



City of Medford, Massachusetts

Stormwater Management Program

MA MS4 General Permit Requirements

EPA NPDES Permit Number: MAR041049

Last Updated June 2020

City of Medford, MA - Engineering Department
City Hall – Room 300, 85 George P. Hassett Drive, Medford, MA 02155

Contact: Penny Antonoglou, PAntonoglou@medford-ma.gov

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CERTIFICATION

Certification

Authorized Representative (Optional): All reports, including SWPPPs, inspection reports, annual reports, monitoring reports, reports on training and other information required by this permit must be signed by a person described in Appendix B, Subsection 11.A or by a duly authorized representative of that person in accordance with Appendix B, Subsection 11.B. If there is an authorized representative to sign MS4 reports, there must be a signed and dated written authorization.

The authorization letter is:

- ☐ Attached to this document (document name listed below)

- ☐ Publicly available at the website below

“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 gathered and evaluated 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, 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.”

Printed Name

Signature _____

Date

SMALL MS4 AUTHORIZATION

The NOI was submitted on

The NOI can be found at the following (document name or web address):

Authorization to Discharge was granted on

The Authorization Letter can be found (document name or web address):



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

VIA EMAIL

March 5, 2019

Stephanie Muccini Burke
Mayor

And;

Brian Kerins
Commissioner of Public Works
Medford City Hall- Room 304
85 George P. Hassett Drive
Medford, MA. 02155
bkerins@medford-ma.gov

Re: National Pollutant Discharge Elimination System Permit ID #: MAR041049, City of
Medford

Dear Brian Kerins:

The 2016 NPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems in Massachusetts (MS4 General Permit) is a jointly issued EPA-MassDEP permit. Your Notice of Intent (NOI) for coverage under this MS4 General Permit has been reviewed by EPA and appears to be complete. You are hereby granted authorization by EPA and MassDEP to discharge stormwater from your MS4 in accordance with the applicable terms and conditions of the MS4 General Permit, including all relevant and applicable Appendices. This authorization to discharge expires at midnight on **June 30, 2022**.

For those permittees that certified Endangered Species Act eligibility under Criterion C in their NOI, this authorization letter also serves as EPA's concurrence with your determination that your discharges will have no effect on the listed species present in your action area, based on the information provided in your NOI.

As a reminder, your first annual report is due by **September 30, 2019** for the reporting period from May 1, 2018 through June 30, 2019.

Information about the permit and available resources can be found on our website:
<https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit>. Should you have
any questions regarding this permit please contact Newton Tedder at tedder.newton@epa.gov or
(617) 918-1038.

Sincerely,

A handwritten signature in blue ink that reads "Thelma Murphy". The signature is fluid and cursive, with a long horizontal flourish extending from the end.

Thelma Murphy, Chief
Stormwater and Construction Permits Section
Office of Ecosystem Protection
United States Environmental Protection Agency, Region 1

and;

A handwritten signature in black ink that reads "Lealdon Langley". The signature is cursive and somewhat stylized, with a large loop at the end.

Lealdon Langley, Director
Wetlands and Wastewater Program
Bureau of Water Resources
Massachusetts Department of Environmental Protection

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1.0 BACKGROUND

1.1 Stormwater Regulation

The Stormwater Phase II Final Rule was promulgated in 1999 and was the next step after the 1987 Phase I Rule in EPA's effort to preserve, protect, and improve the Nation's water resources from polluted stormwater runoff. The Phase II program expands the Phase I program by requiring additional operators of Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas and operators of small construction sites, through the use of National Pollutant Discharge Elimination System (NPDES) permits, to implement programs and practices to control polluted stormwater runoff. Phase II is intended to further reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation. Under the Phase II rule all MS4s with stormwater discharges from Census designated Urbanized Area are required to seek NPDES permit coverage for those stormwater discharges.

1.2 Permit Program Background

On May 1, 2003, EPA Region 1 issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (2003 small MS4 permit) consistent with the Phase II rule. The 2003 small MS4 permit covered "traditional" (i.e., cities and towns) and "non-traditional" (i.e., Federal and state agencies) MS4 Operators located in the states of Massachusetts and New Hampshire. This permit expired on May 1, 2008 but remained in effect until operators were authorized under the 2016 MS4 general permit, which became effective on July 1, 2018.

1.3 Stormwater Management Program (SWMP)

The SWMP describes and details the activities and measures that will be implemented to meet the terms and conditions of the permit. The SWMP describes the permittee's plans and activities. The document should be updated and/or modified during the permit term as the permittee's activities are modified, changed or updated to meet permit conditions during the permit term. The main elements of the stormwater

management program are (1) a public education program in order to affect public behavior causing stormwater pollution, (2) an opportunity for the public to participate and provide comments on the stormwater program, (3) a program to effectively find and eliminate illicit discharges within the MS4, (4) a program to effectively control construction site stormwater discharges to the MS4, (5) a program to ensure that stormwater from development projects entering the MS4 is adequately controlled by the construction of stormwater controls, and (6) a good housekeeping program to ensure that stormwater pollution sources on municipal properties and from municipal operations are minimized. The hyperlinks provided in Appendix A offer additional information and supporting documents related to the MS4 Permit and the aforementioned minimum control measures.

1.4 City Specific MS4 Background

The City must give special consideration to and meet eligibility requirements for their discharges to be able to apply for coverage under the General Permit. Eligibility will be determined based on three categories: Endangered Species Act, National Historic Preservation Act, and Water Quality Impaired Waters. The City must establish that discharges from its storm drain system do not adversely impact endangered species, critical habitats, and historic properties in order to be covered by the General Permit. Furthermore, the City must identify all receiving waters that have been classified as Water Quality Impaired Waters by the MA DEP. The City of Medford and its surrounding water bodies are shown on *Figure 1: System Locus*. The Notice of Intent (NOI) for coverage under the Small MS4 General Permit was submitted to EPA and MassDEP on September 27, 2018. A copy of the NOI is provided in Appendix B.

2.0 SWMP COMPONENTS

2.1 Parties Involved in Implementation

Stormwater programs in the City of Medford are currently the responsibility of the Commissioner of Public Works, Brian Kerins, his agent or designee. The responsibility has been designated to the City Engineer. The City has not yet created/staffed a stormwater management position. Stormwater programs are currently managed by the Engineering Department. Per the City's Stormwater Ordinance the Stormwater Board consists of the Director of Public Works, the City Engineer and the Building Commissioner. The Board shall promulgate, adopt and amend regulations and standards to control and regulate activities in any way related to the use of the City's stormwater system.

2.2 Documentation Regarding Endangered Species

In order to comply with part 1.9.1 of the NPDES Permit, the City has attached documentation in Appendix D supporting Medford's eligibility determination of Criterion C with regard to federal Endangered and Threatened Species and Critical Habitat Protection. Criterion C states that, "determination is made by EPA, or by the applicant and affirmed by EPA, that the stormwater discharges and discharge related activities will have "no affect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the USFWS." In this case, USFWS provided a letter in place of a concurrence letter for informal consultation.

The attachments in Appendix D include the aforementioned letter, as well as the results of the Information for Planning and Consultation (IPaC) environmental review process. Using the IPaC environmental review process, one endangered species has been identified within Medford's boundaries: the Northern Long-Eared Bat. This species does not have critical habitats designated within the City, and the MS4 Permit will not adversely affect the listed species within the MS4 area.

2.3 Documentation Regarding Historic Properties

The City has attached documentation in Appendix E supporting their eligibility determination regarding Historic Properties, in compliance with part 1.9.2 of the Permit. This document includes information supporting Medford's determination as Criterion A, stating that the discharges do not have the potential to cause effects on historic properties.

Historic site considerations will be evaluated further as part of the design/permitting of new/retrofit BMPs proposed for implementation as part of MS4 compliance. Regarding the National Historic Preservation Act, under 36 CFR 800, this facility is an existing facility authorized by the previous Permit, and is not undertaking any activity involving subsurface land disturbance less than 1 acre. This MS4 Permit will have "no potential to cause effects," in accordance with 36 CFR 800.3(a)(1).

2.4 Documentation Regarding Discharges

Attached in Appendix F is the documentation for tracking any new or increased discharges granted by MassDEP in compliance with part 2.1.2 of the Permit. At this time, the City of Medford has no new and/or increased discharges. The City will document any new and/or increased discharges on the form provided in Appendix F and include project specific information regarding best management practices implemented for those discharges. A sample discharge tracking form is provided in Appendix F.

2.5 Sanitary Sewer Overflow (SSO) Inventory

In the event of an overflow or bypass, a notification must be reported within 24 hours by phone to MassDEP, EPA, and other relevant parties. The verbal notification should be followed up with a written report following MassDEP's Sanitary Sewer Overflow (SSO)/Bypass notification form within 5 calendar days of the time the City become aware of the overflow, bypass, or backup.

As of July 2014, there were 32 known SSOs that discharge to the MS4. An inventory of all known locations where SSOs have discharged to the MS4 will be maintained by the City. This inventory shall include SSOs resulting from inadequate conveyance capacities, or

where interconnectivity of the storm and sanitary sewer infrastructure allows for connection of flow between the systems. A sample SSO inventory form is provided in Appendix G and includes the following information:

1. Location (approximate street crossing/address and receiving water, if any);
2. A clear statement of whether the discharge entered a surface water directly or entered the MS4;
3. Date(s) and time(s) of each known SSO occurrence (i.e., beginning and end of any known discharge);
4. Estimated volume(s) of the occurrence;
5. Description of the occurrence indicating known or suspected cause(s);
6. Mitigation and corrective measures completed with dates implemented; and
7. Mitigation and corrective measures planned with implementation schedules.

2.6 IDDE Program and Ordinances

The City's IDDE plan will be developed during the first year of the new permit. The IDDE program is detailed in section 3.3 of Minimum Control Measures. The City's current Stormwater System ordinance is provided in Appendix H.

2.7 Sediment and Erosion Control Procedures

Written procedures for the City's site inspections and enforcement of sediment and erosion control procedures in accordance with part 2.3.5 of the Permit, Construction Site Stormwater Runoff Control, are detailed in the sections 3.4 and 3.5, Minimum Control Measures. This information includes the party responsible for site inspections and implementation of procedures.

2.8 Public Drinking Water Supply Sources Protection

The City does not currently have any MS4 discharges within a public water supply source, but practices are in place if any additional discharges or protections are added.

These efforts are detailed in Minimum Control Measures section 3.6, Good Housekeeping and Pollution Prevention.

2.9 Activities to Monitor Discharges

The City does not have any MS4 discharges within a public drinking water supply source, but has plans to prioritize any new discharges within those areas as required in the Minimum Control Measures in section 3.0.

2.10 Annual Program Evaluation

To comply with part 4.1 of the Permit, the City annually self-evaluates compliance with the terms and conditions of the Permit and submits each self-evaluation as part of the Fiscal Year annual report. The 2018 NPDES Phase II Small MS4 General Permit Annual Report is attached as Appendix I.

3.0 MINIMUM CONTROL MEASURES

In effort to reduce pollutants and comply with part 2.3 of the Permit, the City focuses on the following minimum control measures. These sections describe the City's practices to comply with each control measure, the responsible person(s) or party of each practice, and the goal(s) for each BMP of each control measure. The BMPs for each of the six minimum control measures are outlined in the forms provided in Appendix J.

3.1 Public Education and Outreach

The permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area. The ultimate objective of a public education program, permit part 2.3.2, is to increase knowledge and change behavior of the public so that the pollutants in stormwater are reduced.

The City implemented a public education program as required by the 2003 permit and will continue that program and make the necessary adjustments to meet the additional requirements of the 2016 permit.

The program must include the education of the following four audiences: 1. residents, 2. businesses, institutions (churches, hospitals), and commercial facilities, 3. developers (construction), and 4. industrial facilities.

3.1.1 Background

The City of Medford has implemented several actions in efforts to reach public education and outreach goals. Public education information posts are on display at City Hall and the City stormwater websites are maintained. Hazardous waste and recycling information is continually updated on the City's website as well. The City is also a member of the MyWRA Stormwater Collaborative, which has developed educational material, and outreach tracker.

