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RIPDES SMALL MS4 ANNUAL REPORT GENERAL INFORMATION PAGE

RIPDES PERMIT #RIR0400 RIR040021

REPORTING PERIOD: **YEAR 18**
Jan 2021-Dec 2021

OPERATOR OF MS4

Name: Town of Lincoln			
Mailing Address: 100 Old River Road			
City: Lincoln	State: RI	Zip: 02865	Phone: (401) – 333-8415
Contact Person: Leslie C. Quish, PE		Title: Town Engineer	
		Email: lesliecburton@gmail.com	
Legal status (circle one): PRI - Private PUB - Public BPP - Public/Private STA - State FED – Federal			
Other (please specify):			

OWNER OF MS4 (if different from OPERATOR)

Name: Town of Lincoln			
Mailing Address: 100 Old River Rd			
City: Lincoln	City: Lincoln	City: Lincoln	City: Lincoln
Contact Person: Philip Gould		Title: Town Administrator	
		Email: pgould@lincolnri.org	

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under the 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, I certify that 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.

Print Name Philip Gould

Print Title Town Administrator

Signature _____ Date _____



MINIMUM CONTROL MEASURE #1:
PUBLIC EDUCATION AND OUTREACH (Part IV.B.1 General Permit)

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS:	
Include information relevant to the implementation of each measurable goal, such as activities, topics addressed, audiences and pollutants targeted. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for choosing the education activity to address the pollutant of concern.	
(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)	
Responsible Party Contact Name & Title: <u>Leslie C. Quish, PE</u>	
Phone: <u>401-333-8415</u> Email: <u>lquish@lincolnri.org</u>	
IV.B.1.b.1	Use the space below to provide a General Summary of activities implemented to educate your community on how to reduce stormwater pollution. For TMDL affected areas, with stormwater associated pollutants of concern, indicate rationale for choosing the education activity. List materials used for public education and topics addressed. Summarize implementation status and discuss if the activity is appropriate and effective.
The Town provides a public website dedicated to stormwater pollution reduction. Informative brochures, copies of which are provided in Appendix A, are available for download on the website. Hard copies of 10 Simple Things You Can Do to Help Clean RI Waters and 5 Reasons Why Feeding Water Fowl is Harmful are also available at the Town Hall. A yearly recycling mailing is sent to all residents to encourage proper recycling and behaviors and reduce related pollution. The Town recently created facebook page to help push out information and may be used in the future to promote stormwater related items.	
IV.B.1.b.2	Use the space below to provide a general summary of how the public education program was used to educate the community on how to become involved in the municipal or statewide stormwater program. Describe partnerships with governmental and non-governmental agencies used to involve your community.
The program utilizes the website and brochures to educate interested residents; however interest in stormwater pollution reduction is low.	

PUBLIC EDUCATION AND OUTREACH cont'd

Check all topics that were included in the Public Education and Outreach program during this reporting period. For each of the topics selected, provide:

Target Audience(s): Public Employees, Residents, General Public, Businesses, Industries, Restaurants, Contractors, Developers, Agriculture, Other (describe);

Target Pollutant(s): (e.g. pet waste, fertilizers, Total Suspended Solids, etc.);

Strategies/Media: Direct Mailings, List Servs, Kiosks or Other Displays, Newspaper Ads or Articles, Public Events or Presentations, School Programs, Printed Materials, Direct Trainings, Videos, Webpage, Other (describe)

Topic	Target Audience(s)	Target Pollutant(s)	Strategies/Media
<input checked="" type="checkbox"/> Construction Sites	Contractors/Builders	TSS, Sediments	Review/ Approve Plans
<input checked="" type="checkbox"/> Pesticide and Fertilizer Application	Homeowners	Phosphorus	Kiosks, Website
<input checked="" type="checkbox"/> General Stormwater Management Info	Contractors/ Developers/Owners	Sediment	Review/Approve Plans, Kiosks, Website
<input checked="" type="checkbox"/> Pet Waste Management	Homeowners	Bacteria	Kiosks, Website
<input checked="" type="checkbox"/> Household Hazardous Waste Disposal	Homeowners/ Contractors	Phosphorus, Chemicals	Review/Approve Plans/Website
<input checked="" type="checkbox"/> Recycling	Homeowners	Trash, Litter	Mailings, Kiosks, Website
<input type="checkbox"/> Illicit Discharge Detection and Elimination			
<input type="checkbox"/> Riparian Corridor Protection/Restoration			
<input type="checkbox"/> Infrastructure Maintenance			
<input type="checkbox"/> Trash Management			
<input type="checkbox"/> Smart Growth			
<input checked="" type="checkbox"/> Vehicle Washing	Homeowners	Phosphorous, Oil	Kiosks, Website
<input checked="" type="checkbox"/> Storm Drain Marking	Residents	Sediment, Bacteria	Drain Markings
<input type="checkbox"/> Water Conservation			
<input type="checkbox"/> Green Infrastructure/Better Site Design/LID			
<input type="checkbox"/> Wetland Protection			
<input type="checkbox"/> Other:			

Additional Measurable Goals and Activities

Please list all stormwater training attended by your staff during the 2021 calendar year and list the name(s) and municipal position of all staff who attended the training.

Trainings:

April 28, 2021 “SNEP WEBINAR - Addressing Stormwater Management through Community-Driven Green Infrastructure Design” – attended by Leslie Quish, Town Engineer

October 21, 2021 “Drowning in liability: reducing climate change impacts through municipal planning and zoning” – attended by Leslie Quish, Town Engineer



**MINIMUM CONTROL MEASURE #2:
PUBLIC INVOLVEMENT/PARTICIPATION (Part IV.B.2 General Permit)**

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS:

Include information relevant to the implementation of each measurable goal, such as types of activities and audiences/groups engaged. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for the activities chosen to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: Leslie Quish, PE, Town Engineer

Phone: 401-333-8415 **Email:** lquish@lincolnri.org

IV.B.2.b.2.ii Use the space below to describe audiences targeted for the public involvement minimum measure, include a description of the groups engaged, and activities implemented and if a particular pollutant(s) was targeted. If addressing TMDL requirements indicate how the audience(s) and/or activity address the pollutant(s) of concern. Name of person(s) and/or parties responsible for implementation of activities identified. Assess the effectiveness of BMP and measurable goal.

In 2021, the Lincoln Conservation Commission organized 13 cleanup events in Town. In addition to the Town of Lincoln assisting, multiple groups were involved in these events including Cozy Rhody Cleanup, Keep Blackstone Valley Beautiful, and Friends of the Blackstone. The Lincoln Conservation Commission also hosted an e-waste collection.

Opportunities provided for public participation in implementation, development, evaluation, and improvement of the Stormwater Management Program Plan (SWMPP) during this reporting period. Check all that apply:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Cleanup Events | <input type="checkbox"/> Storm Drain Markings |
| <input type="checkbox"/> Comments on SWMPP Received | <input type="checkbox"/> Stakeholder Meetings |
| <input type="checkbox"/> Community Hotlines | <input type="checkbox"/> Volunteer Monitoring |
| <input type="checkbox"/> Community Meetings | <input type="checkbox"/> Plantings |
| <input type="checkbox"/> Other (describe) | |

Additional Measurable Goals and Activities

SECTION II. Public Notice Information (Parts IV.G.2.h and IV.G.2.i) *Note: attach copy of public notice

Was the availability of this Annual Report and the Stormwater Management Program Plan (SWMPP) announced via public notice? YES NO

If YES, Date of Public Notice: February 17, 2022

How was public notified:

- | | |
|---|---|
| <input type="checkbox"/> List-Serve (Enter # of names in List: _____) | <input checked="" type="checkbox"/> Newspaper Advertising |
| <input type="checkbox"/> TV/Radio Notices | <input type="checkbox"/> Town Hall posting |
| <input checked="" type="checkbox"/> Website | <input type="checkbox"/> Other: |

Enter Web Page URL: _____

Was public meeting held? YES NO

Date:

Where:

Summary of public comments received:

Planned responses or changes to the program:



**MINIMUM CONTROL MEASURE #3:
ILLICIT DISCHARGE DETECTION AND ELIMINATION (Part IV.B.3 General Permit)**

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS	
<p>Include information relevant to the implementation of each measurable goal, such as activities implemented (when reporting tracked and eliminated illicit discharges, please explain the rationale for targeting the illicit discharge) to comply with on-going requirements, and illicit discharge public education activities, audiences and pollutants targeted. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for the activities chosen to address the pollutant of concern.</p> <p>(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)</p> <p>Responsible Party Contact Name & Title: <u>Michael Gagnon, DPW Director, Leslie Quish, PE, Town Engineer</u></p> <p>Phone: <u>401-333-8415</u> Email: <u>lquish@lincolnri.org</u></p> <p>Has this person received training on Illicit Discharge Detection and Elimination (IDDE)? No _____</p> <p>If yes, when and where? _____</p> <p>If no, who is trained on IDDE? <u>No one has received official training; however the Town Engineer, Public Works Director, and the Town's 3rd party sewer maintenance contractor have in the field experience on the subject.</u></p>	
IV.B.3.b.1:	<p>If the outfall map was not completed, use the space below to indicate reasons why, proposed schedule for completion of requirement and person(s)/ Department responsible for completion. (The Department recommends electronic submission of updated EXCEL Tables if this information has been amended.)</p> <p>Number of Outfalls Mapped within regulated area: <u>146</u></p> <p>Percent Complete: <u>100%</u></p> <p>If 100% Complete, Provide Date of Completion: <u>2013</u></p>
IV.B.3.b.2	<p>Indicate if your municipality chose to implement the tagging of outfalls activity under the IDDE minimum measure, activities and actions undertaken under the 2021 calendar year.</p> <p>All outfalls located during the 2013 outfall inventory were located with a handheld GPS device and were added to the Town's GIS database.</p>
IV.B.3.b.3	<p>Use the space below to provide a summary of the implementation of recording of system additional elements (catch basins, manholes, and/or pipes). Indicate if the activity was implemented as a result of the tracing of illicit discharges, new MS4 construction projects, and inspection of catch basins required under the IDDE and Pollution Prevention and Good Housekeeping Minimum Measures, and/or as a result of TMDL related requirements and/or investigations. Assess effectiveness of the program minimizing water quality impacts.</p> <p>Catch basins, manholes, and outfalls were previously located with handheld GPS equipment. A GIS based map depicting the locations of catch basins, manholes, and outfalls was provided with the 2013 Annual Report. This activity was not the result of tracing illicit discharges, but has aided the Town with the maintenance of the drainage structures. The Town has begun to map the pipe connectivity between stormwater basins in conjunction with the cleaning of catch basins, using GIS software, however it is expected to take a few years to complete. This information will ultimately be added to the Town's GIS.</p>
IV.B.3.b.4	<p>Indicate if the IDDE ordinance was not developed, adopted, and submitted to RIDEM, explain reasons why, submit proposed schedule for completion and identify person(s) / Department and/or parties responsible for the completion of this requirement.</p> <p>Date of Adoption: <u>1985</u></p> <p>If the Ordinance was amended in 2021, please indicate why changes were necessary.</p>

ILLICIT DISCHARGE DETECTION AND ELIMINATION cont'd

<p>IDDE topics are covered in the Town's Sewer Ordinance.</p>	
<p>IV.B.3.b.5.ii, iii, iv, & v</p>	<p>Use the space below to provide a summary of the implementation of procedures for receipt and consideration of complaints, tracing the source of an illicit discharge, removing the source of the illicit discharge and program evaluation and assessment as a result of removing sources of illicit discharges. Identify person(s) / Department and/or parties responsible for the implementation of this requirement.</p>
<p>If an illicit discharge is suspected, the complaint would be forwarded to the Town Engineer or the Director of Public Works for field inspection. Depending on the suspected connection, the Town's Sewer Department would assist in the review. If an illicit connection is found, the owner of the property would be given a written notice with direction to eliminate the connection by a specific date.</p>	
<p>IV.B.3.b.5.vi</p>	<p>Use the space below to provide summary of implementation of catch basin and manhole inspections for illicit connections and non-stormwater discharges. If the required measurable goal of inspecting all catch basins and manholes for this purpose was not accomplished, please indicate reasons why, the proposed schedule of completion and identify person(s) / Department and/or parties responsible for the implementation of this requirement. Evaluate effectiveness of the implementation of this requirement. The operator must keep records of all inspections and corrective actions required and completed.</p> <p>Number of Catch Basins and Manholes Inspected for illicit connections/IDDE: <u>1280</u></p> <p>Percent Complete: <u>100</u> %</p> <p>Date of Completion: <u>2006</u></p>
<p>This work was completed in 2006 however due to staffing changes the records cannot be located. In 2021, 49 catch basins were reinspected Since 2019, 299 catch basins have been reinspected for illicit connections and none were found.</p>	
<p>IV.B.3.b.5.vii</p>	<p>If dry weather surveys including field screening for non-stormwater flows and field tests of selected parameters and bacteria were not completed, indicate reasons why, proposed schedule for the completion of this measurable goal and person(s) / Department and/or parties for the completion of this requirement. Evaluate effectiveness of the implementation of this requirement. The results of the dry weather survey investigations should be submitted to RIDEM electronically, if not already submitted or if revised since 2009, in the RIDEM-provided EXCEL Tables and should include visual observations for all outfalls during both the high and low water table timeframes, as well as sample results for those outfalls with flow. The EXCEL Tables <u>must</u> include a report of <u>all outfalls</u> and indicate the presence or absence of dry weather discharges.</p> <p>Number of Outfalls Surveyed Jan-Apr: <u>146</u> Number of Outfalls Surveyed Jul-Oct: <u>146</u></p> <p>Percent Complete: <u>100</u> %</p> <p>Date of Completion: <u>2020</u></p>
<p>The dry weather survey was completed in 2013 and the wet weather survey was completed in 2019 and 2020.</p>	
<p>IV.B.3.b.7</p>	<p>Use the space below to provide a description of efforts and actions taken as a result of for coordinating with other physically interconnected MS4s, including State and federal owned or operated MS4s, when illicit discharges were detected or reported. Identify person(s) / Department and/or parties responsible for the implementation of this requirement. Evaluate effectiveness of the implementation of this requirement.</p>
<p>This did not occur in 2021.</p>	

ILLICIT DISCHARGE DETECTION AND ELIMINATION cont'd

IV.B.3.b.8	Use the space below to provide a description of efforts and actions taken for the referral to RIDEM of non-stormwater discharges not authorized in accordance to Part I.B.3 of this permit or another appropriate RIPDES permit, which the operator has deemed appropriate to continue discharging to the MS4, for consideration of an appropriate permit. Identify person(s) / Department and/or parties responsible for the implementation of this requirement. Evaluate effectiveness of the implementation of this requirement.
No referrals to RIDEM were made in 2021.	
IV.B.3.b.9	Use the space below to provide a description of efforts and actions taken to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste, as well as allowable non-stormwater discharges identified as significant contributors of pollutants. Include a description on how this activity was coordinated with the public education minimum measure and the pollution prevention/good housekeeping minimum measure programs. Identify person(s) / Department and/or parties responsible for the implementation of this requirement. Evaluate effectiveness of the implementation of this requirement.
Informative pamphlets, that address pollutant prevention, are available on the Town's website as well as in Town Hall. The Town Engineer is responsible for maintaining this website and providing the pamphlets.	
Additional Measurable Goals and Activities	

SECTION II.A Other Reporting Requirements - Illicit Discharge Investigation and System Mapping (Part IV.G.2.m)

