

Municipality/Organization: Town of Lincoln

EPA NPDES Permit Number: MAR041043

MaDEP Transmittal Number: W- 035460

**Annual Report Number
& Reporting Period:** No. 15: May 2017 – May 2018

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Timothy Higgins **Title:** Town Administrator

Telephone #: 781-259-2600 **Email:** higginst@lincolntown.org

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: Timothy S. Higgins

Title: Town Administrator

Date: April 27, 2018

Part II. Self-Assessment

The Town of Lincoln has completed the required self-assessment and offers the following feedback on the permit compliance of our municipality:

We are planning on the MA NPDES MS4 General Permit going into effect on July 1, 2018 and will be working to submit our new Notice of Intent by September 28th, 2018. Lincoln's annual Town Meeting approved an allocation of \$50,000 to assist with the Notice of Intent and our first permit year's activities. This is great news and it will be a big help with our stormwater compliance. A draft of our request for proposals is attached.

MAPC's GIS Analyst, Eliza Wallace (she has now left MAPC), completed a comprehensive mapping of stormwater outfall catchment areas for Lincoln. These data layers were recently provided to the MA 319 Grant Coordinator, Malcolm Harper, and their contracted consultant, Andrea Braga, PE at Geosyntec. Hopefully these can be included in the "MA Watershed-Based Planning" software and that will greatly facilitate our stormwater mapping capabilities.

In addition we are funding a seasonal employee to work over the next several months to ground-truth all our stormwater infrastructure, including catchbasins, connecting pipes, and outfalls. We will be using the latest technology with an iPad and a Bad Elf GNSS Surveyor unit to get excellent accuracy. This data, combined with the catchment area mapping, will greatly increase our ability to do Illicit Discharge Detection and Elimination. During the field surveying we will be looking for illicit connections to our stormwater infrastructure.

Lincoln continues to be very active with our two local stormwater groups, the Charles River Stormwater Collaborative and the MAGIC Stormwater Partnership. The Charles River Stormwater Collaborative has provided a forum for meeting with a variety of metro-west communities to discuss MS4 compliance issues. Both Newton Tedder, EPA, and Fred Civian, MA DEP, have attended meetings and provided valuable feedback. The MAGIC Stormwater Partnership received funding to help member towns with several aspects of the new permit. MAGIC is an MAPC subregion of 13 towns northwest of Boston.

We are pleased that the MA Statewide Stormwater Coalition received a \$200,000 grant for educational outreach. We just filled out and submitted a survey regarding our local needs to assist with the Coalition's efforts at creating education materials. The "Think Blue in Massachusetts" campaign that is in the works sounds like it is something that Lincoln can embrace and participate with its implementation.

There are a number of initiatives that Lincoln is now involved with to varying degrees and these dovetail nicely with NPDES MS4 requirement. We recently had our Hazard Mitigation Plan approved by MEMA and FEMA. We are also working with MAGIC/MAPC on the Climate Change Resiliency Plan that includes a Vulnerability Assessment and Response Strategies. This helps set the stage for Lincoln to become a Municipal Vulnerability Preparedness (MVP) Program Community. We are late on grant planning for this initiative but we are working to see if we can meet the grant deadline for the Planning Grants. We also received \$400,000 in a "Complete Streets" grant and these projects will incorporate stormwater bmps.

This week we attended a “Building and Maintaining a Rain Garden” program in Hudson, MA sponsored by MassAudubon’s “Shaping the Future of Your Community” program, the Town of Hudson, and OARs. As part of the discussion at this event we connected with Stefanie Covino, the Coordinator of the MassAudubon program and will explore opportunities to work with that program.

We are also actively coordinating with the City of Cambridge’s Watershed Manager, David Kaplan, on sharing GIS resources for mapping of stormwater infrastructure in Lincoln. Cambridge is a significant landowner in Lincoln and a large part of our Town is within the Charles River watershed.

Our community is unique in that our land area includes three separate watersheds; the Charles River, the Shawsheen River, and the Sudbury, Concord, Assabet (SuAsCo) Rivers. Two of these have Total Maximum Daily Load (TMDL) requirements. The Charles watershed has a TMDL requiring a reduction in phosphorus, and the Shawsheen watershed has a TMDL requiring a reduction of bacteria/pathogens (fecal coliform). Much of Lincoln is located outside the MS4 regulated area, and the northern area of our MS4 is part of Hanscom Air Force Base which is governed by their own NPDES Permitting. However, we do our best to have clean stormwater discharges to the receiving waters throughout our community. The Charles River Watershed is of special local significance because these surface waters provide drinking water for Lincoln and Cambridge. In addition, the Tower Road Well in Lincoln is also located within this watershed.

