

Municipality/Organization: Town of Salem, New Hampshire

EPA NPDES Permit Number: NHR041031

Annual Report Number

& Reporting Period: Year 14: April 1, 2016 – March 31, 2017

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2017)

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: Leon I. Goodwin III

Title: Town Manager

Date:

4/27/17

Part II. Self-Assessment

The Town of Salem has completed the required self-assessment and has determined that our municipality is generally in compliance with the conditions of the permit. See Part III for status of BMPs.

As the Town has the last few years, over the past year, the Town has continued to take a proactive approach in trying to implement some of the Best Management Practices that will be required under the 2017 NH MS4 Permit. During Permit Year 14, the Town continued to work with their consultant, Weston & Sampson, to accomplish the following:

- Evaluate the cost for the Town to comply with the requirements of the 2017 NH MS4 Permit now that the permit is final.
- Identify outfalls regulated by the MS4 Permit; and delineate, rank and prioritize drainage catchments for future Illicit Discharge Detection and Elimination efforts. Prioritization and ranking of catchments is ongoing.
- Develop a comprehensive map of the Town's entire drainage system in GIS, and update the Town's sanitary sewer system in GIS.

The Town has also been working with Stantec to perform a condition assessment of approximately 1,000 drainage structures, including collection of pipe invert elevation data as an extension of the Drainage Inventory and Assessment work that they completed for the Town back in 2008.

In addition, the Town has continued to work with FB Environmental Associates over the past year to accomplish the following:

- Perform dry weather screening, and dry and wet weather sampling at additional stormwater outfalls that discharge to Captain's Pond and Millville Pond in an effort to identify those drainage areas that are contributing to the high bacteria counts at these ponds. This work is part of the Town's continuing efforts to meet the Waste Load Reductions identified in the TMDLs for these water bodies.
- Perform illicit discharge detection and elimination (IDDE) investigations in catchments tributary to "hotspot" outfalls identified based on prior sampling efforts.
- Develop a pet waste brochure specific to Salem that discusses the impact of pet waste on public health and the environment

During Permit Year 15, the Town intends to:

- Draft proposed revisions to the Town's existing bylaws to meet the requirements of the 2017 NH MS4 Permit.
- Complete classification and ranking of drainage catchments for future IDDE efforts.
- Provide municipal employee training on IDDE and municipal Good Housekeeping practices.
- Perform dry and wet weather sampling of selected outfalls designated as "High Priority" based on catchment prioritization and ranking. Implement additional outfall sampling and IDDE investigations in drainage catchments tributary to stormwater outfalls that discharge to Captain's Pond and Millville Pond and were identified as "hotspots" based on the 2016 sampling.
- Refine and further develop their written IDDE Plan to meet the requirements of the 2017 NH MS4 Permit.
- Draft their Notice of Intent and written Stormwater Management Plan in compliance with the 2017 NH MS4 Permit.
- Develop a Draft Salt Reduction Plan for the Policy-Porcupine Brook Watershed in accordance with the 2017 NH MS4 Permit.