# of Illicit Discharges Identified in 2021:0	# of Illicit Discharges Tracked in 2021:0																														
# of Illicit Discharges Eliminated in 2021:0	# of Complaints Received:0																														
# of Complaints Investigated:0	# of Violations Issued:0																														
# of Violations Resolved:0	# of Unresolved Violations Referred to RIDEM:0																														
Total # of Illicit Discharges Identified to Date (since 2003):0	Total # of Illicit Discharges remaining unresolved at the end of 2021:0																														
Summary of Enforcement Actions:																															
Total # of Outfalls identified and mapped to date: <u>146</u>																															
Total # of Interconnections with other MS4s identified and mapped to date: <u>2</u>																															
Extent to which the MS4 system has been mapped (% complete): Catch basins, manholes, and outfalls 100% mapped in GIS, pipes mapped on paper.																															
Identify how the following components of the MS4 system have been mapped:	<table border="1"> <thead> <tr> <th data-bbox="727 1724 852 1801">Not mapped</th> <th data-bbox="852 1724 943 1801">GIS</th> <th data-bbox="943 1724 1050 1801">Auto CAD</th> <th data-bbox="1050 1724 1141 1801">Paper</th> <th data-bbox="1141 1724 1515 1801">Other (please specify)</th> </tr> </thead> <tbody> <tr> <td data-bbox="727 1801 852 1843">Catch basins</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> <tr> <td data-bbox="727 1843 852 1885">Manholes</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> <tr> <td data-bbox="727 1885 852 1927">Pipes, ditches, and other conduits</td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> <tr> <td data-bbox="727 1927 852 1969">Flow direction and connectivity</td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> <tr> <td data-bbox="727 1969 852 1982">Interconnections with other regulated MS4s</td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input checked="" type="checkbox"/></td> </tr> </tbody> </table>	Not mapped	GIS	Auto CAD	Paper	Other (please specify)	Catch basins	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manholes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipes, ditches, and other conduits	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Flow direction and connectivity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Interconnections with other regulated MS4s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Not mapped	GIS	Auto CAD	Paper	Other (please specify)																											
Catch basins	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											
Manholes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											
Pipes, ditches, and other conduits	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																											
Flow direction and connectivity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											
Interconnections with other regulated MS4s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																											

ILLICIT DISCHARGE DETECTION AND ELIMINATION cont'd

MS4-owned stormwater controls (BMPs, not including catch basins or manholes)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Easement areas mapped
Delineation of outfall catchment/drainage areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION II.B Interconnections (Parts IV.G.2.k and IV.G.2.l)

Interconnection:	Date Found:	Location:	Name of Connectee:	Originating Source:	Planned and Coordinated Efforts and Activities with Connectee:
I-1	2016	Intersection of Ascension Street	Lincoln to RIDOT	Town Road Runoff	I-1
I-2	2017	Intersection of Vose Street and Railroad Street	Lincoln to RIDOT	Town Road Runoff Sheetflow only, no direct connection	I-2



**MINIMUM CONTROL MEASURE #4:
CONSTRUCTION SITE STORMWATER RUNOFF CONTROL
(Part IV.B.4 General Permit)**

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS:

Include information relevant to the implementation of each measurable goal, such as activities implemented to support the review, issuance and tracking of permits, inspections and receipt of complaints. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for the activities chosen to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: Leslie Quish, Town Engineer and Michael Gagnon, DPW Director

Phone: 401-333-8415

Email: lquasih@lincolnri.org

IV.B.4.b.1	<p>Indicate if the Sediment and Erosion Control and Control of Other Wastes at Construction Sites ordinance was not developed, adopted, and submitted to RIDEM, explain reasons why, submit proposed schedule for completion and identify person(s) / Department and/or parties responsible for the completion of this requirement.</p> <p>Date of Adoption: <u>2004 amended in 2015</u></p> <p>If the Ordinance was amended in 2021, please indicate why changes were necessary. <i>Please also indicate if amendments have been made based on the 2010 RI Stormwater Design and Installation Standards Manual, and provide references to the amended portions of the local codes/ordinances.</i></p>
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IV.B.4.b.6	<p>Use the space below to describe actions taken as a result of receipt and consideration of information submitted by the public.</p> <p>If a resident calls to report an erosion issue, the Town Engineer or Public Works Director will review in the field. In 2021, calls from the public were received on five separate construction projects one of which was referred to RIDEM. The Town worked with RIDEM, the developer, and the affected abutting property owners to resolve issues. The Town worked with three other of the developers and ultimately the issued were resolved. The remaining project was occurring without appropriate permits and the job site was shut down until appropriate permits were obtained.</p> <p>Enforcement techniques utilized to address the issues include shutting down construction sites and withholding certificate of occupancies until erosion control issues are resolved. These measures are effective.</p>
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IV.B.4.b.8	<p>Use the space below to describe activities and actions taken as a result of referring to the State non-compliant construction site operators. The operator may rely on the Department for assistance in enforcing the provisions of the RIPDES General Permit for Stormwater Discharges Associated with Construction Activity to the MS4 if the operator of the construction site fails to comply with the local and State requirements of the permit and the non-compliance results or has the potential to result in significant adverse environmental impacts.</p>
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As stated above, the Town received complaints from two abutters of the Whipple Cullen project in July 2021 after a rainstorm that breached the temporary sediment control basins. The Town worked with RIDEM, the affected abutters, and the developer to resolve issues and impacts.

Additional Measurable Goals and Activities

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL cont'd

SECTION II. A - Plan and SWPPP/SESC Plan Reviews during Year 18 (2021), Part IV.B.4.b.2: Issuance of permits and/or implementation of policies and procedures for all construction projects resulting in land disturbance of greater than 1 acre.
Part IV.B.4.b.4: Review 100% of plans and SWPPPs/SESC Plans for construction projects resulting in land disturbance of 1-5 acres must be conducted by adequately trained personnel and incorporate consideration of potential water quality impacts.

of Construction Applications Received: <u> 3 </u>
of Construction Reviews Completed: <u> 2 </u>
of Permits/Authorizations Issued: <u> 2 </u>
Summary of Reviews and Findings, include an evaluation of the effectiveness of the program.
Land disturbances greater than 1 acre are required to submit a SWPPP (conforming to RIPDES requirements). If the project requires Planning Board Approval, this submittal and Town review occurs at the Preliminary Plan review stage. These plans are reviewed by the Town Engineer, the Technical Review Committee, and the Planning Board. Projects not requiring Planning Board approval are reviewed by the Town Engineer through the Erosion Control Permit Application process.
In 2021, three projects that disturbed greater than one acre of land were submitted for Preliminary Plan review. Two projects have received Preliminary Plan and SWPPP approval. The review of one project is still ongoing and approval has not yet been issued.
Five other projects that disturbed less than one acre of land were reviewed and approved during either the erosion control permit process or Planning Board process. Four of these were approved for construction; one is still required to go back in front of the planning board. Lastly, 19 building permits for single family dwellings were reviewed for proper erosion control measures.
Identify person(s) /Department and/or parties responsible for the implementation of this requirement: Leslie Quish, Town Engineer; Al Ranaldi, Town Planner; Michael Gagnon, Public Works Director
Identify the type and date of training this person(s)/parties has/have received to be considered "adequately trained": Town Engineer has a professional civil engineering license and had 10 years experience as a consultant prior to working for the Town. Has completed Stormwater Management: Rhode Island General Construction Stormwater Awareness Training on 12/18/19

SECTION II.B - Erosion and Sediment Control Inspections during Year 18 (2021), Parts IV.G.2.n and IV.B.4.b.7: Inspection of 100% of all construction projects within the regulated area that discharge or have the potential to discharge to the MS4. (The program must include two inspections of all construction sites, first inspection to be conducted during construction for compliance of the Erosion and Sediment controls at the site, the second to be conducted after the final stabilization of the site.) Inspections must be conducted by adequately trained personnel.

# of Active Construction Projects: 9 plus 45+/- single family homes	
# of Site Inspections: 87 + 45 single family home inspections	# of Complaints Received: 4
# of Violations Issued: 1	# of Unresolved Violations Referred to RIDEM: 1
Summary of Enforcement Actions, include an evaluation of the effectiveness of the program.	
Each construction site is inspected a minimum of twice during construction for erosion controls by either the Town Engineer, the Public Works Director, or their appointee; once upon installation of erosion controls and once at completion of work. Sites that warrant more frequent inspections are inspected more frequently. In 2021, erosion control inspections were tracked in an excel spreadsheet. 89 inspections were recorded for active construction projects plus and approximately 45 inspections were conducted for the issuance of building permits and certificates of occupancies.	
If corrective actions are required based on an inspection, Contractors are verbally informed and followed up with an email. If corrective actions are not taken, a written notice is issued.	
In 2021, we received calls regarding four construction projects. While all projects addressed the issues, RIDEM was contacted for one project due to the downstream impact on wetlands and the Blackstone River Canal. Ultimately, issues were resolved and the remediation required by RIDEM was completed.	