Open space preservation is an area in which Lincoln has done an excellent job and nearly half of our community is permanently preserved. Since 2008 we have protected an additional 575 acres of land. This is important since natural landscapes are infinitely better for accepting and infiltrating stormwater than developed landscapes. Currently the average impervious cover in seven of our abutting towns is 16.67% while Lincoln has the least amount of impervious cover, with a total of 9.09%.

Our road network also helps with stormwater management. We seek to maintain Lincoln’s rural aesthetic and therefore most of our roadways are quite narrow and bordered by natural vegetation. “Country drainage” is employed on many of these roads with the runoff being directed into vegetated buffer strips rather than into a piped system with concentrated outflows. Our Department of Public Works (DPW) uses a program of eliminating sand accumulation along our roads to ensure this type of drainage continues to function properly.

The DPW uses its leaf vacuum to carry out an active fall leaf cleanup along our roadways. These leaves are then composted and used as fertilizer by our local farms. This past winter the DPW pre-treated our roads with a brine solution to prepare for winter storm events. Implementation of this BMP allows the Town to minimize overall use of salt and sand on our roads during the winter season.

We need to make a strong attempt to establish bylaws and regulations for construction site and post-construction stormwater management and for illicit discharge detection and elimination. Our educational outreach program needs to be reinvigorated and again this will be encouraged with the issuance of the new Permit. MAGIC’s grant is certainly helping out.

ATTACHED DOCUMENTS:

- Draft Request for Proposals for MS4 Compliance
- Newspaper Article

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 15 (Reliance on non-municipal partners indicated, if any)
1-A	Lincoln Specific Stormwater Flyers	ConCom	Distribute at Town Hall and public events.	Lincoln has several brochures relating to stormwater awareness and healthy lawns and landscapes available at the Town Offices. These are also made available at the annual Town Meeting
1-B	Education via Newspaper Articles	ConCom	Write at least one article per year	Article on stormwater in Lincoln Journal published (attached).
1-C	Education via the Internet	ConCom	Provide stormwater information and links on Town website	Stormwater information is posted on Town Website. Links to other websites including EPA’s site also posted. The Town has a brand new website is much more user-friendly and has lots of “green” information.
1-D	Homeowner and Contractor BMP Manual	ConCom	Provide manual with best current methods.	This manual is completed and available as an electronic magazine with live links to many stormwater web resources. Hardcopies are available at the Conservation Office.
1-E	Invasives Plant Guide	ConCom	Color guidebook is available. Published in 2015.	This guide is focused directly on Lincoln although it is pertinent for any community in the Commonwealth. It will help protect ecological integrity throughout our watersheds.
1-F	Open Space and Recreation Plan	Open Space Committee	State approved Open Space and Recreation Plan	Our Open Space and Recreation Plan was fully updated and received MA Division of Conservation Services approval in 2017.
1-G	New Homeowner Information Packet	ConCom	Provide property information to new homeowners.	Distributed packets including Lincoln specific fliers and return postcard to new homeowners. Work is ongoing and effective at engaging our residents with natural resource issues.
1-H	Municipal GIS Website	ConCom	Offer free GIS website to the public with data layers for Town.	The revised GIS system is functioning effectively. Layers include wetlands, buffer zone, floodplain, catchbasins, and outfalls. Completely updated in 2014 with very accurate parcel boundaries. This is used extensively by residents and others.

1-I	Conservation Walk Series	ConCom	Provide educational outings for the public.	Spring and fall series of walks to get people on land and educated about conservation issues with a concentration on watershed activities. This is an annual series that is well attended and connects residents to the Town's natural resources.
1-J	Healthy Lawn and Landscape Brochures	ConCom Garden Club	Distribute to residents.	This brochure was fully revised and updated in 2011 and is distributed at Town Hall and at municipal events. Minimizing or eliminating fertilizer and pesticides are the key components discussed.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)
2-A	Annual Meeting on NPDES Plan and Report	Town Administrator	Hold Committee meeting each year	NPDES meeting Including Town Planner, Conservation Director, and Public Works Director was held.
2-B	Watershed Group Involvement	ConCom Local Groups	Continue ongoing activities to protect the health of our wetlands and watersheds.	Lincoln is actively participating with the Charles River Stormwater Collaborative and the MAGIC Stormwater Partnership (mostly SuAsCo watershed towns) We also work closely with the City of Cambridge's Water Department on stormwater issues. ConCom partnered with Concord on water chestnut removal in the Sudbury River. ConCom representative serves on the SuAsCo River Stewardship Council. We also continue to participate with the SuAsCo Cooperative Invasive Species Management Area (CISMA).
2-C	Involve Lincoln Children's Groups	ConCom	Involve Lincoln Children's Groups in watershed clean-up and other activities.	Worked with various classes and groups on local ecological issues, including teaching importance of stormwater management for keeping our drinking water supply safe.

