



Town of Saugus, Massachusetts

# **Year 4 Best Management Practice (BMP) Retrofit Site Selection**

**An Evaluation of Town-Owned Properties to Determine Five  
Site Selections for BMP Retrofits**



*Image from the Breakheart Reservation, Saugus, MA*

# Year 4 Best Management Practice (BMP) Retrofit Site Selection

## An Evaluation of Town-Owned Properties to Determine Five Site Selections for BMP Retrofits

June 2022

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**Our Ref:**

30045095



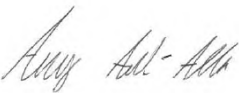
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## Version Control

Issue	Revision No.	Date Issued	Page No.	Description	Reviewed By

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## Acronyms and Abbreviations

BMP	Best Management Practice
CDC	Center of Disease Control
EPA	United States Environmental Protection Agency
MassDEP	Massachusetts Department of Environmental Protection
MS4	Municipal Separate Storm Sewer System
NHESP	MA Division of Fisheries & Wildlife Natural Heritage and Endangered Species Program
NPDES	National Pollution Discharge Elimination System
SVI	Social Vulnerability Index
USDA	United States Department of Agriculture

## Executive Summary

The Town of Saugus’s Municipal Separate Storm Sewer System (MS4) permit requires the identification of five Town-owned sites for Best Management Practice (BMP) retrofits in permit year 4 (July 1, 2021 – June 30, 2022). The objective of these BMP retrofits is to reduce the frequency, volume, and pollutant load of stormwater that is discharged through Saugus’s MS4. The EPA requires that permittees consider factors such as impervious cover reduction, MS4 receiving waterbody uses and water quality impairments, and upcoming capital improvements. Arcadis has identified seven additional BMP retrofit site selection criteria. All ten site selection criteria and their consideration priority are listed in Table ES-1. All the municipally owned properties in Saugus were evaluated using a matrix incorporating site selection criteria and their consideration priority. The five sites that were deemed the highest priority for BMP retrofits have been selected to fulfill the Year 4 BMP retrofit site selection requirements of the MS4 permit. Table ES-2 lists the five sites selected for BMP retrofits and their addresses.

**Table ES-1: BMP Retrofit Site Selection Criteria and Their Priority**

BMP Retrofit Site Selection Criteria	Priority
Amount of Impervious Area	Highest
Watershed Uses/Impairments	Highest
Soil Infiltration Capacity	High
Planned Capital Improvements	Moderate
Flooding Frequency	Moderate
Depth to Groundwater Table	Moderate
Ease of Maintenance	Moderate
Sensitive Receptors	Low
Possibility of Co-Benefits	Low
Benefits to Vulnerable Populations	Low

**Table ES-2: MS4 Permit BMP Retrofit Site Selections**

MS4 PERMIT YEAR 4 BMP RETROFIT SITE NAME	SITE ADDRESS
Saugus Public Library and Parking Lot	295 Central Street
Senior Center	466 Central Street
Douglas Waybright School	25 Talbot Street
Golden Hills Park	42 Golden Hills Road
Oaklandvale School	266 Main Street



# 1 Introduction

The Town of Saugus discharges stormwater under the regulation of a Municipal Separate Storm Sewer System (MS4) permit, which is issued jointly by United States Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP). The Town's MS4 permit became effective on July 1<sup>st</sup>, 2018, and the Town must comply with MS4 permit requirements to discharge stormwater legally. Within four (4) years of the permit's effective date (by June 30, 2022), the Town of Saugus is required to identify of a minimum of five (5) Town-owned sites that can be retrofitted with stormwater best management practices (BMPs) that are designed to alleviate the stormwater system. The requirements of the site selection, per the MS4 Permit, are:

"Four (4) years from the effective date of this permit, the permittee shall identify a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs designed to reduce the frequency, volume, and pollutant loads of stormwater discharges to and from its MS4 through the reduction of impervious area. Properties and infrastructure for consideration shall include those with the potential for reduction of on-site impervious area (IA) as well as those that could provide reduction of off-site IA. At a minimum, the permittee shall consider municipal properties with significant impervious cover (including parking lots, buildings, and maintenance yards) that could be modified or retrofitted. MS4 infrastructure to be considered includes existing street right-of-ways, outfalls and conventional stormwater conveyances and controls (including swales and detention practices) that could be readily modified or retrofitted to provide reduction in frequency, volume or pollutant loads of such discharges through reduction of impervious cover.

In determining the potential for modifying or retrofitting particular properties, the permittee shall consider factors such as access for maintenance purposes; subsurface geology; depth to water table; proximity to aquifers and subsurface infrastructure including sanitary sewers and septic systems; and opportunities for public use and education. In determining its priority ranking, the permittee shall consider factors such as schedules for planned capital improvements to storm and sanitary sewer infrastructure and paving projects; current storm sewer level of service; and control of discharges to water quality limited waters, first or second order streams, public swimming beaches, drinking water supply sources and shellfish growing areas.

Beginning with the fifth-year annual report and in each subsequent annual report, the permittee shall identify additional permittee owned sites and infrastructure that could be retrofitted such that the permittee maintains a minimum of 5 sites in their inventory, until such a time as when the permittee has less than 5 sites remaining. In addition, the permittee shall report on all properties that have been modified or retrofitted with BMPs to mitigate IA that were inventoried in accordance with this part. The permittee may also include in its annual report non-MS4 owned property that has been modified or retrofitted with BMPs to mitigate IA"

## 1.1 Preliminary Visual Assessment

A preliminary visual assessment was conducted using data compiled in the Town of Saugus Drainage Master Plan (draft 2020). Figure 1.1 shows the map that was used to perform the preliminary visual assessment. The map shows the following parameters that the MS4 permit suggests considering during BMP retrofit site selection:

- Town-owned properties
- Areas with a hydrologic soil group compatible with infiltration BMPs
- Impairments and classifications of waterbodies receiving MS4 discharge
- Areas prone to flooding caused by stormwater

A visual inspection of the map was done to select municipally owned properties with soil that is conducive to infiltration BMPs; 14 sites were selected based on those criteria. Proximity to impaired water bodies and areas prone to flooding caused by stormwater could be used to determine the priority each site would take on the BMP retrofit site selection timeline. The top five priority ranking sites would be selected to fulfill the MS4 Permit Year 4 site selection requirement; the remainder of the sites will be added to the priority list in order in subsequent years as retrofits are completed in Town.

The preliminary visual assessment was deemed insufficient to fulfill the MS4 BMP retrofit site selection requirements because it did not assess impervious cover, access for maintenance purposes, depth to water table, opportunities for public use and education, or schedules for planned capital improvements. It was determined that a desktop assessment could be completed to address the aforementioned considerations and to provide a site priority ranking for BMP retrofits in Year 4 and beyond.

## 1.2 Report Objectives

This report is a comprehensive desktop assessment of all of the Town-owned properties in Saugus and the priority they should take in rolling BMP retrofits throughout the lifetime of the MS4 permit. This report goes more in depth than the preliminary assessment, using 10 selection criteria to rank sites for BMP retrofits, and will assist in keeping the Town of Saugus compliant with its MS4 permit for the entirety of its enforcement. It should be noted that some sites are not suitable for BMP retrofits due to site location, underlying soils, and other constraints.

Year 4 BMP Retrofit Site Selection

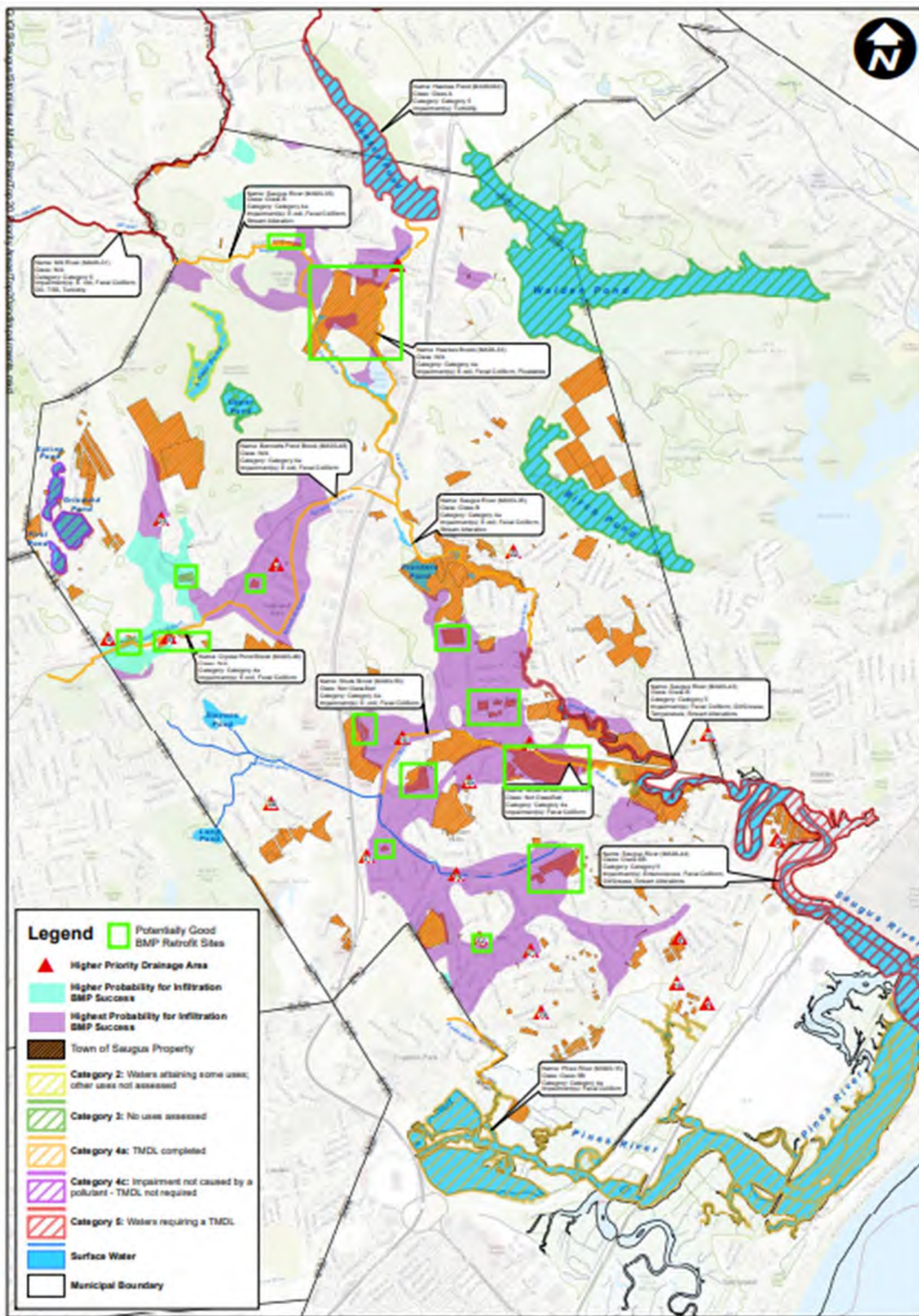


Figure 1.1: Map of Saugus with Preliminary Identification of Possible BMP Retrofit Sites

## 2 Potential Sites

A minimum requirement of the MS4 permit is to consider all Town-owned properties with significant impervious cover. All Town-owned facilities and properties have previously been inventoried to comply with the Town's MS4 permit Good Housekeeping Minimum Control Measures requirements. This report considers all properties and vacant parcels owned by the Town of Saugus; they are categorized as municipally owned sites and municipally owned vacant parcels. Figure 2.1 shows the considered sites mapped throughout Saugus.