Links to the City's stormwater websites can be found here:

<http://www.medfordma.org/departments/energy-and-environment/storm-water-management/>
<http://medfordenergy.org/gogreen/storm-water-specific/>

3.1.2 *Best Management Practices*

- I. Distribution of a minimum of two (2) educational messages over the permit term to the required audiences within the permit term (5 years), as listed below.
 - A. Residents
 1. Recycle/household waste information on pamphlet in DPW Office and mailed to residents.
 2. Recycling/household hazardous waste information on website.
 - B. Businesses, Institutions, and Commercial Facilities
 1. Include information on permit materials.
 2. Establish section on stormwater website directed towards businesses, institutions, and commercial facilities.
 - C. Developers (Construction)
 1. Include information in permit materials; Review and update application forms to meet the new requirements.
 2. Establish section on stormwater website directed toward developers.
 - D. Industrial Facilities
 1. Distribute information to industrial groups based on zoning and property use.
 2. Establish section on stormwater website directed toward industrial facilities.

3.2 Public Involvement and Participation

The objective of the public involvement and participation control measure, permit part 2.3.3., is for the City to provide the public with opportunities to engage in activities that promote good stormwater practices. The public must also be given the chance to review the Stormwater Management Plan (SWMP) and its implementation.

3.2.1 Background

Responsible parties for public involvement and participation efforts include the Department of Public Works. The DPW continues to collect oil-based paints and hazardous waste at the DPW Yard. The City coordinates with the Town of Lexington and allows their residents to dispose of Hazardous Waste at the Minuteman Hazardous Household Products Facility in Lexington. Curbside recycling and yard waste collection are available to residents. Involvement in organized events and Public Education Campaigns are another large part of the City's efforts towards public involvement and participation.

3.2.2 Best Management Practices

- I. Public Review
 - A. Allow annual review of stormwater management plan and posting of stormwater management plan on website.
- II. Public Participation
 - A. Allow public to comment on stormwater management plan annually.
 - B. Provide resident access to paint disposal shed at DPW yard and post drop-off schedule on DPW website.
 - C. Provide resident access to Household Hazardous Waste Disposal Facility in Town of Lexington and post facility policies and schedule on DPW website.
 - D. Support annual Mystic River Clean-up event coordinated by Friends of Mystic and Mystic River Watershed Association.

3.3 Illicit Discharge Detection and Elimination (IDDE) Program

Part 2.3.4 of the permit requires the development and implementation of an IDDE program to find and eliminate non-stormwater discharges into the City's separate storm sewer system. The City initially developed an IDDE program in 2010. The IDDE program will be updated with new information. Procedures shall be implemented to fix any prevalent issues in the City's storm sewer system. As identified in the Notice of Intent (NOI), attached in Appendix B, the following 187 outfall structures listed in the table below discharge to the City of Medford's MS4 area. These outfall structures are displayed on *Figure 2: MS4 Urbanized Areas*.

Waterbody that receives flow from the MS4 and segment ID if applicable	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/DO Saturation	Nitrogen	Oil & Grease/PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Lower Mystic Lake (MA71027)	10	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DDT, Dissolved Oxygen, PCB in Fish Tissue, Salinity, Sediment Bioassays - Chronic Toxicity Freshwater, Sulfide-Hydrogen Sulfide
Malden River (MA71-05)	15	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Debris/Floatables/Trash, Chlordane, DDT, Dissolved Oxygen Saturation, Escherichia coli, Fecal Coliform, Foam/Flocs/Scum/Oil Slicks, Dissolved Oxygen, PCB in Fish Tissue, High pH, Phosphorus (Total), Secchi Disk Transparency, Sediment Bioassays - Chronic Toxicity Freshwater, Taste and Odor, Total Suspended Solids (TSS)
Mystic River (MA71-02)	120	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fish-Passage Barrier, Arsenic, Chlordane, Chlorophyll-a, DDT, Dissolved Oxygen Saturation, Escherichia coli, PCB in Fish Tissue, Phosphorus (Total), Secchi Disk Transparency, Sediment Bioassays - Chronic Toxicity Freshwater
Quarter Mile Pond	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.430724, -71.1063)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.434062, -71.130145)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.435592, -71.102258)	12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.439182, -71.104571)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.442588, -71.094751)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.444094, -71.09548)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary (MA71-13)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Waterbody (42.432267, -71.093058)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetland (42.43125, -71.092183)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetland (42.440966, -71.09076)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Upper Mystic Lake (MA71043)	5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Non-Native Aquatic Plants, Dissolved Oxygen Saturation, Dissolved Oxygen
Wrights Pond	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3.3.1 Background

Responsible parties for IDDE efforts include the Department of Public Works. The City has passed an Illicit Discharge Ordinance and is continuing enforcement of fines for littering and pet waste and establishing fines for illegal dumping. The City is updating its stormwater mapping in GIS as needed and updating its staff on IDDE Program goals, procedures, and status.

3.3.2 *Best Management Practices*

I. Legal Authority

A. The IDDE program shall include adequate legal authority to prohibit illicit discharges; investigate suspected illicit discharges; eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system; and implement appropriate enforcement procedures and actions. Adequate legal authority consists of a currently effective ordinance. For permittees authorized by the MS4-2003 permit, the ordinance, or other regulatory mechanism was a requirement of the MS4-2003 permit and was required to be effective by May 1, 2008. The City's current stormwater ordinance is provided in Appendix H.

II. SSO Inventory

A. Develop SSO Inventory Database within one year of effective permit date that logs historical SSOs that have occurred in the last 5 years, as discussed in further detail in section 2.5.

1. Coordinate with Sewer Department for tracking of any future SSOs.

III. Storm Sewer System Map

A. Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit.

1. Make an electronic and physical copy of the map available to the public via the stormwater website and Medford City Hall.

2. Map/verify 10% of system per year during permit years 1-10.

a) Phase I will be focused on during Years 1 and 2, while Phase II will be focused on during Years 3 thru 10.

IV. Written IDDE Program Development

A. The City first developed a written IDDE program in 2010. Catchment investigations procedures are included in the IDDE document. The document can be found on the City's website at

<http://www.medfordma.org/departments/energy-and-environment/storm-water-management/>. The IDDE program is also available at Medford City Hall,

Room 300, Engineering Department. The program will be updated from time to time with new information.

V. Implement IDDE Program

- A. Implement catchment investigations according to program and permit conditions within 18 months of the effective date of the Permit.
 - 1. Continue to enforce ordinance.
 - 2. Draft and implement stormwater management regulations.
 - 3. Coordinate water quality monitoring with dry weather screening
 - a) New monitoring system should include surveying for illicit discharge detection.

VI. Employee Training

- A. Coordinate annual stormwater training and incorporate with training required in Section 6.2.IV.B.

VII. Dry Weather Screening

- A. Conduct screening in accordance with outfall screening procedure and permit conditions.
 - 1. Screen 25% of outfalls per year during permit years 2-5.

VIII. Conduct Wet Weather Screening

- A. Conduct screening in accordance with outfall screening procedure and permit conditions, and as determined by dry weather screening results.

IX. Conduct ongoing screening as necessary, and upon completion of the IDDE program.

3.4 Construction Site Stormwater Runoff Control

Part 2.3.5 of the Permit requires the implementation of a program focused on controlling stormwater runoff from construction sites. The program shall minimize or eliminate erosion on site and maintain the site so that the sediment is not transported in stormwater or allowed to discharge to a water of the U.S. through the permittee's MS4.

3.4.1 Background

The City of Medford has passed and continues to enforce a Stormwater System Ordinance that includes provisions for Erosion and Sediment Control. Erosion and Sediment Control BMP Requirements, Construction Site Review Procedures, and Construction Site Inspection and Enforcement Procedures are being finalized. The Department of Public Works, Building Department, Office of Community Development, Energy & Environment, and the Zoning Board of Appeals are all responsible for construction site stormwater runoff control BMPs.

3.4.2 Best Management Practices (BMPs)

- I. Site Inspection and Enforcement of Erosion and Sediment Control (ESC) Measures.
 - A. Complete written procedures of site inspections and enforcement procedures within 1 year of effective date of the Permit.
 1. Recommend standards and practices for city inspection procedures. Seek input from relevant city groups (e.g. Building, Health, Conservation, etc.)
 2. Develop inspection form that includes ESC measures and integrate them with existing City forms.
- II. Site Plan Review
 - A. Complete written procedures of site plan review and begin implementation within 1 year of the effective date of the Permit.
 1. Include site plan review workflow chart with permit applications.

2. Review current City procedure regarding when a Construction General Permit (CGP) is needed.

- a) CGP required for disturbance of 1 acre or greater

III. Erosion and Sediment Control Ordinance

- A. Adoption of requirements for construction operators to implement a sediment and erosion control program within 1 year of the effective date of the Permit.

1. Set limit of 1 acre before project requires inspection by City official.

- a) Coordinate limits and requirements with fill/extraction permits.

2. Update all City forms with erosion and sediment control checklist.

IV. Waste Control

- A. Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes within 1 year of the effective date of the Permit.

1. Incorporate into City's general conditions for building permit and/or site plan review.

2. Review and modify City ordinance to meet new requirements.

3.5 Post Construction Stormwater Management in New Development and Redevelopment

The objective of an effective post construction stormwater management program, part 2.3.6 of the Permit, is to reduce the discharge of pollutants found in stormwater to the MS4 through the retention or treatment of stormwater after construction on new or redeveloped sites and to ensure proper maintenance of installed stormwater controls.

3.5.1 Background

The Stormwater System Ordinance includes provisions for stormwater management. Final procedures for choosing structural and non-structural BMPs and BMP implementation are being finalized. Better site design practices are being implemented as well. The Department of Public Works, Building Department, Office of Community Development, and Energy & Environment are all responsible for stormwater management in new and redevelopment.

3.5.2 Best Management Practices

I. Post-Construction Ordinance

- A. The permittee shall develop or modify, as appropriate, an ordinance or other regulatory mechanism within two (2) years of the effective date of the permit.

II. As-Built Plans For On-Site Stormwater Control

- A. Require submission of electronic data for as-built drawings (e.g. PDF, AutoCAD, GIS) within 2 years of completed construction.
 - 1. Operation and Maintenance (O&M) certification should include contact and contract information for contractors that perform O&M on the private BMPs.

III. Inventory and Priority Ranking of MS4-Owned Properties That May Be Retrofitted with BMPs

- A. Conduct detailed inventory of MS4 owned properties and rank for retrofit potential within 4 years of permit effective date.
 - 1. Inventory City parcels for existing stormwater BMPs and identify opportunities for GI/LID retrofits.
 - a) Include schools, parks, recreation facilities, police/fire/EMS, libraries, public works, and city administrative offices.
- IV. Allow Green Infrastructure
 - A. Within 4 years of permit effective date, develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist
 - 1. Review ordinances, regulations, and applications in order to incorporate green infrastructure and low impact development language as needed.
 - 2. Educate the public on green infrastructure through existing BMP retrofits/demonstration projects.
- V. Street Design and Parking Lot Guidelines
 - A. Within 4 years of permit effective date, develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options
 - 1. Publish street design and parking lot guidelines on stormwater website.
- VI. Ensure any stormwater controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality.
 - A. Within 2 years of permit effective date, adopt, amend, or modify regulation mechanisms to meet permit requirements.
 - 1. Review rules and regulations and modify as needed. Include evaluation of subdivision/redevelopment requirements for long-term operations and management of private BMPs.

- a) Work to establish cash (instead of bond) surety with developers to create binding obligation to keep stormwater runoff onsite.
- 2. Continue to implement Post-Construction Site Runoff Control Ordinance.

3.6 Good House Keeping and Pollution Prevention for Permittee Owned Operations

As per Permit part 2.3.7, an operations and maintenance program must be implemented by the City for City-owned operations. The program shall focus on preventing or reducing pollutant runoff and protecting water quality from City operations.

3.6.1 Background

The City of Medford sweeps main streets weekly and sweeps every city-owned street and parking lot at least twice per year. This schedule of street sweeping will continue throughout the permit. Additionally, the City cleans catch basins annually and is developing informational mailings for neighborhoods associated with problematic catch basins.

The City is continuing to train their employees annually. The City will continue implementation of BMPs for pollution reduction/elimination from municipal waters and discourage geese near water bodies throughout the City.