2-D	Wetland buffer restoration through invasive species removal	ConCom	Work at least once per year with community and/or school group to restore wetland habitat.	Our annual Garlic Mustard pull again had excellent community participation. This is critical work for maintaining the health of native plant ecosystems. The Lincoln-Sudbury High School Seniors worked on invasive species removal along the perimeter of a wet meadow for their annual volunteer service day.
2-E	Open Space and Recreation Plan	ConCom Open Space Committee	State Approved Plan with 5-year Action Plan	Our fully revised Open Space and Recreation Plan was approved in 2017.
2-F	Elm Brook Stream Restoration	ConCom Minute Man National Historical Park	Stream daylighting with natural stream-bed construction and native plantings	This is a Shawsheen River watershed project. Stream is healthy with native plants and abundant macro-invertebrate and amphibian life.
2-G	Habitat inventory and monitoring	ConCom	Conduct habitat inventories	Baseline monitoring of all conservation lands and holdings is completed. We are partnering with Brandeis University and the Harvard Forest on long-term ecosystem monitoring, including a study on deer impacts on native vegetation.
2-H	Comprehensive Plan (Town's Master Plan)	Planning Board	Work to achieve goals outlined in plan, which include open space preservation and ecological protection.	Work on implementing plan is ongoing. Open space goals mirror what is in the Open Space Plan. Our Town Planner is actively working on the various issues and goals that are described in the Master Plan.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)
3-A	Illicit Discharge Bylaw	DPW Board of Health	Discussions and review of regulations	This is an area where we need to commit to a serious effort to implement a new bylaw. Board of Health continues to review and permit all septic system maintenance and construction. Conservation permitting is done for all systems within 100 feet of wetlands or 200 feet of perennial streams.
3-B	Storm Drain Map	DPW Town Administrator	Field-verify and map storm drains and outfalls	A renewed effort with new technology and staff will be done this spring/summer.

3-C	Illicit Discharge Detection and Elimination Plan	DPW	Visually screen outfalls during dry weather.	Priority areas are the Tower Road wellhead protection zones A and B and Flint's Pond and Cambridge Reservoir surface water protection Zones 1 and 2. This aspect of the MS4 program needs to become more active. Household hazardous waste coordinated with the Town of Lexington.
3-D	Illicit Discharge Education for General Public and Businesses	ConCom Planning	Include illicit discharge education information in fliers.	ConCom brochures distributed on how to reduce lawn and yard pesticide and chemical fertilizer use. DPW maintains metal "No Dumping – Drains to River" catchbasin markers.
3-E	Illicit Discharge Education for Municipal Employees	DPW Fire Department	Municipal training for Town.	Fire Department continues their training in spill prevention and containment. DPW employees trained on spill prevention and containment.
3-F	Annual Monitoring of all public and private Conservation Land.	ConCom Lincoln Land Conservation Trust	Inspect boundaries and interiors of all permanently protected open space	Work completed by LLCT and ConCom staff. Any violations, including illicit discharges, are searched for.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)
4-A	Construction Site Runoff Bylaw	Planning ConCom	Initial Discussions and review of existing and model bylaws	Construction site runoff is now managed through wetlands permitting and site-plan review. Under the new MS4 we will be revisiting this issue.
4-B	BMPs for Construction Site Erosion, Sediment, and Waste Controls	Planning ConCom	Stay current with construction-site BMP's	DEP Stormwater Regulations are administered by the Conservation Commission. BMP's required through wetland and site-plan permitting. Homeowner and Contractor BMP Manual produced by Conservation Department is made available to those considering new projects.
4-C	Construction Site Plan Review Procedures	Planning ConCom	Maintain review and communication between land-use boards	Planning Board and ConCom both currently review construction site plans.
4-D	Construction Site Inspection and Enforcement Procedures	Planning ConCom	Inspect and Enforce Construction Site through local boards	Planning and Conservation staff monitor construction sites as does the Building Inspector.
4-E	Response to Public Stormwater Hotline	DPW ConCom	Maintain Stormwater Hotline	Conservation Department phone is the Hotline during working hours and Public Safety Dispatcher during other hours.