### 2.1 Municipally Owned Sites

A total of 30 municipally owned sites were analyzed to determine the suitability and benefit on site BMP retrofits would provide. These sites include schools, parks, municipal administration offices, fire stations, and sewer lift stations. Please see Appendix A, for the complete list of municipally owned sites that were considered for BMP retrofits and their addresses.

### 2.2 Municipally Owned Vacant Parcels

Vacant parcels were considered during this assessment because there are municipally owned vacant parcels that have significant impervious cover. These parcels contribute to the overall impervious area of the Town, and BMP retrofits on these parcels provides the opportunity to reduce impervious area. A total of 22 municipally owned vacant parcels were analyzed to determine the benefit one site BMP retrofits would provide. Please see Appendix A for the complete list of municipally owned vacant parcels that were considered for BMP retrofits and their addresses.

### 2.3 Excluded Sites

Although all municipally owned sites were considered for BMP retrofits, not all sites are appropriate for BMP retrofit projects. The Town reviewed the list of all municipally owned sites and vacant parcels, and determined which sites are not feasible for BMP retrofits. These sites were excluded from further analysis and are not being considered for BMP retrofits at this time. Please see Appendix A for the complete list of excluded sites and the specific reason that each site is being excluded.

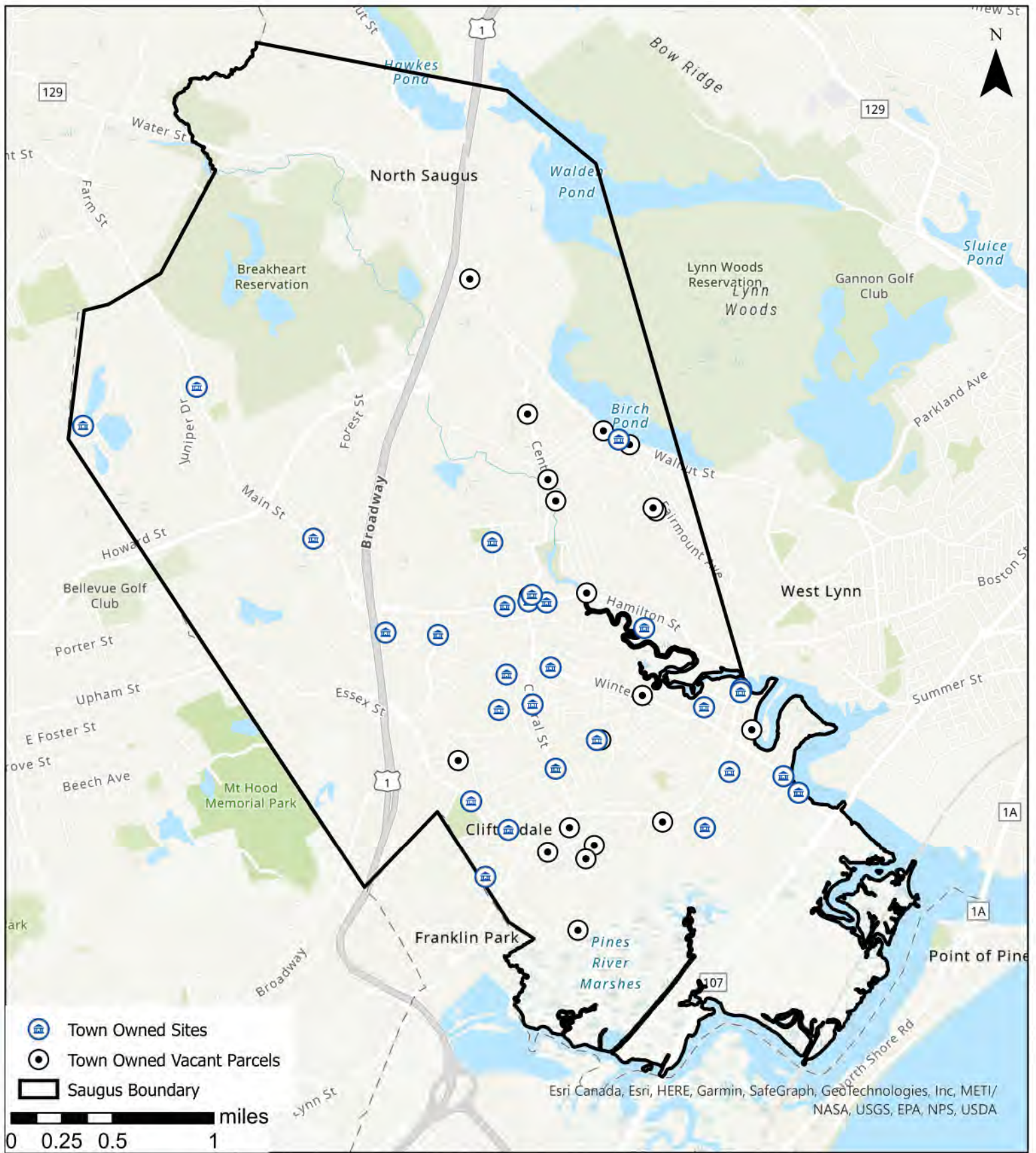


Figure 2.1: Municipally Owned Sites and Vacant Parcels Considered for BMP Retrofits

BMP Retrofit Site Selection 2022



## 3 Site Selection Criteria

Arcadis has identified 10 site selection criteria to evaluate each of the Town-owned properties. Two of the criteria are factors that relate directly to accomplishing the goals set in the MS4 permit: reducing impervious area and improving the water quality of impaired waterbodies. Four of the criteria are factors that assess sites' feasibility for BMP retrofits: planned upcoming improvements, soil infiltration capacity, depth to groundwater table, and ease of maintenance. Two of the criteria are unique to the Town of Saugus: areas identified as high risk of flooding in the Town's Drainage Master Plan and sensitive receptors/historic sites. The two lowest priority criteria are social/financial factors: possibility of co-benefits and benefit to vulnerable populations. Each site selection criteria carries a weight that is proportional to its priority in BMP retrofit site selection, and each municipal property will be given a score for each criterion. The selection criteria, their weights, and their scores form the site selection matrix, which will be discussed further in Section 4.

### 3.1 Amount of Impervious Area

In the MS4 permit, the EPA encourages permittees to consider the reduction of impervious areas as one of the primary methods to reduce the frequency, volume, and pollutant load of MS4 discharge. To effectively reduce impervious area in Saugus's properties, this selection criterion targets parcels with a high percentage of impervious area. The amount of impervious area for a site is measured by the percentage of the surface area that is covered by pavement, rooftop, and other nonporous surfaces. Sites with a higher percentage of impervious area are given a higher score, elevating them on the priority list of BMP retrofit sites. Among the site selection criteria, the amount of impervious area is weighted as the highest priority category.

### 3.2 Watershed Uses and Impairments

In the MS4 permit, the EPA states that "in determining the potential for modifying or retrofitting particular properties, the permittee shall consider factors such as...control of discharges to water quality limited waters, first or second order streams, public swimming beaches, drinking water supply sources and shellfish growing areas". The installation of a water quality improving BMP within the catchment area of receiving waterbody can reduce point source pollution to the receiving waterbody. It is important to consider the uses and water quality impairments of the receiving waterbody when giving priority to BMP retrofit sites. Municipal properties are evaluated based on the public use status and water quality impairments of the receiving waterbody of the catchment area in which the site is located. Among the site selection criteria, the watershed uses and impairments are weighted as the highest priority.

### 3.3 Soil Infiltration Capacity

As many of the retrofit BMPs are infiltrating BMPs used to disconnect impervious area and infiltrate and treat stormwater runoff, the soil infiltration capacity was evaluated. A site must have a soil type with a sufficient infiltration capacity to allow for successful installation and operation of infiltration BMPs. Soils classified as Hydrologic Group A and Hydrologic Group B are compatible with infiltrations BMPs. Soils classified as Hydrologic Group C and Hydrologic Group D are not very compatible with infiltration BMPs. Each municipal property's soil

classification is considered to evaluate the likelihood of BMP success. Among the site selection criteria, soil infiltration capacity is weighted as high priority.

### **3.4 Planned Capital Improvements**

In the MS4 permit, the EPA lists planned capital improvements as a factor that should be considered during BMP retrofit site selection. A municipal property that has upcoming planned capital improvements is better suited for BMP retrofits than a property with no upcoming projects because a BMP can be incorporated into the existing plans for capital improvement. Incorporating a BMP into an established project saves the time and money associated with permitting, public review, and finding a funding source associated with starting a new project with the sole purpose of a BMP retrofit. Among the site selection criteria, planned capital improvements is weighted as moderate priority.

