

Municipality/Organization: City of Lowell, Massachusetts
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NPDES PII Small MS4 General Permit ANNUAL REPORT

Part I. General Information

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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, 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.

Signature: _____

Printed Name: Mark A. Young

Title: Executive Director

Date: April 30, 2018

Part II. Self-Assessment

The City of Lowell has successfully increased stormwater control awareness amongst the public by implementing the following programs: Earth Day activities; hazardous waste collections; pet waste disposal policies; and distribution of stormwater educational materials.

In 2010, the City of Lowell initiated a new drainage outfall identification project. After seven years of implementing this program, about 400 outfalls were identified in the field, characterized in an inventory report, and captured in the city's Geographical Information System (GIS). During this time, 82 drainage outfalls showed signs of dry weather flow. These outfalls were analyzed for pH, temperature, E-coli, and Fluoride, and physical characteristics were recorded. Only 18 of the 82 outfalls resulted in e-coli levels over 235 e-coli colonies per 100 ml. Based on the replicated analysis of each outfall, the results indicated that there are no suspected illicit connections to the public drainage outfalls. The City of Lowell continues to identify new outfalls and monitor existing ones.

Of the dry-weather discharges evaluated, one illicit connection was discovered in 2010 – a direct sewer discharge into the Concord River. The discharge was traced to an illegal sewer connection; the owner was notified of the illegal connection and required to disconnect the sewer service. Subsequent monitoring has confirmed that this illicit discharge has been re-directed to the public sewer system.

Lowell Regional Wastewater Utility (LRWWU) has begun focusing more on mapping the drainage system throughout the City of Lowell. Drain lines are being mapped from the start of the drainage system to the outfall. LRWWU obtains GPS coordinates for all the catch basins, drain manholes, and outfalls. Mapping the drainage system has helped locate more outfalls and has also helped to determine which outfalls are active or inactive in a given area.

The City of Lowell inspects construction sites for conformance with city policies for erosion control and site stormwater management. Private development projects are reviewed by city departments for adherence to Massachusetts Stormwater Regulations within jurisdictional area and applicable.

For many years, the City of Lowell has implemented street sweeping and catch basin cleaning programs to reduce the migration of solids in the city's drainage system. After catch basins are cleaned, the City of Lowell labels the basins and collects vital information such as physical characteristics, GPS points, and all elevations of these catch basins. Maintenance of equipment and facilities are carefully managed in order to minimize the potential for contaminants to enter the drainage system.