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 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15 (if applicable)
1-1	Maintain Existing Watershed Signs at Canobie Lake	Dept. of Public Works	Maintain signs throughout permit term	New uniform watershed signs placed around Canobie Lake during Permit Year 13 to replace the previous signs were maintained during Year 14.	These watershed signs will be maintained during Year 15.
1-2	Broadcast Informational Stormwater Video on Local Television	Engineering Department	Broadcast video annually beginning with Permit Year 2	Two stormwater videos were broadcast on local cable television during Permit Year 14. These included the informational stormwater video entitled “Stormwater Runoff, There is No Away”, which aired 10 times between May and August 2016; and an outreach video on the use of canines to detect human wastewater in water quality samples collected from the Arlington Mill Reservoir, Captain’s Pond, Hedgehog Pond, and Millville Pond, aired 25 times between April and August 2016.	Identify new stormwater videos/material to air on the local cable access channel. The Town previously developed a draft presentation for use in educating the lake associations regarding bacterial sources of impairment and how they can be reduced or eliminated. The Town is looking to compile this information into a pamphlet for distribution to property owners along Arlington Mill Reservoir, Captain’s Pond, Hedgehog Pond, and Millville Pond.
1-3	Develop Stormwater Brochure	Engineering Department	Develop brochure by May 1, 2005	Copies of the EPA pamphlet/fact sheet “Protecting Water Quality from Urban Runoff”, the Clean Water Campaign pamphlet entitled “Pick it Up It’s Your Doodie”, and the handout “Warm Weather Tips for Outdoor Water Conservation” continue to be available at the Town Hall front desk and at the DPW. The Town also makes copies of their MS4 Annual Reports available at Town Hall, at the DPW and on the Town’s website. The Town also developed a separate pet waste brochure specific to Salem that discusses the impact of pet waste on public health and the environment.	The Town plans to distribute the pet waste brochure to properties located along Captain’s Pond in Permit Year 15. The Town will also continue to make pamphlets/fact sheets and the Town’s MS4 Annual Reports available at Town Hall, at the DPW and on the Town’s website.
	Brochure Available for Distribution	Engineering Department	Make brochure available at Town Hall and DPW by May 1, 2006 and distribute to students annually in Permit Years 3 through 5		
1-4	Stormwater Information added to Engineering Department’s website	Engineering Department	Stormwater information added to Engineering Department website by May 1, 2005	BMP Completed.	BMP Completed.

	Maintain/update information on Engineering Dept. Website	Engineering Department	Update/maintain website during Permit Years 3 through 5	The Town continued to maintain links to stormwater resources on their website. The Town has copies of all their previous MS4 Annual Report submittals on the Town's website. The Town continues to provide a NHDES Fact Sheet on their website regarding snow and ice removal by business owners. It discusses the use of 'certified' snow removal contractors who are trained in efficient application of road salt, thereby reducing impacts to nearby receiving waters. It encourages annual calibration of salt spreaders; use of infrared thermometers to reduce potential salt application; covering salt and sand piles when not in use; and employing the use of drop type spreaders, anti-icing and pre-wetting measures to reduce salt usage.	Continue to maintain and update existing links, and add new stormwater resources to the Town's website.
1-5	Identify locations for 3 kiosks with stormwater bulletins	Dept. of Public Works	Identify location for kiosks by May 1, 2004	BMP Completed.	BMP Completed.
	Design Kiosks	Engineering Dept.	Complete design of kiosks by May 1, 2005	BMP Completed.	BMP Completed.
	Install Kiosks	Dept. of Public Works	Install kiosks by May 1, 2006	BMP Completed.	BMP Completed.
	Maintain Kiosks	Dept. of Public Works	Maintain/update kiosks during Permit Years 4 through 5	Kiosks were maintained at Canobie Lake, Hedgehog Pond, Michelle Memorial Park and Town Forest during Permit Year 14. Stormwater information was also added to the kiosk at Bill Valentine Memorial Park. Copies of the EPA pamphlet/fact sheet "Protecting Water Quality from Urban Runoff" and the pamphlet entitled "Pick It Up It's Your Doodie" are available at each kiosk.	Continue to maintain stormwater information in kiosks located at Canobie Lake, Hedgehog Pond, Michelle Memorial Park, the Town Forest, and Bill Valentine Memorial Park.
1-6	Approach Private Beaches and Mall at Rockingham Park about Installing Informational Kiosks	Dept. of Public Works	Approach private beach by May 1, 2006	The Salem Fire Dept. has pursued funding in the past to build additional kiosks at private beaches and Rockingham Park. To date, they have been unable to secure this grant. However, during Year 14, the Eagle Scouts were able to build a new kiosk at the Mall at Rockingham Park, and stormwater information will be added to this kiosk.	Continue to explore other funding opportunities for building additional kiosks. One of the Town's local watershed groups may be able to provide assistance with the installation of a kiosk near one or more of the following bacteria-impaired waters: Arlington Mill Reservoir, Captain's Pond, and/or Millville Pond.
	Coordinate Kiosk Installation if Approved	Dept. of Public Works	Kiosk installed within one permit year upon receiving approval		