### **3.5 Flooding**

In the MS4 permit, the EPA encourages permittees to consider the level of stormwater system service of a given site during BMP retrofit site selection. The flood risk of a municipal property is an indicator of the level of stormwater system service in the area. A property or catchment area that has a high risk of flooding is underserved by the current stormwater system and receives higher priority in BMP retrofit site selection. Among the site selection criteria, flooding frequency is weighted as moderate priority.

### **3.6 Depth to Groundwater Table**

The Massachusetts Stormwater Handbook requires a minimum separation of two feet between the bottom of an infiltration BMP and the site's seasonal high groundwater table. A site with a greater the depth from the surface to the seasonal high groundwater table can hold a greater volume of stormwater per unit area, making infiltration BMPs more effective. Because sites with higher depths to the seasonal high groundwater table allow more effective infiltration BMPs, those sites receive higher priority during site selection. Among the site selection criteria, depth to groundwater table is weighted as moderate priority.

### **3.7 Ease of Maintenance**

BMPs require regular maintenance to remain effective. Improperly maintained BMPs can cause flooding, groundwater contamination, and point source pollution. Municipal properties that are accessible to maintenance personnel and equipment receive higher priority in BMP retrofit site selection than municipal properties that are not easily accessed for maintenance. Considering ease of maintenance during BMP retrofit site selection increases the likelihood that installed BMPs will be properly maintained. Among the site selection criteria, ease of maintenance is weighted as moderate priority.

### **3.8 Sensitive Receptors**

Saugus is home to many sites of cultural, historic, and ecological significance on which development can be subject to special regulation or even outright prohibited. These sensitive receptors affect the constructability of

BMPs and must be considered during site selection. Among the site selection criteria, sensitive receptors is weighted as low priority.

### **3.9 Provides Co-Benefits**

The more benefit that a project can provide, the better. BMP retrofits can also provide opportunities to create public green spaces, mitigate urban heat islands, and ecologically benefit native plant and animal species. Sites where a BMP retrofit is likely to provide opportunities for co-benefits are prioritized over sites where BMP retrofits will only have MS4 benefits. Among the site selection criteria, opportunity for co-benefits is weighted as low priority.

### **3.10 Benefits Vulnerable Populations**

The Center of Disease Control (CDC) developed the Social Vulnerability Index (SVI) to quantify the negative impacts on human health caused by external stresses. The SVI rates neighborhoods based on how vulnerable the community members are to external stresses. A site that is in a more vulnerable area as defined by the CDC's SVI is given priority over sites that are less vulnerable according to the CDC's SVI. Among the site selection criteria, benefits to vulnerable populations is weighted as low priority.

### **3.11 Exclusion Criteria**

Not all sites are feasible for BMP retrofits. Sites that are determined to be infeasible for retrofits are excluded from site selection. These excluded sites meet one or more of the following exclusion criteria:

- Space constraints would not allow for BMP retrofits.
- BMP retrofits on site would impede Town operations or private business.
- The site has recently been improved.
- The site has an insignificant amount of impervious area.
- BMP retrofits or similar developments on site would be subject to strong public opposition.



## 4 Scoring Methodology

A site selection matrix was created using the list of Town-owned properties, the score that the property received for each site selection criteria, and the corresponding weight of each site selection criteria. Each property was given a score ranging from 1-5 for each site selection criteria. This section details how the scores were calculated for each criterion. Each of the site selection criteria were given a weight ranging from 1-4 based on its priority during site selection. A property’s composite score was calculated by summing the score that the property received in each site selection criterion multiplied by the weight assigned to each criterion. The properties with the highest composite scores are the highest priority for BMP retrofits.

### 4.1 Amount of Impervious Area

The amount of impervious area of a site was evaluated by the approximate percentage of the parcel that is covered by pavement, rooftops, and other nonporous surfaces. The percentage of impervious area covering the parcel was determined using satellite images from Google Earth. The surface area of impervious surfaces on the site was divided by the total surface area of the site to calculate the property’s percentage of impervious area. Based on the percentage of impervious area, each property was given a score ranging from 1-5, with 1 being the lowest priority for BMP retrofit site selection and 5 being the highest. Table 4.1 shows how percentages of impervious area translate into a numerical score. In the site selection matrix, the amount of impervious area was given a weight of 4.

**Table 4.1: Amount of Impervious Area Score Definition**

Score	1	2	3	4	5
Percentage of impervious area	Less than 30% impervious area	30% - 49% impervious area	50% - 69% impervious area	70% - 89% impervious area	Greater than 90% impervious area

### 4.2 Watershed Uses and Impairments

The watershed uses and impairments were evaluated based on the public use and water quality impairments of the receiving waterbody for the catchment area in which the site is located. The public uses and water quality impairment status of receiving waterbodies was determined using the 2020 Draft Drainage Master Plan for the Town of Saugus. The receiving waterbody for each site was determined using the catchment area delineation which was completed in compliance with the year one requirements of the Town’s MS4 permit. Based on the public use and water quality impairment status of the receiving waterbody, each site was given a score ranging from 1-5, with 1 being the lowest priority for BMP retrofit site selection and 5 being the highest. Table 4.2 shows how the waterbody uses and impairments translate into a numerical score. In the site selection matrix, watershed uses and impairments was given a weight of 4.

**Table 4.2: Watershed Uses and Impairments Score Definition**

Score	1	2	3	4	5
Catchment Area Discharge	Discharges overland, not into surface waterbody	Does not discharge into public use or impaired waterbody	Discharges into public use waterbody with no impairments	Discharges into a water quality impaired waterbody	Discharges into a waterbody with a TMDL

### 4.3 Soil Infiltration Capacity

The soil infiltration capacity was evaluated based on the hydrologic soil group of each site. There are four hydrologic soil groups: A, B, C, and D. Infiltration BMPs installed in hydrologic group A soil are the most successful, followed by those installed in hydrologic group B soil, then hydrologic group C soil, and lastly hydrologic group D soil. The classification of each sites soil type was determined using the United States Department of Agriculture’s (USDA) web soil survey. Each municipal property was studied as an area of interest with the web soil survey. The study results showed the types of soil within the site boundary and their hydrologic soil group classification. Based on the hydrologic soil group, each site was given a score ranging from 1-5, with 1 being the lowest priority for BMP retrofit site selection and 5 being the highest. Table 4.3 shows how the sites soil classification translates into a numerical score. In the site selection matrix, the soil infiltration capacity was given a weight of 3.

**Table 4.3: Soil Infiltration Capacity Score Definition**

Score	1	2	3	4	5
Site Soil Classification	Mostly Hydrologic Group D Soil	Mostly Hydrologic Group C Soil	Mostly Hydrologic Group B Soil	Mix of Hydrologic Group A/B Soil	Mostly Hydrologic Group A Soil

### 4.4 Planned Capital Improvements

Planned capital improvements scores were based on the timeline of planned capital improvements, sites are given a score ranging from 1-5, with 1 being the lowest priority for BMP retrofit site selection and 5 being the highest. Table 4.4 shows how upcoming planned capital improvements translate into a numerical score. In the site selection matrix, planned capital improvements was given a weight of 2.

**Table 4.4: Planned Capital Improvements Score Definition**

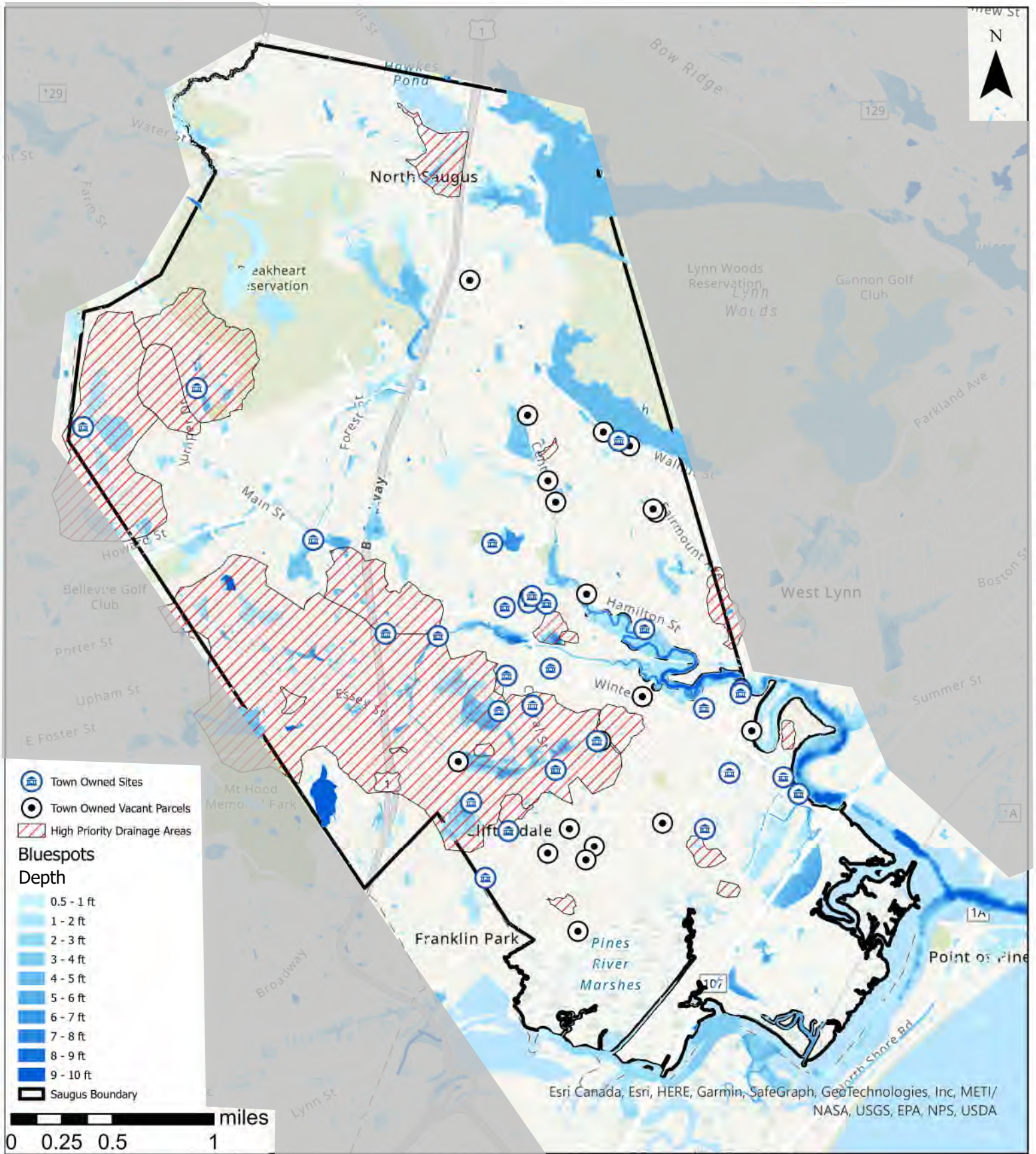
Score	1	2	3	4	5
Planned Capital Improvements	No planned improvements within 5 years	Planned improvements within 5 years	Planned improvements within 4 years	Planned improvements within 3 years	Planned improvements within 2 years