The Department of Public Works, Building Department, Energy & Environment Department, and Health Department are responsible for pollution prevention BMPs.

3.6.2 Best Management Practices

- I. Create written O&M procedures for parks and open spaces, buildings and facilities, and vehicles and equipment within 2 years of permit effective date.
 - A. Develop standards of practice for O&M of each public facility and combine in City O&M Manual.
- II. Inventory of all permittee-owned parks and open spaces, buildings and facilities (including their storm drains), and vehicles and equipment within 2 years of the permit effective date.
 - A. Develop a capital improvement plan that deals with flooding prevention measures and water quality improvements.
 1. Coordinate implementation with Section 5.2.II of the Permit.

- III. Establish and implement program for repair and rehabilitation of MS4 infrastructure within 2 years of the permit effective date.
 - A. Inspect assets and assess condition to develop program
 - B. Review annual budget to set aside funding.
- IV. Stormwater Pollution Prevention Plan (SWPPP) For Maintenance Garages, Transfer Stations and Other Waste-Handling Facilities.
 - A. The SWPPP for the DPW yard has been developed. A hardcopy is kept at the DPW Garage located at the DPW Yard at 21 James St.
 - B. Schedule annual employee training.
 - 1. Look into workshop and speaking opportunities and seek formal training for all departments
 - C. Develop an asset management system to process complaints, permits, inspections, and maintenance.
 - D. Continue to implement improved recycling standards and requirements.
 - 1. Advertise rigid plastic and antifreeze recycling to public. Enforce new standards for private haulers.
- V. Catch Basin Cleaning
 - A. Develop and maintain a cleaning schedule.
 - B. Develop electronic data collection system for tracking, inspection, and maintenance.
 - 1. Update catch basin cleaning services RFP requirements to require electronic data collection that is compatible with the City's GIS and asset management system.
- VI. Street Sweeping Program
 - A. Continue to implement street sweeping program.
- VII. Road Salt Use Optimization Program
 - A. Continue working on salt reduction strategies.
 - 1. Calibrate spreaders to reduce salt use.

4.0 WATER QUALITY BASED REQUIREMENTS

In compliance with the Clean Water Act (CWA), each state must administer a program to monitor and assess the quality of its surface and groundwater. Section 305(b) process of the CWA entails assessing each use for rivers, lakes, and coastal waters, and causes and sources of impairment are identified wherever possible. Section 303(d) of the CWA along with the regulations at 40 CFR 130.7 requires states to identify those water bodies that are not expected to meet surface water quality standards (SWQS) after the implementation of technology based controls, and prioritize them for the development of Total Maximum Daily Loads (TMDLs). A TMDL establishes the maximum amount of a pollutant that may be introduced into a water body and still ensure attainment and maintenance of water quality standards. The 303(d) *List of Impaired Waters* (303(d) List) lists each water body in one of the following five categories:

- 1) Unimpaired and not threatened for all designated uses;
- 2) Unimpaired for some uses and not assessed for others;
- 3) Insufficient information to make assessments for any uses;
- 4) Impaired or threatened for one or more uses, but not requiring the calculation of a TMDL; or
- 5) Impaired or threatened for one or more uses and requiring a TMDL.

Waters listed in Category 5 constitute the 303(d) List and are to be reviewed and approved by the EPA. An abbreviated version of *Table 1: Impaired Waters, TMDLs and Impairments* is shown below, and is also represented in Appendix B, the Notice of Intent. An overall map of the City of Medford's stormwater system is attached as *Figure 4: Stormwater System Map*.

Category	Name	Segment ID	Description	Size	Units	Impairment Cause
5 - "Water Requiring a TMDL"	Lower Mystic Lake	MA71027	Arlington/Medford	93	ACRES	DDT Oxygen, Dissolved PCB in Fish Tissue Salinity Sediment Bioassays -- Chronic Toxicity Freshwater Sulfide-Hydrogen Sulfide
	Upper Mystic Lake	MA71043	Winchester/Arlington/Medford	176	ACRES	(Non-Native Aquatic Plants*) Dissolved oxygen saturation Oxygen, Dissolved
	Malden River	MA71-05	Headwaters south of Exchange Street, Malden to confluence with Mystic River, Everett/Medford.	2.3	MILES	(Debris/Floatables/Trash*) Chlordane DDT Dissolved oxygen saturation Escherichia coli Fecal Coliform Foam/Flocs/Scum/Oil Slicks Oxygen, Dissolved PCB in Fish Tissue pH, High Phosphorus (Total) Secchi disk transparency Sediment Bioassays -- Chronic Toxicity Freshwater Taste and Odor Total Suspended Solids (TSS)
	Mystic River	MA71-02	Outlet Lower Mystic Lake, Arlington/Medford to Amelia Earhart Dam, Somerville/Everett.	4.9	MILES	(Fish-Passage Barrier*) Arsenic Chlordane Chlorophyll-a DDT Dissolved oxygen saturation Escherichia coli PCB in Fish Tissue Phosphorus (Total) Secchi disk transparency Sediment Bioassays -- Chronic Toxicity Freshwater

4.1 Background

These best management practices aim to improve and mitigate stormwater water quality impairments. This program will focus on Category 5 impaired waters requiring a TMDL throughout the City of Medford.

The entirety of the City is located within the Boston Harbor Watershed. This area can be seen on *Figure 3 – City Watersheds*. The Boston Harbor Watershed does not have an approved TMDL but does contain waterbodies within the watershed that are impaired.

The Massachusetts Category 5 impaired waters requiring a TMDL in Medford are all located within the Boston Harbor Watershed. As shown in *Table 1 – Impaired Waters, TMDLs and Impairments*, these water bodies include Lower Mystic Lake, Upper Mystic Lake, Malden

River, and the Mystic River. The City should prioritize sampling outfalls to these water bodies for their respective impairments, also listed in *Table 1*. The City of Medford Public Works Department is the primary party responsible for the BMPs to meet these TMDL requirements.

4.2 Additional Impairment Requirements

4.2.1 Public Education and Outreach

A. Bacteria or Pathogens

- Distribute an annual message that encourages the proper management of pet waste, including noting any existing ordinances where appropriate.
- Disseminate educational materials to dog owners at the time of issuance or renewal of dog license, or other appropriate time.
- Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens.

B. Phosphorus

- Distribute an annual message in the spring (March/April) timeframe 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) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate.
- Distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter.
- Deliver an annual message on each of these topics, unless the permittee determines that one of more of these issues is not a significant contributor of phosphorus to discharges from the MS4.

4.2.2 Stormwater Management in New Development and Redevelopment

A. Solids, Oil and Grease, or Metals

- Incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or unexpected event.
- Require any stormwater management system designed to infiltrate stormwater on commercial or industrial sites to provide the level of pollutant removal equal to or greater than the level of pollutant removal provided through the use of biofiltration of the same volume of runoff to be infiltrated, prior to infiltration.

B. Phosphorus

- Include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal.
- Retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs that infiltrate stormwater where feasible.

4.2.3 *Good House Keeping and Pollution Prevention*

A. Solids, Oil and Grease, or Metals

- Increase street sweeping frequency of all municipal owned streets and parking lots to a schedule determined by the permittee 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. Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads.

B. Phosphorus

- Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces.
- 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, once in the spring (following winter activities such as sanding) and at least once in the fall (September 1 - December 1; following leaf fall).

4.2.4 *Illicit Discharge*

A. Bacteria or Pathogens

- Implement the illicit discharge program required by the Permit. Catchments draining to any water body impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.

4.2.5 *Additional Requirements (Phosphorus)*

A. Phosphorus

- Within four years of the permit effective date the permittee shall complete a Phosphorus Source Identification Report. The report shall include the following elements:
 - i. Calculation of total MS4 area draining to the water quality limited water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6
 - ii. All screening and monitoring results pursuant to part 2.3.4.7.d, targeting the receiving water segment(s)
 - iii. Impervious area and DCIA for the target catchment
 - iv. Identification, delineation, and prioritization of potential catchments with high phosphorus loading
 - v. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment, including the removal of impervious areas
- The final Phosphorus Source Identification Report shall be submitted to EPA as a part of the year 4 annual report.
- Within five years of the permit effective date, the permittee shall evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii. Or identified in the Phosphorus Source Identification Report that are within the drainage area of the impaired water or its tributaries.

- The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report.
- The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high phosphorus load potential.
- The permittee shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.
- Any structural BMPs listed in Table 3 of 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. The permittee shall 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.

At any time during the permit term the permittee may be relieved of additional requirements in Appendix H applicable to it when in compliance with the requirements in Appendix H.

TABLE 1

IMPAIRED WATERS, TMDLS AND IMPAIRMENTS

City of Medford, Massachusetts
Massachusetts Year 2014 Integrated List of Waters
Impaired Waters

Category	Name	Segment ID	Description	Size	Units	Impairment Cause	EPA TMDL NO.	Comments
5 - "Water Requiring a TMDL"	Lower Mystic Lake	MA71027	Arlington/Medford	93	ACRES	DDT Oxygen, Dissolved PCB in Fish Tissue Salinity Sediment Bioassays -- Chronic Toxicity Freshwater Sulfide-Hydrogen Sulfide		
	Upper Mystic Lake	MA71043	Winchester/Arlington/Medford	176	ACRES	(Non-Native Aquatic Plants*) Dissolved oxygen saturation Oxygen, Dissolved		
	Malden River	MA71-05	Headwaters south of Exchange Street, Malden to confluence with Mystic River, Everett/Medford.	2.3	MILES	(Debris/Floatables/Trash*) Chlordane DDT Dissolved oxygen saturation Escherichia coli Fecal Coliform Foam/Flocs/Scum/Oil Slicks Oxygen, Dissolved PCB in Fish Tissue pH, High Phosphorus (Total) Secchi disk transparency Sediment Bioassays -- Chronic Toxicity Freshwater Taste and Odor Total Suspended Solids (TSS)		
	Mystic River	MA71-02	Outlet Lower Mystic Lake, Arlington/Medford to Amelia Earhart Dam, Somerville/Everett.	4.9	MILES	(Fish-Passage Barrier*) Arsenic Chlordane Chlorophyll-a DDT Dissolved oxygen saturation Escherichia coli PCB in Fish Tissue Phosphorus (Total) Secchi disk transparency Sediment Bioassays -- Chronic Toxicity Freshwater		

*TMDL not required (Non-pollutant)

