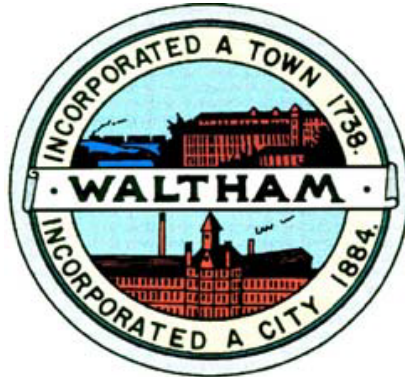


# STORMWATER MANAGEMENT PLAN

## CITY OF WALTHAM, MASSACHUSETTS



JUNE 2019



Prepared by:



609 Winter Street  
Framingham, MA 01702

# STORMWATER MANAGEMENT PLAN

## CITY OF WALTHAM, MASSACHUSETTS

JUNE 2019

### TABLE OF CONTENTS

---

- 1.0 INTRODUCTION
  - 1.1 BACKGROUND
  - 1.2 2003 NPDES MS4 PERMIT (EXPIRED)
  - 1.3 NEW NPDES MS4 PERMIT – EFFECTIVE JULY 1, 2018
  
- 2.0 STORMWATER MANAGEMENT PROGRAM TEAM
  - 2.1 STORMWATER PARTNERSHIPS
  - 2.2 ADDITIONAL STORMWATER MANAGEMENT INFORMATION
  
- 3.0 MAJOR ON-GOING AND PLANNED TASKS
  - 3.1 PUBLIC EDUCATION AND OUTREACH
  - 3.2 PUBLIC INVOLVEMENT/PARTICIPATION
  - 3.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION
  - 3.4 CONSTRUCTION SITE RUNOFF STORMWATER CONTROL
  - 3.5 POST CONSTRUCTION SITE RUNOFF STORMWATER CONTROL
  - 3.6 POLLUTION PREVENTION/GOOD HOUSEKEEPING

# **STORMWATER MANAGEMENT PLAN**

## **CITY OF WALTHAM, MASSACHUSETTS**

**JUNE 2019**

### **TABLE OF CONTENTS (CONTD.)**

---

#### **LIST OF APPENDICES**

APPENDIX A AUTHORIZATION TO DISCHARGE FROM USEPA

APPENDIX B STORMWATER MANAGEMENT PLAN – MINIMUM CONTROL MEASURES

APPENDIX C ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PLAN

APPENDIX D STORMWATER MANAGEMENT RULES AND REGULATIONS

APPENDIX E SOP – CATCH BASIN CLEANING

APPENDIX F SOP – STREET SWEEPING

APPENDIX G SOP – WINTER ROAD MAINTENANCE

APPENDIX H STORMWATER INFRASTRUCTURE MAINTENANCE

APPENDIX I HARDY POND WATER QUALITY REPORT 2018

## 1.0 Introduction

The City of Waltham has developed this Stormwater Management Plan (SWMP) to satisfy the requirements of the US EPA Phase II stormwater permit that is effective July 1, 2018.

The SWMP describes and details the activities and measures that will be implemented to meet the terms and conditions of the permit. The SWMP accurately describes the City's plans and activities. The document will be updated and/or modified during the permit term as the City'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.

### 1.1 Background

The City of Waltham is a western suburb of Boston with a population of approximately 62,442 people. The City is bordered by the Towns of Lincoln, Lexington, Belmont, Watertown, Weston and the City of Newton.

The entire City is located within the Charles River watershed. Since Waltham was incorporated as a city in 1884 it's growth and prosperity has been tied to the Charles River. The most notable example of this connection is the Waltham Watch Factory located on Moody Street, adjacent to the River. In recent years the City's use of the river has shifted from industrial to recreational but the Charles still remains a vital centerpiece of the community.

The National Pollutant Discharge Elimination System (NPDES) permitting process has been developed by the US EPA to ensure that valuable community resources like the Charles River are protected from pollution. Thesections that follow provide additional information about the watershed and establish a framework for effective watershed management.



*Charles River at Moody Street*

The US EPA developed the municipal storm water portion of the NPDES permit program starting in 1990. Phase I of the program covers medium and large communities with populations greater than 100,000. Phase II of the program covers communities with over 10,000 people. The determination of a community's permitting status is based on United States census information and other regulatory criteria established by the EPA. Based on this the City of Waltham has been designated as a NPDES Phase II community.