## 4.5 Flooding

Flooding potential serves as an indication of the level of stormwater system service in a given area. An area with a high flooding potential is underserved and is a higher priority for BMP retrofits. Each sites flooding potential was determined using a Blue Spots Analysis that was initiated in the Saugus Climate Adaptation and Resilience Plan. Blue Spots Analysis assesses an area’s topography to identify “blue spots” where stormwater is likely to pool during rain events. Drainage areas identified as High Priority in the Town of Saugus Drainage Master Plan due to an existing history of flooding were also used to calculate flooding potential. Figure 4.1 shows the location of municipally owned parcels in relation to the location of blue spots and high priority drainage areas. Based on flooding potential, each site was given a score ranging from 1-5, with 1 being the lowest priority for BMP retrofit site selection and 5 being the highest. Table 4.5 shows how flooding potential translates into a numerical score. In the site selection matrix, flooding was given a weight of 2.

**Table 4.5: Flooding Score Definition**

Score	1	2	3	4	5
Flooding	No observed flooding or potential flooding indicated in blue spots analysis	Blue spot analysis shows blue spot in site vicinity	Site is in high priority drainage area as identified by DMP	Blue spot analysis shows blue spot in site vicinity AND site is in high priority drainage area	Blue spot analysis shows blue spot on site



**Figure 4.1: Map of Municipally Owned Sites, Blue Spots, and High Priority Drainage Areas**

**BMP Retrofit Site Selection 2022**



## 4.6 Depth to Groundwater Table

The depth from the ground surface to the groundwater table determines the capacity of infiltration BMPs per unit area. The depth to groundwater table was estimated using the USDA’s web soil survey tool. Each municipal parcel was studied as an area of interest and the approximate depth to water table was recorded. Based on the depth to groundwater table each site was given a score ranging from 1-5, with 1 being the lowest priority for BMP retrofit site selection and 5 being the highest. Table 4.6 shows how the depth to water table in feet was translated into a numerical score. In the site selection matrix, the depth to groundwater table was given a weight of 2.

**Table 4.6: Depth to Groundwater Table Score Definition**

Score	1	2	3	4	5
Depth to Groundwater Table	Less than 2 feet	2.01 – 3 feet	3.01 – 4 feet	4.01 – 5 feet	More than 5 feet

## 4.7 Ease of Maintenance

Sites with a clear pathway for maintenance personnel and equipment are more likely to have properly maintained and thus more effective BMPs. Each site was analyzed using satellite images from Google Earth and Google Street View. The ease of maintenance was evaluated visually by the identification of clear pathways that would support access by maintenance personnel and equipment, similar to a small excavator or tractor. Based on the ease of maintenance, each site was given a score of 1, 3, or 5, with 1 being the lowest priority for BMP retrofit site selection and 5 being the highest. Table 4.7 shows how ease of maintenance evaluation translates into a numerical score. In the site selection matrix, ease of maintenance was given a weight of 2.

**Table 4.7: Ease of Maintenance Score Definition**

Score	1	2	3	4	5
Maintenance Accessibility	Not accessible to maintenance personnel or equipment	-	Accessible to maintenance personnel but not equipment	-	Accessible to maintenance personnel and equipment

## 4.8 Sensitive Receptors

Cultural, historical, and ecological factors that can impact the permitting of a BMP retrofit project were considered during site selection. The presence of sensitive receptors in the vicinity of a site can make it more challenging to obtain the necessary permits for BMP retrofit projects and slow down construction schedules. Sensitive receptors were mapped using the MassMapper tool from MassGIS. The five sensitive receptors identified and details on

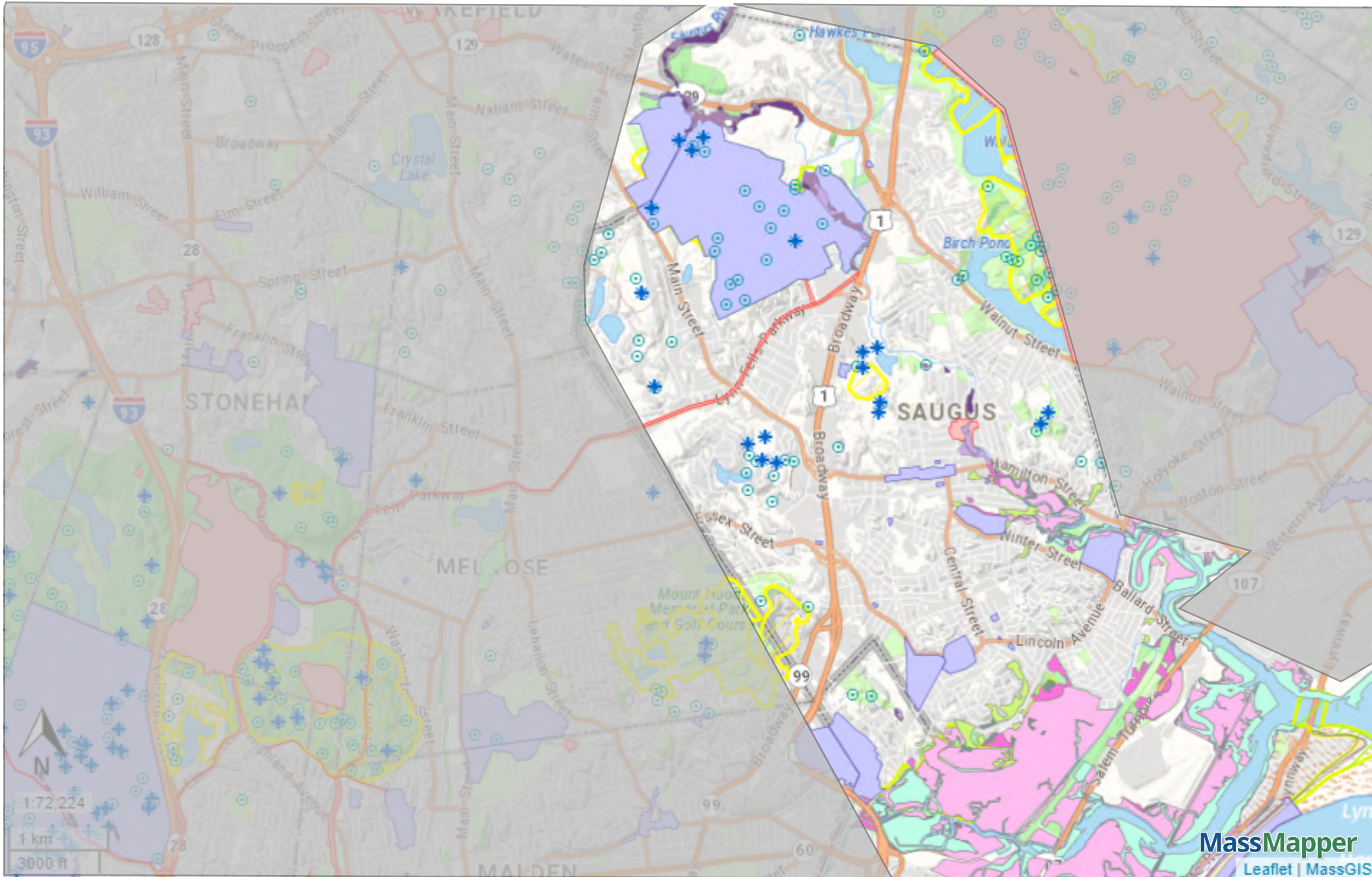
what they encompass are listed below. Each municipal property was located on the sensitive receptors map, and the number of sensitive receptors in the site’s vicinity was recorded. Figure 4.2 shows the map sensitive receptors throughout Saugus. Based on the number of sensitive receptors in the site’s vicinity, each site was given a score ranging from 1-5, with 1 being the lowest priority for BMP retrofit site selection and 5 being the highest. Table 4.8 shows how a site’s number of sensitive receptors translates into a numerical score. In the site selection matrix, sensitive receptors was given a weight of 1.

