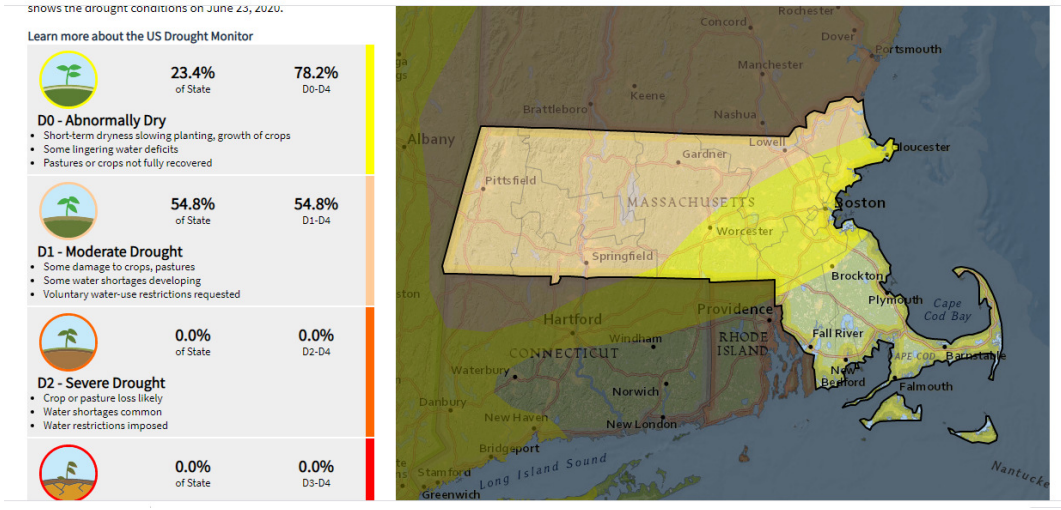
- About 42”/year, expected to increase
- Large storms are increasing in frequency, more rain coming in fewer rain/snow events
- Longer periods of dry weather – summer and fall in particular

- Rain falls from the sky – for free!

Charles River Watershed Association

Increasing Infiltration in Medway

- Town of Medway relies on local groundwater as a potable water source
- Most Charles River watershed communities have a new stormwater permit requiring more aggressive stormwater management practices (MS4 permit)
- Town identified both flooding and water supply as potential concerns in a changing climate



U.S. Drought Portal: https://www.drought.gov/drought/states/massachusetts

"This project has been financed partially with State Capital Funds from the Massachusetts Department of Environmental Protection (the Department) under a Sustainable Water Management Initiative Grant. The contents do not necessarily reflect the views and policies of the Department, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use."