4-F	Zoning Bylaw Revisions for FEMA Floodplain Requirements	Planning Board ConCom	Revise floodplain regulations and get approved by Town Meeting.	In 2014 Town Meeting approved changes that strengthen regulatory authority to limit floodplain alteration, thus protecting this resource area that is critical to stormwater management.
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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 15 (Reliance on non-municipal partners indicated, if any)
5-A	Post-Construction Site Runoff Bylaw	Planning ConCom	Initial discussions; review current local/state regulations; review proposed samples	Post-Construction site runoff is managed through wetlands permitting and site-plan review. Under the new MS4 permit we will explore the establishment of a new bylaw to meet this requirement.
5-B	Choose Structural and Non-structural BMPs	Planning ConCom	Stay current with construction-site BMP's	Continued enforcing current BMPs as shown on 5-year NPDES Stormwater Phase II Compliance Plan. Planning Board is taking on a more active role with BMP consideration during site plan review.
5-C	Long-Term BMP Operation and Maintenance Procedures	Planning ConCom	Require Operation and Maintenance Plan Procedures for single-family through Bylaw.	OMPs are required under DEP Stormwater Management Regulations for projects requiring a Stormwater Management Plan. General review provided through existing permitting.
5-D	Structural BMP Implementation Procedures	Planning ConCom	Outline structural BMP requirements in Bylaw	Review structural stormwater management controls through existing permitting process. Where possible require low-impact development strategies and non-structural components.

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 15 (Reliance on non-municipal partners indicated, if any)
6-A	Employee Training to Prevent/Reduce Stormwater Pollution	DPW Fire Department	Municipal training for DPW and Fire Department employees.	Fire Department and DPW continue ongoing spill prevention and cleanup training. Containment booms are located in the DPW garage. These booms will be available to be placed around catch basins in the event of a fluid spill.

6-B	Maintenance/Inspection of Storm Sewers and Structural/Non-Structural Controls	DPW	Assess existing controls, maintenance activities, schedules, and long-term inspection procedures	<p>New leaching catchbasins have been installed on Granville Road and Deerhaven Road.</p> <p>A new initiative to fully remove accumulated material from roadway shoulders to improve natural drainage is currently being implemented.</p> <p>Cleaning of newly constructed sedimentation basins is ongoing. These newly constructed sediment basins work extremely well in reducing sediment flow into wetland areas.</p> <p>Several drainage lines have been repaired, replaced, or cleaned-out.</p>
6-C	Pollutant Source Reduction/Elimination from Municipal Facilities and Activities	DPW	Assess existing facilities, activities, and BMPs and continue additional or improved BMPs	<p>DPW continues to refine its snow and ice management technique with a focus on brine pre-treatments to minimize overall use of salt and sand.</p> <p>Roadside Maintenance Program with continued roadside sweeping activities</p> <p>Continue sweeping and maintenance of DPW barn and yard.</p>
6-D	Waste Disposal Procedures from Storm Sewers and Municipal Facilities/Activities	DPW	Assess existing waste disposal procedures, review MA guidelines, brainstorm improved and new procedures	<p>Proper disposal methods as approved by DEP of this material are undertaken each year. Currently the street sweepings and catchbasin cleanings are disposed of at the Fitchburg Landfill.</p> <p>In 2017 - 34 tons of catchbasin cleanings were removed and 1,076 tons of street sweepings. There are 102 lane miles in Town that are swept annually in the spring.</p> <p>All catchbasin sumps are currently less than 50% full. Approximately 75% of the approximately 500 cbs are cleaned annually or as needed.</p>
6-E	Hazard Mitigation Plan	Fire Department	Update Plan to current requirements	<p>FEMA requires the Town to have a current approved Hazard Mitigation Plan. With assistance from MAPC the Town completed this Plan. Both FEMA and MEMA have given this plan their approval and Lincoln is now able to apply for Federal hazard mitigation grants.</p>



**Town of Lincoln
16 Lincoln Road
Lincoln, Massachusetts 01773**

May 1, 2018 **DRAFT**

The Town of Lincoln is seeking quotes to hire an Engineering Consultant to assist the Town in meeting compliance with the Year 1 tasks of the new MS4 Permit.

The Consultant will need to perform the following tasks:

1) Prepare Notice of Intent

- Within 90 days of issuance of permit (By September 1, 2018) prepare Notice of Intent and required information.