**MINIMUM CONTROL MEASURE #5:
POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND
REVELOPMENT
(Part IV.B.5 General Permit)**

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS:	
<p>Include information relevant to the implementation of each measurable goal, such as activities implemented to support the review, issuance and tracking of permits, inspections and receipt of complaints, etc. Please indicate if any projects have incorporated the use of Low Impact Development techniques. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for the activities chosen to address the pollutant of concern.</p> <p>(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)</p> <p>Responsible Party Contact Name & Title: <u>Leslie Quish, PE, Town Engineer and Michael Gagnon, Public Works</u></p> <p>Phone: <u>(401) 333-8415</u> Email: <u>lquish@lincolnri.org</u></p>	
IV.B.5.b.5	Use the space below to describe activities and actions taken to coordinate with existing State programs requiring post-construction stormwater management.
<p>All land development projects, subdivisions, and single family house building permit applications are required to provide post-construction stormwater controls in accordance with applicable regulations. Plans are reviewed either under the planning board approval process, erosion control permit process, or building permit process for single family dwellings. The Town Engineer conducts inspections of projects that result in public improvements as well as single family dwellings. The Town requires private developments obtain an engineer to inspect and certify that private developments are constructed in accordance with the approved design plans. Final approvals and acceptances of work are not issued until the stormwater controls are properly installed.</p>	
IV.B.5.b.6	Use the space below to describe actions taken for the referral to RIDEM of new discharges of stormwater associated with industrial activity as defined in RIPDES Rule 31(b)(15) (the operator must implement procedures to identify new activities that require permitting, notify RIDEM, and refer facilities with new stormwater discharges associated with industrial activity to ensure that facilities will obtain the proper permits).
<p>If projects or land disturbance activities require RIDEM approvals, Town approvals will not be granted without RIDEM permits in hand. There were no proposed industrial projects in 2021.</p>	
IV.B.5.b.9	<p>Indicate if the Post-Construction Runoff from New Development and Redevelopment Ordinance was not developed, adopted, and submitted to RIDEM, explain reasons why, submit proposed schedule for completion and identify person(s) / Department and/or parties responsible for the completion of this requirement. Date of Adoption: 2004 amended 2015</p> <p>If the Ordinance was amended in 2021, please indicate why changes were necessary. Please also indicate if amendments have been made based on the 2010 RI Stormwater Design and Installation Standards Manual, and provide references to the amended portions of the local codes/ordinances.</p>
<p>Post-construction stormwater control requirements are provided in the Land Development and Subdivision Regulations and the Soil Erosion and Sedimentation Ordinance. The regulations state that the stormwater management system for construction activities must be in conformance with the current edition of the RIDEM Rhode Island Stormwater Design and Installation Standards Manual.</p>	
IV.B.5.b.12	Use the space below to describe activities and actions taken to identify existing stormwater structural BMPs discharging to the MS4 with a goal of ensuring long term O&M of the BMPs.
<p>No new existing BMPs were identified during 2021.</p>	
<p>Additional Measurable Goals and Activities</p>	

POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT
cont'd

SECTION II.A. - Plan and SWPPP/SESC Plan Reviews during Year 18 (2021), Part IV.B.5.b.4: Review 100% of post-construction BMPs for the control of stormwater runoff from new development and redevelopment projects that result in discharges to the MS4 which incorporates consideration of potential water quality impacts (the program requires reviewing 100% of plans for development projects greater than 1 acre, not reviewed by other State programs). Plan reviews must be conducted by adequately trained personnel.

of Post-Construction Applications Received: <u>3 land development projects and 45+/- single family homes</u>
of Post-Construction Reviews Completed: <u>2 land development projects and 45+/- single family homes</u>
of Permits/Authorizations Issued: <u>2 land development projects and 45+/- single family homes</u>
Summary of Reviews and Findings, include an evaluation of the effectiveness of the program. Proposed post construction stormwater controls are reviewed by the Town Engineer either at the Preliminary Plan Stage of the Planning Board review process or during the Soil Erosion Permit process for subdivisions and land development projects. Post construction stormwater controls for projects that go before the Planning Board, as well as all land disturbances greater than an acre, must comply with the current edition of the <i>Rhode Island Stormwater Design and Installation Standards Manual</i>. In 2021, there were 3 such projects reviewed (one is review still ongoing). Identify person(s) /Department and/or parties responsible for the implementation of this requirement: Leslie Quish, Town Engineer; Al Ranaldi, Town Planner; Michael Gagnon, Public Works Director Identify the type and date of training this person(s)/parties has/have received to be considered "adequately trained": Town Engineer has a professional civil engineering license and had 10 years experience as a consultant prior to working for the Town. Additionally, the Town Engineer and Public Works Director attended the RIDEM 2-day workshop on the Rhode Island Stormwater Design and Installation Standards Manual in January 2011.

SECTION II.B. - Post Construction Inspections during Year 18 (2021), Parts IV.G.2.o and IV.B.5.b.10 - Proper Installation of Structural BMPs: Inspection of BMPs, to ensure these are constructed in accordance with the approved plans (the program must include inspection of 100% of all development greater than one acre within the regulated areas that result in discharges to the MS4 regardless of whom performs the review). Inspections must be conducted by adequately trained personnel.

# of Active Construction Projects: 9	# of Construction Projects Completed: 0
# of Site Inspections for proper Installation of BMPs: 3	# of Complaints Received: 1
# of Violations Issued: 0	# of Unresolved Violations Referred to RIDEM: 0
Summary of Enforcement Actions: There were 9 active land development projects/subdivisions under construction during 2021 which are over an acre. In 2021, three of these projects constructed either part or all of their post construction stormwater BMPs. The remaining projects are at various stages of completion and have either completed or not yet started their BMPs. A complaint has been received from an abutter of one property currently under construction and the Town is beginning the process of working with the abutter and the developer. Identify person(s) /Department and/or parties responsible for the implementation of this requirement: Town Engineer Identify the type and date of training this person(s)/parties has/have received to be considered "adequately trained": The Town Engineer designed stormwater water management systems for 10 years prior to working at the Town of Lincoln. Additionally, the Town Engineer and Public Works Director attended the RIDEM 2-day workshop on the Rhode Island Stormwater Design and Installation Standards Manual in January 2011.	

SECTION II.C. - Post Construction Inspections during Year 18 (2021), Parts IV.G.2.p and IV.B.5.b.11 - Proper Operation and Maintenance of Structural BMPs: Describe activities and actions taken to track required Operations and Maintenance (O&M) actions for site inspections and enforcement of the O&M of structural BMPs. Tracking of required O&M actions for site inspections and enforcement of the O&M of structural BMPs.

# of Site Inspections for proper O&M of BMPs: 27 Town Owned	# of Complaints Received: 0
# of Violations Issued: 0	# of Unresolved Violations Referred to RIDEM: 0

POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT
cont'd

Summary of Activities and Enforcement Actions. Evaluate the effectiveness of the Program in minimizing water quality impacts.

27 Town-owned stormwater basins were inspected and maintained in 2021. The Town does not inspect privately owned BMPs. If the Town discovers a privately owned BMP in need of maintenance, the Town will contact the person for the deficient site. This is the responsibility of the Public Works Department.

Identify person(s) /Department and/or parties responsible for the implementation of this requirement: **Public Works**

Strategies for requiring the use of non-structural Low Impact Development (LID) site design practices and techniques into stormwater management designs for new and redevelopment projects, check all that apply in your municipality/MS4:

- None
- Ordinances or by-laws requiring LID standards (e.g. reduced road widths, % conservation land, etc.)
- Ordinances or by-laws requiring LID design at conceptual review (i.e., Pre-application and/or Master Plan) stages for municipal review prior to plans being engineered.
- Ordinances or by-laws requiring LID standards only in impaired waterbody drainage areas
- Local development regulations requiring use of LID to the maximum extent practicable
- LID Guidance available in written form
- LID Guidance available at pre-application meetings
- Other strategies to ensure incorporation of LID to the maximum extent practicable, describe:

The Land Development and Subdivision Regulations, and the Soil Erosion and Sediment Control Ordinance, require new developments comply with the RIDEM Stormwater Design and Installations Manual, which includes LID design components. New single family dwellings are reviewed for general conformance with the State of Rhode Island Stormwater Management Guidance for Single-Family Residential Lot Development.