Charles River Watershed Association

Charles River Watershed Association

Increasing Infiltration in Medway

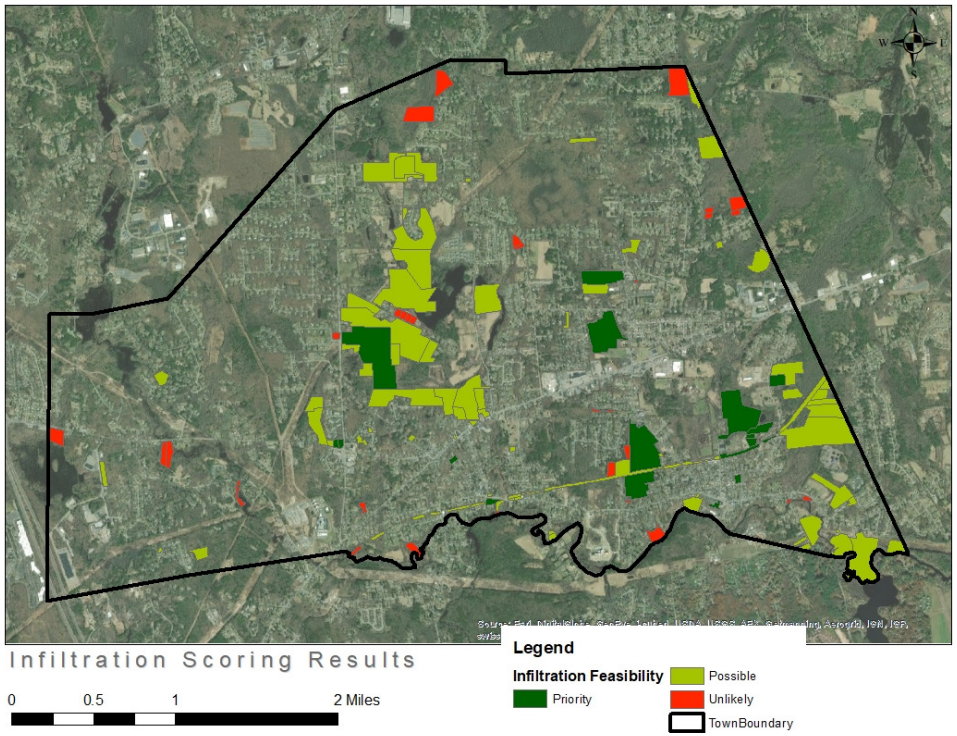
- Reviewed ~120 parcels owned by the Town for their potential ability to infiltrate stormwater:
  - Available space
  - Soil conditions
  - Impervious cover
- Scored and ranked sites based on our assessment; Town will know which sites to prioritize
- Developed concept design for five priority sites: Three schools, Town Hall, VFW

Charles River Watershed Association

Charles River Watershed Association

Increasing Infiltration in Medway: Summary of Results

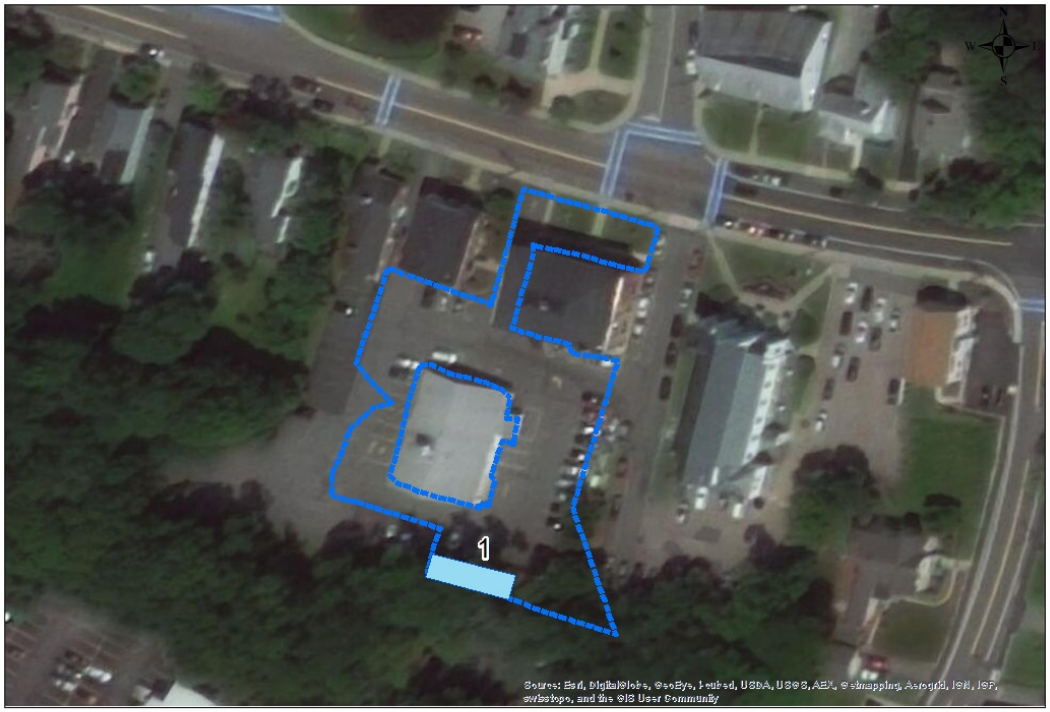
- 97 parcels (of 128) identified as possible infiltration opportunities
- 19 identified as priority sites, 5 were selected for preliminary design work
- Implementing infiltration systems at the 25 parcels with the highest amount of impervious cover would result in 54 million gallons (mg) annual recharge
- Approximately 2 months of water use for the entire community, from only 25 properties