FIGURE 1
SYSTEM LOCUS

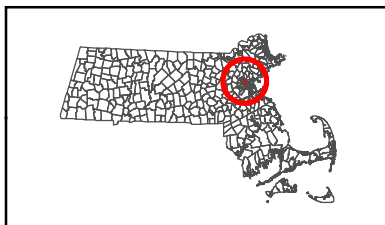
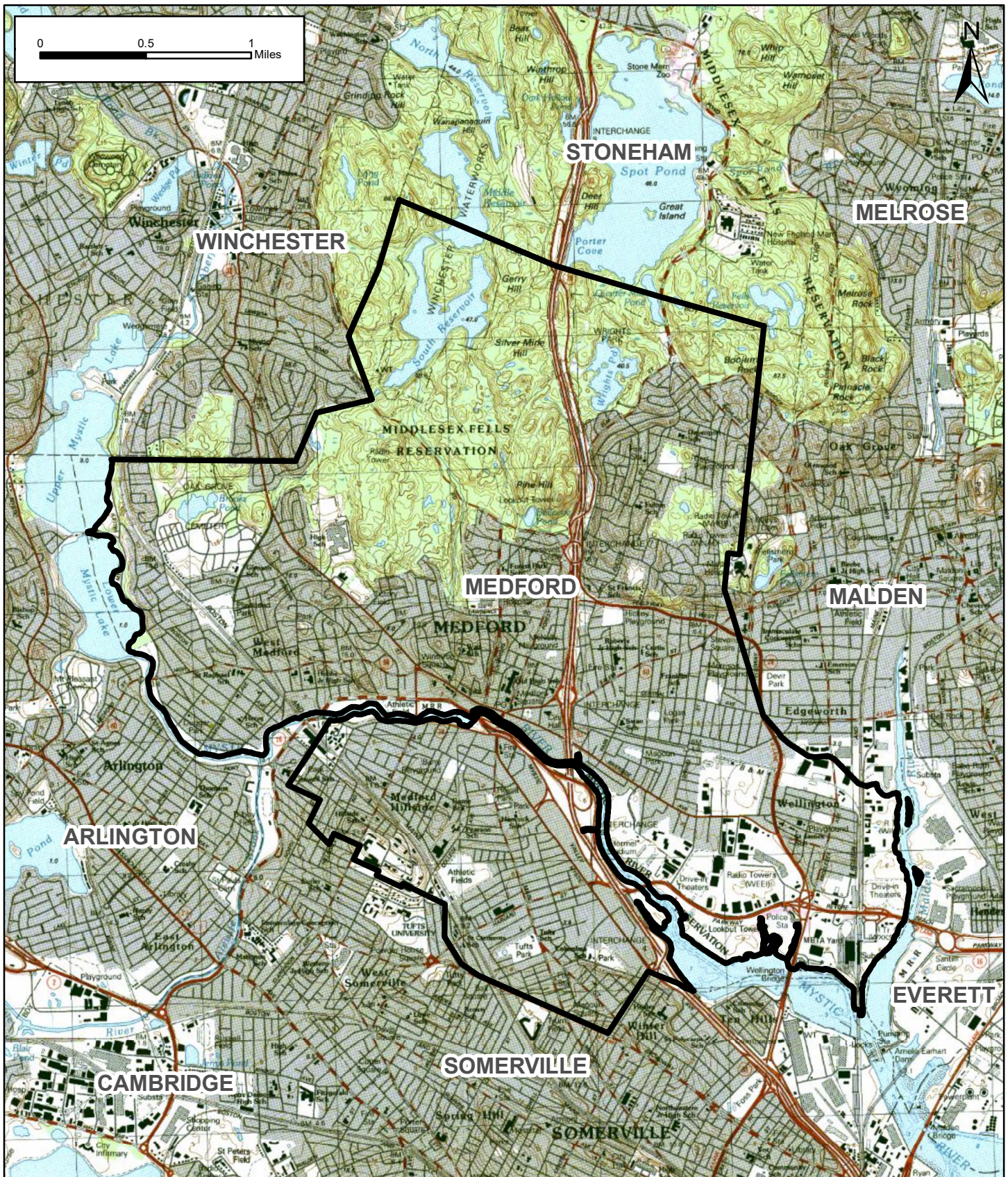


Figure 1
System Locus
Medford, Massachusetts



FIGURE 2

MS4 URBANIZED AREAS

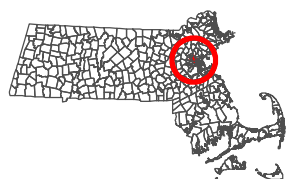
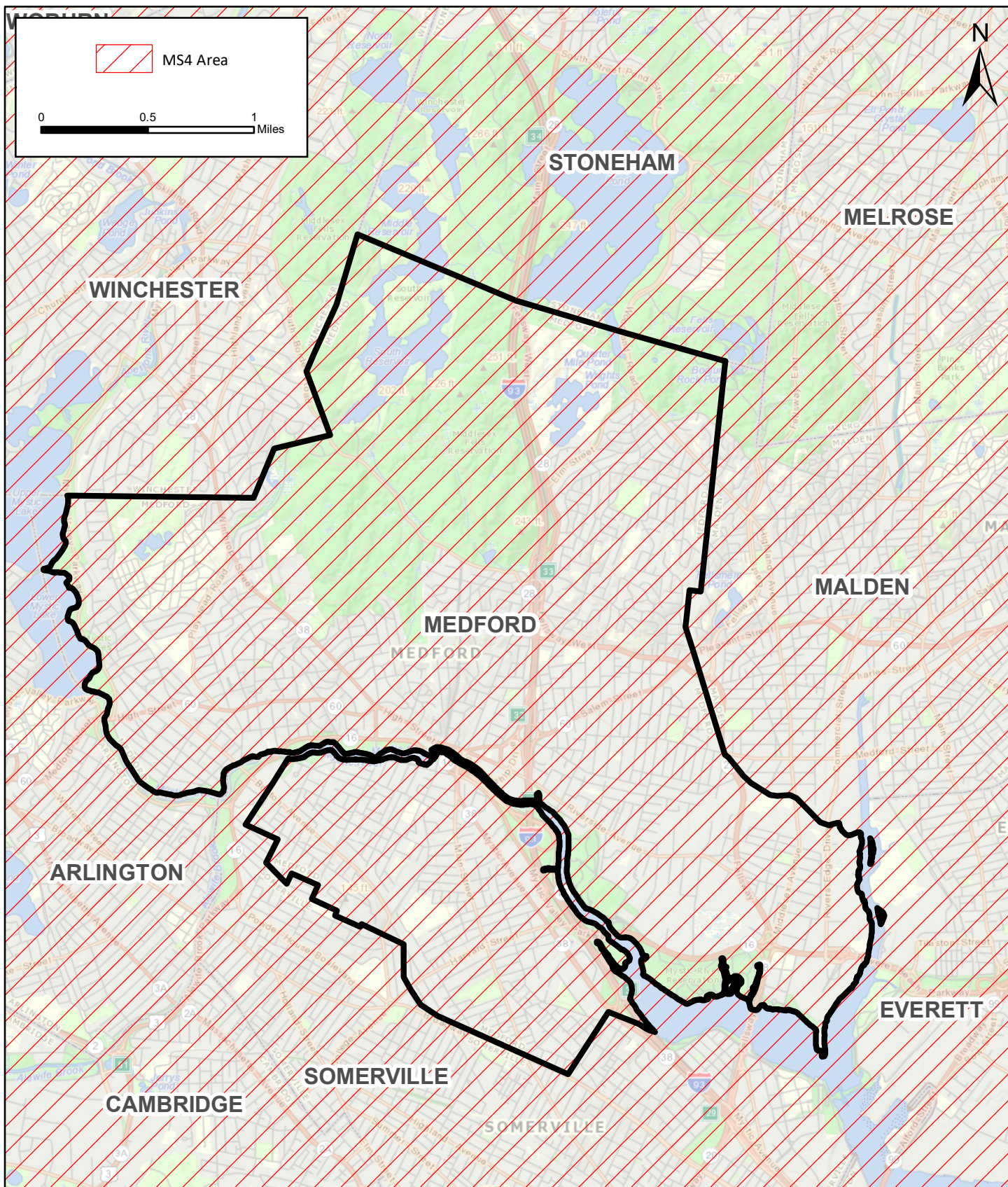


Figure 2
MS4 Urbanized Areas
Medford, Massachusetts



FIGURE 3
CITY WATERSHEDS

FIGURE 4
STORMWATER SYSTEM MAP

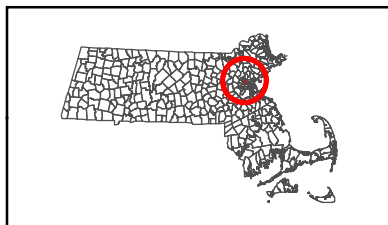
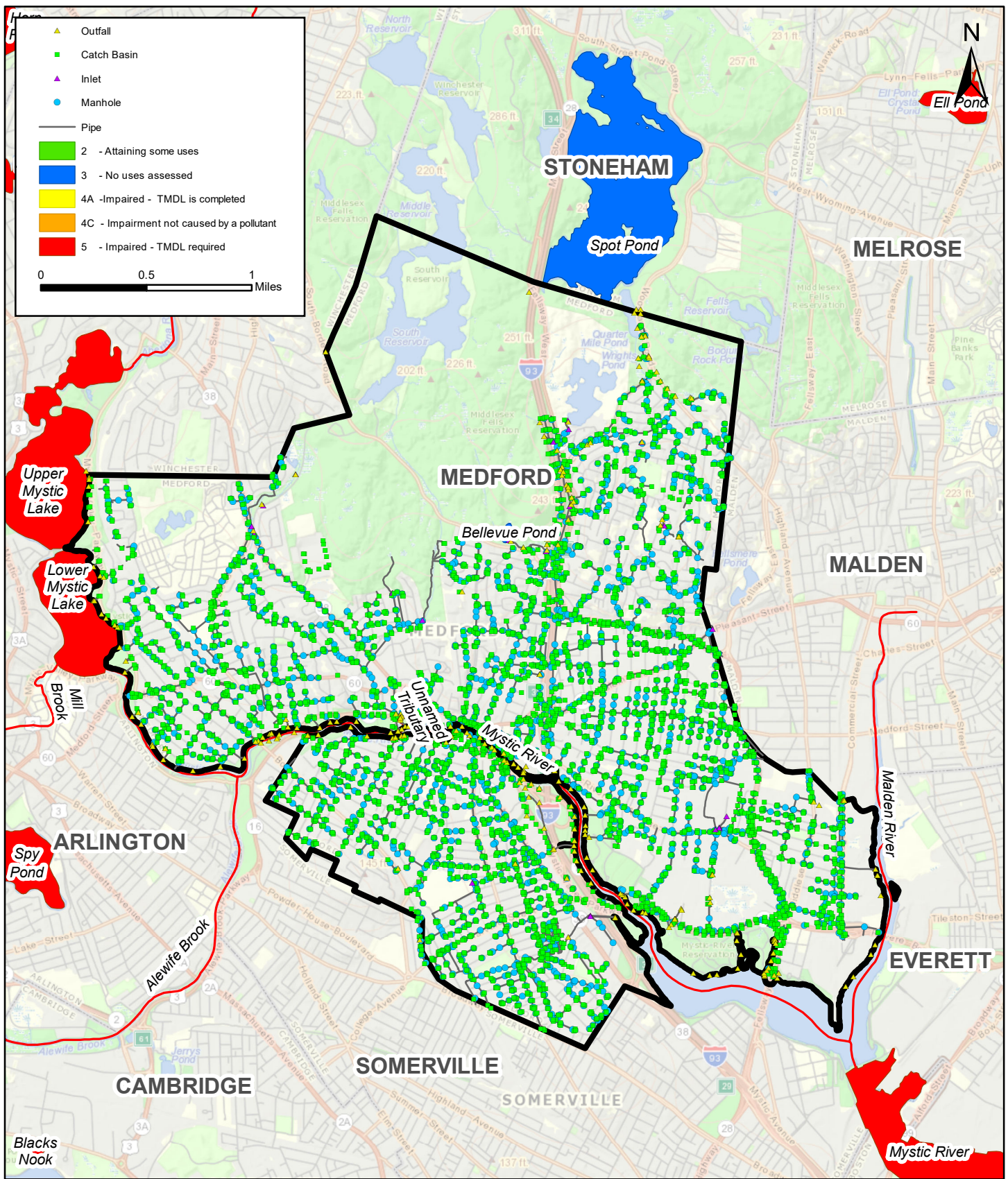


Figure 4
Stormwater System
Medford, Massachusetts



APPENDIX A

MA MS4 HYPERLINKS AND REFERENCES

MA MS4 General Permit Hyperlinks

EPA MA MS4 Permit: <https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit>

DEP Permit Information:

<http://www.mass.gov/eea/agencies/massdep/water/wastewater/stormwater.html#8>

City Hyperlink: <https://www.medfordma.org/departments/energy-and-environment/storm-water-management/>

MCM 1: Public Education and Outreach

EPA's Stormwater Education Toolbox

MassDEP's Stormwater Outreach Materials

Other templates relevant to MCM 1 can be found here:

<https://www.epa.gov/npdes-permits/stormwater-tools-new-england#peo>

MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program

IDDE Program Template and SOPs

Other templates relevant to IDDE can be found here:

<https://www.epa.gov/npdes-permits/stormwater-tools-new-england#idde>

MCM 4: Construction Site Stormwater Runoff Control

Examples and templates relevant to MCM 4, including model ordinances and site inspection templates, can be found here:

<https://www.epa.gov/npdespermits/stormwater-tools-new-england#csrc>

MCM 5: Post Construction Stormwater Management in New Development and Redevelopment

Examples and templates relevant to MCM 5, including model ordinances and bylaw review templates and guidance can be found here:

<https://www.epa.gov/npdes-permits/stormwater-tools-new-england#pcsm>

MCM 6: Good Housekeeping and Pollution Prevention for Permittee Owned Operations

Examples and templates relevant to MCM 6, including SOP templates for catch basin cleaning, street sweeping, vehicle maintenance, parks and open space management, winter deicing, and Stormwater Pollution Prevention Plans can be found here:

<https://www.epa.gov/npdes-permits/stormwatertools-new-england#gh>

APPENDIX B
NOTICE OF INTENT

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Page 1 of 19

Part I: General Conditions

General Information

Name of Municipality or Organization: State:

EPA NPDES Permit Number (if applicable):

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:

Other Information

Stormwater Management Program (SWMP) Location
(web address or physical location, if already completed):

Eligibility Determination

Endangered Species Act (ESA) Determination Complete?