Person(s)/Department responsible for reviewing submissions for LID: **Town Engineer, Town Planner, Planning Board**

Person(s)/Department/Board responsible for approving submissions for LID at Preliminary and/or Final Review, if applicable:
Town Engineer, Town Planner, Planning Board

Are you aware of the Municipal LID Self-Assessment that was introduced by the DEM and RI NEMO in 2019 and finalized and distributed in March 2020?

- Yes No

A final version of the Municipal LID Self-Assessment is available on the DEM's website:

<http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/t4guide/lid-checklist-primer.pdf>

Additional guidance is also available:

<http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/t4guide/lid-assessment-fs.pdf>

<http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/pdfs/lidfactsheet.pdf>

<http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/t4guide/lidplan.pdf>

Did your community complete the Municipal LID Self-Assessment? Yes No

If yes and it was completed in 2021, please provide a copy as an attachment to this Annual Report, if you have not already submitted it.

If no, does your community plan to complete it? **It was completed in 2020 and submitted with last years annual report.**

- Yes No

If No, why not? _____

POST CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT
cont'd

Strategies being implemented to ensure long-term Operation and Maintenance (O&M) of privately-owned structural stormwater BMPs, check all that apply in your municipality/MS4:

- None
- Ordinances or by-laws identify BMP inspection responsible party
- Ordinances or by-laws identify BMP maintenance responsible party
- Ordinances or by-laws identify BMP inspections and maintenance requirements
- Ordinances or by-laws provide for easements or covenants for inspections and maintenance
- Ordinances or by-laws require for every constructed BMP an inspections and maintenance agreement
- Ordinances or by-laws contain requirements for documenting and detailing inspections
- Ordinances or by-laws contain requirements for documenting and detailing maintenance
- Ordinances or by-laws contain authority to enforce for lack of maintenance or BMP failure
- The MS4 is responsible for inspections of all privately-owned BMPs
- The MS4 is responsible for maintenance of all privately-owned BMPs
- Establishment of escrow account for use in case of failure of BMP
- Other strategies to ensure long-term O&M of privately-owned BMPs, describe:

All new subdivisions are required to have privately owned BMPs. The Planning Board approvals require a Home Owners Association (if on multiple lots) and a Maintenance Agreement recorded against all applicable property deeds outlining maintenance requirements and responsibilities for all.

Does your municipality/MS4 require the use BMPs Operations and Maintenance Agreements? YES NO

If YES, please indicate if the Operations and Maintenance Agreements include the following:

- | | |
|---|---|
| a. Party responsible for the long-term O&M of permanent stormwater management BMPs | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| b. A description of the permanent stormwater BMPs that will be operated and maintained | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| c. The location of the permanent stormwater BMPs that will be operated and maintained | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| d. A timeframe for routine and emergency inspections and maintenance of all permanent stormwater management BMPs | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| e. A requirement that all inspections and maintenance activities are documented | <input type="checkbox"/> YES <input type="checkbox"/> NO |
| f. Annual submission of inspection/maintenance certification/documentation to the MS4 | <input type="checkbox"/> YES <input type="checkbox"/> NO |
| g. Stormwater management easement for access for inspections and maintenance or the preservation of stormwater runoff conveyance, infiltration, and detention areas and other stormwater controls and BMPs by persons other than the property owner | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| h. Steps available for addressing a failure to maintain the stormwater controls and BMPs | <input type="checkbox"/> YES <input type="checkbox"/> NO |

Please elaborate, if appropriate:

The Town requires that a maintenance agreement be recorded against the property deeds for all new subdivisions outlining the maintenance requirements for BMPs. An easement is created around the stormwater basin and access to the Town is granted for emergency situations. Long Term Operation plans are required for all developments over an acre.

Does your municipality/MS4 keep an inventory of privately-owned BMPs? YES NO

For privately-owned structural BMPs, does your municipality/MS4 have a system for tracking:

- | | |
|---|---|
| a. Agreements and arrangements to ensure O&M of BMPs? | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| b. Inspections? | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| c. Maintenance and schedules? | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| d. Complaints? | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| e. Non-Compliance? | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |
| f. Enforcement actions? | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |

Do you use an electronic tool (e.g. GIS, database, spreadsheet) to track post-construction BMPs, inspections, and maintenance? YES NO

If yes, please elaborate on which tools are used:

An excel spreadsheet is utilized to keep track of Town-owned BMP inspection and maintenance. Known privately owned BMPs are listed but maintenance is not tracked.

NOTE: BMP maintenance tasks can be a great way to involve and educate the community to their purpose and function. BMPs have the potential to create a highly interactive environment for community members and volunteers to get involved.



**MINIMUM CONTROL MEASURE #6:
POLLUTION PREVENTION AND GOOD HOUSEKEEPING IN MUNICIPAL OPERATIONS
(Part IV.B.6 General Permit)**

SECTION I. OVERALL EVALUATION:

GENERAL SUMMARY, STATUS, APPROPRIATENESS AND EFFECTIVENESS OF MEASURABLE GOALS:

Include information relevant to the implementation of each measurable goal, such as activities and practices used to address on-going requirements, and personnel responsible. Discuss activities to be carried out during the next reporting cycle. If addressing TMDL requirements, please indicate rationale for the activities chosen to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: Michael Gagnon, Public Works Director

Phone: 401-333-8423

Email: mgagnon@lincolnri.org

IV.B.6.b.1.i Use the space below to describe activities and actions taken to identify structural BMPs (these include but are not limited to: retention/detention basins, vegetated treatment, infiltration and pre-treatment controls, etc.) owned or operated by the small MS4 operator (the program must include identification and listing of the specific location and a description of all structural BMPs in the SWMPP and update the information in the Annual Report). Evaluate appropriateness and effectiveness of this requirement.

Do you have an inventory of MS4-owned/operated BMPs? YES NO

Total # of MS4-owned/operated BMPs (does not include CBs or MHs): 57

The Towns used an excel spreadsheet to keep track of MS4 owned BMPs.

IV.B.6.b.1.ii Use the space below to describe activities and actions taken for inspections, cleaning and repair of detention/retention basins, storm sewers and catch basins with appropriate scheduling given intensity and type of use in the catchment area. Evaluate appropriateness and effectiveness of this requirement.

of MS4-owned/operated BMPs inspected in 2021: 27

of MS4-owned/operated BMPs maintained/cleaned in 2021: 27

of MS4-owned/operated BMPs repaired in 2021: 0

Does your municipality/MS4 have a system for tracking:

- a. Inspection schedules of MS4-owned BMPs? YES NO
- b. Maintenance/cleaning schedules of MS4-owned BMPs? YES NO
- c. Repairs, corrective actions needed? YES NO
- d. Complaints? YES NO

Do you use an electronic tool (e.g. GIS, database, spreadsheet) to track stormwater BMPs, inspections, and maintenance? YES NO

The list of Town owned BMPs and maintenance schedule is tracked in an excel spreadsheet.