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15 (if applicable)
2-1	Comply with State Public Notification Guidelines	Planning Board and other Town Departments	Post notices on all applicable meetings	The Town continued to comply with the required state meeting notification guidelines.	Continued compliance with the required state meeting notification guidelines.
2-2	Publicize and Maintain Public Complaint Hotline and DPW Website	Dept. of Public Works	Maintain hotline and continue to respond to complaints from website	During Permit Year 14, the Town continued to maintain a hotline on their website to respond to public work order requests. Work order requests go directly to DPW. The Town logs and tracks all work order requests. In 2016, the Town responded to 906 work orders.	Continue to maintain a hotline on the Town website to respond to public work order requests. Continue to log and track all work order requests.
2-3	Hold Annual Household Hazardous Waste Day	Dept. of Public Works	Household hazardous waste collection day held each year. Amount of household hazardous waste collected.	The Annual Household Hazardous Waste Collection Day was held on Saturday, September 10 th , 2016. Hazardous household waste consisting of aerosols, fire extinguishers, propane, flammable liquids, paint related material, flammable solids, oxidizing solids and liquids, organic peroxide, solid and liquid pesticides, corrosive solids and liquids, mercury, asbestos, antifreeze, motor oil, bulbs, and batteries was collected.	The Annual Household Hazardous Waste Collection Day is scheduled for Saturday, September 9 th , 2017.
2-4	Continue Mandatory Recycling Program	Dept. of Public Works	Continue existing recycling program throughout permit term.	The recycling program was maintained throughout Permit Year 14. Approximately 2,159 tons of recyclables were collected in 2016.	Continue existing recycling program.
2-5	Schedule Annual Town Roadside Litter Clean-up Day	Dept. of Public Works	Schedule clean-up day annually. Amount of roadside litter collected and properly disposed	The Town held their Annual Roadside Litter Clean-up from April 10 th through April 14 th , 2017. The clean-up covered 42 roadways and approximately 2.79 tons of trash was collected town-wide.	Continue to hold an Annual Roadside Litter Clean-up event in March/ April 2018.

2a. Additions

2-6	Hold Public Outreach Event Regarding Bacterial Source Tracking	Engineering Dept.	Hold one public outreach event in conjunction with the Senior Center.	BMP Completed. During Permit Year 12, a public demonstration was held at the Ingram Senior Center to show how canine detection can be utilized to identify sources of bacteria in the storm drain system.	BMP Completed.
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3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15 (if applicable)
3-1	Continue inspection of new/updated sewer connections	Dept. of Public Works	Continue inspection of all new/updated sewer connections. Number of sewer connections inspected.	The Town inspected 52 new/updated sewer connections during Permit Year 14. In addition, 45 parcels on South Shore Road along Canobie Lake that were previously on private septic are in the process of being connected to the public sewer.	Continue inspection of new/updated sewer connections. The connection of 45 parcels on South Shore Road along Canobie Lake to public sewer will be completed.
3-2	Identify Priority Areas	Dept. of Public Works	Priority Areas identified by May 1, 2004	BMP Completed. Town is currently working to prioritize and rank catchments delineated during Permit Year 14 to identify outfalls that are problem catchments, high priority, and low priority for implementation of the Town's IDDE Program under the new MS4 Permit. Outfalls discharging to drinking water sources and beaches will be designated as high priority as required by the new MS4 Permit.	BMP Completed. Complete catchment prioritization and ranking, which includes designating outfalls discharging to drinking water sources and beaches as high priority as required by the new MS4 Permit.
3-3	Map Outfalls/Receiving Waters	Dept. of Public Works	Map completed by May 1, 2007	In Permit Year 14, the Town continued to make additional updates to their Drainage GIS to incorporate mapping of outfalls, drain manholes, and catch basins associated with new construction and road reconstruction projects. The Town also completed delineation of all drainage catchments to prepare for IDDE investigation work to be completed under the 2017 MS4 Permit. The Town is also currently working on completing a condition assessment of up to 1,000 drainage structures, which also includes collecting information regarding pipe invert elevations for each structure.	The Town will continue to keep their GIS drainage mapping up-to-date, mapping new drainage structures in GIS as a result of new construction.