The City of Lowell has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year Fifteen (2017) (Reliance on non-municipal partners indicated, if any)	Planned Activities –
1.1	Hold annual Earth Day Celebration	Neighborhood Services Department	Event Held	On April 23, 2017 the City of Lowell held an Earth Day Parade and Festival in downtown Lowell that included art, music, and dance. This festival also included arts and crafts for the children to teach them about science and environmental issues, and demonstrations on sustainability issues. Along with the Earth Day Parade and Festival, there are a number of clean up days in various neighborhoods of Lowell.	Hold 2018 Celebration.
1.2	Develop and Distribute Stormwater Brochure	Lowell Regional Wastewater Utility	Develop stormwater brochure in Year 1 and distribute in subsequent years	Copies of the previous years' stormwater brochure are available to the public at City Hall; DPW; Water Plant; Wastewater Plant; City Clerk's Office; City Hall; Public Libraries; Division of Planning & Development; and Neighborhood Services Department.	Continue maintaining copies of the Stormwater Brochure at the public distribution sites as needed. As a follow up to labeling the catch basins with plaques that say, " <i>No Dumping; Drains to River,</i> " LRWWU will develop new Stormwater Brochures that will focus on different audiences.
1.3	Enhance Awareness of Proper Pet Waste Disposal at City Parks	City Clerk, Parks Dept.	Pet Waste Brochure developed in Year 2; and distributed to all licensed dog owners in Years 3-5. Pet waste signs to be installed at City Parks in Years 2-5.	The Stormwater Brochure (discussed above) includes educational information on Pet Care. Flyers discussing the Animal Control Ordinance are available at DPW and posted on signs at the City's parks. Lowell maintains approximately 100 signs at City parks posting the Animal Control Ordinance. The City consists of 92 parks all of which contain at least one sign. Signs are posted wherever notable animal waste is present and all are maintained and replaced by the Parks Department.	Continue to maintain supply of Stormwater Brochures. Coordinate with City Clerks Office to ensure awareness of Animal Control Ordinance.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year Fifteen (2017) (Reliance on non-municipal partners indicated, if any)	Planned Activities –
2.1	Comply with State Public Notification Guidelines	City Clerk; other City Dept.	Comply with State public notification guidelines	City posted all applicable meetings and environmental awareness events according to state guidelines including local access TV channel.	The city continues developing website-based meeting notifications.
2.2	Hold Annual Household Hazardous Waste / Tire / Electronics Collection Days	SW&R Office, DPW	Hold hazardous waste collection day 6 times a year.	Household Hazardous Waste Collection Days were held on 5/6/2017, 6/17/17, 8/12/17, 10/14/17, 12/9/17, and 3/10/18. The events were advertised in the local newspaper, on local access TV, AM Radio, Quarterly Newsletter, and on the City website. A total of 80-100 residents participated in each event. DPW retains the manifests of the household hazardous waste collected.	Hold 2018 Collection Days
2.3	Install Catch Basin Plaques	Lowell Regional Wastewater Utility	50 catch basin plaques installed each year	The City of Lowell did not install any plaques on catch basins throughout the city in 2017.	The City will consider coordination with local groups to assist in the catch basin identification program. At least 50 catch basins will be identified next year.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year Fifteen (2017) (Reliance on non-municipal partners indicated, if any)	Planned Activities –
3.1	Map Drain Outfalls and Receiving waters	Lowell Regional Wastewater Utility	Complete map of outfalls and map of drainage system	The City of Lowell initiated a new drainage outfall identification project in 2010. As a result of this effort, about 400 outfalls were identified in the field, characterized in an inventory report, and captured in the city's Geographical Information System (GIS).	The City of Lowell will continue to identify and characterize all drainage outfalls within its municipal extents. This data will be used to enhance understanding of the city's drainage outfalls and improve the city's drainage system mapping. The city will continue to collect stormwater data and will update Lowell's drainage system on GIS.
3.2	Continue Inspections of New Sanitary Sewer Connections	City Engineering	Continue existing program	City inspected 127 new/updated sewer connections. During April 2017-March 2018, the city of Lowell repaired 89 sewer lines, and installed 38 new sewer services.	Continue inspections of new sewer connections.
3.3	Continue enforcement of illicit connection/ illegal dumping bylaws	City Engineering & Lowell Regional Wastewater Utility	Continue existing program	City prohibits illicit connections/illegal dumping with an informal program. No violations were found.	The city will adopt local stormwater ordinance to establish appropriate legal authority.
3.4	Dry weather screening of drain outfalls	Lowell Regional Wastewater Utility	All outfalls screened once during permit period	A total of 82 drainage outfalls were observed to have dry-weather flow. The outfalls were analyzed for pH, E-coli, and Fluoride. Visual and olfactory observations were also recorded for these discharges. Suspected outfalls were monitored and analyzed numerous times to confirm that no illicit connections were connected to public drainage outfalls.	The city is going to implement an advanced IDDE project that will utilize human DNA markers to identify any sources of human sewage.
3.5	Develop and Implement System for Elimination of Illicit Discharges	Lowell Regional Wastewater Utility	Based on prioritized results in BMP No.3.4, determine procedures to identify and remove illicit connections to drain; maintain records	All of the drainage outfalls with dry weather flow are continuously being monitored. The City has identified a total of 82 (<i>18 with results greater than 235 e-coli colonies per 100 ml</i>) dry weather flow outfalls which all have been monitored and analyzed. There have been no new illicit connections found.	The City of Lowell is developing a refined IDDE plan to identify and remove illicit connections.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year Fifteen (2017) (Reliance on non-municipal partners indicated, if any)	Planned Activities –
4.1	Continue to Apply Standard 8 of MA Stormwater Policy	Conservation Commission	Standard 8 of MSP applied	The City of Lowell's Conservation Commission requires proper stabilization of all sites during construction including, but not limited to, the installation of erosion control measures. Twelve (12) projects were reviewed that incorporated stormwater management procedures	Continue enforcement of Standard 8 for proposed development projects in the City.
4.2	Continue to Inspect/Maintain Control Measures at Construction Sites	City Engineer	Continue Existing Program	City Engineer's Office inspects all sites while construction activity is going on. Any activities that need to be addressed are brought to the attention of the site developer immediately, corrective action is taken and the site is re-inspected. No violations were reported.	Continue City's Site Inspection Policies.
4.3	Continue to Enforce procedures for collection/filing of public comments	All Departments	Continue Existing Program	All departments keep their own public comments on file. When the public places a complaint through the Civic Plus software, the complaint is automatically sent to the specified department. All departments respond immediately and keep the public updated throughout every step of completing the task.	The City will continue to implement and maintain the Civic Plus software and track public complaints.
4.4	Develop and present an Ordinance for Erosion Control Measures and Construction Material Management for Construction Sites more than 1-acre.	City Engineer	Draft Ordinance language and present to City Council for approval	The City Engineer Office and Planning Board have established erosion control measures for all projects that come under their review.	City will adopt a local stormwater ordinance to establish appropriate legal authority.