POLLUTION PREVENTION AND GOOD HOUSEKEEPING IN MUNICIPAL OPERATIONS cont'd

IV.B.6.b.1.iii	<p>Use the space below to describe activities and actions taken to support the requirement of yearly inspection and cleaning of all catch basins (a lesser frequency of inspection based on at least two consecutive years of operational data indicating the system does not require annual cleaning might be acceptable). Evaluate appropriateness and effectiveness of this requirement.</p> <p>Total # of CBs within regulated area (including SRPW and TMDL areas): <u>1280</u></p> <p># of CBs inspected in 2021: <u>84</u> % of Total inspected: <u>6.6%</u></p> <p># of CBs cleaned in 2021: <u>49</u> % of Total cleaned: <u>3.8%</u></p> <p>Quantity of sand/debris collected by cleaning of catch basins: <u>584 tons (combined with street sweepings)</u></p> <p>Location used for the disposal of debris: <u>Rhode Island Resource Recovery</u></p> <p>Do you use an electronic tool (e.g. GIS, database, spreadsheet) to track the inspections and cleaning of catch basins? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p>
<p>All catch basins were inspected in two consecutive years in previous reporting years; however, there is no historical data to support this. As such, the Town began reinspecting all catch basins in 2019. Every catch basin will be inspected for two consecutive years over the course of the next eight years, or quicker if funding allows.</p> <p>In 2021, 85 catch basins were cleaned and inspected. Cleanings of catch basins are being tracked in a combination of excel and GIS software.</p>	
IV.B.6.b.1.iv	<p>Use the space below to describe activities and actions taken to minimize erosion of road shoulders and roadside ditches by requiring stabilization of those areas. Evaluate appropriateness and effectiveness of this requirement.</p>
<p>The vast majority of Town streets have stabilized shoulders due to the presence of curb, sidewalk, and/or loam and seed. When areas of erosion are identified, or reported, the Town Engineer or Public Works Director investigates the issue to identify the solution. DPW staff is notified to address the issue, most commonly done by the installation of berms. Roadside erosion is not a significant issue and this method is appropriate and effective.</p>	
IV.B.6.b.1.v	<p>Use the space below to describe activities and actions taken to identify and report known discharges causing scouring at outfall pipes or outfalls with excessive sedimentation, for the Department to determine on a case-by-case basis if the scouring or sedimentation is a significant and continuous source of sediments. Evaluate appropriateness and effectiveness of this requirement.</p>
<p>One outfall was found causing erosion upstream of a stream in 2021. The Town obtained the necessary RIDEM permits and constructed a riprap stabilized outfall. Three of the 11 outfalls prioritized for maintenance in 2021 were cleaned. The remaining 8 outfalls in need of maintenance will be prioritized for 2022.</p>	
IV.B.6.b.1.vi	<p>Use the space below to indicate if all streets and roads within the urbanized area were swept annually and if not indicate reason(s). Evaluate appropriateness and effectiveness of this requirement.</p> <p>Total roadway miles within regulated area (including SRPW and TMDL areas): <u>105 Miles</u></p> <p>Roadway miles that were swept in 2021: <u>105 Miles</u> % of Total swept: <u>105 Miles</u></p> <p>Type of sweeper used: <input type="checkbox"/> Rotary brush street sweeper <input checked="" type="checkbox"/> Vacuum street sweeper</p> <p>Quantity of sand/debris collected by sweeping of streets and roads: <u>584 tons (combined with street sweepings)</u></p> <p>Location used for the disposal of debris: <u>Rhode Island Resource Recovery</u></p> <p>Do you use an electronic tool (e.g. GIS, database, spreadsheet) to track the annual sweeping of streets and roads? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>

POLLUTION PREVENTION AND GOOD HOUSEKEEPING IN MUNICIPAL OPERATIONS cont'd

IV.B.6.b.1.vii	Use the space below to describe activities and actions taken for controls to reduce floatables and other pollutants from the MS4. Evaluate appropriateness and effectiveness of this requirement.
<p>Street sweeping and catch basin cleanings are effective at reducing floatables within the MS4. Local ordinances require that trash and recycling containers not be placed out before 5pm the night before collection to limit the risk of debris spreading. Trash must be place in closed bags and recyclables are only collected from bins that that are closed.</p>	
IV.B.6.b.1.viii	<p>Use the space below to describe the method for disposal of waste removed from MS4s and waste from other municipal operations, including accumulated sediments, floatables and other debris and methods for record-keeping and tracking of this information.</p> <p>Do you have a system for tracking actions to remove and dispose of waste? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>
<p>The collected material is disposed of at Rhode Island Resource Recovery. Trash is collected on a weekly basis and recyclables are collected every other week.</p>	
IV.B.6.b.2	<p>Use the space below to describe any operations under the MS4's legal control, including activities and facilities, that have the potential to introduce pollutants into stormwater runoff, such as pesticide/herbicide/fertilizer application, chemical and waste handling and storage, vehicle fueling, vehicle washing, vehicle maintenance, sand/salt storage, snow disposal, facilities such as public works facilities with maintenance and storage yards, waste transfer stations, municipal wastewater and water treatment facilities, and municipal parking owned and operated by the MS4.</p> <p>Does your MS4 have any salt piles, or piles containing salt, used for deicing? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>If yes: Are these piles, covered to prevent exposure to rain, snow, snowmelt and/or runoff? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If yes, check the type of cover used: <input checked="" type="checkbox"/> Weatherproof permanent structure/shelter <input type="checkbox"/> A temporary, secured, durable, waterproof covering (e.g., tarpaulin, polyethylene, polyurethane) Are these piles located on impermeable surfaces? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p>
<p>The Highway Department inspects equipment, and processing and material handling areas for pollutant releases. Any observed issues are addressed immediately. Roads are treated with a sand/salt mix (2 parts sand to 1 part salt) during the winter. The road sand/salt mix is stored in a covered salt barn which reduces the migration of pollutants into adjacent areas. Waste oil is stored in a shed which is maintained on a regular basis. The Highway Department staff were trained on the Town's Storm Water Pollution Prevention Plan in 2009. Beta Engineering prepared a new Stormwater Pollution Prevention Plan for the Highway Garage Facility in 2021, a copy of which is attached as Appendix C to this report.</p>	
IV.B.6.b.4 and IV.B.6.b.5	<p>Use the space below to describe and indicate activities and corrective actions for the evaluation of compliance. This evaluation must include visual quarterly monitoring; routine visual inspections of designated equipment, processes, and material handling areas for evidence of, or the potential for, pollutants entering the drainage system or point source discharges to a waters of the State; and inspection of the entire facility at least once a year for evidence of pollution, evaluation of BMPs that have been implemented, and inspection of equipment. A Compliance Evaluation report summarizing the scope of the inspection, personnel making the inspection, major observations related to the implementation of the Stormwater Management Plan (formerly known as a Stormwater Pollution Prevention Plan), and any actions taken to amend the Plan must be kept for record-keeping purposes.</p>
<p>A new Storm Water Pollution Prevention Plan was prepared for the Highway Garage in 2021, a copy of which is attached as Appendix C to this report. The DPW Director was trained in 2021. A staff training was scheduled for the end of 2021 but was day due to Covid cases. All applicable staff at the Highway Garage will be retrained in 2022.</p>	

POLLUTION PREVENTION AND GOOD HOUSEKEEPING IN MUNICIPAL OPERATIONS cont'd

IV.B.6.b.6	<p>Use the space below to describe all employee training programs used to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance for the past calendar year, including staff municipal participation in the URI NEMO stormwater public education and outreach program and all in-house training conducted by municipality or other parties. Evaluate appropriateness and effectiveness of this requirement.</p> <p>How many stormwater management trainings have been provided to <i>municipal employees</i> during this reporting period? <u> 1 </u></p> <p>What was the date of the last training? <u> 2009 for employees, 1 for DPW Director in 2021 </u></p> <p>How many <i>municipal employees</i> have been trained in this reporting period? <u> 1 </u></p> <p>What percent of <i>municipal employees</i> in relevant positions and departments received stormwater management training? <u> 100 </u>%</p> <p>Have <i>municipal employees</i> that are responsible for inspecting or cleaning catch basins also been trained to detect and report illicit connections or non-stormwater discharges? <u> Yes – one DPW employee was assigned to inspect catch basins in 2021 and was instructed on illicit connection detection. </u></p>
<p>Upon completion of 2021 SWPPP, the DPW Director was retrained on good housekeep practices. The remainder of the DPW employees were scheduled to be trained in December 2021 however, the training was postponed due to COVID cases. The training will occur in 2022.</p>	
IV.B.6.b.7	<p>Use the space below to describe actions taken to ensure that new flow management projects undertaken by the operator are assessed for potential water quality impacts and existing projects are assessed for incorporation of additional water quality protection devices or practices. Evaluate appropriateness and effectiveness of this requirement.</p> <p>All Town projects are evaluated for their impacts on water quality. One outfall was reconstructed due to erosion and a deep sump manhole was installed upstream of the outfall to allow for the removal of sediment prior to discharge into a stream.</p>
<p>Additional Measurable Goals and Activities</p>	

SECTION II.A - Structural BMPs (Part IV.B.6.b.1.i) These include but are not limited to: retention/detention basins, vegetated treatment, infiltration and pre-treatment controls, etc.