3-4	Complete Dry Weather Screening of Outfalls	Dept. of Public Works	One round of outfall screening completed by end of permit term	BMP Completed. Outfalls were previously inspected as part of the Stormwater Inventory and Assessment Project. At this time, screening was conducted in conjunction with GIS mapping of outfalls although EPA's definition of dry weather conditions may have not been met at all outfalls. In Permit Year 14, an additional 30 outfalls near Captain Pond and Millville Pond were screened during dry weather. Dry and wet weather sampling was completed at eight (8) outfalls that had dry weather flow or evidence of dry weather flow during the initial screening. Catchment investigations were also completed of previously identified "hotspot" outfalls. All sampling and investigations completed to date are consistent with the requirements of the Final 2017 NH MS4 Permit.	BMP Completed. The Town will continue to perform dry weather screening and sampling in Problem Catchments and High Priority Areas consistent with the requirements of the Final 2017 NH MS4 Permit.
3-5	Stormwater Ordinance	Dept. of Public Works	Draft stormwater ordinance/amendment language by May 1, 2007	The Town's existing municipal code prohibits illicit discharges to the storm drain system and outlines procedures and penalties for violations.	The Town is in the process of performing a comprehensive re-write of their existing municipal code. Under the new permit, the Town will amend their existing regulations as needed to meet the requirements of the new permit.
3-6	Develop and Implement System for Elimination of Illicit Discharges	Dept. of Public Works	Based on prioritized results in BMP#3-4, determine procedures to identify and remove illicit connections to drain; maintain records.	The Town previously developed a draft written protocol for identifying and removing illicit connections as part of their Stormwater Inventory and Assessment Project.	During Permit Year 15, the Town will develop a Comprehensive Illicit Discharge Detection and Elimination Plan using information gathered to date that meets the requirements of the new MS4 Permit. The Town will also conduct municipal employee training on illicit discharge detection and elimination.

3a. Additions

3-7	Assess Water Quality at Bacteria Impaired Waters & Conduct a Shoreline Survey to Identify Potential Sources of Contamination	Engineering Dept.	Conduct preliminary assessment at Arlington Mill Reservoir, Captain's Pond, Hedgehog Pond, and Millville Pond	In Permit Year 14, the Town plans to implement illicit discharge detection and elimination investigations in drainage catchments tributary to stormwater outfalls that discharge to Captain's Pond and Millville Pond and were identified as having high bacteria counts based on the outfall sampling conducted in Permit Year 13. This work is part of the Town's continuing efforts to meet the Waste Load Reductions identified in the TMDLs for these water bodies.	During Permit Year 15, the Town plans to complete additional dry and wet weather monitoring/sampling of outfalls tributary to Captain Pond and Millville Pond as well as IDDE investigations of new "hotspot" catchments and "problem catchments" to locate potential sources of human wastewater.
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4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15 (if applicable)
4-1	Continue to Implement Land Use Control Regulations which Require Erosion and Sediment Control at Construction Sites	Engineering Department	Continue to enforce regulations throughout permit term. Number of proposed development plans reviewed each year.	The Town's Land Use Control regulations which require sediment and erosion control at construction sites were enforced during Permit Year 14. In 2016, proposed subdivision and site development plans were submitted for review a total of 178 times. Both initial plan reviews and review of subsequent plan revisions are tracked and included in this total.	Continue to implement Land Use Control Regulations which require erosion and sediment control at construction sites. The Town will also work to amend their existing regulations as needed to meet the requirements of the 2017 NH MS4 Permit.
4-2	Maintain Procedures for Site and Subdivision Plan Review	Engineering Department	Continue to enforce regulations throughout permit term. Number of site and subdivision plans reviewed each year.	The Town has procedures in place for certain departments and/or boards to perform site and subdivision plan reviews. Water quality impacts are assessed as part of these reviews. These procedures were enforced during Permit Year 14. In 2016, proposed subdivision and site development plans were submitted for review a total of 178 times. Both initial plan reviews and review of subsequent plan revisions are tracked and included in this total.	Continue to maintain procedures for site and subdivision plan review. During Permit Year 15, the Town will work to amend their existing regulations as needed to meet the requirements of the 2017 NH MS4 Permit, including ensuring that site and subdivision plan review procedures are in written format.
4-3	Maintain Procedure for Collecting and Responding to Public Comments	Dept. of Public Works	Maintain hotline and continue to respond to complaints from website.	The Town maintained the hotline and continued to respond to public work order requests received via the Town website. These requests now go directly to DPW. All work order requests were logged and tracked. In 2016, the Town responded to 906 work orders.	Continue to maintain the hotline and respond to public work order requests received via the Town website. Continue to log and track all work order requests.
4-4	Maintain Construction Site Inspections for Erosion Control	Engineering Department	Maintain existing procedure throughout permit term. All construction sites inspected each Permit Year.	In accordance with their Land Use Control Regulations, the Town follows the required procedures for inspection of construction sites, which includes enforcing the use of erosion control measures. The Town completed inspections as required for all construction sites in 2016/2017.	Continue to maintain construction site inspections for erosion control.
4-5	Amend Land Use Control Regulations to include Construction Material Management	Engineering Department	Draft Amendment to regulations by May 1, 2005. Implement upon approval.	BMP Completed.	BMP Completed.

