

Year 1 Annual Report
Massachusetts Small MS4 General Permit
Reporting Period: May 1, 2018-June 30, 2019

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form

Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed.

Part I: Contact Information

Name of Municipality or Organization:

EPA NPDES Permit Number:

Primary MS4 Program Manager Contact Information

Name: Title:

Street Address Line 1:

Street Address Line 2:

City: State: Zip Code:

Email: Phone Number:

Fax Number:

Stormwater Management Program (SWMP) Information

SWMP Location (web address):

Date SWMP was Last Updated:

If the SWMP is not available on the web please provide the physical address and an explanation of why it is not posted on the web:

Part II: Self Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4.

Impairment(s)

Bacteria/Pathogens
 Chloride
 Nitrogen
 Phosphorus
 Solids/ Oil/ Grease (Hydrocarbons)/ Metals

TMDL(s)

In State:
 Assabet River Phosphorus
 Bacteria and Pathogen
 Cape Cod Nitrogen
 Charles River Watershed Phosphorus
 Lake and Pond Phosphorus

Out of State:
 Bacteria/Pathogens
 Metals
 Nitrogen
 Phosphorus

Clear Impairments and TMDLs

*Next, check off all requirements below that have been completed. **By checking each box you are certifying that you have completed that permit requirement fully.** If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.*

Year 1 Requirements

- Develop and begin public education and outreach program
- Identify and develop inventory of all known locations where SSOs have discharged to the MS4 in the last 5 years
 - The SSO inventory is attached to the email submission
 - The SSO inventory can be found at the following website:
- Develop written IDDE plan including a procedure for screening and sampling outfalls
- IDDE ordinance complete
- Identify each outfall and interconnection discharging from MS4, classify into the relevant category, and priority rank each catchment for investigation
 - The priority ranking of outfalls/interconnections is attached to the email submission
 - The priority ranking of outfalls/interconnections can be found at the following website:

Included in SWMP in Appendix D. <https://www.cityofmelrose.org/engineering/files/melrose-stormwater-management-program>
- Construction/ Erosion and Sediment Control (ESC) ordinance complete
- Develop written procedures for site inspections and enforcement of sediment and erosion control measures
- Develop written procedures for site plan review
- Keep a log of catch basins cleaned or inspected
- Complete inspection of all stormwater treatment structures

Annual Requirements

- Annual opportunity for public participation in review and implementation of SWMP
- Comply with State Public Notice requirements
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- All curbed roadways have been swept a minimum of one time per year

Phosphorus (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- Distribute an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorus-free fertilizers
- Distribute an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- Distribute an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- Increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Potential structural BMPs

Any structural BMPs listed in Attachment 3 to Appendix F already existing or installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus

- removal by the BMP consistent with Attachment 1 to Appendix H. Document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP in each annual report

Solids, Oil and Grease (Hydrocarbons), or Metals

Annual Requirements

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- Increase street sweeping frequency of all municipal owned streets and parking lots to a schedule to target areas with potential for high pollutant loads
- Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full; Clean catch basins more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings

Use the box below to input additional details on any unchecked boxes above or any additional information you would like to share as part of your self assessment:

Since the IDDE program was just developed and is just beginning to be implemented, there has been no applicable training to perform yet. Training will begin in Year 2. Street sweeping is performed every fall on all City roads and parking lots, then performed twice per month in April through August on all main roads and

parking areas. Therefore, while a large portion of the City is being swept upwards of 10-12 times per year, smaller roads are presently only swept in the fall and as-needed in the spring. The City does not have existing BMPs in the phosphorus-limited areas for which there is enough data to evaluate specific phosphorus removal loads. Consultant assistance will be solicited in Year 2 in order to better estimate phosphorus removal from the three known sediment removal devices owned by the City (two at the City Yard and one at the Middle School). All other requirements listed above have been met.

Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted?

Yes No

If yes, describe below, including any relevant impairments or TMDLs:

One additional outfall to Ell Pond was discovered during field investigations that was not previously included in the stormwater GIS as an outfall.

Part IV: Minimum Control Measures

Please fill out all of the metrics below. If applicable, include in the description who completed the task if completed by a third party.

MCM1: Public Education

Number of educational messages completed during the reporting period:

Below, report on the educational messages completed during the first year. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.

BMP: Brochures/Pamphlets

Message Description and Distribution Method:

Stormwater outreach materials were produced and prominently displayed in the Engineering Division/Water and Sewer Billing at City Hall. Topics included pet waste, leaf litter, and fertilizers. Some of these materials were developed with assistance from the Mystic River Watershed Association.

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Selected and stocked brochures and posters at DPW and City Hall.