- Public Water Supplies
- MA Historic Commission Inventory Areas
  - National register of historic places
  - Preservation restrictions
  - MA historic landmarks
  - Local Historic Districts
  - National Register of Historic Places
  - Inventoried properties
- MA Natural Heritage and Endangered Species Program (NHESP) estimated habitats of rare wildlife
- MA Natural Heritage and Endangered Species Program (NHESP) priority habitats of rare species
- Priority Natural Vegetation Communities
  - NHESP certified and potential vernal pools
  - Riverine natural community systems
  - Coastal natural community systems

**Table 4.8: Sensitive Receptors Score Definition**

Score	1	2	3	4	5
Number of Sensitive Receptors	More than three sensitive receptors in site’s vicinity	Three sensitive receptors in site’s vicinity	Two sensitive receptors in site’s vicinity	One sensitive receptor in site’s vicinity	No sensitive receptors in site’s vicinity

# sensitive receptors



## Coastal Natural Community Systems

- BARRIER BEACH SWAMP DECIDUOUS
- BRACKISH TIDAL WETLAND
- FRESHWATER TIDAL MARSH
- COASTAL BANK, BEACH, DUNE
- COASTAL SALT POND SYSTEM
- COASTAL FOREST
- MARITIME FOREST
- MARITIME SHRUBLAND
- SALT MARSH
- TIDAL FLAT
- ROCKY SHORE

## Riverine Natural Community Systems

- Herbaceous
- Shrubs
- Trees

## NHESP Certified Vernal Pools



## Potential Vernal Pools



## Public Water Supplies

- Community Groundwater Well
- Non-Community Groundwater Well
- Surface Water Intake
- Emergency Surface Water Intake
- Community Labels
- Non-Community Labels

## MassHistoric Commission Inventory (Areas)

- National Register of Historic Places
- Preservation Restriction
- Massachusetts Historic Landmark
- Local Historic District
- NRHP and LHD
- Inventoried Property

## NHESP Estimated Habitats of Rare Wildlife



## NHESP Priority Habitats of Rare Species



## Property Tax Parcels

## 4.9

### 4.9 Provides Co-Benefits

A BMP retrofit project has the potential to provide additional benefits to the intended stormwater benefits. These additional benefits are referred to as co-benefits. The existing use of each site was analyzed to predict if a green infrastructure project would provide any of the following co-benefits:

- Increase in public use of space
- Opportunity for community education
- Ecological benefits (native plant species, habitat for native animals, bee friendly, etc.)
- Opportunity for non-potable water reuse
- Urban heat island mitigation
- Air quality improvement

Based on the number of co-benefits a BMP retrofit project is likely to provide, each site was given a score ranging 1-5, with 1 being the lowest priority for BMP retrofit site selection and 5 being the highest. Table 4.9 shows how the number of co-benefits provided translates into a numerical score. In the site selection matrix, the possibility of providing co-benefits was given a weight of 1.

**Table 4.9: Provides Co-Benefits Score Definition**

Score	1	2	3	4	5
Number of co-benefits anticipated	Provides no co-benefits	Provides one co-benefit	Provides two co-benefits	Provides three co-benefits	Provides more than three co-benefits

### 4.10 Benefits Vulnerable Populations

Sites where BMP retrofits would provide benefit to more vulnerable populations were prioritized over sites where BMP retrofits would not benefit vulnerable populations. Each site’s benefit to vulnerable populations was evaluated by the CDC’s Social Vulnerability Index (SVI) classification of the site’s location. The SVI classifies neighborhoods with a score ranging from 0 to 1, with 0 being the least socially vulnerable and 1 being the most socially vulnerable. Based on the site’s SVI classification, each site was given a score ranging from 1-4, with 1 being the lowest priority for BMP retrofit site selection and 4 being the highest. Table 4.10 shows how a site’s SVI classification translates into a numerical score. In the site selection matrix, benefits to vulnerable populations was given a weight of 1.

**Table 4.10: Benefits Vulnerable Populations Score Definition**

Score	1	2	3	4
CDC SVI Classification	SVI 0-0.25	SVI 0.2501-0.5	SVI 0.501-0.75	SVI 0.7501-1



## 5 Conclusion

Appendix B shows the full site selection matrix, including scores for site selection criteria categories and the composite scores of each site. The five sites with the highest composite scores have been deemed as the highest priority sites for BMP retrofits at this time. To continue to fulfill the requirements of the Town of Saugus' MS4 permit, each year the sites with the five highest composite scores will be reviewed and considered for future design and implementation. It is anticipated that the Town will implement one retrofit project per MS4 permit year, as funding and resources allow.

### 5.1 Site Scores

For the details of the score each site received in each site selection criteria, please see Appendix B. Table 5.1 shows the composite score that each site received sorted in order of highest to lowest. The composite score is a metric of the priority each site takes in the rolling BMP retrofit site selections throughout the MS4 permit. Each site's composite score is a function of the score it received in each site selection criteria and the weight of each site selection criteria. Sites with the highest composite scores are the highest priority for BMP retrofits.

**Table 5.1: Composite Scores of Municipal Sites from Site Selection Matrix**

SITE NAME	COMPOSITE SCORE	SITE NAME	COMPOSITE SCORE
PUBLIC LIBRARY & PARKING LOT	93	YOUTH & RECREATION DEPARTMENT	69
SENIOR CENTER	78	BELMONTE JR. HIGH	66
DOUGLAS WAYBRIGHT SCHOOL	77	HARBORMASTER LODGE	65
GOLDEN HILLS PARK	75	WATER DEPARTMENT	64
OAKLANDVALE SCHOOL	74	HIGHWAY DEPARTMENT	62
SEWER LIFT STATION	74	SEWER LIFT STATION	62
PUBLIC SAFETY BUILDING	73	DPW OFFICES	60
LYNNHURST SCHOOL	73	HIGHWAY DEPARTMENT	60
BALLARD SCHOOL	72	HIGHWAY DEPARTMENT	59
CLIFTONDALE SCHOOL	71	PARKS & PLAYGROUND	58
RIGHT OF WAY / USED IN COMMON	71	WATER DEPARTMENT	55
SINGLE FAMILY HOUSE	70	VITALE PARK	54

SITE NAME	COMPOSITE SCORE	SITE NAME	COMPOSITE SCORE
FIRE STATION/LIBRARY	69	PUBLIC LANDING	53
SEWER LIFT STATION	53	HIGHWAY DEPARTMENT	48
Town of Saugus	53	OPEN SPACE (2 of 2)	47
PARKS & PLAYGROUND (1 of 2)	53	WATER DEPARTMENT (2 of 2)	45
PARKS & PLAYGROUND (2 of 2)	53	WATER DEPARTMENT (1 of 2)	42
HIGHWAY DEPARTMENT	52	OPEN SPACE (1 of 2)	41
HIGHWAY DEPARTMENT	50	HIGHWAY DEPARTMENT (2 of 2)	41
HIGHWAY DEPARTMENT (1 of 2)	49	PARKS & PLAYGROUND	38

## 5.2 BMP Retrofit Site Selections

The five municipal properties with the highest composite scores have been selected as the MS4 Permit Year 4 sites for BMP retrofits. Additionally, the Town has completed an inventory of Town-owned structural BMPs; these BMPs could be retrofitted in the future. Lastly, BMPs can be installed in town-owned rights of ways, as appropriate when streets are redesigned.

Table 5.2 lists the five sites and their addresses.

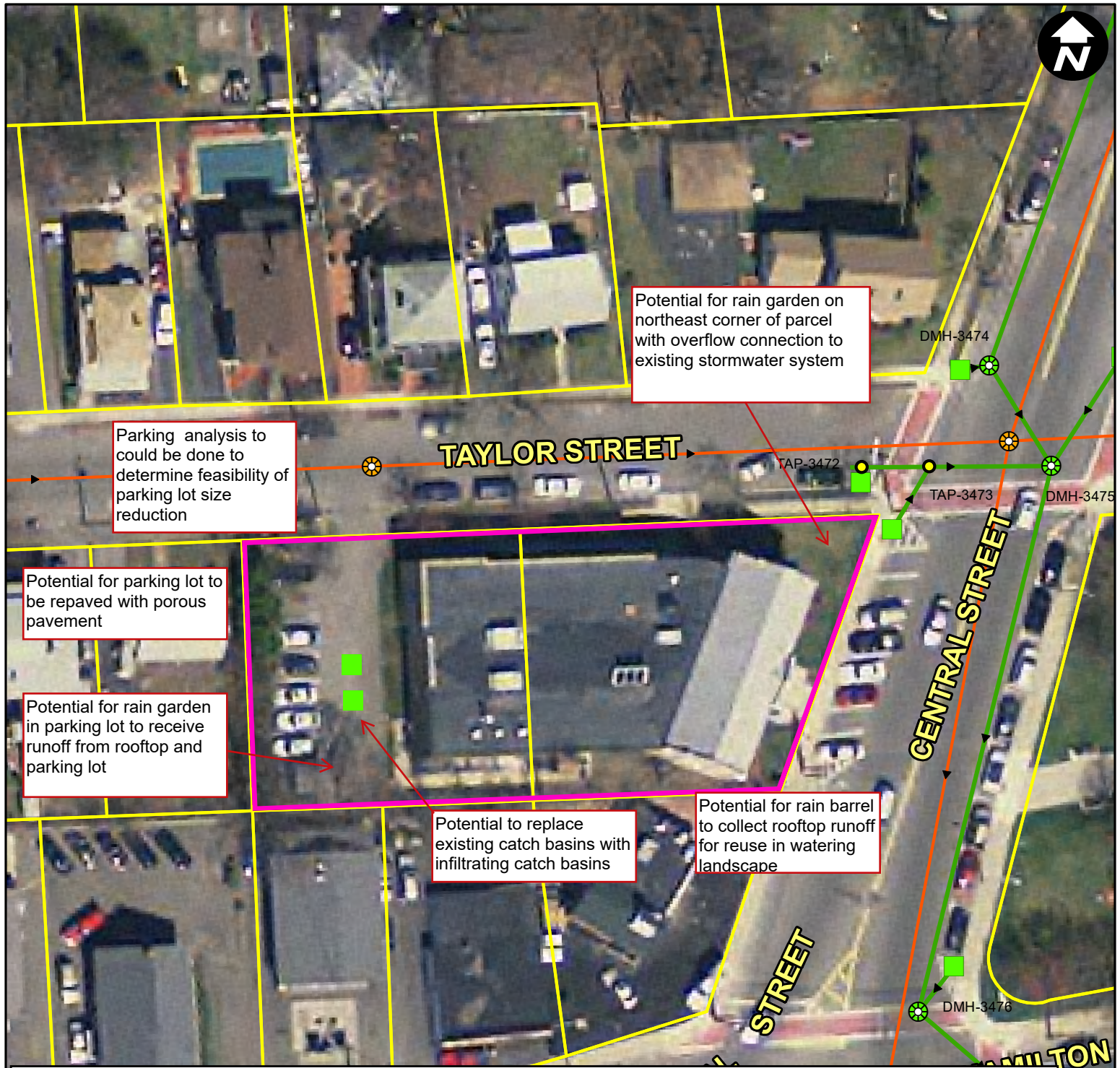
**Table 5.2: MS4 Permit BMP Retrofit Site Selections**