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 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15 (if applicable)
5-1	Maintain Land Use Control Regulations which Require Post-Construction Runoff Control for Construction Sites	Dept. of Public Works, Engineering Dept. & Planning Board	Continue to enforce regulations throughout permit term. Number of proposed development plans reviewed each year.	The Town's existing Land Use Control Regulations establish criteria for stormwater runoff in new developments. The Town continued to follow their existing policies during Permit Year 14. In 2016, proposed subdivision and site development plans were submitted for review a total of 178 times. Both initial plan reviews and review of subsequent plan revisions are tracked and included in this total.	Continue to maintain Land Use Control Regulations which require post-construction runoff control for construction sites. The Town will also work to amend their existing regulations to meet the requirements of the 2017 NH MS4 Permit.
5-2	Amend Land Use Control Regulations to Require Developers to Submit O&M Plans for Private Structural BMPs	Dept. of Public Works, Engineering Dept. & Planning Board	Draft Amendment to regulations by May 1, 2005. Implement upon approval.	The Town developed a draft amendment to their existing Land Use Control Regulations, which would require developers to submit operation & maintenance plans for the long-term maintenance of any private BMPs for stormwater runoff control. During Year 10, the draft ordinance was updated and presented to the Planning Board for discussion/consideration on Feb 19, 2013, but was not adopted. As of Year 14, the Town is working on further revisions and updates in the hopes of obtaining Planning Board Approval. O&M notes for individual BMPs are still added to plan sets and O&M Manuals are required by the NHDES as part of the Alteration of Terrain Rules.	The Town will continue to work to amend their existing regulations to meet the requirements of the 2017 NH MS4 Permit.
5-3	Land Use Control Regulations Recommend a Structural BMP Manual for Use by Developers	Dept. of Public Works, Engineering Dept. & Planning Board	Maintain reference to BMP Manual throughout Permit Term.	The Town's Land Use Control regulations reference the "Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire" for use by developers. The reference to this Structural BMP Manual was maintained throughout Permit Year 14.	Maintain reference to Structural BMP Manual. Under the new permit expected later this year, the Town will amend their existing regulations as needed to meet the requirements of the new permit.