BMP ID:	Location:	Name of BMP Owner/Operator:	Description of BMP:	Frequency of Inspection:
1	Ann Drive (end of cul-de-sac)	Town of Lincoln	Detention Basin	Every other year
2	Barbette Drive	Town of Lincoln	Detention Basin	Every other year
3	4 Logan Drive	Town of Lincoln	Detention Basin	Every other year
4	1 Bridle Drive	Town of Lincoln	Detention Basin	Every other year
5	2 East Butterfly Way	Town of Lincoln	Detention Basin	Every other year

POLLUTION PREVENTION AND GOOD HOUSEKEEPING IN MUNICIPAL OPERATIONS cont'd

6	6 East Butterfly Way	Town of Lincoln	Detention Basin	Every other year
7	Monarch Way (behind 11 & 13 East Butterfly Way)	Town of Lincoln	Detention Basin	Every other year
8	8 Graywood Drive	Town of Lincoln	Detention Basin	Every other year
9	Cider Mill Lane (@7 Great Meadow)	Town of Lincoln	Detention Basin	Every other year
10	8 Cider Mill Lane	Town of Lincoln	Detention Basin	Every other year
11	Intersection of Whalen & Meeting House	Town of Lincoln	Unknown	Every other year
12	22 Ducarl Drive	Town of Lincoln	Detention Basin	Every other year
13	3 Foxwood Drive	Town of Lincoln	Detention Basin	Every other year
14	31 Greenwood Lane	Town of Lincoln	Detention Basin	Every other year
15	17 Wingate Road	Town of Lincoln	Detention Basin	Every other year
16	1 Lynn Lane	Town of Lincoln	Detention Basin	Every other year
17	4 Stephanie Drive	Town of Lincoln	Detention Basin	Every other year
19	17 Paddock Drive	Town of Lincoln	Detention Basin	Every other year
20	1 Citation Court	Town of Lincoln	Detention Basin	Every other year
21	9 Grandstand Drive	Town of Lincoln	Detention Basin	Every other year
22	8 King Philip Road	Town of Lincoln	Detention Basin	Every other year
23	5 Lantern Brook Drive	Town of Lincoln	Unknown	Every other year
24	Amica Center Blvd (Eastern Side at Rt 116)	Town of Lincoln	Detention Basin	Every other year
25	Amica Center Blvd (Western Side at Rt 116)	Town of Lincoln	Detention Basin	Every other year
26	Amica Center Blvd (Near Blackstone Valley Rd. – Northeastern)	Town of Lincoln	Detention Basin	Every other year
27	Amica Center Blvd (Near Blackstone Valley Rd. – Northeastern)	Town of Lincoln	Detention Basin	Every other year
28	Lincoln Meadows	Town of Lincoln	Detention Basin	Every other year
29	8 Ashley Drive	Town of Lincoln	Swale	Every other year
30	12 Ashley Drive	Town of Lincoln	Detention Basin	Every other year
31	18 Meadow Glen Drive	Town of Lincoln	Detention Basin	Every other year
32	9 Deerfield Court	Town of Lincoln	Detention Basin	Every other year
33	14 Morgan Court	Town of Lincoln	Detention Basin	Every other year
34	11 Bridle Drive	Town of Lincoln	Detention Basin	Every other year
35	Eagle Nest Drive (at cul-de-sac)	Town of Lincoln	Detention Basin	Every other year

POLLUTION PREVENTION AND GOOD HOUSEKEEPING IN MUNICIPAL OPERATIONS cont'd

36	1 Eagle Nest Drive	Town of Lincoln	Detention Basin	Every other year
37	23/25 South Eagle Dr	Town of Lincoln	Detention Basin	Every other year
38	31 South Eagle Nest Drive	Town of Lincoln	Detention Basin	Every other year
39	Old Jenckes Hill Rd. (behind 3 & 5 Fair Oaks)	Town of Lincoln	Unknown	Every other year
40	9 Pascale Drive	Town of Lincoln	Detention Basin	Every other year
41	Quality Drive	Town of Lincoln	Unknown	Every other year
42	15 Red Brook Crossing	Town of Lincoln	Detention Basin	Every other year
43	22 Red Brook Crossing	Town of Lincoln	Detention Basin	Every other year
44	30 Suffolk Way	Town of Lincoln	Detention Basin	Every other year
45	25 Fair Oaks Dr	Town of Lincoln	Detention Basin	Every other year
46	17 Steeple Lane	Town of Lincoln	Detention Basin	Every other year
47	33 Steeple Lane	Town of Lincoln	Detention Basin	Every other year
48	2 Thornwood Drive	Town of Lincoln	Detention Basin	Every other year
49	Lincoln Senior Center	Town of Lincoln	Detention Basin 1	Every other year
50	Lincoln Senior Center	Town of Lincoln	Detention Basin 2	Every other year
51	Lincoln Senior Center	Town of Lincoln	Detention Basin 3	Every other year
52	Lime Acres Park	Town of Lincoln	Bioretention Basin	Every other year
53	Lincoln Senior Center	Town of Lincoln	Sand Filter	Every other year
54	Old River Road- Lincoln Police Station	Town of Lincoln	Bioretention Basin 1	Every other year
55	Old River Road- Lincoln Police Station	Town of Lincoln	Bioretention Basin 2	Every other year
56	Pine Tree Lane	Town of Lincoln	Detention Basin	Every other year
57	Manchester Farm Rd at Kerry Lane	Town of Lincoln	Detention Basin	Every other year
Private 1	Christian Court	Property Owner	Detention Basin	Unknown
Private 2	Presidential Estates	Property Owner's	Detention Basin	Unknown
Private 3	Red Brook Crossing	Property Owner's	Detention Basin	Unknown
Private 4	Reverie Lane	Property Owner	Detention Basin	Unknown
Private 5	Sables Way (2)	Property Owner	Detention Basin	Unknown
Private 6	Steeple Lane	Property Owner's	Detention Basin	Unknown
Private 7	Winterberry Road	Property Owner's	Detention Basin	Unknown
Private 8	Rockyroad Ave	Property Owner's	Subsurface Infiltration	Yearly

POLLUTION PREVENTION AND GOOD HOUSEKEEPING IN MUNICIPAL OPERATIONS cont'd

Private 9	Lincoln Meadows (2)	Property Owner	Detention Basin	Yearly
Private 10	Cobble Hill (Lincoln Crossings)	Developer until complete, then HOA	Detention Basin	Yearly
Private 11	Rockyroad Ave	Developer until complete, then property owner	Subsurface Infiltration	Yearly
Private 12	Chase Lane Extension	Property owner	Detention Basin	Yearly
Private 13	Kirkbrae Ledges	Developer until complete, then property owner	Detention Basin with swales	Yearly
Private 14	Realm Court	Developer until complete, then property owner	Detention Basin with sand filter	Yearly
Private 15	Realm Court	Developer until complete, then property owner	Infiltration Basin	Yearly

SECTION II.B - Discharges Causing Scouring or Excessive Sedimentation (Part IV.B.6.b.1.v)

Outfall ID:	Location:	Description of Problem:	Description of Remediation Taken, include dates:	Receiving Water Body Name/Description:
See Appendix D				

SECTION II.C - Note any planned municipal construction projects/opportunities to incorporate water quality BMPs, low impact development, or activities to promote infiltration and recharge (Part IV.G.2.j).

The Town of Lincoln is in early design states for a Student Athletic Center which will incorporate water quality BMPs.

SECTION II.D - Please include a summary of results of any other information that has been collected and analyzed. This includes any type of data (Part IV.G.2.e).



TOTAL MAXIMUM DAILY LOAD (TMDL) or other Water Quality Determination REQUIREMENTS

SECTION I. If you have been notified that discharges from your MS4 require non-structural or structural stormwater controls based on an approved TMDL or other water quality determination, please provide an assessment of the progress towards meeting the requirements for the control of stormwater identified in the approved TMDL (Part IV.G.2.d). Please indicate rationale for the activities chosen to address the pollutant of concern.

(Note: Identify parties responsible for achieving the measurable goals and reference any reliance on another entity for achieving measurable goals. Mark with an asterisk (*) if this person/entity is different from last year.)