MS4 PERMIT YEAR 4 BMP RETROFIT SITE NAME	SITE ADDRESS
Saugus Public Library and Parking Lot	295 Central Street
Senior Center	466 Central Street
Douglas Waybright School	25 Talbot Street
Golden Hills Park	42 Golden Hills Road
Oaklandvale School	266 Main Street
Town-owned Retention/Detention BMPs	Potential for retrofits will be evaluated during inspections/maintenance

MS4 PERMIT YEAR 4 BMP RETROFIT SITE NAME	SITE ADDRESS
Town-owned Rights of Ways	Potential for retrofits will be evaluated during designs

### 5.2.1 Saugus Public Library and Parking Lot

The Saugus Public Library (shown in Figure 5.1) is located on Central Street, off the Main Street/Central Street roundabout. This is a bustling area with plentiful street parking and bus stops in proximity. The library also has its own parking lot behind the building. A parking analysis could be conducted to determine the necessary number of parking spaces dedicated only to the library given the abundance of street parking in the area. If it is deemed that the current number of parking spaces is superfluous, part of the existing parking lot can be replaced as green space. The library is an excellent candidate for infiltration BMPs because it has well-draining soils and a depth to water table of over 6 feet. If the library parking lot is repaved in the future, it could be paved with porous pavement or the catch basins in the parking lot can be replaced with infiltrating catch basins. A rain garden placed in the parking lot could accept runoff from the parking lot and from the library rooftop. If it is not feasible to route rooftop runoff to a rain garden, it could be collected in a rain barrel and reused to water the property’s landscape. A rain garden placed at the northeast corner of the parcel would add aesthetic appeal to the library. Overflow in this garden caused by heavy rain events could easily be routed to the existing stormwater infrastructure at the corner of Taylor Street and Central Street.

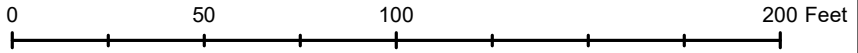


**Legend**

<b>Storm Structures</b>	● Direct Tap	<b>Sewer Structures</b>	<b>Other Features</b>	Reservoir
Stormwater Inlet	⊕ Outfall	⊗ Sewer Manhole	Inspection Site Boundary	Open Water
⊗ Stormwater Manhole	Detention Structure	Sewer Pump Station	Tax Parcels	Wetland
⊙ Intake	● Unknown Structure	— Gravity Sewer	Stream	Municipal Boundary
	Drain Pipe	— Sewer Force Main	Intermittent Stream	
	Culvert		Ditch, Canal	



**TOWN OF SAUGUS  
MASSACHUSETTS**



Facility Name: SAUGUS PUBLIC LIBRARY  
 Facility Type: EDUCATION  
 Address: 295 CENTRAL ST

## 5.2.2 Senior Citizen Center

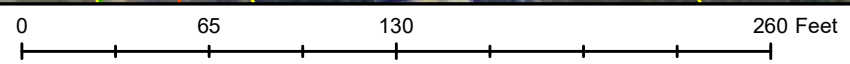
The Saugus Senior Citizen Center (shown in Figure 5.2) is located on Central Street about three quarters of a mile north of Rumney Marsh. The vast majority of the parcel is covered by impervious surface from the rooftop and large parking lot, with some vegetated strips that provide aesthetic appeal. A parking analysis could be conducted to determine the necessary number of parking spaces to serve Senior Center visitors. If it is deemed that the current number of parking spaces is superfluous, part of the existing parking lot can be replaced with green space. The Senior Citizen Center is an excellent candidate for infiltration BMPs because it has well-draining soils and a depth to water table of over 6 feet. Existing vegetated strips can be retrofitted into rain gardens with overflow connections to the existing stormwater system. The next time that the parking lot is repaved, it could be repaved with porous pavement, or existing catch basins that accept runoff from the parking lot and rooftop could be replaced with infiltrating catch basins. If it is determined that infiltration BMPs are not feasible at the Saugus Senior Center, collecting rooftop runoff in rain barrels and reusing the water for onsite landscaping offers a low cost and low maintenance alternative.



**Legend**

<b>Storm Structures</b>	● Direct Tap	<b>Sewer Structures</b>	<b>Other Features</b>	Reservoir
Stormwater Inlet	⊕ Outfall	Sewer Manhole	Inspection Site Boundary	Open Water
Stormwater Manhole	Detention Structure	Sewer Pump Station	Tax Parcels	Wetland
⊙ Intake	● Unknown Structure	Gravity Sewer	Stream	Municipal Boundary
	Drain Pipe	Sewer Force Main	Intermittent Stream	
	Culvert		Ditch, Canal	

**TOWN OF SAUGUS  
MASSACHUSETTS**



Facility Name: SENIOR CENTER CITY-CLUB  
Facility Type: OTHER FACILITY  
Address: 466 CENTRAL ST

### 5.2.3 Douglas Waybright School

The Douglas Waybright School is a decommissioned elementary school located on Talbot Street, just south of Main Street. An aerial view of the property shows the school building surrounded by a paved recreational area and paved basketball court; further from the building is a pervious playground area and a baseball field. The Douglas Waybright school is a good candidate for infiltration BMPs because of its fair-draining soil type and a depth to water table of over 6 feet. The paved basketball court can be replaced with a porous sports court. The existing drainage system collects runoff from the rooftop and surrounding paved area and discharges into nearby Shute Brook, with the outfall pipe running underneath the edge of the baseball field. It may be possible to install an infiltration BMP in the edge of the baseball field that intercepts stormwater before it reaches the outfall point. The intercepted stormwater can be infiltrated into the ground, and overflow from heavy rain events can be directed to the existing outfall in Shute Brook. If it is determined that infiltration BMPs are not feasible at the Douglas Waybright School, collecting rooftop runoff in rain barrels and reusing the water for onsite landscaping offers a low cost and low maintenance alternative.



Potential to install porous basketball court

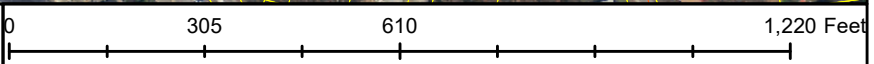
Potential to install infiltration BMP to treat catchment area runoff prior to outfall

Potential for rain barrel to collect rooftop runoff for reuse in watering landscape

### Legend

<b>Storm Structures</b>	● Direct Tap	<b>Sewer Structures</b>	<b>Other Features</b>	Reservoir
Stormwater Inlet	⊕ Outfall	Sewer Manhole	Inspection Site Boundary	Open Water
Stormwater Manhole	Detention Structure	Sewer Pump Station	Tax Parcels	Wetland
⊙ Intake	● Unknown Structure	Gravity Sewer	Stream	Municipal Boundary
Drain Pipe	Sewer Force Main	Intermittent Stream	Ditch, Canal	
Culvert				

# TOWN OF SAUGUS MASSACHUSETTS

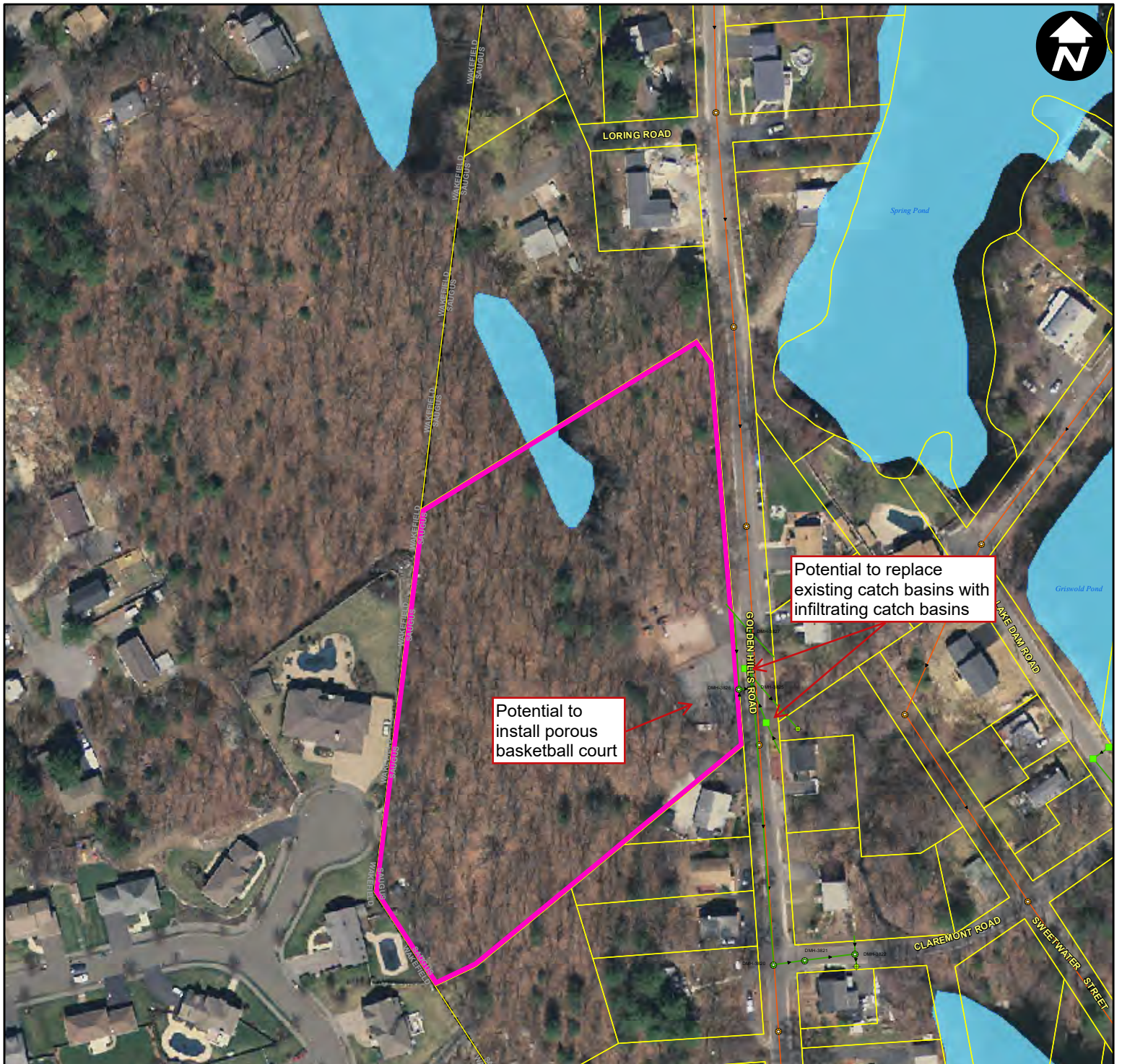


Facility Name: DOUGLAS WAYBRIGHT SCHOOL  
Facility Type: EDUCATION  
Address: 25 TALBOT ST



## **5.2.4 Golden Hills Park**

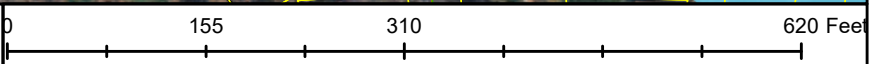
Golden Hills Park is located on Golden Hills Road near the Saugus-Wakefield border and lies in close proximity to multiple ponds. It is a small park consisting of a playground and a basketball court. Golden Hills Park is a good candidate for infiltration BMPs due to its fair-draining soils and depth to groundwater of over 6 feet. The existing basketball court could be replaced with a porous sports court. The next time that Golden Hills Rd. is repaved, the existing catch basins that collect runoff from the impervious areas of the park could be replaced with infiltrating catch basins.