## 1.2 2003 NPDES MS4 Permit (Expired)

In the Commonwealth of Massachusetts, the EPA retains primacy as the Phase 2 permitting authority. On May 1, 2003, the EPA and the Massachusetts Department of Environmental Protection (MADEP) jointly issued the NPDES General Permit for Discharges from small regulated small municipal separate storm sewer systems (MS4s) and in July 2003, Waltham submitted the required Notice of Intent (NOI) for inclusion under this General Permit.

The 2003 NPDES Phase 2 MS4 General Permit (2003 MS4 Permit) required the City of Waltham to develop, implement, and enforce a Stormwater Management Program (SWMP). The objectives of the SWMP were to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, and to protect water quality.

## 1.3 New NPDES MS4 Permit – Effective July 1, 2018

A new MS4 Permit was issued on April 4th, 2016, and became effective on July 1, 2018. A copy of the 2016 MS4 Permit can be found at <https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit>. On September 28, 2018, the City submitted a Notice of Intent to EPA to obtain coverage under the 2016 MS4 Permit. A copy of this Notice of Intent can be found at <https://www3.epa.gov/region1/npdes/stormwater/ma/tms4noi/waltham.pdf>. The City received authorization from EPA to discharge under the 2016 MS4 Permit on May 30, 2019. A copy of the City's Authorization to Discharge is included in Appendix A.

The City currently has many practices and programs in place related to stormwater management and pollution prevention under the 2003 Small MS4 General Permit. This plan coordinates and incorporates these programs, policies, guidelines and practices into one document and expands their reach to encompass the requirements and goals of the 2016 MS4 Permit. The objectives of the MS4 Permit are accomplished through the implementation of Best Management Practices (BMPs) for each of the following six minimum control measures:

1. Public education and outreach
2. Public involvement / participation
3. Illicit discharge detection and elimination
4. Construction site stormwater runoff control
5. Post-construction stormwater management in new development or redevelopment
6. Pollution prevention/good housekeeping

The City’s efforts to comply with these BMPs, as outlined in their Notice of Intent can be found at:

<https://www3.epa.gov/region1/npdes/stormwater/ma/tms4noi/waltham.pdf>

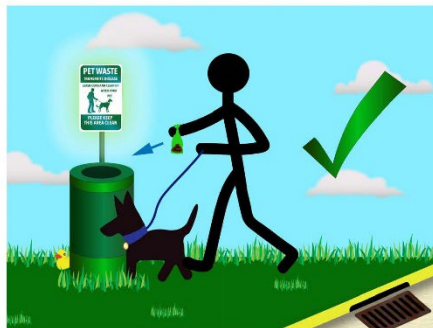
Appendix B attached provides description of the BMPs proposed under each of the six (6) minimum control measures to be implemented during the five (5) year permit term.



### Do Your “Doody” for Clean Water

You hate stepping in it. And fish hate swimming in it, too! Dogs produce a lot of waste which, if not disposed of properly, can end up in our waterways. Do your part to keep our waters and public areas clean and healthy! Bag your pet’s waste and throw it in a trashcan.

**DO**



**DON'T**



*Public Education - Pet Waste Management*

## **2.0 Stormwater Management Program Team**

The City has formed an Environmental Committee comprising of Department Heads and/or designated representatives including the Mayor's Office and meet on the last Wednesday of each month. A Stormwater Sub-Committee also meets on a regular basis as needed to complete tasks relevant to the BMPs, providing input for annual reports and development of stormwater management plan.

In order to implement the requirements of the 2016 Permit, the City proposes the following Stormwater Management Program (SWMP) Team:

### **SWMP Team Coordinator**

City Engineer, Engineering Department.

### **SWMP Team**

Director, Public Works  
Inspector of Buildings, Superintendent of Public Buildings  
Environmental Specialist  
Chair, Conservation Commission  
Stormwater Consultant

## **2.1 Stormwater Partnerships**

The City has been working closely with the neighboring communities along the Charles River, Charles River Watershed Association (CRWA) and MassDEP to maximize the water quality improvements to the Charles River on a watershed level.

1. The City is part of the Charles River Stormwater Collaborative and attends meetings regularly to share stormwater resources and information on 2016 permit requirements and closely working with the City of Newton.
2. The City is also collaborating closely with the Charles River Watershed Association (CRWA) to improve the water quality of stormwater discharges.
3. The City partnered with CRWA to submit an application for the "Water Quality Management Planning Grant 604b Program" and has received a grant for retrofit designs for the Embassy Parking Garage with Green Infrastructure Features to improve the stormwater runoff to the Charles River. The City successfully completed these designs that were submitted to MassDEP and plans to submit a construction grant application.