Eligibility Criteria
(check all that apply): ☐ A ☐ B ☒ C

National Historic Preservation Act (NHPA) Determination Complete?

Eligibility Criteria
(check all that apply): ☒ A ☐ B ☐ C

☒ Check the box if your municipality or organization was covered under the 2003 MS4 General Permit

MS4 Infrastructure (if covered under the 2003 permit)

Estimated Percent of Outfall Map Complete? If 100% of 2003 requirements not met, enter an estimated date of completion (MM/DD/YY):

Web address where MS4 map is published:
If outfall map is unavailable on the internet an electronic or paper copy of the outfall map must be included with NOI submission (see section V for submission options)

Regulatory Authorities (if covered under the 2003 permit)

Illicit Discharge Detection and Elimination (IDDE) Authority Adopted? Effective Date or Estimated Date of Adoption (MM/DD/YY):

Construction/Erosion and Sediment Control (ESC) Authority Adopted? Effective Date or Estimated Date of Adoption (MM/DD/YY):

Post- Construction Stormwater Management Adopted? Effective Date or Estimated Date of Adoption (MM/DD/YY):

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part II: Summary of Receiving Waters

Please list the waterbodies to which your MS4 discharges. For each waterbody, please report the number of outfalls discharging into it and, if applicable, the segment ID and any impairments.

Massachusetts list of impaired waters: <http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf>

Waterbody that receives flow from the MS4 and segment ID if applicable	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Lower Mystic Lake (MA71027)	10	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DDT, Dissolved Oxygen, PCB in Fish Tissue, Salinity, Sediment Bioassays - Chronic Toxicity Freshwater, Sulfide-Hydrogen Sulfide
Malden River (MA71-05)	10	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Debris/Floatables/Trash, Chlordane, DDT, Dissolved Oxygen Saturation, Escherichia coli, Fecal Coliform, Foam/Flocs/Scum/Oil Slicks, Dissolved Oxygen, PCB in Fish Tissue, High pH, Phosphorus (Total), Secchi Disk Transparency, Sediment Bioassays - Chronic Toxicity Freshwater, Taste and Odor, Total Suspended Solids (TSS)
Mystic River (MA71-02)	119	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fish-Passage Barrier, Arsenic, Chlordane, Chlorophyll-a, DDT, Dissolved Oxygen Saturation, Escherichia coli, PCB in Fish Tissue, Phosphorus (Total), Secchi Disk Transparency, Sediment Bioassays - Chronic Toxicity Freshwater
Quarter Mile Pond	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.430724, -71.1063)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.434062, -71.130145)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.435592, -71.102258)	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.439182, -71.104571)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.442588, -71.094751)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Stream (42.444094, -71.09548)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Tributary (MA71-13)	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Waterbody (42.432267, -71.093058)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetland (42.43075, -71.104646)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetland (42.43125, -71.092183)	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unnamed Wetland (42.440966, -71.09076)	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Upper Mystic Lake (MA71043)	5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Non-Native Aquatic Plants, Dissolved Oxygen Saturation, Dissolved Oxygen

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary

Identify the Best Management Practices (BMPs) that will be employed to address each of the six Minimum Control Measures (MCMs). For municipalities/organizations whose MS4 discharges into a receiving water with an approved Total Maximum Daily Load (TMDL) and an applicable waste load allocation (WLA), identify any additional BMPs employed to specifically support the achievement of the WLA in the TMDL section at the end of part III.

For each MCM, list each existing or proposed BMP by category and provide a brief description, responsible parties/departments, measurable goals, and the year the BMP will be employed (public education and outreach BMPs also requires a target audience). **Use the drop-down menus in each table or enter your own text to override the drop down menu.**

MCM 1: Public Education and Outreach

BMP Media/Category (enter your own text to override the drop down menu)	BMP Description	Targeted Audience	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal	Beginning Year of BMP Implementation
Brochures/Pamphlets	Recycling/household waste information on pamphlet in DPW Office and mailed to residents.	Residents	DPW	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
Brochures/Pamphlets	Include information in permit materials.	Businesses, Institutions and Commercial Facilities	DPW, Building Department	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
Brochures/Pamphlets	Include information in permit materials; Review and Update application forms to meet the new requirements.	Developers (construction)	DPW, Building Department	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
Brochures/Pamphlets	Distribute information to industrial groups based on zoning and property use.	Industrial Facilities	DPW	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
Web Page	Recycling/household hazardous waste information on website.	Residents	DPW	Update website throughout year	2018

Part III: Stormwater Management Program Summary (continued)

[illegible]

[illegible]

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 3: Illicit Discharge Detection and Elimination (IDDE)

BMP Categorization <small>(enter your own text to override the drop down menu)</small>	BMP Description	Responsible Department/Parties <small>(enter your own text to override the drop down menu)</small>	Measurable Goal <small>(all text can be over/ritten)</small>	Beginning Year of BMP Implementation
SSO inventory	Develop SSO inventory in accordance of permit conditions	DPW	Complete within 1 year of effective date of permit	2018
Storm sewer system map	Create map and update during IDDE program completion	DPW	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2018
Written IDDE program	Create written IDDE program	DPW	Complete within 1 year of the effective date of permit and update as required	2018
Implement IDDE program	Implement catchment investigations according to program and permit conditions	DPW	Complete 10 years after effective date of permit	2018
Employee training	Train employees on IDDE implementation	DPW	Train annually	2018
Conduct dry weather screening	Conduct in accordance with outfall screening procedure and permit conditions	DPW	Complete 3 years after effective date of permit	2018
Conduct wet weather screening	Conduct in accordance with outfall screening procedure	DPW	Complete 10 years after effective date of permit	2018
Ongoing screening	Conduct dry weather and wet weather screening (as necessary)	DPW	Complete ongoing outfall screening upon completion of IDDE program	2018

[illegible]

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary *(continued)*

MCM 4: Construction Site Stormwater Runoff Control

BMP Categorization (enter your own text to override the drop down menu or entered text)	BMP Description	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)	Beginning Year of BMP Implementation
Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedures	DPW, Building Department	Complete within 1 year of the effective date of permit	2018
Site plan review	Complete written procedures of site plan review and begin implementation	DPW, Office of Community Development, Zoning Board of Appeals	Complete within 1 year of the effective date of permit	2018
Erosion and Sediment Control	Adoption of requirements for construction operators to implement a sediment and erosion control program	DPW, Building Department, Energy & Environment	Complete within 1 year of the effective date of permit	2018
Waste Control	Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes	DPW, Energy & Environment, Board of Health	Complete within 1 year of the effective date of permit	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary *(continued)*

MCM 5: Post-Construction Stormwater Management in New Development and Redevelopment

BMP Categorization (enter your own text to override the drop down menu or entered text)	BMP Description	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)	Beginning Year of BMP Implementation
As-built plans for on-site stormwater control	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP	DPW, Building Department	Require submission of as-built plans for completed projects	2018
Target properties to reduce impervious areas	Identify at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas and update annually	DPW, Energy & Environment, Office of Community Development	Complete 4 years after effective date of permit and report annually on retrofitted properties	2020
Allow green infrastructure	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist	DPW, Energy & Environment, Office of Community Development	Complete 4 years after effective date of permit and implement recommendations of report	2020
Street design and parking lot guidelines	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options.	DPW, Office of Community Development	Complete 4 years after effective date of permit and implement recommendations of report	2020

[illegible]

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary *(continued)*

MCM 6: Municipal Good Housekeeping and Pollution Prevention

BMP Categorization (enter your own text to override the drop down menu or entered text)	BMP Description	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)	Beginning Year of BMP Implementation
O&M procedures	Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces, buildings and facilities, and vehicles and equipment	DPW, Building Department, Board of Health	Complete and implement 2 years after effective date of permit	2018
Inventory all permittee-owned parks and open spaces, buildings and facilities, and vehicles and equipment	Create inventory	DPW, Building Department	Complete 2 years after effective date of permit and implement annually	2018
Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	DPW	Complete 2 years after effective date of permit	2018
Stormwater Pollution Prevention Plan (SWPPP)	Create SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities	DPW	Complete and implement 2 years after effective date of permit	2018
Catch basin cleaning	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule	DPW	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2018
Street sweeping program	Sweep all streets and permittee-owned parking lots in accordance with permit conditions	DPW	Sweep all streets and permittee-owned parking lots once per year in the spring	2018
Road salt use optimization program	Establish and implement a program to minimize the use of road salt	DPW	Implement salt use optimization during deicing season	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Actions for Meeting Requirements Related to Water Quality Limited Waters

Use the drop-down menus to select the pollutant causing the water quality limitation and enter the waterbody ID(s) experiencing excursions above water quality standards for that pollutant. In addition, if you are subject to additional requirements due to a downstream nutrient impairment (see Part 2.2.2 of the permit) select the pollutant of concern and indicate applicable waterbody IDs or write "all waterbodies" if applicable. Choose the action description from the dropdown menu and indicate the responsible party. If no options are applicable, or more than one, **enter your own text to override drop-down menus**.

[illegible]

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Page 18 of 19

Part IV: Notes and additional information

Use the space below to indicate the part(s) of 2.2.1 and 2.2.2 that you have identified as not applicable to your MS4 because you do not discharge to the impaired water body or a tributary to an impaired water body due to nitrogen or phosphorus. Provide all supporting documentation below or attach additional documents if necessary. Also, provide any additional information about your MS4 program below.

Attachments:

Figure - MS4 Outfalls

USFWS Correspondence

The outfalls included in Part II: Summary of Receiving Waters were selected based on a 100 foot distance from any waters of the U.S.. Coordinates listed under unnamed water segments are based on the NAD 1983 State Plane Massachusetts FIPS 2001 (US Feet) Coordinate System, and are listed as latitude/longitude in decimal degrees.

Regarding the ESA section 7 consultation, I agree that the MS4 Permit will not adversely affect the Northern Long-eared Bat in the MS4 area.

Regarding the National Historic Preservation Act, under 36 CFR 800, this facility is an existing facility authorized by the previous Permit, and is not undertaking any activity involving subsurface land disturbance less than 1 acre. This MS4 Permit will have "no potential to cause effects," in accordance with 36 CFR 800.3(a)(1).