Charles River Watershed Association

Infiltration Basins

Priority Site: Town Hall



- Good soils
- Good opportunity to treat lots of impervious cover
- One infiltration basin proposed for back of building
- ½ million gallons a year (mgy) of recharge
- 0.76 lbs phosphorus/yr removed

Priority Site: Medway High School

Priority Site: Medway High School

0 0.05 0.1 Miles

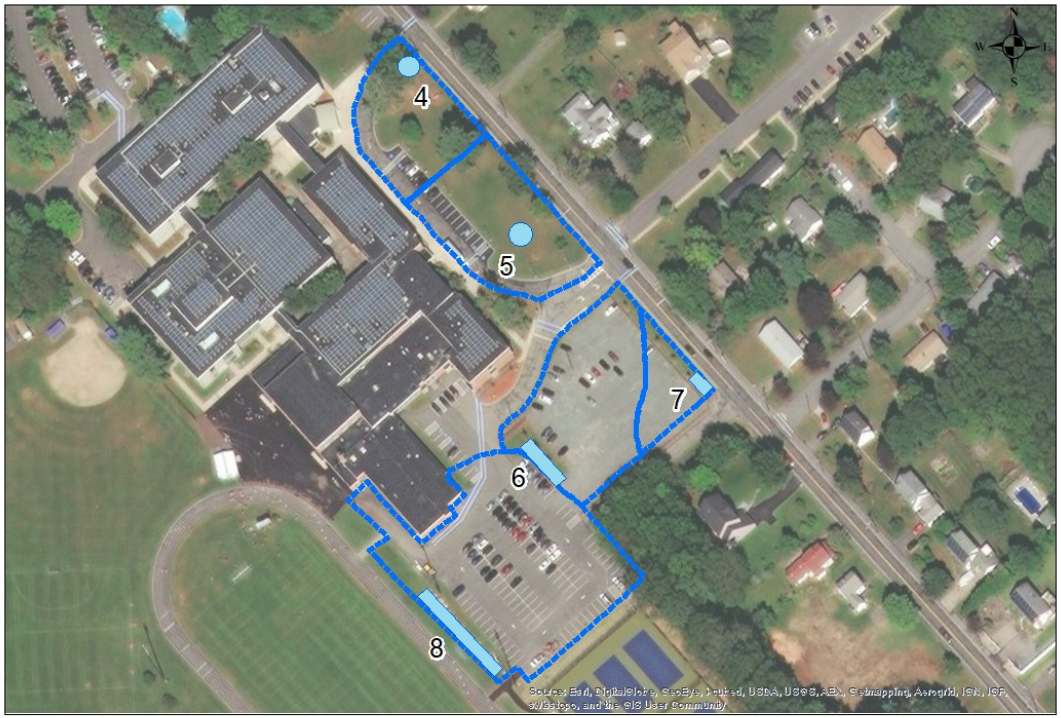
Legend

Proposed Infiltration System (IS)

IS Drainage Area

- Lots of impervious cover
- Educational opportunity
- High visibility
- 2 mgy recharge
- 3 lbs/year of phosphorus removed

Priority Site: Medway Middle School



- Good soils
- High visibility
- DPW staff can keep on eye on it
- Educational opportunity
- 2.2 mgy recharge
- 3.2 lbs phosphorus/yr removed

Priority Site: VFW

- Very large parking area
- Opportunity to put in infiltration systems without losing much parking
- 1.7 mgy groundwater recharge
- 2.4 lb phos/yr removed

Priority Site: McGovern Elementary School

- Education opportunity
- Large driveway and parking area
- 0.7 mgy recharge
- 1.7 lbs phos/yr removed

Charles River Watershed Association

Julie Wood, Deputy Director
jwood@crwa.org
781-788-0007x225