## 2.2 Additional Stormwater Management Information

In addition to the 2016 MS4 Permit additional information has been compiled by the City and has been made available at the following website:

<http://www.city.waltham.ma.us/engineering/pages/clean-stormwater-initiative>

As the new permit is implemented various public education materials will be included at this website along with updates to the Stormwater the MS4 annual reports and information from the USEPA and MassDEP.

## Clean Stormwater Initiative



### **3.0 Major On-Going and Planned Tasks**

As mentioned above, the City currently has many practices and programs in place related to stormwater management and pollution prevention under the 2003 Small MS4 General Permit and the first year of the 2016 Permit.

#### **3.1 Public education and outreach**


The City of Waltham continues to publicize information about its stormwater program mainly on the City's web-site (<http://www.city.waltham.ma.us/engineering/pages/clean-stormwater-initiative>). The stormwater site within the Engineering Department's web-site has functioned continuously through the permit years and contained links to related documents such as the City's Stormwater Ordinance, the stormwater program web-site, the general stormwater brochure, an informational brochure for businesses, pet waste management brochure as well as the Illicit Discharge Detection and Elimination (IDDE) Program web-site. Links to EPA, MassDEP and MWRA were also made available. Additionally, links to the EPA, DEP web-sites, and information on release, spill, and tank removal issues as well as other stormwater-related links (such as Low Impact Development -LID) continued to be active in the City's Emergency Management web-page. The Recycling Department web-site provides information on recycling, yard waste and hazardous waste management.

The City has developed numerous brochures on stormwater management targeting, residents, developers and construction contractors, industrial and commercial facilities and City employees. These were mounted on poster boards and displayed at various City department offices, mailed in with all water and sewer bills and available in pamphlet sizes to be picked up at the office counters such as Engineering, Building and Public Works Departments.

The City purchased a tabletop display board titled, "Stormwater Matters - Outreach and Participation" from SuAsCo. The City has displayed this board for a period of one month at each of its elementary schools and also at the Waltham Public Library for a period of 6 weeks in 2016. The City plans to do this again in 2019.

### 3.2 Public involvement / participation

The City of Waltham performed several storm water-related activities in collaboration with residents. Numerous volunteer cleanup activities along surface water bodies and educational walks/tours have been organized by the Waltham Land Trust. The City of Waltham through the Public Works Department organizes Earth Day volunteer City-Wide cleanup every year.



CITY OF WALTHAM  
MASSACHUSETTS

**2019**

**CITY WIDE ANNUAL CLEAN UP**

The City of Waltham is holding the annual city wide cleanup on Saturday, April 20, 2019 from 9:00 a.m. to 12:00 p.m. We will clean up the city of trash and litter. This is a great opportunity for residents, students and businesses to get involved in their community and help maintain a clean city we all can be proud of. We are seeking volunteers to make this event successful. Anyone can pitch in, students, shopkeepers, neighbors, service organizations, large corporations, churches and youth organizations to name a few. Volunteers may join as

Collaboration with local educational institutions and residents continues every year in the form of 2 interns from Brandeis University to provide them with environmental learning experiences. The City's Recycling Department is actively promoting a new program "Reuse, Repair, or Repurpose" for items that cannot go in the recycling bins.

Each year the City has and will fund weed harvesting program at Hardy Pond and continue collaboration with the cleanup activities with the Hardy Pond Association.

The City supplements funding and participates in the Charles River Weed Harvesting by Charles River Watershed Association and the Department of Conservation and Recreation.

## Volunteers pitch in to clear Charles River of invasive weeds



*The state had crews using mechanical harvesters to uproot invasive water chestnuts from the Charles River in Waltham .(Photos by Wendy Maeda/Globe Staff)*

### 3.3 Illicit discharge detection and elimination (IDDE)

The City of Waltham is successfully implementing its IDDE Program. Identified sources of contamination are being removed from the City's storm system. As required by the 2016 Permit the City has developed an IDDE Plan to systematically find and eliminate sources of non-stormwater discharges to its municipal separate storm sewer system and implement written procedures to prevent such discharges. A copy of the IDDE Plan is include as Appendix C.

