

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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Title: Executive Director

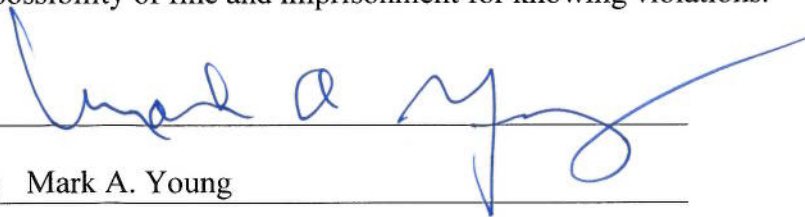
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Certification:

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: _____

5-30-17

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 six years of implementing this program, about 460 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 19 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 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 entire drainage system throughout the City of Lowell. Each drain line is being mapped thoroughly from the start of the drain to the end of the drain at the outfall. LRWWU is obtaining GPS coordinates for all the catch basins, drain manholes, and outfalls. Once one drain line is completely surveyed and mapped, LRWWU moves onto the next drain line and continues this process. 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. Stormwater BMPs for private developments are periodically inspected to ensure proper operation and maintenance.

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 Fourteen (2016) (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, 2016 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 2017 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 place door hangers on the homes of neighborhoods with drainage systems that explain what should and should not be dumped down the catch basins. LRWWU will develop new Stormwater Brochures that will focus on different audiences.
	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 Fourteen (2016) (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.	City to continuing 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 semi-annually	Household Hazardous Waste Collection Days were held on May 9, 2016. The events were advertised in the local newspaper, on local access TV, AM Radio, Quarterly Newsletter, and on the City website. During the spring event, a total of 325 residents participated. DPW retains the manifests of the household hazardous waste collected.	Hold 2017 Collection Days
2.3	Install Catch Basin Plaques	Lowell Regional Wastewater Utility	50 catch basin plaques installed each year	<p>The City of Lowell has installed about 100 plaques on catch basins throughout the city in 2016.</p> <p>The city has incorporated catch basin characterization into its catch basin cleaning program. Once a catch basin is cleaned, another crew returns to capture location, configuration, and condition.</p> <p>At that time, the catch basin is identified with a plaque that reads “<i>No Dumping; Drains to River</i>”.</p>	The City will consider coordination with local groups to assist in the catch basin identification program. At least 50 catch basins will be identified each year.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year Fourteen (2016) (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	<p>The City of Lowell initiated a new drainage outfall identification project in 2010. As a result of this effort, about 460 outfalls were identified in the field, characterized in an inventory report, and captured in the city’s Geographical Information System (GIS).</p> <p>LRWWU has dedicated 0.75 of a Full Time Equivalent (FTE) to surveying entire drain lines in Lowell and ensuring that all assets are inspected and mapped.</p>	<p>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.</p> <p>The city will continue to collect stormwater data and will update Lowell’s drainage system on GIS.</p>
3.2	Continue Inspections of New Sanitary Sewer Connections	City Engineering	Continue existing program	City inspected 127 new/updated sewer connections.	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 enforced existing bylaws. Illicit connections/illegal dumping addressed as needed by the City. No violations were found.	Continue to enforce illicit connection/illegal dumping bylaws.
3.4	Dry weather screening of drain outfalls	Lowell Regional Wastewater Utility	All outfalls screened once during permit period	<p>A total of 82 drainage outfalls were observed to have a dry-weather flow. The outfalls were analyzed for pH, E-coli, and Fluoride. Visual and olfactory observations were also recorded for these discharges. All suspect outfalls were monitored and analyzed numerous times to ensure that no illicit connections were connected to public drainage outfalls.</p>	The City of Lowell will use dry weather flow as a screening tool to continue monitoring the drainage outfalls and inspect private sewer system connections to ensure that no illicit connections are made to the city’s drainage system.
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 31 (<i>19 with results greater than 235 e-coli colonies per 100 ml and 12 with results of fluoride over greater than .3 mg/l</i>) dry weather flow outfalls which all have been monitored and analyzed. There have been no new illicit connections found.	The City of Lowell will implement our IDDE plan to identify and remove illicit connections. The city will continue to promote education/awareness of potential illicit connection issues.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year Fourteen (2016) (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. Twenty Five (25) 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 daily while construction activity is going on. Any activities that needed to be addressed were brought to the attention of the site developer immediately, corrective action was taken and the site was 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 and Planning Board have enforced erosion control measures for all projects that come under their review.	City to formally adopt Rules and Regulations governing site developments and erosion control.

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 Fourteen (2016) (Reliance on non-municipal partners indicated, if any)	Planned Activities –
5.1	Continue application of Planning Board Rules and Regulations for Subdivisions	City Engineering	Continue enforcement of existing regulations	City has enforced Rules and Regulations for all projects that have come under its review. Twenty Three (23) projects were reviewed last year.	Continue enforcement of existing Rules and Regulations.
5.2	Apply Standards 2, 3, 4, 7 and 9 of MA Stormwater Policy to the entire City	City Engineering	Develop/Incorporate modifications to existing regulations as needed	City Engineer’s Office and Planning Board have implemented erosion control measures for all projects that have come under their review.	The Planning Board is in the process of revising its Rules and Regulations. City expects to incorporate formal reference to the MA Stormwater Policy Standards.
5.3	Develop/Implement Ordinance/Regulation to ensure long-term maintenance of private structural BMPs.	City Engineering	Draft Bylaw developed and presented to City Council	City enforces stormwater management in all projects that come under its review. Each development that incorporates a private BMP must submit an Operations and Management Plan for the BMP.	City to develop and adopt a stormwater ordinance to give the city the formal authority to require BMP. Complete revisions to Rules and Regulations. Approval of the Rules and Regulations is dependent on City Council vote.

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 Fourteen (2016) (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 (100%) of city streets were swept in 2016 at least once and some streets were swept multiple times.	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. LRWWU purchased a new vacuum truck and has resulted in increasing the staff's ability to clean catch basins more efficiently. In 2016, 784 catch basins were cleaned by both the LRWWU staff and 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. One additional salt storage yards was deployed in 2016. Records of salt use are kept by DPW. Lowell has stopped spreading sand on the roads and now uses only salt. This has decreased the amount of solids getting into the sewer and drain lines. Since the City bought new salt dispensing trucks and installed the Cirus 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. The new system has resulted in a 50% reduction in salt usage. The City has also bought two new dump trucks with new salt spreaders	Continue existing program. 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 Fourteen (2016) (Reliance on non-municipal partners indicated, if any)	Planned Activities –
6.5	Continue Vehicle Maintenance	DPW	Continue existing program in DPW yard	City vehicle maintenance was 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	Four hours of training on stormwater topics per permit term	City reviewed potential training materials.	Stormwater awareness and training will be implemented 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 Fourteen (2016) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
Not Applicable					
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

N/A