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Page 19 of 19

Part V: 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:

Stephanie Muccini Burke

Title:

Mayor

Signature:

Date:

[To be signed according to Appendix B, Subparagraph B.11, Standard Conditions]

Note: When prompted during signing, save the document under a new file name

APPENDIX C
PERMIT SCHEDULE

**MS4 Permit
Draft Schedule
City of Medford, Massachusetts**

July 2018 – MS4 Permit effective date to coincide with start of FY18

- **September 29, 2018** – Submit Updated NOI (within 90 days of effective date)

July 2019 – Items due within 1 year of effective date

- Submit Updated Stormwater Management Plan
- Additional Mapping – update stormwater system GIS for connectivity (as needed)
- Written IDDE Plan, identify catchments contributing to areas with Bacteria and Nitrogen as High Priority
- Inventory City Facilities
- Develop O&M for City Facilities
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education/Outreach (x2 for *Impaired Water Requirements*)** - Malden River and Mystic River
 - Bacteria and Pathogens: Targeting Dog Waste / Septic Systems
 - Phosphorus: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter
- Additional BMPs for Waterbodies with Impairment by Solids ** – Malden River and Mystic River
 - New or Redevelopment of Commercial Industrial properties draining to the waterbodies shall incorporate stormwater BMPs that can be shutdown/isolated in event of a spill/release. EPA encourages requirements for stormwater infiltration and pollutant removal BMPs.
 - Evaluate need for increased frequency of street sweeping of municipal streets and parking lots in areas with potential for higher pollutant loads.
 - Evaluate need for increased frequency of catch basin inspections and cleaning if excessive sediment/debris loadings observed.
- Property Management for Phosphorus – fertilizer use, leaf litter, street sweeping (2x per year)*
- Public Participation
- Annual Training

July 2020 – Items due within 2 years of effective date

- SWPPP for Appropriate Facilities
- SPCC Plan where appropriate
- Parks Maintenance Plan
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Updated Ordinance for Phosphorus*
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (x2 for *Impaired Water Requirements*)**



- Bacteria: Targeting Dog Waste / Septic Systems for – Malden River and Mystic River
- Phosphorus: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Malden River and Mystic River
- Additional BMPs for Waterbodies with Impairment by Solids ** – Malden River and Mystic River
 - New or Redevelopment BMPs targeting solids
 - Continue to evaluate street sweeping and catch basin cleaning frequency.
- Public Participation
- Annual Training

July 2021 – Items due within 3 years of effective date

- Revisions to Stormwater Bylaw - Construction Site Stormwater Runoff Control
- Draft regulations to promote green infrastructure – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (x2 for *Impaired Water Requirements*)**
 - Bacteria: Targeting Dog Waste / Septic Systems for – Malden River and Mystic River
 - Phosphorus: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Malden River and Mystic River
- Additional BMPs for Waterbodies with Impairment by Solids ** – Malden River and Mystic River
 - New or Redevelopment BMPs targeting solids
 - Continue to evaluate street sweeping and catch basin cleaning frequency.
- Public Participation
- Annual Training

July 2022 – Items due within 4 years of effective date

- Revisions to Stormwater Bylaw - Construction Site Stormwater Runoff Control
- Draft regulations to reduce impervious cover – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (x2 for *Impaired Water Requirements*)*
 - Bacteria: Targeting Dog Waste / Septic Systems for – Malden River and Mystic River
 - Phosphorus: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Malden River and Mystic River
- Additional BMPs for Waterbodies with Impairment by Solids ** – Malden River and Mystic River
 - New or Redevelopment BMPs targeting solids
 - Continue to evaluate street sweeping and catch basin cleaning frequency.
- Phosphorus Source Identification Report*
- Public Participation
- Annual Training



July 2023 – Permit Length (5 years)

- Inventory/Priority Ranking of LID retrofits on City-Owned Property – Post-Construction Management
- System development for tracking Impervious Area – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (x2 for *Impaired Water Requirements*)**
 - Bacteria: Targeting Dog Waste / Septic Systems for – Malden River and Mystic River
 - Phosphorus: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Malden River and Mystic River
- Additional BMPs for Waterbodies with Impairment by Solids ** – Malden River and Mystic River
 - New or Redevelopment BMPs targeting solids
 - Continue to evaluate street sweeping and catch basin cleaning frequency.
- Evaluate all Properties for BMPs – Phosphorus removal*
- Plan and Scheduled for BMPs - Phosphorus removal*
- Public Participation
- Annual Training

***Additional requirements for Water Quality Assessment are required due to documented bacteria, turbidity, and phosphorus impairments in the Malden River and Mystic River. (see Appendix H, sections II, III, and V.)*



APPENDIX D

ENDANGERED SPECIES AND CRITICAL HABITATS PROTECTION DOCUMENTS



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>



January 8, 2018

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm> (accessed January 2018)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact David Simmons of this office at 603-227-6425 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
<http://www.fws.gov/newengland>



In Reply Refer To:

July 17, 2018

Consultation Code: 05E1NE00-2018-SLI-2416

Event Code: 05E1NE00-2018-E-05616

Project Name: Medford MS4

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2018-SLI-2416

Event Code: 05E1NE00-2018-E-05616

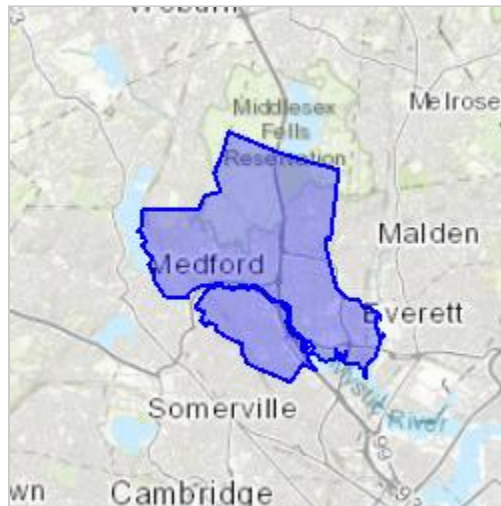
Project Name: Medford MS4

Project Type: ** OTHER **

Project Description: Stormwater MS4

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.42540430315637N71.11639914030802W>



Counties: Middlesex, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX E

MA MS4 GENERAL PERMIT - APPENDIX D - HISTORIC PROPERTIES DOCUMENTS

Appendix D

National Historic Preservation Act Guidance

Background

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of Federal “undertakings” on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. The term federal “undertaking” is defined in the NHPA regulations to include a project, activity, or program of a federal agency including those carried out by or on behalf of a federal agency, those carried out with federal financial assistance, and those requiring a federal permit, license or approval. See 36 CFR 800.16(y). Historic properties are defined in the NHPA regulations to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within such properties. See 36 CFR 800.16(1).

EPA’s issuance of a National Pollutant Discharge Elimination System (NPDES) General Permit is a federal undertaking within the meaning of the NHPA regulations and EPA has determined that the activities to be carried out under the general permit require review and consideration, in order to be in compliance with the federal historic preservation laws and regulations. Although individual submissions for authorization under the general permit do not constitute separate federal undertakings, the screening processes provides an appropriate site-specific means of addressing historic property issues in connection with EPA’s issuance of the permit. To address any issues relating to historic properties in connection with the issuance of this permit, EPA has included a screening process for applicants to identify whether properties listed or eligible for listing on the National Register of Historic Places are within the path of their discharges or discharge-related activities (including treatment systems or any BMPs relating to the discharge or treatment process) covered by this permit.

Applicants seeking authorization under this general permit must comply with applicable, State, Tribal, and local laws concerning the protection of historic properties and places and may be required to coordinate with the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) and others regarding effects of their discharges on historic properties.

Activities with No Potential to Have an Effect on Historic Properties

A determination that a federal undertaking has no potential to have an effect on historic properties fulfills an agency’s obligations under NHPA. EPA has reason to believe that the vast majority of activities authorized under this general permit will have no potential effects on historic properties. This permit typically authorizes discharges from existing facilities and requires control of the pollutants discharged from the facility. EPA does not anticipate effects on historic properties from the pollutants in the authorized discharges. Thus, to the extent EPA’s issuance of this general permit authorizes discharges of such constituents, confined to existing channels, outfalls or natural drainage areas, the permitting action does not have the potential to cause effects on historical properties.

In addition, the overwhelming majority of sources covered under this permit will be facilities that are seeking renewal of previous permit authorization. These existing dischargers should have already addressed NHPA issues in the previous general permit as they were required to certify that they were either not affecting historic properties or they had obtained written agreement from

the applicable SHPO or THPO regarding methods of mitigating potential impacts. To the extent this permit authorizes renewal of prior coverage without relevant changes in operations the discharge has no potential to have an effect on historic properties.

Activities with Potential to Have an Effect on Historic Properties

EPA believes this permit may have some potential to have an effect on historic properties the applicant undertakes the construction and/or installation of control measures that involve subsurface disturbance that involves less than 1 acre of land. (Ground disturbances of 1 acre or more require coverage under the Construction General Permit.) Where there is disturbance of land through the construction and/or installation of control measures, there is a possibility that artifacts, records, or remains associated with historic properties could be impacted. Therefore, if the applicant is establishing new or altering existing control measures to manage their discharge that will involve subsurface ground disturbance of less than 1 acre, they will need to ensure (1) that historic properties will not be impacted by their activities or (2) that they are in compliance with a written agreement with the SHPO, THPO, or other tribal representative that outlines all measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Examples of Control Measures Which Involve Subsurface Disturbance

The type of control measures that are presumptively expected to cause subsurface ground disturbance include:

- Dikes
- Berms
- Catch basins, drainage inlets
- Ponds, bioretention areas
- Ditches, trenches, channels, swales
- Culverts, pipes
- Land manipulation; contouring, sloping, and grading
- Perimeter Drains
- Installation of manufactured treatment devices

EPA cautions applicants that this list is non-inclusive. Other control measures that involve earth disturbing activities that are not on this list must also be examined for the potential to affect historic properties.

Certification

Upon completion of this screening process the applicant shall certify eligibility for this permit using one of the following criteria on their Notice of Intent for permit coverage:

Criterion A: The discharges do not have the potential to cause effects on historic properties.

Criterion B: A historic survey was conducted. The survey concluded that no historic properties are present. Discharges do not have the potential to cause effects on historic properties.

Criterion C: The discharges and discharge related activities have the potential to have an effect on historic properties, and the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or other tribal representative that outlines measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Authorization under the general permit is available only if the applicant certifies and documents permit eligibility using one of the eligibility criteria listed above. Small MS4s that cannot meet any of the eligibility criteria in above must apply for an individual permit.

Screening Process

Applicants or their consultant need to answer the questions and follow the appropriate procedures below to assist EPA in compliance with 36 CFR 800.

Question 1: Is the facility an existing facility authorized by the previous permit or a new facility and the applicant is not undertaking any activity involving subsurface land disturbance less than an acre?

YES - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.

The applicant should certify eligibility for this permit using Criterion A on their Notice of Intent for permit coverage. The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has “no potential to cause effects” (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

NO- Go to Question 2.

Question 2: Is the property listed in the National Register of Historic Places or have prior surveys or disturbances revealed the existence of a historic property or artifacts?

NO - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.

The applicant should certify eligibility for this permit using Criterion B on their Notice of Intent for permit coverage. The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has “no potential to cause effects” (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

YES - The applicant or their consultant should prepare a complete information submittal to the SHPO. The submittal consists of:

- Completed Project Notification Form- forms available at <http://www.sec.state.ma.us/mhc/mhcform/formidx.htm>;

- USGS map section with the actual project boundaries clearly indicated; and
- Scaled project plans showing existing and proposed conditions.

(1) Please note that the SHPO does not accept email for review. Please mail a paper copy of your submittal (Certified Mail, Return Receipt Requested) or deliver a paper copy of your submittal (and obtain a receipt) to:

State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Blvd.
Boston MA 02125.

(2) Provide a copy of your submittal and the proof of MHC delivery showing the date MHC received your submittal to:

NPDES Permit Branch Chief
US EPA Region 1 (OEP06-1)
5 Post Office Square, Suite 100
Boston MA 02109-3912.

The SHPO will comment within thirty (30) days of receipt of complete submittals, and may ask for additional information. Consultation, as appropriate, will include EPA, the SHPO and other consulting parties (which includes the applicant). The steps in the federal regulations (36 CFR 800.2 to 800.6, etc.) will proceed as necessary to conclude the Section 106 review for the undertaking. **The applicant should certify eligibility for this permit using Criterion C on their Notice of Intent for permit coverage.**

APPENDIX F
NEW OR INCREASED DISCHARGES

New or Increased Discharges Medford, MA					
Location	Description	Proposed Use	Area	Contributing Area to MS4	BMP
**Harwood Rd	Housing Community	Residence	27 acres	27 acres	Stormceptor unit and detention pond

** Example of what would be written for a new or increased discharge

APPENDIX G
SSO INVENTORY

Sanitary Sewer Overflow (SSO) Inventory Medford, MA									
Location	Discharge Location	Is Discharge Entering MS4? (Y/N)	Date/Time of SSO Occurrence	Estimated Volume of SSO Occurrence	Known/Suspected Cause	Mitigation Measures Completed	Mitigation Implementation Date	Mitigation Measures Planned	Mitigation Implementation Schedule
1 Example Rd	Enters into Example Pond	Yes	August 4, 2016 9:00 AM - August 5, 2016 3:00 PM	1,200 gallons	Illicit resident connection	Illicit connection removed	August 8, 2016		

*The SSO occurrence listed above is an example

APPENDIX H
CURRENT STORMWATER ORDINANCE

ARTICLE V. - STORMWATER SYSTEM

Sec. 82-123. - Purpose.