The program consists of the following major components as outlined in the MS4 Permit:

- Legal authority and regulatory mechanism to prohibit illicit discharges and enforce this prohibition
- Storm system mapping
- Inventory and ranking of outfalls
- Dry weather outfall screening
- Catchment investigations
- Identification/confirmation of illicit sources
- Illicit discharge removal
- Follow-up screening
- Employee training

The City of Waltham has completed the following IDDE program activities consistent with the 2003 MS4 Permit requirements:

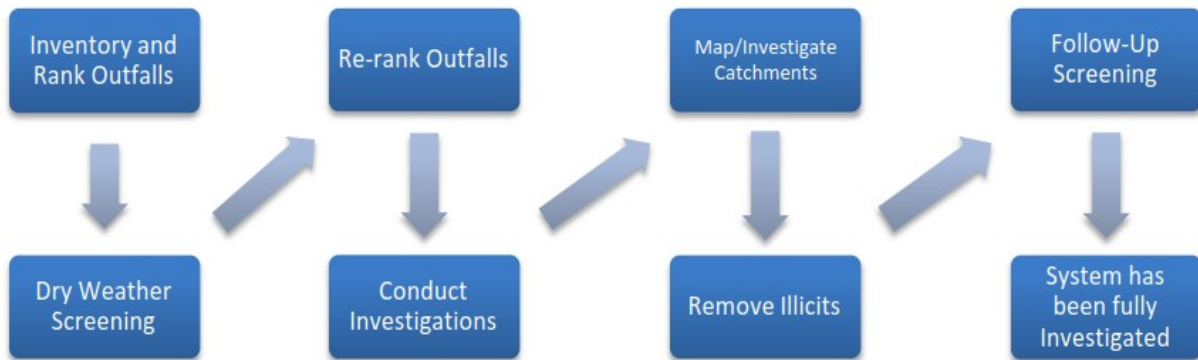
- Developed a map of outfalls and receiving waters
- Adopted an IDDE bylaw or regulatory mechanism
- Developed procedures for locating illicit discharges (i.e., visual screening of outfalls for dry weather discharges, dye or smoke testing)
- Developed procedures for locating the source of the discharge
- Developed procedures for removal of the source of an illicit discharge
- Developed procedures for documenting actions and evaluating impacts on the storm sewer system subsequent to removal

In addition to the 2003 MS4 Permit requirements, other IDDE-related activities that have been completed include:

- SSO Inventory
- Outfall sampling
- Additional storm system mapping, including the locations of catch basins, manholes and pipe connectivity

The IDDE investigation procedure framework is shown in the Figure below. The required timeline for implementing the IDDE program is shown in the Table below.

**Figure IDDE Investigation Procedure Framework**



**Table IDDE Program Implementation Timeline**

IDDE Program Requirement	Completion Date from Effective Date of Permit					
	1 Year	1.5 Years	2 Years	3 Years	7 Years	10 Years
Written IDDE Program Plan	X					
SSO Inventory	X					
Written Catchment Investigation Procedure		X				
Phase I Mapping			X			
Phase II Mapping						X
IDDE Regulatory Mechanism or By- law (if not already in place)				X		
Dry Weather Outfall Screening				X		
Follow-up Ranking of Outfalls and Interconnections				X		
Catchment Investigations – Problem Outfalls					X	
Catchment Investigations – all Problem, High and Low Priority Outfalls						X

### **3.4 Construction Site Runoff Stormwater Control**

The City of Waltham continues to perform construction erosion control management inspection and enforcement activities as mandated in its Stormwater Ordinance. Final draft Rules and Regulations describing clear requirements for construction projects of one acre or more have been specified in this document, which are expected to be set in front of the City Council by the Mayor for promulgation. A copy of the Rules and Regulations is included in Appendix D. The City's Engineering Department receives periodic reports for stormwater compliance from major development projects.

### **3.5 Construction Site Runoff Stormwater Control**

The City of Waltham has continued to implement its stormwater, on-site treatment policy for new development and redevelopment. In an attempt to make this policy a firm rule, the City of Waltham has drafted post- construction stormwater management Rules and Regulations for developments of one acre or more that are expected to be promulgated by City in FY 2020.

### **3.6 Pollution Prevention/Good Housekeeping**

The City Municipalities are required to implement good housekeeping practices in municipal operations such as vehicle maintenance, open space, buildings and infrastructure, street sweeping and optimization of deicing application and catch basin cleaning.

Standard operating procedures for catch basin cleaning, street sweeping, deicing application, maintenance of stormwater treatment structures, construction site inspection and erosion and sedimentation control have been developed and are included in Appendices E, F, G and H.