2) Stormwater Management Program

- Prepare Written Stormwater Management Program and include proposed measures to meet the six minimum measures of the MS4 Permit.

3) Illicit Discharge and Detection and Elimination (IDDE) Plan

- Prepare a IDDE Plan that will include Mapping and Prioritization

4) O&M Procedures

5) Employee Training

- Develop a program and provide annual training

6) Develop Public Educational Assistance

- Develop recommendations for public educational assistance

7) Prepare and File Annual Report

Anticipated Meetings

- A minimum of 4 meetings including training

Qualification and Award

Consultant will have extensive experience with MS4 Compliance and Green Infrastructure / Low Impact Development (LID) Bylaw or Regulation development.

We will award the contract to the most responsible and qualified person offering the needed quality of service at the lowest price quotation.

Please submit the names and qualifications of consultants that will be on this project reviewing the application and attending meetings.

Please include fees/rates for consultants working on the project, as well as travel costs and costs of additional meetings.

The proposal should be no more than \$49,999.

Please submit a scope of work and proposal to the Town of Lincoln to assist with these Year 1 tasks by **Friday, June 1st, 2018**

Contract to be awarded and work to commence on **July 1, 2018**.

On Behalf of the Town.

Sincerely,

Jennifer L. Burney

Director of Planning and Land Use

Town of Lincoln, MA

Town Office

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Lincoln, MA 01773

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What is stormwater and why does it matter?

By the Lincoln
Conservation Department

Stormwater is the runoff water from rain and snow-melt. Stormwater picks up pollutants from developed land and carries these pollutants to our streams, ponds, wetlands and the ocean.

Stormwater pollutants include litter, sand, bacteria, and chemicals such as fertilizer and herbicides from lawns and oil and gas from cars. Runoff from paved or impervious surfaces, such as roads, parking lots, driveways and rooftops, can contribute large amounts of polluted stormwater. To prevent flooding, parking lots and streets are often lined with storm drains to quickly move stormwater off the pavement. Because storm drains have underground pipes that channel the stormwater directly to a nearby water body, whatever flows down a storm drain comes out in the closest wetland, stream or pond, usually with little or no treatment.

Stormwater pollution is one of the most difficult sources of water pollution to control. Because stormwater pollution is caused by the daily activities of people everywhere, public awareness of the steps citizens can take to prevent stormwater pollution will help to protect our water resources. By putting

fewer pollutants on the land, stormwater will be cleaner as it flows into our lakes, rivers and the ocean. Clean water is necessary for drinking, swimming, fishing, boating and for protecting wildlife. It is far less costly to prevent pollution to waterways than it is to clean them up after the fact. Keeping stormwater clean not only benefits our neighborhood and community, it benefits the entire network of water bodies and land that make up our watershed.

Tips for reducing stormwater pollution

Whatever flows down a storm drain will come out in a nearby water body. Tips for taking care of storm drains include:

- Never put anything down a storm drain, including pet waste, motor oil, paint, litter, leaves or sand.
- Don't block storm drains with refuse or debris.

Cleaning up stormwater pollution is a task that the whole community can take part in. There are many things that residents can do to clean up stormwater quality:

- Use fertilizer, pesticides, and herbicides sparingly.
- Try using organic lawn care methods.
- Mow 2 to 3 inches high to encourage dense growth and deter weeds.
- Mulch lawn clippings and leaves.
- Do not over-water your lawn.
- Reduce lawn size by planting

rock gardens, shrubs and trees.

- Replant bare areas to stop erosion.
- Maintain native vegetation along streams and lakefronts.

Cars can pollute stormwater with gas, oil, antifreeze, metals and detergents. Steps that car owners can take to reduce stormwater pollution from cars include:

- Keep your car well maintained to prevent fluid leaks.
- Recycle motor oil, antifreeze, tires, and batteries.
- Use a commercial car wash or wash your car on the lawn using small amounts of low-phosphate detergents.

Other tips to help clean up stormwater include:

- Pick up after pets and dispose of droppings in the toilet or trash.
- Aim roof downspouts away from paved surfaces or into a rain barrel.
- Dispose of paint, oil and other household chemicals at a local hazardous waste collection day.

• Don't litter – instead recycle paper, cardboard, cans, plastic and glass.

- Start stream teams to help care for neighborhood streams.
- Support community efforts to keep stormwater clean.

Cleaning up pollutants on the land and taking good care of storm drains results in cleaner stormwater, and cleaner stormwater means cleaner water for drinking, swimming, fishing, boating and wildlife.