Message Date(s):

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP: Webpage

Message Description and Distribution Method:

A stormwater outreach website was created with a wealth of material for a variety of audiences, described in layman's terms. The webpage includes an interactive map where property owners can determine which watershed they are in. The webpage is located here: <https://www.cityofmelrose.org/engineering/pages/stormwater-outreach>

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

The City website was updated to include the new information on stormwater management issues.

Message Date(s): Webpage was launched in June 2019

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Special Events - DPW Day

Message Description and Distribution Method:

Provided stormwater education information at annual DPW Day, which includes all K-2 public school students and many parents in Melrose. Staffed booth at annual DPW Day and handed out Dwayne the Storm Drain books to children.

Targeted Audience: Residents

Responsible Department/Parties: DPW

Measurable Goal(s):

Staffed booth at annual DPW Day and handed out Dwayne the Storm Drain books.

Message Date(s): May 2019

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP: Signs at Parks for Pet Waste

Message Description and Distribution Method:

Maintained signs at parks, especially around Ell Pond, regarding proper pet waste cleanup.

Targeted Audience: Residents

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Continued to inspect and maintain signs educating the public about pet waste cleanup at parks, especially where adjacent to waterways.

Message Date(s): Ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP: Information for Dog Licensees

Message Description and Distribution Method:

A pamphlet has been provided to the City Clerk's office for distribution to dog licensees. In reviewing this program, it was determined that the majority of residents applying for dog licenses do so through the mail along with their annual City census. Therefore, distribution of the materials to walk-ins will only be minimally effective. In future permit years, the City will continue to provide the document to walk-ins for dog licenses, but we will also distribute the flyer via email or mail to the distribution list of dog licensees. Email and mailing addresses are collected from residents when they apply for licenses whether through the mail or in person.

Targeted Audience: Residents

Responsible Department/Parties: Department of Public Works and City Clerk's Office

Measurable Goal(s):

Pamphlet provided to walk-in dog licensees at this time but will be expanded to include the email list in future years.

Message Date(s): Ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

For now, no changes have been made; however, as described above, changes will be made in future years.

[Add an Educational Message](#)

MCM2: Public Participation

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) during the reporting period:

The SWMP has been posted to the City's website and is a living document and will be modified as comments

are received that warrant updates. The webpage includes an email address and phone number for those wishing to submit comments.

Was this opportunity different than what was proposed in your NOI? Yes No

Describe any other public involvement or participation opportunities conducted during the reporting period:

As noted in the NOI, public meetings are posted in accordance with state public notification guidelines. In addition, the City assisted with two Ell Pond cleanups during the reporting period, as we have in previous years, by providing DPW operations assistance for trash removal and other assistance as needed by the volunteers. These events were held on May 5, 2018 and May 4, 2019.

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

Below, report on the number of SSOs identified in the MS4 system and removed during this reporting period.

Number of SSOs identified:

Number of SSOs removed:

Below, report on the total number of SSOs identified in the MS4 system and removed to date. At a minimum, report SSOs identified since 2013.

Total number of SSOs identified:

Total number of SSOs removed:

MS4 System Mapping

Describe the status of your MS4 map, including any progress made during the reporting period:

City staff attempted to field-locate all outfalls shown on the GIS maps and then returned to begin GPSing and inspecting each outfall location. An online form was created using PeopleForms to gather the outfall inspection data. Inconsistencies found within the stormwater GIS layer are recorded and later provided to the City's GIS administrator to update the applicable GIS layer and/or attribute data.

Screening of Outfalls/Interconnections

If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring results should include the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses.

- The outfall screening data is attached to the email submission
- The outfall screening data can be found at the following website:

The outfall data is being collected in PeopleGIS: <https://www.mapsonline.net/melrosema/>

forms/standalone.html.php?id=478352624&sid=80ce01b00882d60f4977c38876cd2ab0#

Below, report on the number of outfalls/interconnections screened during this reporting period.

Number of outfalls screened: 5

Below, report on the percent of total outfalls/ interconnections screened to date.

Percent of total outfalls screened: 14%

Catchment Investigations

If conducted, please submit all data collected during this reporting period as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.

- The catchment investigation data is attached to the email submission
- The catchment investigation data can be found at the following website:

Below, report on the number of catchment investigations completed during this reporting period.

Number of catchment investigations completed this reporting period: 0

Below, report on the percent of catchments investigated to date.

Percent of total catchments investigated: 0

Optional: Provide any additional information for clarity regarding the catchment investigations below:

Formal catchment investigations have not yet begun.

IDDE Progress

If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.