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 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15 (if applicable)
6-1	Continue Street Sweeping and Residual Disposal Practices	Dept. of Public Works	Sweep all streets in Town at least once per year	All streets were swept once. All residuals were disposed of at the Shannon Road landfill where they were monitored and tested.	Continue existing street sweeping and residual disposal practices.
6-2	Continue Catch Basin Cleaning and Residual Disposal Practices	Dept. of Public Works	Clean 33% of catch basins in Town each year. All CBs inspected and/or cleaned on a three rotating schedule.	The Town has 5,087 catch basins and approximately 1,900 basins were cleaned over the past year. In addition, there were another 40 catch basins that were cleaned while they were being repaired. All residuals were disposed of at the Shannon Road landfill where they are monitored and tested.	Continue existing catch basin and residual disposal practices. The Town plans to continue to utilize an outside contractor to complete catch basin cleaning and anticipates cleaning another 1,900 catch basins during Permit Year 15.
6-3	Continue Salting and Snow Removal Practices	Dept. of Public Works	Continue existing practices throughout Permit Term	The Town had been trying to secure state approval and funding of their “Scope and Plan” for Salt Mitigation, which includes construction of a sand/salt storage shed and the purchase of new equipment. The Town has had various meetings with the state in the last few years, and it does not look like the Town will be receiving any funding for this project from the state. The Town did purchase another new truck with ground speed control over the past year bringing the total number of trucks that the Town has with ground control spreaders to six.	Since the Town is unable to secure state funding of the “Scope and Plan” for Salt Mitigation, which includes construction of a sand/salt storage shed, the Town is trying to budget to complete this work themselves at some point in the future, although no immediate plans exist.
6-4	Continue Vehicle Maintenance Practices	Dept. of Public Works	Continue existing practices throughout Permit Term	Municipal vehicle maintenance is performed within the DPW garage. Practices include reducing the amount of solvents/chemicals used through recycle/reuse, using alternative products whenever possible, and having absorbing compounds available for employee use in the event of a spill.	Continue to follow existing vehicle maintenance practices.
6-5	Continue Vehicle Washing Practices	Dept. of Public Works	Continue existing practices throughout Permit Term	Municipal DPW vehicles are currently washed over a leaching basin. The vehicles are washed with water only or biodegradable soap. The Town had been trying to secure state approval and funding of their “Scope and Plan” to construct a new truck wash down area. They have had various meetings with the state, and have been unable to secure funding to date.	The Town is still looking into other potential options for funding of a new truck wash down area. The Town has also discussed construction of a regional truck wash down facility although no immediate plans exist.

6-6	Continue Maintenance Activities at Parks & Open Space	Dept. of Public Works	Continue existing practices throughout Permit Term	The Town previously developed draft written operation and maintenance procedures for municipal activities and facilities. This includes parks and open space. The Town continues to use organic fertilizers and does not employ the use of any pesticides. The Town is also working to develop an improved turf maintenance program, which would allow for enhanced documentation of the type and quantity of materials utilized.	Continue to use organic fertilizers when performing maintenance activities within parks and open space.
6-7	Continue Hazardous Waste Storage and Employee Training	Dept. of Public Works	Continue existing practices throughout Permit Term	The Town's practices include proper storage of hazardous materials, and the Fire Department has a spill prevention and response plan. The DPW has installed non-flammable cabinets to hold hazardous materials. They also recycle waste oil and meet oil storage requirements. From time to time, the Fire Dept. also completes hazardous materials management training for other departments. During Permit Year 13, spill prevention and response was discussed with DPW personnel as part of municipal employee training focused on preventing stormwater pollutants from municipal operations.	Continue to follow the Town's existing practices including proper storage of hazardous materials, and implementation of the spill prevention and response plan at the Fire Dept. During Permit Year 15, the Town will conduct municipal employee training on good housekeeping practices using presentation materials prepared during Permit Year 13.
6-8	Develop/Implement Employee Education Program	Dept. of Public Works	4 hours of stormwater related training during permit term for each appropriate employee	In Permit Year 13, the Town conducted training for DPW Staff on the DPW's Draft Stormwater Pollution Prevention Plan and good housekeeping practices.	During Permit Year 15, the Town will conduct municipal employee training on good housekeeping practices using presentation materials prepared during Permit Year 13. The Town will also continue to explore other opportunities to provide stormwater related training to their employees.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

There are currently five approved TMDLs which apply to Salem:

- *One is for Policy-Porcupine Brook, which is impaired for chloride. Identified sources of chloride to Policy-Porcupine Brook include water softeners (2%), food waste (1%), atmospheric deposition (1%), state roads (9%), municipal roads (27%), private roads (3%), parking lots (50%), and salt piles (7%).*
- *Another is the New Hampshire Statewide Bacteria (387 segments) TMDL, which includes 387 bacteria-impaired waters on NH's 2008 303(d) list. In Salem, these waters include Captain's Beach and Camp Otter Swim Area at Captains Pond, where the impairment is for e-coli.*
- *The third one is the Bacteria-Impaired Waters (58 segments) TMDL, which includes 58 bacteria-impaired waters on NH's 2010 303(d) list. In Salem, these waters include the Arlington Mill Reservoir and Millville Lake. Again, the impairment is for e-coli.*
- *The fourth one is the 44 Bacteria-Impaired Waters TMDL, which includes 44 bacteria-impaired waters on NH's 2012 303(d) list. In Salem, these waters include the Arlington Mill Reservoir – Arlington Pond Improvement Assoc. and Salem Town Beach – Hedgehog Pond. Again, the impairment is for e-coli.*
- *The last one is Bacteria TMDL for Camp Hadar Beach on Captain Pond in Salem, NH (and updated bacteria results for Camp Otter Beach), where the impairment is e-coli.*

Many of the BMPs that the Town is currently implementing as part of their Stormwater Management Program will assist the Town in meeting these approved TMDLs. These include BMP #1-2, 1-3, 2-2, 2-6, 3-1, 3-4, 3-5, 3-6, 3-7, 6-1, 6-2 and 6-3. In addition, the Town has also implemented the following BMPs which are aimed at assisting the Town in meeting the TMDL Waste Load Allocations:

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15 (if applicable)
7-1	Involve Watershed Groups: Arlington Pond Protective Assn., Millville Lake Protective Assn., Captain's Pond Protective Assn.,	Local Groups & Dept. of Public Works & Engineering	Continue to hold regular meetings and disseminate information to the public	During Permit Year 13, the Millville Lake Protective Assn. and the Arlington Park Improvement Assn. remained active in improving the water quality of the Millville Lake and the Arlington Mill Reservoir. The Millville Lake Protective Association continues to provide information on their website on how to improve lake water quality by reducing sources of phosphorus, bacteria and sediment. The Millville Lake Protective Association also held a beach clean-up day on April 24, 2016.	The Arlington Park Improvement Association plans to hold a beach clean-up day on May 20, 2017. These local protective associations will continue to remain active in educating the public and improving water quality.
Revised	Added Arlington Park Improvement Assn.				

7a. Additions

7-2	Assess Water Quality at Water Bodies with Bacteria Impairments & Conduct a Shoreline Survey to Identify Potential Sources of Contamination	Engineering Dept.	Conduct preliminary assessment at Arlington Mill Reservoir, Captain's Pond, Hedgehog Pond, and Millville Pond	In Permit Year 14, an additional 30 outfalls near Captain Pond and Millville Pond were screened during dry weather. Dry and wet weather sampling was completed at eight (8) outfalls that had dry weather flow or evidence of dry weather flow during the initial screening. Catchment investigations were also completed of previously identified "hotspot" outfalls. All sampling and investigations completed to date were consistent with the requirements of the Final 2017 NH MS4 Permit. This work is part of the Town's continuing efforts to meet the Waste Load Reductions identified in the TMDLs for these water bodies.	During Permit Year 15, the Town plans to complete additional dry and wet weather monitoring/sampling of outfalls tributary to Captain Pond and Millville Pond as well as IDDE investigations of new "hotspot" catchments and "problem catchments" to locate potential sources of human wastewater.
7-3	Prohibit Use of Calcium Chloride for Dust Control on Town Road Construction Projects Within the Policy/Porcupine Brook Watershed	Dept. of Public Works & Engineering	Continue to Prohibit Use of Calcium Chloride for Dust Control on Town Road Construction Projects Within the Policy/Porcupine Brook Watershed	During Permit Year 14, the use of calcium chloride was prohibited within the watershed for Policy/Porcupine Brook on Town road construction projects as a dust control measure. Only water was allowed to be used.	The Town will continue to prohibit the use of calcium chloride for dust control on all Town road reconstruction projects within the watersheds of those water bodies that have impairments for chloride. During Permit Year 15, the Town also plans to begin the development of a Salt Reduction Plan for the Policy-Porcupine Brook Watershed as required by the Final 2017 NH MS4 General Permit.