The purpose of this article is to improve and protect water quality, reduce erosion and sedimentation, promote environmentally sensitive site design practices, stormwater reuse and groundwater recharge, and insure long term maintenance of stormwater control to meet all applicable federal and state requirements of the city's National Pollutant Discharge Elimination System for Small Municipal Separate Storm Drain Systems permit, commonly known as the "NPDES MS4 permit".

The objectives of this article are to:

- (1) Create a stormwater board to promulgate, adopt and amend stormwater regulations;
- (2) Prohibit non-stormwater and unauthorized discharges to the city's municipal separate storm drain system (MS4); and
- (3) Establish procedures to regulate construction and post-construction stormwater runoff management from new development and redevelopment.

(Ord. No. 757, 3-16-2010)

Sec. 82-124. - Definitions.

[The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:]

City. City of Medford, Massachusetts.

Clean Water Act. The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) as hereafter amended.

Discharge of pollutants. The addition from any source of any pollutant or combination of pollutants into the city's storm drain system or into the waters of the United States or commonwealth from any source.

Erosion. The wearing away of the land surface by natural or artificial forces such as wind, water, ice, gravity, or vehicle traffic and the subsequent detachment and transportation of soil particles.

Groundwater. Water beneath the surface of the ground.

Illicit connection. A surface or subsurface drain or conveyance, which allows an illicit discharge into the municipal storm drain system, including without limitation sewage, process wastewater, or wash water and any connections from indoor drains, sinks or toilets, regardless of whether said connection was previously allowed, permitted, or approved before the effective date of the ordinance from which this article derives.

Illicit discharge. Direct or indirect discharge to the city's storm drain system that is not composed entirely of stormwater, except as exempted in section 82-129. The term does not include a discharge in compliance with a NPDES stormwater discharge permit or a surface water discharge permit.

Municipal separate storm sewer system (MS4) or municipal storm drain system. The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the City of Medford.

National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit. A permit issued by the United States Environmental Protection Agency or jointly with the Commonwealth of Massachusetts that authorizes the discharge of pollutants to waters of the United States.

Non-stormwater discharge. Discharge to the municipal storm drain system not composed entirely of stormwater.

Person. An individual, partnership, association, firm, company, trust, corporation, agency, authority, department or political subdivision of the commonwealth or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

Pollutant. Any element or property of sewage, agricultural, industrial or commercial waste, runoff, leachate, heated effluent, or other matter whether originating at a point or nonpoint source, that is or may be introduced into any storm drain system and/or any receiving waters.

Pollutants shall include without limitation:

- (1) Paints, varnishes, and solvents;
- (2) Oil and other automotive fluids;
- (3) Non-hazardous liquid and solid wastes and yard wastes;
- (4) Refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, accumulations and floatables;
- (5) Pesticides, herbicides, and fertilizers;
- (6) Hazardous materials and wastes;
- (7) Sewage, fecal coliform and pathogens;
- (8) Dissolved and particulate metals;
- (9) Animal wastes;
- (10) Rock, sand, salt, soils;
- (11) Construction wastes and residues; and
- (12) Noxious or offensive matter of any kind.

Receiving waters. Any watercourse, river, pond, wetland, ditch, lake, aquifer, ocean or other body of surface water or groundwater that receives a discharge of wastewater, stormwater or effluent.

Sediment. Mineral or organic soil material that is transported by wind or water, from its origin to another location; the product of erosion processes.

Sedimentation. The process or act of deposition of sediment.

Stormwater. Any water resulting from rainfall or other precipitation or snowmelt.

(Ord. No. 757, 3-16-2010)

Sec. 82-125. - Stormwater board.

There shall be a stormwater board which shall consist of the director of public works, the city engineer and the building commissioner who shall promulgate, adopt and amend regulations related to the content of appropriate permit applications and standards to control and regulate activities in any way related to the use of the city's stormwater system so as to require, among other things, that no person or entity shall, without prior authorization from the city, uncover, excavate over, block access to, make connection with, open into, discharge into, alter disturb or in any way make use of the storm drain system of the City of Medford.

(Ord. No. 757, 3-16-2010)

Sec. 82-126. - Adoption of regulations.

The failure of the stormwater board to promulgate such regulations shall not have the effect of suspending or invalidating this article.

- (1) The stormwater board shall adopt regulations pursuant to this article only after a public hearing and public comment period.
- (2) The failure of the stormwater board to promulgate such regulations shall not have the effect of suspending or invalidating this article.

(Ord. No. 757, 3-16-2010)

Sec. 82-127. - Prohibited activities.

- (a) *Illicit discharges.* No person shall dump, discharge, cause or allow to be discharged any pollutant or non-stormwater discharge into the city's storm drain system, into a watercourse, or into the waters of the commonwealth.
- (b) *Illicit connections.* No person shall construct, use, allow, maintain or continue any illicit connection to the city's storm drain system, regardless of whether the connection was permissible under applicable law, regulation or custom at the time of connection.

(Ord. No. 757, 3-16-2010)

Sec. 82-128. - Construction and post-construction stormwater management.

No person shall excavate, cut, grade or perform any land-disturbing activities without an issued stormwater permit from the director of the department of public works or his/her designee. Prior to the stormwater permit issuance owners of new development and re-development sites shall submit to the city engineer for approval a site construction and post-construction stormwater management plan, in accordance with the requirements and performance standards detailed in the stormwater regulations.

(Ord. No. 757, 3-16-2010)

Sec. 82-129. - Exemption and waivers.

Exemption and waiver from any provision of this article shall be defined in the stormwater regulations subject to review and approval by the director of public works, his/her agent or designee.

(Ord. No. 757, 3-16-2010)

Sec. 82-130. - Enforcement.

The director of public works, his/her agent or designee, shall enforce this article, regulations, orders, violation notices, and enforcement orders and may pursue all civil and criminal remedies for any such violations. Procedures for enforcement shall be detailed in the regulations adopted by the stormwater board pursuant to this article.

(Ord. No. 757, 3-16-2010)

APPENDIX I
YEAR 1 ANNUAL REPORT
MASSACHUSETTS SMALL MS4 GENERAL PERMIT
REPORTING PERIOD: MAY 1, 2018 – JUNE 30, 2019

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: City of Medford

EPA NPDES Permit Number: MAR041049

Primary MS4 Program Manager Contact Information

Name: Brian Kerins

Title: Commissioner of Public Works

Street Address Line 1: Medford City Hall - Room 304

Street Address Line 2: 85 George P. Hassett Drive

City: Medford

State: MA

Zip Code: 02155

Email: bkerins@medford-ma.gov

Phone Number: (781) 393-2417

Fax Number: (781) 393-2422

Stormwater Management Program (SWMP) Information

SWMP Location (web address): <http://www.medfordma.org/departments/energy-and-environment/storm-water-management/>

Date SWMP was Last Updated: Jun 28, 2019

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:
☒ 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

Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- ☒ Annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- ☐ Permittee or its agents disseminate educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time
- ☐ Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria

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

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:

Structural BMPs will be tracked and estimates for nutrient removal developed in accordance with Attachment 1 to Appendix H in the future.

The City plans to develop a program to annually inspect all stormwater treatment structures within Year 2.

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:

N/A

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: Fowl Water Campaign

Message Description and Distribution Method:

"Stormwater pollution is trash, oil, cigarette butts, & dog waste" message in ThinkBlue MA's "Fowl Water" video campaign (<https://thinkbluemassachusetts.org/>). Advertisements on Facebook, Instagram, & YouTube

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Distribute annual messaging in accordance with the Town's Bacteria/Pathogens and Phosphorus impairments.

63,765 social media impressions from residents of Medford.

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:

This outreach was developed by ThinkBlue on behalf of the City to supplement public outreach and education efforts already listed on the NOI.

BMP: Spring Messaging

Message Description and Distribution Method:

"Leave grass clippings to fertilize lawn naturally; Know before you mow!" social media post shared on the Medford Facebook page in the Spring time-frame encouraging the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers. Original post from Think Blue Massachusetts and NSRWA.

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Distribute annual messaging in accordance with the Town's Phosphorus impairment.

3,549 people reached through Think Blue Massachusetts Facebook post.

Message Date(s): March 18, 2019; May 22, 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: Summer Messaging

Message Description and Distribution Method:

"Do your Doodie for Clean Water" social media posts shared on the Medford Facebook page in the Summer timeframe encouraging the proper management of pet waste. Original post from Think Blue Massachusetts.

Targeted Audience: Residents

Responsible Department/Parties: ThinkBlue

Measurable Goal(s):

Distribute annual messaging in accordance with the Town's Bacteria/Pathogens and Phosphorus impairments.

7,7170 people reached through Think Blue Massachusetts Facebook post.

Message Date(s): June 7, 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: Fall Messaging

Message Description and Distribution Method:

"Don't leaf clean water to chance!" social media post shared on the Medford facebook page in the Fall encouraging the proper disposal of leaf litter. Original post from Neponset Stormwater Partnership.

Targeted Audience: Residents

Responsible Department/Parties: ThinkBlue

Measurable Goal(s):

Distribute annual messaging in accordance with the Town's Phosphorus impairment.

43 people reached through Think Blue Massachusetts Facebook post.

Message Date(s): October 26, 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: Gas Station Pollution Message

Message Description and Distribution Method:

"Put a brake on stormwater runoff from gas stations" social media post shared on the Medford Facebook page encouraging best management practices at gas stations. Original post from Think Blue Massachusetts.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: ThinkBlue

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): January 31, 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:

This outreach was developed by ThinkBlue on behalf of the City to supplement public outreach and education efforts already listed on the NOI.

BMP: Message on Lawn Care

Message Description and Distribution Method:

"Keep Your Lawn Green and Your Water Clean" message covering lawn care tips and tricks posted to City of Medford's website.

Targeted Audience: Residents

Responsible Department/Parties: DPW

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): May 31, 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: Message on Dog Waste

Message Description and Distribution Method:

"Do Your "Doody" for Clean Water: Scoop the Poop!" message covering proper management of pet waste posted Medford's website.

Targeted Audience: Residents

Responsible Department/Parties: DPW

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): July 30, 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:

[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:

Annual review and public comment of the SWMP. Plan posted on City website on July 7, 2019. A hardcopy

of the SWMP is available at the Engineering Department office for review.

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:

Provided public access to paint disposal shed at DPW and to Household Hazardous Waste Disposal Facility, and posted drop-off schedules for both to DPW website; Supported annual Mystic River Clean-up event and provided educational materials at event.

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 (phase I map due in year 2):

The City has completed the following updates to its stormwater mapping to meet the Phase I requirements:

- Outfalls and receiving waters (updated 2019)
- Water bodies identified by name and indication of all use impairments as identified on the most recent EPA approved Massachusetts Integrated List of Waters report (taken from USGS/MassDEP Hydrography data updated April 2017)
- Initial catchment delineations. Any available system data and topographic information may be used to produce initial catchment delineations (mapped 2019)

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:

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

Number of outfalls screened:

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

Percent of total outfalls screened:

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:

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

Percent of total catchments investigated:

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

Medford has hired a consulting company to conduct IDDE investigation on one third of its 181 MS4 Outfalls/ Interconnections/Catchments in Year 2.

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:

Number of illicit discharges removed:

Estimated volume of sewage removed: Yards

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:

21 is the total number of illicit discharges identified since 2009.

Employee Training

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

Annual IDDE implementation training and multiple MS4 meetings and education throughout the reporting period with the City.

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 City's stormwater ordinance requires owners of new development and re-development to submit a site construction and post-construction stormwater management plan to the City Engineer for approval. The City has hired a consulting company to review and update existing post-construction stormwater management regulations, to be completed in Year 2.

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:

Completed. At the completion of the project As-Built Plans certified by the Engineer or the Professional Land Surveyor must be submitted for occupancy permit. The As-Built Plans shall show all features including driveways and sidewalks, the exact locations of all new structures and pipes, as well as complete ties (and tie sheets), to building services, water gates, sewer connections, etc. Vertical elevations of the rims and grates of new or modified structures is also required. All vertical information to be presented in NAVD88. All information requested above shall be shown with actual construction modifications to be left with the City Engineer as a true record of actual information.

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:

Nothing to date.

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:

Nothing to date.

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:

Nothing to date.