**Legend**

<b>Storm Structures</b>	● Direct Tap	<b>Sewer Structures</b>	<b>Other Features</b>	Reservoir
Stormwater Inlet	⊕ Outfall	Sewer Manhole	Inspection Site Boundary	Open Water
Stormwater Manhole	Detention Structure	Sewer Pump Station	Tax Parcels	Wetland
Ⓜ Intake	● Unknown Structure	Gravity Sewer	Stream	Municipal Boundary
	Drain Pipe	Sewer Force Main	Intermittent Stream	
	Culvert		Ditch, Canal	

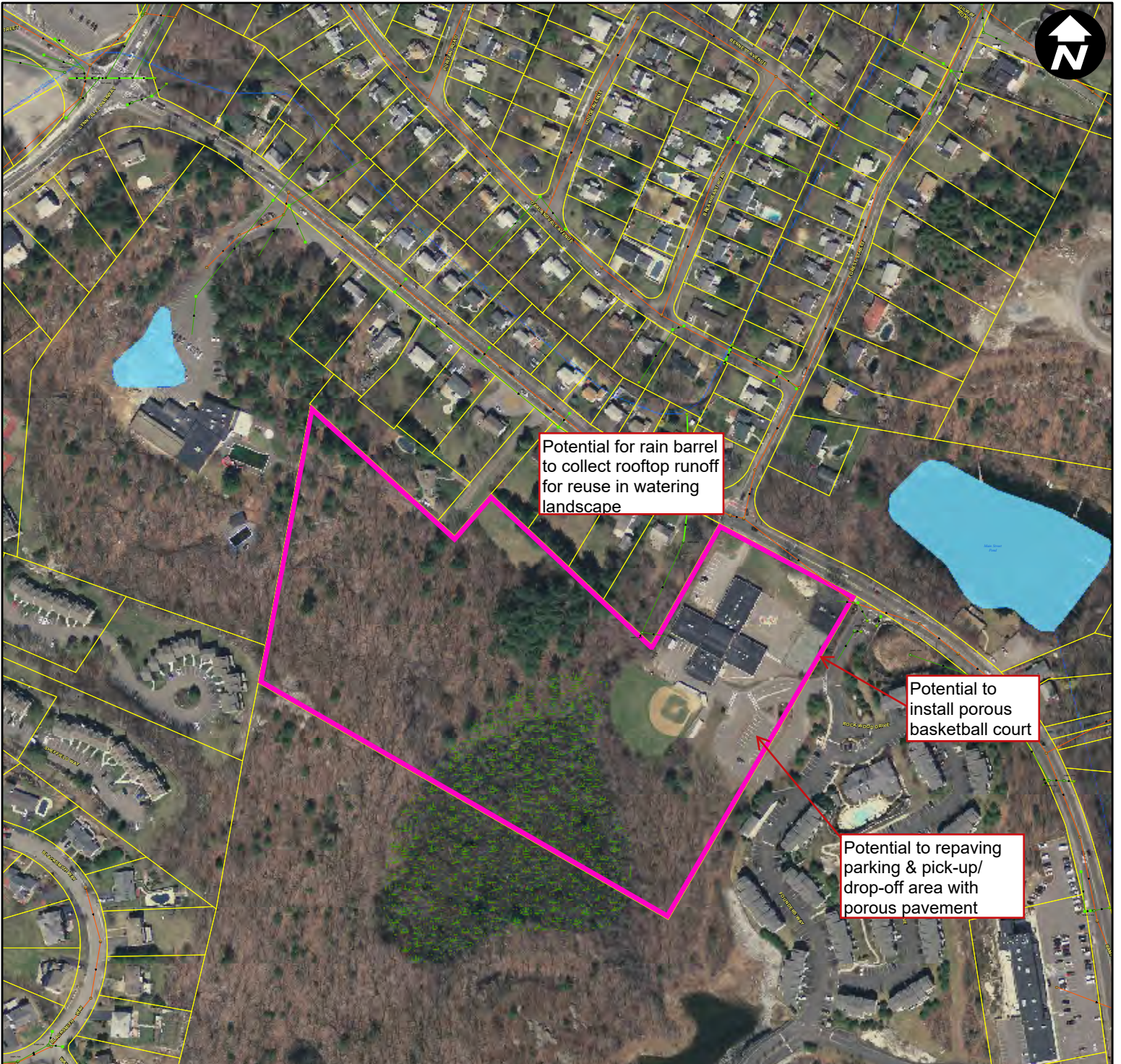
**TOWN OF SAUGUS  
MASSACHUSETTS**



Facility Name: GOLDEN HILLS PLAYGROUND  
 Facility Type: PARKS & RECREATION  
 Address: 42 GOLDEN HILLS RD

### **5.2.5 Oaklandvale School**

The Oaklandvale School is a decommissioned elementary school located on Main Street west of Route 1. An aerial view of the property shows the school building surrounded by paved parking/pick-up/drop-off areas, paved recreational areas, and a paved basketball court. Outside of the paved areas are a playground and baseball field. Oaklandvale school is a fair candidate for infiltration BMPs due to its fair draining soils. It may be possible to replace the paved basketball court with a porous sports court or to repave the existing parking/pick-up/drop-off areas with porous pavement. If it is determined that infiltration BMPs are not feasible at the Oaklandvale School, collecting rooftop runoff in rain barrels and reusing the water for onsite landscaping offers a low cost and low maintenance alternative.



**Legend**

**Storm Structures**

- Stormwater Inlet
- Stormwater Manhole
- Intake
- Direct Tap
- Outfall
- Detention Structure
- Unknown Structure
- Drain Pipe
- Culvert

**Sewer Structures**

- Sewer Manhole
- Sewer Pump Station
- Gravity Sewer
- Sewer Force Main

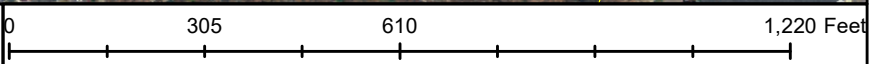
**Other Features**

- Inspection Site Boundary
- Tax Parcels
- Stream
- Intermittent Stream
- Ditch, Canal

**Reservoir**

- Reservoir
- Open Water
- Wetland
- Municipal Boundary

**TOWN OF SAUGUS  
MASSACHUSETTS**



Facility Name: OAKLANDVALE SCHOOL  
Facility Type: EDUCATION  
Address: 266 MAIN ST

## 5.3 Next Steps

Now that the highest priority BMP retrofit sites have been identified, BMP retrofit planning and design can follow. An assessment should be done for each of the five BMP retrofit sites selected to fulfill the MS4 Permit Year 4 requirements to identify appropriate BMP retrofits for the individual sites. Once BMP retrofit options have been identified, a concept design and feasibility review can determine the optimal BMP retrofit for each site. The detailed design and construction of the optimal BMP retrofit will follow. The Town of Saugus will report its progress on BMP retrofits in the annual MS4 report submitted to the EPA and MassDEP.

The BMP Retrofit Site Selection Matrix will continue to be maintained. It will be updated with new information regarding the 10 site selection criteria as it becomes available. Each MS4 permit year, the Town of Saugus will review the five sites with the highest composite scores in the matrix for BMP retrofits as well as upcoming capital project, improvements, and funding sources.

The Town of Saugus will aim to retrofit one municipally owned parcel with an infiltration BMP each MS4 Permit Year, if there are adequate funding and labor resources available for the proposed BMP retrofit. The Town will prioritize the municipally owned parcel with the highest composite score in the BMP retrofit site selection matrix, but additional sites may be deemed most suitable due to funding, timing of capital improvements or repairs, and other changing conditions

The Department of Public Works relies heavily on consultants and contractors to assist with design and in some cases operation and maintenance of these types of projects. The DPW would need additional resources allocated to design, operate, and maintain these BMPs.