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year Fifteen (2017) (Reliance on non-municipal partners indicated, if any)	Planned Activities –
5.1	Continue application of Planning Board Rules and Regulations for Subdivisions	Planning Board	Continue enforcement of existing regulations	City has applied Rules and Regulations to all projects that have come under its review. Twenty (20) projects were reviewed last year.	Continue application of existing Rules and Regulations.
5.2	Apply Standards 2, 3, 4, 7 and 9 of MA Stormwater Policy	Planning Board, Conservation Commission, & Lowell Regional Wastewater Utility	Develop/ Incorporate modifications to existing regulations as needed	MA Stormwater standards applied to subject development projects.	The city anticipates reference to MA stormwater standards and new local stormwater ordinance.
5.3	Develop/Implement Ordinance/Regulation to ensure long-term maintenance of private structural BMPs.	Planning Board & Lowell Regional Wastewater Utility	Draft and adopt stormwater ordinance	Certain projects are required to submit an Operations and Management Plan for private BMP.	City will adopt local stormwater ordinance to establish appropriate legal authority to require BMP.

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year Fifteen (2017) (Reliance on non-municipal partners indicated, if any)	Planned Activities –
6.1	Continue Street Sweeping Program	DPW & Lowell Regional Wastewater Utility	Percentage of streets swept annually with emphasis on sensitive receptors	The City of Lowell currently performs all street sweeping operations in house in order to enhance the effectiveness of this preventative maintenance program. The City maintained its current street sweeping and residuals disposal program to reduce the migration of solids in the city's drainage system. All city streets were swept twice in 2017 and some streets were swept more often.	The City of Lowell will continue existing program.
6.2	Continue Catch Basin Cleaning Program	Lowell Regional Wastewater Utility	Percentage of catch basins cleaned annual; with emphasis on sensitive receptors	The City of Lowell maintained its current catch basin cleaning and residuals disposal program to reduce the migration of solids in the city's drainage system. In 2017, 880 catch basins were cleaned by LRWWU staff and its contractors.	The City of Lowell will continue existing program.
6.3	Continue Salting and Snow Removal Practices	DPW	Continue existing programs for salt storage/use and management, especially in sensitive areas	The City continued its existing salt storage/snow removal practices. Records of salt use are kept by DPW. Lowell has stopped spreading sand on the roads and now uses salt. This has decreased the amount of sediment getting into the sewage and drainage systems. Since the City bought new salt dispensing trucks and installed the Cirrus salt tracking system in all of the equipment used during winter weather, the salt has been evenly distributed with the newest and most effective techniques while tracking and calibrating the dispensing technique based on weather conditions.	Continue existing program. The city is considering options to reduce salt usage in the future.
6.4	Continue Vehicle Washing Practices	DPW	Continue existing program in DPW yard	City vehicles were washed in approved areas.	Continue existing program. Modify practices as necessary to minimize stormwater impacts.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year Fifteen (2017) (Reliance on non-municipal partners indicated, if any)	Planned Activities –
6.5	Continue Vehicle Maintenance	DPW	Continue existing program in DPW garage	City vehicle maintenance is performed in approved areas. Vehicle material waste was either used to heat the DPW's maintenance garage using two new clean burn, oil fired heating systems or disposed of off-site by approved waste handlers.	Continue existing program. Modify practices as necessary to minimize stormwater impacts.
6.6	Park and Landscape Maintenance	Parks Department	Minimize herbicides, pesticides, fertilizers in sensitive areas; maintain records	The City only applies fertilizers to areas with irrigations systems. Records of fertilizer/herbicide/pesticide use are maintained by the Parks Department. The City has reduced its use of fertilizers to improve stormwater quality.	Continue existing program. The City will continue to examine existing fertilizer practices and make revisions as necessary to minimize impact to stormwater runoff and receiving streams.
6.7	Employee Education Program	Lowell Regional Wastewater Utility	Awareness training on stormwater topics	City reviewed potential training materials.	Stormwater awareness training is being considered to educate city employees.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year Fifteen (2017) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
Not Applicable					
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

N/A