7b. WLA Assessment

The Waste Load Allocations for Policy-Porcupine Brook, as included in the Final TMDL and as they relate to Salem, are as follows:

Source	FY07 Salt Imports (tons salt/yr)	Allocation of Loads (tons salt/yr)
Municipal Roads	1,247.9	997.9
Private Roads	119.6	95.6
Parking Lots	2,379.1	1,902.5
Salt Piles	315.2	0.0

The Waste Load Reductions for Bacteria Impaired Waters, as included in the Final TMDL and as they relate to Salem, are as follows:

Waterbody	% Reduction in E. coli to meet TMDL	
	Geometric Mean	Single Sample
Captain Pond – Captain’s Beach	complies	1%
Captain Pond – Camp Otter Swim Area Beach	88%	78%
Arlington Mill Reservoir – Second St. Beach	complies	65%
Millville Lake – Town Beach	25%	63%
Arlington Mill Reservoir – Arlington Pond Improvement Assoc.	56%	78%
Salem Town Beach – Hedgehog Pond	76%	78%
Captain Pond – Camp Hadar Beach	73%	78%

The Town is making progress in meeting the Waste Load Allocations and Waste Load Reductions identified above through implementation of existing BMPs identified herein.

Part IV. Summary of Information Collected and Analyzed

The only additional information that has been collected outside of what was listed in Part III above includes sampling at pipes outlets and treatment swale discharge points that collect stormwater runoff from the Shannon Road landfill. Samples are collected quarterly at up to 10 locations during major rain events. Samples are analyzed for TSS.

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2016 through March 31, 2017)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	N
Annual program budget/expenditures **	(\$)	
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General Fund

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	N
Stream teams established or supported	(# or y/n)	

Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	1
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	

Legal/Regulatory

	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
Regulatory Mechanism Status (indicate with “X”)					
▪ Illicit Discharge Detection & Elimination					
▪ Erosion & Sediment Control					
▪ Post-Development Stormwater Management					
Accompanying Regulation Status (indicate with “X”)					
▪ Illicit Discharge Detection & Elimination					
▪ Erosion & Sediment Control					
▪ Post-Development Stormwater Management					

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	100%
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	100%
Outfalls inspected/screened **	(# or %)	100%
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	
Illicit discharges identified (Since beginning of permit coverage)	(#)	
Illicit connections removed **	(#); and (est. gpd)	

Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	
% of population on sewer	(%)	40%
% of population on septic systems	(%)	60%

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	
Site inspections completed **	(# or %)	
Tickets/Stop work orders issued **	(# or %)	
Fines collected **	(# and \$)	
Complaints/concerns received from public **	(#)	

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	
Site inspections (for proper BMP installation & operation) completed **	(# or %)	
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	
Low-impact development (LID) practices permitted and encouraged	(y/n)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	< 1/yr
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	< 1/yr
Qty of structures cleaned **	(#)	
Qty. of storm drain cleaned **	(%, LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	landfill
Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	

• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	
• Disposal cost**	(\$)	
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	
• Vacuum truck(s) owned/leased	(#)	
• Vacuum trucks specified in contracts	(y/n)	
• % Structures cleaned with clam shells **	(%)	
• % Structures cleaned with vector **	(%)	

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1/yr
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	
• % Roads swept with vacuum sweepers **	%	

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	100%
Integrated Pest Management (IPM) Practices Implemented	(y/n)	

(Preferred Units) Response

Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized **	(y/n or %)	
Manual control spreaders used **	(y/n or %)	33% of spreaders
Zero-velocity spreaders used **	(y/n or %)	
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	
% of salt/chemical pile(s) covered in storage shed(s)	(%)	
Storage shed(s) in design or under construction	(y/n or #)	
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	