MCM6: Good Housekeeping**Catch Basin Cleaning**

Describe the status of the catch basin cleaning optimization plan:

The City's goal is to clean 100% of catch basins each year. Following Year 1 of this Permit, the City will evalu



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:

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: 3850

Number of catch basins cleaned: 3723

Total volume or mass of material removed from all catch basins: 201 Tons

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

Total number of catch basins: 4646

If applicable:

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

N/A

Street Sweeping

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

Written procedures for sweeping streets and municipal-owned lots is complete. At a minimum all streets are swept twice a year. Main arteries, parking lots, and islands are swept twice a week during spring through fall.

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

☒ Number of miles cleaned: 160

☐ Volume of material removed: 2510 Cubic Yards

☐ Weight of material removed: 1086 Tons

If applicable:

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

N/A

Winter Road Maintenance

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

The DPW's current winter road maintenance plan includes the use of salt, and a salt and sand mix to treat public roadways throughout the City. Salt and sand is stored at the DPW facility inside in covered salt barn.

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:

Nothing to date.

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:

Nothing to date.

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:

Nothing to date.

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:

N/A

O&M Procedures for Stormwater Treatment Structures

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

Drafted.

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):

<https://mysticriver.org/epa-grade>

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:

The report card grades issued annually for the Mystic River by the EPA are based on the level of bacterial contamination found in samples collected by MyRWA volunteers over the past year at 15 monitoring sites throughout the entire watershed, as well as data collected at numerous locations by the Massachusetts Water Resources Authority (MWRA). The grades are calculated using a three-year rolling average, allowing for a more complete and accurate assessment of recent water quality that addresses weather variability from year to year.

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:

N/A

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:

The City of Medford will continue to work with ThinkBlue and MyWRA on education and outreach opportunities.

The City has hired a consulting company to conduct IDDE investigations during dry weather condition and record information including outfall diameter, material, condition, connectivity, receiving water, and flow and sediment notes. For those outfalls that are found to be flowing, temperature, dissolved oxygen, salinity, specific conductance, pH, biological oxygen demand, total Phosphorus, total residual Chlorine, Ammonia as Nitrogen, Surfactants and E. Coli will be tested, as well as additional parameters required based on waterbody or watershed impairments and TMDLs.

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.

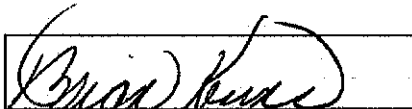
Name:

Brian Herin's

Title:

Commissioner of DPW

Signature:



Date:

9/27/19

[Signatory may be a duly authorized representative]

APPENDIX J

MINIMUM CONTROL MEASURES BMPs

City of Medford, Massachusetts
MA MS4 General Permit - Control Measures
CM #1 - Public Education and Outreach

BMP ID	BMP Categorization	BMP Description	Targeted Audience	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Brochures/Pamphlets	Recycling/household waste information on pamphlet in DPW Office and mailed to residents.	Residents (1)	DPW	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
R2	Brochures/Pamphlets	Include information in permit materials.	Businesses, Institutions, and Commercial Facilities (2)	DPW, Building Department	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
R3	Brochures/Pamphlets	Include information in permit materials; Review and Update application forms to meet the new requirements.	Developers (construction) (3)	DPW, Building Department	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
R4	Brochures/Pamphlets	Distribute information to industrial groups based on zoning and property use.	Industrial Facilities (4)	DPW	Distribution of a minimum of two (2) educational messages over the permit term (5 years)	2018
R5	Web Page	Recycling/household hazardous waste information on website.	Residents (1)	DPW	Update website throughout year	2018
R6	Web Page	Establish section on stormwater web site directed toward businesses, institutions, and commercial facilities	Businesses, Institutions, and Commercial Facilities (2)	DPW, Energy & Environment	City stormwater web site is operational and includes section directed toward targeted audience	2018
R7	Web Page	Establish section on stormwater web site directed toward developers	Developers (construction) (3)	DPW, Energy & Environment	City stormwater web site is operational and includes section directed toward targeted audience	2018
R8	Web Page	Establish section on stormwater web site directed toward industrial facilities	Industrial Facilities (4)	DPW, Energy & Environment	City stormwater web site is operational and includes section directed toward targeted audience	2018

City of Medford, Massachusetts
MA MS4 General Permit - Control Measures
CM #2 - Public Involvement and Participation

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Public Review	SWMP Review	DPW	Allow annual review of stormwater management plan and posting of stormwater management plan on website	2018
R2	Public Participation	SWMP Review	DPW	Allow public to comment on stormwater management plan annually	2018
1A	Public Participation	Provide resident access to paint disposal shed at DPW yard and post drop-off schedule on DPW website.	DPW	Maintain access to paint disposal shed for residents	2018
2A	Public Participation	Provide resident access to Household Hazardous Waste Disposal Facility in Town of Lexington and post facility disposal policies and schedule on DPW website.	DPW	Maintain access to regional household hazardous waste disposal facility.	2018
3A	Public Participation	Support annual Mystic River Clean-up event coordinated by Friends of Mystic and Mystic River Watershed Association.	DPW	Provide waste collection materials to event and manage disposal of collected materials.	2018

City of Medford, Massachusetts
MA MS4 General Permit - Control Measures

CM #3 - Illicit Discharge Detection and Elimination (IDDE) Program

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	SSO Inventory	Develop septic inventory in accordance with permit conditions	DPW	Complete within 1 year of effective date of permit	2018
R2	Storm Sewer System Map	Create map and update during IDDE program completion	DPW	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2018
R3	Written IDDE Program Development	Create written IDDE program	DPW	Complete within 1 year of the effective date of permit and update as required	2018
R4	Implement IDDE Program	Implement catchment investigations according to program and permit conditions	DPW	Complete 10 years after effective date of permit	2018
R5	Employee Training	Train employees on IDDE implementation	DPW	Train annually	2018
R6	Conduct Dry Weather Screening	Conduct in accordance with outfall screening procedure and permit conditions	DPW	Complete 3 years after effective date of permit	2018
R6	Conduct Wet Weather Screening	Conduct in accordance with outfall screening procedure	DPW	Complete 10 years after effective date of permit	2018
R7	Ongoing Screening	Conduct dry weather and wet weather screening as necessary	DPW	Complete ongoing outfall screening upon completion of IDDE program	2018

City of Medford, Massachusetts
MA MS4 General Permit - Control Measures

CM #4 - Construction Site Stormwater Runoff Control

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedures	DPW, Building Department	Complete within 1 year of the effective date of permit	2018
R2	Site plan review	Complete written procedures of site plan review and begin implementation	DPW, Office of Community Development, Zoning Board of Appeals	Complete within 1 year of the effective date of permit	2018
R3	Erosion and Sediment Control	Adoption of requirements for construction operators to implement a sediment and erosion control program	DPW, Building Department, Energy & Environment	Complete within 1 year of the effective date of permit	2018
R4	Waste Control	Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes	DPW, Energy & Environment, Board of Health	Complete within 1 year of the effective date of permit	2018

City of Medford, Massachusetts
MA MS4 General Permit - Control Measures

CM #5 - Stormwater Management in New Development and Redevelopment

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	As-built plans for on-site stormwater control	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP	DPW, Building Department	Require submission of as-built plans for completed projects	2018
R2	Inventory and priority ranking of MS4-owned properties that may be retrofitted with BMPs	Conduct detailed inventory of MS4 owned properties and rank for retrofit potential	DPW, Energy & Environment, Office of Community Development	Complete 4 years after effective date of permit and report annually on retrofitted properties	2020
R3	Allow green infrastructure	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist	DPW, Energy & Environment, Office of Community Development	Complete 4 years after effective date of permit and implement recommendations of report	2020
R4	Street design and parking lot guidelines	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options	DPW, Office of Community Development	Complete 4 years after effective date of permit and implement recommendations of report	2020
R5	Ensure any stormwater controls or management practices for new development and redevelopment meet the retention or treatment requirements of the permit and all applicable requirements of the Massachusetts Stormwater Handbook	Adoption, amendment or modification of a regulatory mechanism to meet permits requirements	DPW, Energy & Environment	Complete 2 years after effective date of permit	2018

City of Medford, Massachusetts
MA MS4 General Permit - Control Measures

CM #6 - Good House Keeping and Pollution Prevention for Permittee Owned Operations

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	O&M procedures	Create written O&M procedures for parks and open spaces, buildings and facilities, and vehicles and equipment	DPW, Building Department, Board of Health	Complete and implement 2 years after effective date of permit	2018
R2	Inventory all permittee-owned parks and open spaces, buildings and facilities (including their storm drains), and vehicles and equipment	Create inventory	DPW, Building Department	Complete 2 years after effective date of permit and implement annually	2018
R3	Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	DPW	Complete 2 years after effective date of permit	2018
R4	Stormwater Pollution Prevention Plan (SWPPP)	Create Stormwater Pollution Prevention Plan (SWPPP) for maintenance garages, transfer stations and other waste- handling facilities	DPW	Complete and implement 2 years after effective date of permit	2018
R5	Catch Basin Cleaning	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule	DPW	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2018
R6	Street Sweeping Program	Sweep all strets and permittee-owned parking lots in accordance with permit conditions	DPW	Sweep all streets and permittee-owned parking lots once per year in the spring	2018
R7	Road Salt use optimization program	Establish and implement a program to minimize the use of road salt	DPW	Implement salt use optimization during deicing season	2018
R8	Inspections and maintenance of stormwater treatment structures	Establish and implement inspection and maintenance procedures and frequencies	DPW	Inspect and maintain treatment structures at least annually	2018

City of Medford, Massachusetts
MA MS4 General Permit - Water Quality Impairments
Bacteria and Pathogens

BMP ID	BMP Categorization	BMP Description	Targeted Audience	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Public Education and Outreach	Distribute annual message encouraging the proper management of pet waste	Residents	DPW	Annual distribution of educational messages over the permit term (5 years)	2018
		Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a bacteria or pathogen impaired waterbody	Residents	DPW	Provide septic maintenance information to septic contractors to distribute to residents.	
R2	Illicit Discharge	Prioritize catchment areas		DPW	Complete within 1 year of the effective date of permit and update as required	2018

City of Medford, Massachusetts
MA MS4 General Permit - Water Quality Impairments
Solids, Oil and Grease, or Metals

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Stormwater Management in New Development and Redevelopment	Stormwater management systems designed on commercial and industrial land use areas draining to the water quality limited waterbody shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event.	DPW	Implement BMPs that allow for the prevention of metals being discharged into impaired bodies of water	2018
R2	Good House Keeping and Pollution Prevention for Permittee Owned Operations	Increase street sweeping frequency of all municipal owned streets and parking lots to a schedule determined by the permittee to target areas with potential for high pollutant loads.	DPW	Increase street sweeping frequency at target areas with potential for high pollutant loads	2018
R3		Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full.	DPW	Review catch basin cleaning records annually to prioritize maintenance	2018
R4		Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads.	DPW	Include street sweeping schedule in annual report	2018

City of Medford, Massachusetts
MA MS4 General Permit - Water Quality Impairments
Phosphorus

BMP ID	BMP Categorization	BMP Description	Targeted Audience	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation
R1	Public Education and Outreach	Annual message in spring timeframe that encourages the proper use and disposal of grass clipping and encourages the proper use of slow-release and phosphorus-free fertilizers. Annual message in the summer timeframe encouraging the proper management of per ewaste, including noting any existing ordinances where appropriate. Annual message in the fall timeframe encouraging the proper disposal of leaf litter.	Residential and Business/Commercial/Institution	DPW	Distribute required messages each year.	2018
R2	Stormwater Management in New Development and Redevelopment	Include requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal.		DPW	Incorporate phosphorus removal into new stormwater regulations	2018
R3	Good House Keeping and Pollution Prevention for Permittee Owned Operations	Establish procedures to properly manage frass cutting and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots to a minimum of two times a year, onces in the spring and at least once in the fall.		DPW	Establish procedures for dealing with waste produced on permittee owned properties	2018
R4	Phosphorus Source Identification Report	Complete a Phosphorus Source Identification Report.		DPW	Complete within 4 years of the permit effective date	2018
R5	Structural BMPs	Evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii or identified in the Phosphorus Source Identification Report that are within the drainage area of the water quality limited water or its tributaries.		DPW	Complete within 5 years of the permit effective date	2018