- The illicit discharge removal report is attached to the email submission
- The illicit discharge removal report can be found at the following website:

Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed during this reporting period.

Number of illicit discharges identified: 0

Number of illicit discharges removed: 0

Estimated volume of sewage removed: 0 [UNITS]

Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed since the effective date of the permit.

Total number of illicit discharges identified:

Total number of illicit discharges removed:

Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:

Because the IDDE protocol was recently completed and outfalls are still being inspected and field-verified, no illicit connections have yet been identified. The online form that was developed can be located here: <https://www.mapsonline.net/melrosema/forms/standalone.html.php?id=478352624&sid=80ce01b00882d60f4977c38876cd2ab0#>

Employee Training

Describe the frequency and type of employee training conducted during the reporting period:

Again, because the IDDE protocol was recently completed, training has not yet begun on IDDE procedures.

MCM4: Construction Site Stormwater Runoff Control

Below, report on the construction site plan reviews, inspections, and enforcement actions completed during this reporting period.

Number of site plan reviews completed:

Number of inspections completed:

Number of enforcement actions taken:

MCM5: Post-Construction Stormwater Management in New Development and Redevelopment

Ordinance Development

Describe the status of the post-construction ordinance required to be complete in year 2 of the permit term:

The ordinance for post-construction stormwater conditions has not been modified but continues to be enforced, as described in detail in the SWMP.

As-built Drawings

Describe the status of the measures the MS4 has utilized to require the submission of as-built drawings and ensure long term operation and maintenance of completed construction sites required to be complete in year 2 of the permit term:

The City continues to require all projects that underwent Planning Board review to submit as-built plans, including information regarding all stormwater conveyance and treatment infrastructure. Prior to signing off on occupancy for these projects, the City ensures that adequate as-built plans have been provided and that an operations and maintenance plan has been submitted meeting manufacturer's recommendations for the cleaning and maintenance of stormwater infrastructure. For units owned by homeowners' associations or condo associations, the City also requires the agreements that document the responsibility for O&M of these systems prior to signing off on occupancy.

Street Design and Parking Lots Report

Describe the status of the street design and parking lots assessment due in year 4 of the permit term, including any planned or completed changes to local regulations and guidelines:

No update.

Green Infrastructure Report

Describe the status of the green infrastructure report due in year 4 of the permit term, including the findings and progress towards making the practice allowable:

No update.

Retrofit Properties Inventory

Describe the status of the inventory, due in year 4 of the permit term, of permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas and report on any properties that have been modified or retrofitted:

Two properties have been identified thus far and have been included in the City's 5-year Capital Improvement Plan for desired funding. These are retrofits to the City Hall Parking Lot and the Friends Parking Lot to add green infrastructure components prior to repaving. Grant funding is actively being sought for these projects. The formal inventory has not yet been completed Citywide.

MCM6: Good Housekeeping**Catch Basin Cleaning**

Describe the status of the catch basin cleaning optimization plan:

The City's plan involves cleaning all catch basins a minimum of once every two years. The City also maintains

If complete, attach the catch basin cleaning optimization plan or the schedule to gather information to develop the optimization plan:

- The catch basin cleaning optimization plan or schedule is attached to the email submission
- The catch basin cleaning optimization plan or schedule can be found at the following website:

Areas 2 and 4 were cleaned during this reporting year. Areas 1 and 3 will be cleaned in Year 2.

Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins during this reporting period.

Number of catch basins inspected:

Number of catch basins cleaned:

Total volume or mass of material removed from all catch basins:

Below, report on the total number of catch basins in the MS4 system, if known.

Total number of catch basins:

If applicable:

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

If a catch basin is found to be frequently filling up, it is added to the "drain periodicals" list. DPW staff aim to visit these sites monthly, and at a minimum once every two months, and perform cleaning depending on the conditions found at each visit.

Street Sweeping

Describe the status of the written procedures for sweeping streets and municipal-owned lots:

The City has a contract for street sweeping, as well as in-house street sweeping equipment. The contracted sweeper sweeps all City roads and parking lots every fall. The City also sweeps all main roadways two times per month between April and August, and sweeps other roadways as needed during this period. The estimate below is conservatively based on 91 miles of roadways swept each fall, plus 15 miles of main roads swept 10 times during the period of April through August. Since other roadways are swept as needed during this period, including after construction, after storms, etc., the total is higher than this conservative estimate.

Report on street sweeping completed during the reporting period using one of the three metrics below.