# Appendix A

## Inventory of Municipally Owned Properties

# Appendix A

**Table A-1: Municipally Owned Sites Considered for BMP Retrofits**

MUNICIPALLY OWNED SITE NAME	ADDRESS
SEWER LIFT STATION	28 LAUREL ST
FIRE STATION/LIBRARY	124 ESSEX ST
CLIFTONDALE SCHOOL	54 ESSEX ST
BUCCHIERE PARK (Bristol)	23 BRISTOW ST
HARBORMASTER LODGE	100 BALLARD ST
VITALE PARK	BALLARD ST
SENIOR CENTER	466 CENTRAL ST
VETERANS MEMORIAL SCHOOL	50 HURD AVE
BALLARD SCHOOL	22 RICHARD ST
PUBLIC LANDING	BALLARD ST
BELMONTE JR. HIGH	25 DOW ST
EVANS SCHOOL	20 EAST DENVER ST
YOUTH & RECREATION DEPARTMENT	400 CENTRAL ST
RIVERSIDE CEMETERY	164 WINTER ST
STOCKER PARK	WINTER ST
PARKS & PLAYGROUND	22 STOCKER ST
HIGHWAY DEPARTMENT	LINCOLN AVE
SEWER LIFT STATION	24 LINCOLN AVE
SAUGUS HIGH SCHOOL	PEARCE MEMORIAL DR
DOUGLAS WAYBRIGHT SCHOOL	25 TALBOT ST
SEWER LIFT STATION	9 MORRIS PL
OAKLANDVALE SCHOOL	266 MAIN ST



# Appendix A

MUNICIPALLY OWNED SITE NAME	ADDRESS
SCHOOL ADMINISTRATION	21 MAIN ST
PUBLIC LIBRARY & PARKING LOT	295 CENTRAL ST
TOWN HALL & FIRE STATION	298 CENTRAL ST
PUBLIC SAFETY BUILDING	27 HAMILTON ST
STACKPOLE FIELD	70 SUMMER ST
LYNNHURST SCHOOL	443 WALNUT ST
PARKS & PLAYGROUND	42 GOLDEN HILLS RD
DPW OFFICES	515 MAIN ST
HIGHWAY DEPARTMENT	515 MAIN ST

**Table A-2: List of Municipally Owned Vacant Parcels Considered for BMP Retrofits**

MUNICIPALLY OWNED VACANT PARCEL NAME	ADDRESS
PARKS & PLAYGROUND	ALDWORTH AVE
HIGHWAY DEPARTMENT	CLIFTON AVE
WATER DEPARTMENT (1 of 2)	SUMMIT AVE
WATER DEPARTMENT (2 of 2)	SUMMIT AVE
WATER DEPARTMENT	BAKER ST
HIGHWAY DEPARTMENT	LEWIS LN
HIGHWAY DEPARTMENT	FARRINGTON AVE
UNNAMED	HURD AVE
PARKS & PLAYGROUND	STOCKER ST
RIGHT OF WAY / USED IN COMMON	WINTER ST

# Appendix A

MUNICIPALLY OWNED VACANT PARCEL NAME	ADDRESS
HIGHWAY DEPARTMENT	JOHNSON ST
LIBRARY PARKING LOT	28 TAYLOR ST
WATER DEPARTMENT	HAMILTON ST
SINGLE FAMILY HOUSE	270 MAIN ST
OPEN SPACE (1 of 2)	VINEGAR HILL DR
OPEN SPACE (2 of 2)	VINEGAR HILL DR
PARKS & PLAYGROUND	CENTRAL ST
PUBLIC LANDING	PRANKERS POND
PARKS & PLAYGROUND (1 of 2)	CENTRAL ST
HIGHWAY DEPARTMENT (2 of 2)	WALNUT ST
PARKS & PLAYGROUND (2 of 2)	CENTRAL ST
HIGHWAY DEPARTMENT (1 of 2)	WALNUT ST

**Table A-3: List of Municipally Owned Sites Excluded from BMP Retrofit Site Selection**

EXCLUDED SITE NAME	ADDRESS	REASON FOR EXCLUSION
EVANS SCHOOL	20 EAST DENVER ST	Recently renovated, installation of BMP retrofits could require removal of recently installed improvements
SAUGUS HIGH SCHOOL	PEARCE MEMORIAL DRIVE	Recently renovated, installation of BMP retrofits could require removal of recently installed improvements
BUCCHIERE PARK	23 BRISTOW ST	Insignificant impervious area, park is green space and parking lot is porous pavement

# Appendix A

EXCLUDED SITE NAME	ADDRESS	REASON FOR EXCLUSION
STACKPOLE FIELD	70 SUMMER ST	Insignificant impervious area
RIVERSIDE CEMETARY	164 WINTER ST	BMP retrofits could disturb human remains
VACANT PARCEL – HIGHWAY DEPT.	9 LEWIS LN	BMP retrofits cannot be installed without impeding parking lot due to space constraints
SCHOOL ADMINISTRATION	21 MAIN ST	School administration offices have been moved and the building has been vacated. Site will not be considered for capital improvements until it is repurposed.
TOWN HALL & FIRE STATION	298 CENTRAL ST	Recently renovated, installation of BMP retrofits could require removal of recently installed improvements
STOCKER PARK	WINTER ST	Insignificant impervious surface
VETERANS MEMORIAL SCHOOL	50 HURD AVE	Recently renovated, installation of BMP retrofits could require removal of recently installed improvements

# Appendix B

## Site Selection Matrix

Town of Saugus  
BMP Retrofit Site Selection Matrix

Site Name	Site Address	Receiving Waterbody	Planned Capital Improvements (2)	Flooding (2)	Watershed Uses/Limitations (4)	Amount of Impervious Area (4)	Soil Infiltration Capacity (3)	Depth to Water-table (2)	Provides Co-benefits (1)	Benefits Vulnerable Population(s) (1)	Sensitive Receptors (1)	Ease of Maintenance (2)	Composite Score
PUBLIC LIBRARY & PARKING LOT	295 CENTRAL ST	Saugus River	1	5	5	4	5	5	4	2	4	5	93
SENIOR CENTER	466 CENTRAL ST	Fiske Brook	1	3	2	4	5	5	4	2	5	5	78
DOUGLAS WAYBRIGHT SCHOOL	25 TALBOT ST	Shute Brook	1	5	4	2	3	5	4	3	5	5	77
GOLDEN HILLS PARK	42 GOLDEN HILLS RD	First Pond	1	5	4	2	3	5	3	2	5	5	75
OAKLANDVALE SCHOOL	266 MAIN ST	Crystal Pond Brook	1	5	4	4	2	2	4	2	4	5	74
SEWER LIFT STATION	28 LAUREL ST	Overland Flow	1	2	1	5	5	5	3	2	4	5	74
PUBLIC SAFETY BUILDING	27 HAMILTON ST	Saugus River	1	5	5	3	2	2	2	3	4	5	73
LYNNHURST SCHOOL	443 WALNUT ST	Birch Pond	1	5	3	3	2	5	4	2	5	5	73
BALLARD SCHOOL	22 RICHARD ST	Saugus River	1	2	5	5	1	1	4	2	5	5	72
CLIFTONDALE SCHOOL	54 ESSEX ST	Overland Flow	1	2	1	4	5	5	4	2	4	5	71
RIGHT OF WAY / USED IN COMMON	82 WINTER ST	Saugus River	1	1	5	5	2	1	2	3	4	5	71
SINGLE FAMILY HOUSE	270 MAIN ST	Crystal Pond Brook	1	5	4	2	3	3	2	2	5	5	70
FIRE STATION/LIBRARY	124 ESSEX ST	Fiske Brook	1	5	2	2	3	5	4	3	5	5	69
YOUTH & RECREATION DEPARTMENT	400 CENTRAL ST	Fiske Brook	1	3	2	4	3	5	4	3	5	3	69
BELMONTE JR. HIGH	25 DOW ST	Fiske Brook	1	5	2	2	2	5	4	3	5	5	66
HARBORMASTER LODGE	100 BALLARD ST	Saugus River	1	2	5	4	1	1	2	2	4	5	65
WATER DEPARTMENT	5 BAKER ST	Overland Flow	1	2	1	5	1	5	4	2	5	5	64
HIGHWAY DEPARTMENT	18? LINCOLN AVE	Saugus River	1	1	5	4	1	1	2	2	3	5	62
SEWER LIFT STATION	24 LINCOLN AVE	Saugus River	1	1	5	4	1	1	2	2	3	5	62
DPW OFFICES	515 MAIN ST	Unnamed Stream	1	5	2	2	2	5	2	2	2	5	60
HIGHWAY DEPARTMENT	515 MAIN ST	Unnamed Stream	1	5	2	2	2	5	2	2	2	5	60
HIGHWAY DEPARTMENT	1 FARRINGTON AVE	Fiske Brook	1	4	2	1	5	5	2	3	5	1	59
PARKS & PLAYGROUND	81 CENTRAL ST	Saugus River	1	1	5	1	3	5	2	2	5	1	58
WATER DEPARTMENT	64 HAMILTON ST	Saugus River	1	5	5	1	1	1	2	2	4	3	55
VITALE PARK	BALLARD ST	Saugus River	1	2	5	1	1	1	3	2	4	5	54
PUBLIC LANDING	BALLARD ST	Saugus River	1	2	5	1	1	1	2	2	4	5	53
SEWER LIFT STATION	9 MORRIS PL	Saugus River	1	2	5	2	1	1	2	2	4	3	53
Town of Saugus	57 HURD AVE	Fiske Brook	1	4	2	1	3	5	3	2	5	1	53
PARKS & PLAYGROUND (1 of 2)	161 CENTRAL ST	Saugus River	1	2	5	1	1	5	2	2	4	1	53
PARKS & PLAYGROUND (2 of 2)	186 CENTRAL ST	Saugus River	1	2	5	1	1	5	2	2	4	1	53
HIGHWAY DEPARTMENT	71 CLIFTON AVE	municipal interconnection	1	2	2	1	3	5	3	2	4	3	52
HIGHWAY DEPARTMENT	2 DEWEY ST	Overland Flow	1	5	1	1	3	5	2	2	5	1	50
HIGHWAY DEPARTMENT (1 of 2)	467 WALNUT ST	Birch Pond	1	1	3	1	1	5	3	2	5	3	49
HIGHWAY DEPARTMENT	JOHNSON ST	Saugus River	1	2	5	1	1	1	2	2	3	3	48
OPEN SPACE (2 of 2)	13 VINEGAR HILL DR	Overland Flow	1	5	1	1	2	5	2	2	5	1	47
WATER DEPARTMENT (2 of 2)	55 SUMMIT AVE	Overland Flow	1	1	1	1	3	5	2	2	4	3	45
WATER DEPARTMENT (1 of 2)	30 SUMMIT AVE	Overland Flow	1	1	1	1	3	5	2	2	5	1	42
OPEN SPACE (1 of 2)	16 VINEGAR HILL DR	Overland Flow	1	2	1	1	2	5	2	2	5	1	41
HIGHWAY DEPARTMENT (2 of 2)	423 WALNUT ST	Birch Pond	1	2	3	1	2	1	2	2	5	1	41
PARKS & PLAYGROUND	10 ALDWORTH AVE	Pines River	1	2	4	1	1	1	2	2	1	1	38