Number of miles cleaned:

Volume of material removed: [UNITS]

Weight of material removed: [UNITS]

If applicable:

For rural uncurbed roadways with no catch basins, describe the progress of the inspection, documentation, and targeted sweeping plan:

Winter Road Maintenance

Describe the status of the written procedures for winter road maintenance including the storage of salt and sand:

The following procedures are followed, as indicated in the Notice of Intent and the SWMP:

- 1) Use appropriate sand/salt mixture
- 2) Calibrate spreaders at the beginning of each winter at a minimum
- 3) Maintain calibration and deicer volume records after each storm
- 4) Keep salt stored in an enclosed shed and never outside
- 5) Minimize the time salt and sand is uncovered.

In addition, five members of the DPW (Operations Manager, Highway, Water, and Sewer Foremen) attended APWA snow training in 2019 which included training on proper salt management and application to minimize overuse of salt. Furthermore, the City has switched from using calcium chloride to a product called Magic Minus which has reduced our overall salt usage and is said to be more environmentally friendly. The City used approximately 20-30 gallons of Magic Minus during the 2018-19 snow season.

Inventory of Permittee-Owned Properties

Describe the status of the inventory, due in year 2 of the permit term, of permittee-owned properties, including parks and open spaces, buildings and facilities, and vehicles and equipment, and include any updates:

O&M Procedures for Parks and Open Spaces, Buildings and Facilities, and Vehicles and Equipment

Describe the status of the operation and maintenance procedures, due in year 2 of the permit term, of permittee-owned properties (parks and open spaces, buildings and facilities, vehicles and equipment) and include maintenance activities associated with each:

Stormwater Pollution Prevention Plan (SWPPP)

Describe the status of any SWPPP, due in year 2 of the permit term, for permittee-owned or operated facilities including maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater:

Below, report on the number of site inspections for facilities that require a SWPPP completed during this reporting period.

Number of site inspections completed:

Describe any corrective actions taken at a facility with a SWPPP:

The City inspects the two structures at the City Yard annually.

O&M Procedures for Stormwater Treatment Structures

Describe the status of the written procedure for stormwater treatment structure maintenance:

The City maintains the treatment structures at the City Yard by having them inspected and pumped out annually. They were most recently inspected and cleaned by Clean Harbors on April 25 and May 2, 2019. The only other known structure is at the Melrose Veterans Memorial Middle School and was only recently discovered to be a City-owned treatment structure. This structure is scheduled for cleaning in Year 2 and will be cleaned annually thereafter. This structure is upstream of the outfall that was not previously included in the GIS and was located during outfall inspections around Ell Pond in 2019.

The City also installed three rain gardens and one subsurface BMP within/beneath the grass strips on Orient Avenue in 2018. The rain gardens are inspected monthly to determine if maintenance is needed. Since this was intended to be a pilot project, they are also photographed each month to have a year-round documentation of their condition. Sampling is planned to be undertaken at some point during the permit term to further evaluate their effectiveness.

Additional Information**Monitoring or Study Results**

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.

- Not applicable
- The results from additional reports or studies are attached to the email submission

- The results from additional reports or studies can be found at the following website(s):

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

Additional Information

Optional: Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above:

The City conducted three household hazardous waste collection days, one in June 2018, one in October 2018, and one in June 2019. There are normally two collection days each year, one in June and one in October.

Activities Planned for Next Reporting Period

Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 2 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree

- Complete system mapping Phase I
- Begin investigations of catchments associated with Problem Outfalls
- Develop or modify an ordinance or other regulatory mechanism for post-construction stormwater runoff from new development and redevelopment
- Establish and implement written procedures to require the submission of as-built drawings no later than two years after the completion of construction projects
- Develop, if not already developed, written operations and maintenance procedures
- Develop an inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; review annually and update as necessary
- Establish a written program detailing the activities and procedures the permittee will implement so that the MS4 infrastructure is maintained in a timely manner
- Develop and implement a written SWPPP for maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater
- Enclose or cover storage piles of salt or piles containing salt used for deicing or other purposes
- Develop, if not already developed, written procedures for sweeping streets and municipal-owned lots
- Develop, if not already developed, written procedures for winter road maintenance including storage of salt and sand
- Develop, if not already developed, a schedule for catch basin cleaning
- Develop, if not already developed, a written procedure for stormwater treatment structure maintenance

- Develop a written catchment investigation procedure (*18 months*)

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4 in the last 5 years
- Continue public education and outreach program
- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all uncurbed streets at least annually

Provide any additional details on activities planned for permit year 2 below:

Please see the Notice of Intent and SWMP for additional items noted that are targeted for completion in Year 2.

Part V: Certification of Small MS4 Annual Report 2019

40 CFR 144.32(d) Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:

Gail Infurna

Title: Mayor

Signature:



Date: 09/30/19

[Signatory may be a duly authorized representative]