Responsible Party Contact Name & Title: Leslie Quish, PE, Town Engineer

Phone: (401) 333-8415 **Email:** lquish@lincolnri.org

LIST OF IMPAIRED WATERS:			
Impaired Water Body: Blackstone River WBID: RI0001003R-01A	Pollutants Causing Impairments: Cadmium, Lead, Fecal Coliform, Enterococcus	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Impaired Water Body: Blackstone River WBID: RI0001003R-01A	Pollutants Causing Impairments: Iron, Dissolved Oxygen, Phosphorous, Mercury in Fish Tissue, PCB in Fish Tissue,	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Impaired Water Body: Scott Pond WBID: RI0001003L-01	Pollutants Causing Impairments: Copper	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Impaired Water Body: Scott Pond WBID: RI0001003L-01	Pollutants Causing Impairments: Phosphorus, Dissolved oxygen	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Impaired Water Body: Barney Pond WBID: RI0003008L-02	Pollutants Causing Impairments: Phosphorus	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Impaired Water Body: Moshassuck River & Tribs WBID: RI0003008R-01A	Pollutants Causing Impairments: Enterococcus	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Impaired Water Body: Moshassuck River & Tribs WBID: RI0003008R-01A	Pollutants Causing Impairments: Benthic-Macroinvertebrate Bioassessments	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Impaired Water Body: Mussey Brook WBID: RI0001003R-16	Pollutants Causing Impairments: Enterococcus	Has TMDL been completed? Has MS4 been notified of TMDL requirements? Has MS4 developed a Scope of Work or TMDL Implementation Plan?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

TOTAL MAXIMUM DAILY LOAD (TMDL) OR OTHER WATER QUALITY DETERMINATION REQUIREMENTS cont'd

What kind of public education and outreach strategy does the MS4 implement to target each pollutant of concern? (e.g., signage on installed stormwater controls, resources on website, pamphlets about litter, pet waste, grass clippings, fertilizer use, etc.)		
Pollutant of Concern: Phosphoros	Strategy: Phamplets in Town Hall and on Website, previous education mailings	Target Audience: Residents surrounding Scott Pond
Pollutant of Concern: Phosphoros	Strategy: Stormwater mitigation for new developments	Target Audience: Developers surrounding Scott Pond and Barney Pond (Rockyroad Ave Extension, Bouthilette Subdivision)
Pollutant of Concern: Phosphoros, Bacteria	Strategy: Stormwater mitigation for new developments	Target Audience: Developers surrounding Blackstone River (Whipple Cullen)

Has the MS4 installed stormwater BMPs or required the installation of stormwater BMPs on private property to address impairments? YES NO

If yes, indicate the name of the impaired water body associated with the stormwater control, type of stormwater control, date installed, ownership, and who is responsible for maintenance:

Impaired water body	Type of Stormwater Control:	Date Installed:	<input type="checkbox"/> Municipally Owned <input type="checkbox"/> Privately Owned	Who maintains it?
[add as necessary]				

Additional enhanced minimum measures used to address water quality issues (e.g., increased street sweeping or catch basin cleaning in areas with high pollutant loading, installation of floatable traps/screens, etc.):



SPECIAL RESOURCE PROTECTION WATERS (SRPWs)

SECTION I. In accordance with §1.32(A)(5)(a)(7) of the *Regulations for the Rhode Island Pollutant Discharge Elimination System* (RIPDES Regulations), on or after March 10, 2008, any discharge from a small municipal separate storm sewer system to any Special Resource Protection Waters (SRPWs) or impaired water bodies within its jurisdiction must obtain permits if a waiver has not been granted in accordance with §1.32(G)(5)(c). A list of SRPWs can be found in §1.28 of the *RIDEM Water Quality Regulations* at this link: [Water Quality Regulations \(250-RICR-150-05-1\) - Rhode Island Department of State](#)

The 2018-2020 303(d) Impaired Waters Report can be found here: [iwr1820.pdf \(ri.gov\)](#)

If you have discharges from your MS4 (regardless of its location) to any of the listed SRPWs or impaired waters (including impaired waters when a TMDL has not been approved), please provide an assessment of the progress towards expanding the MS4 Phase II Stormwater Program to include the discharges to the aforementioned waters and adapting the Six Minimum Control Measures to include the control of stormwater in these areas. Please indicate a rationale for the activities chosen to protect these waters. Please note that all of the measurable goals and BMPs required by the 2003 MS4 General Permit may not be applicable to these discharges.

The segment of the Blackstone River located in Lincoln (RI0001003R-01A) is listed as an impaired water body and Special Resource Protection Water for Ecological Habitat, Critical Habitat, and Unique Freshwater Wetland.

APPENDIX A



After the Storm

For more information contact:

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps



EPA 833-B-03-002

January 2003

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*A Citizen's Guide to
Understanding Stormwater*



The effects of pollution

What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?

Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- ◆ Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- ◆ Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- ◆ Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- ◆ Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- ◆ Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.



Stormwater Pollution Solutions

Residential

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- ◆ Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- ◆ Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- ◆ Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- ◆ Cover piles of dirt or mulch being used in landscaping projects.



Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- ◆ Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- ◆ Don't dispose of household hazardous waste in sinks or toilets.



Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- ◆ Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- ◆ Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.



Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.

- ◆ When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.



Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for



rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.



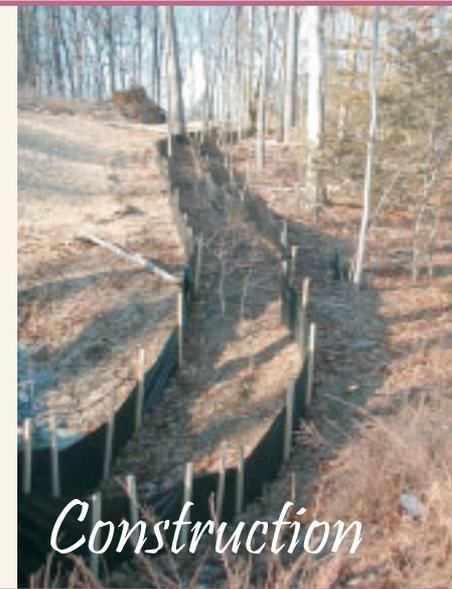
Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- ◆ Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- ◆ Cover grease storage and dumpsters and keep them clean to avoid leaks.
- ◆ Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- ◆ Divert stormwater away from disturbed or exposed areas of the construction site.
- ◆ Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- ◆ Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.



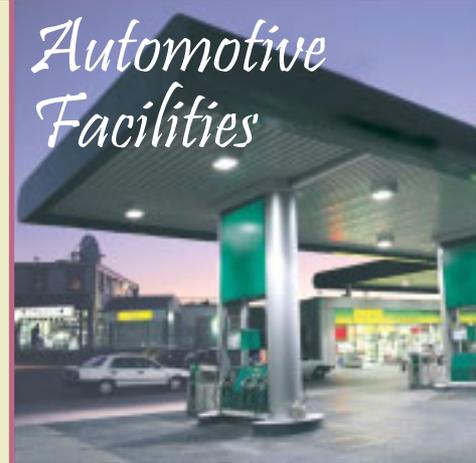
Construction



Agriculture

Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

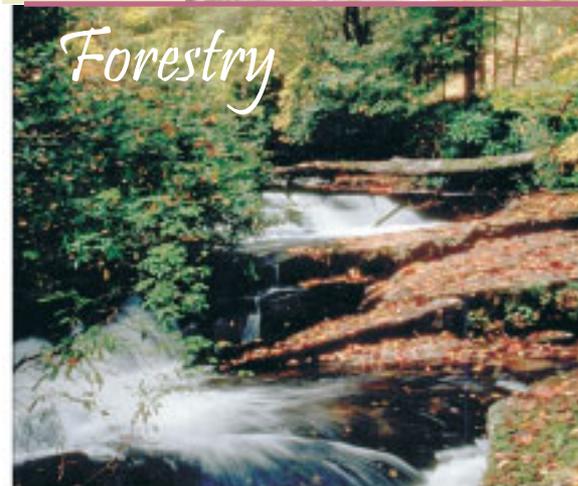
- ◆ Keep livestock away from streambanks and provide them a water source away from waterbodies.
- ◆ Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- ◆ Vegetate riparian areas along waterways.
- ◆ Rotate animal grazing to prevent soil erosion in fields.
- ◆ Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.



Automotive Facilities

Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- ◆ Clean up spills immediately and properly dispose of cleanup materials.
- ◆ Provide cover over fueling stations and design or retrofit facilities for spill containment.
- ◆ Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- ◆ Install and maintain oil/water separators.

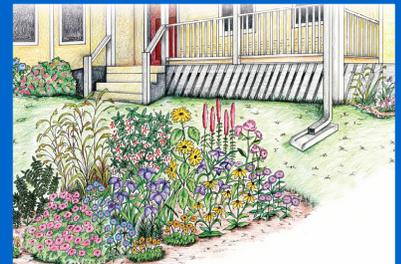
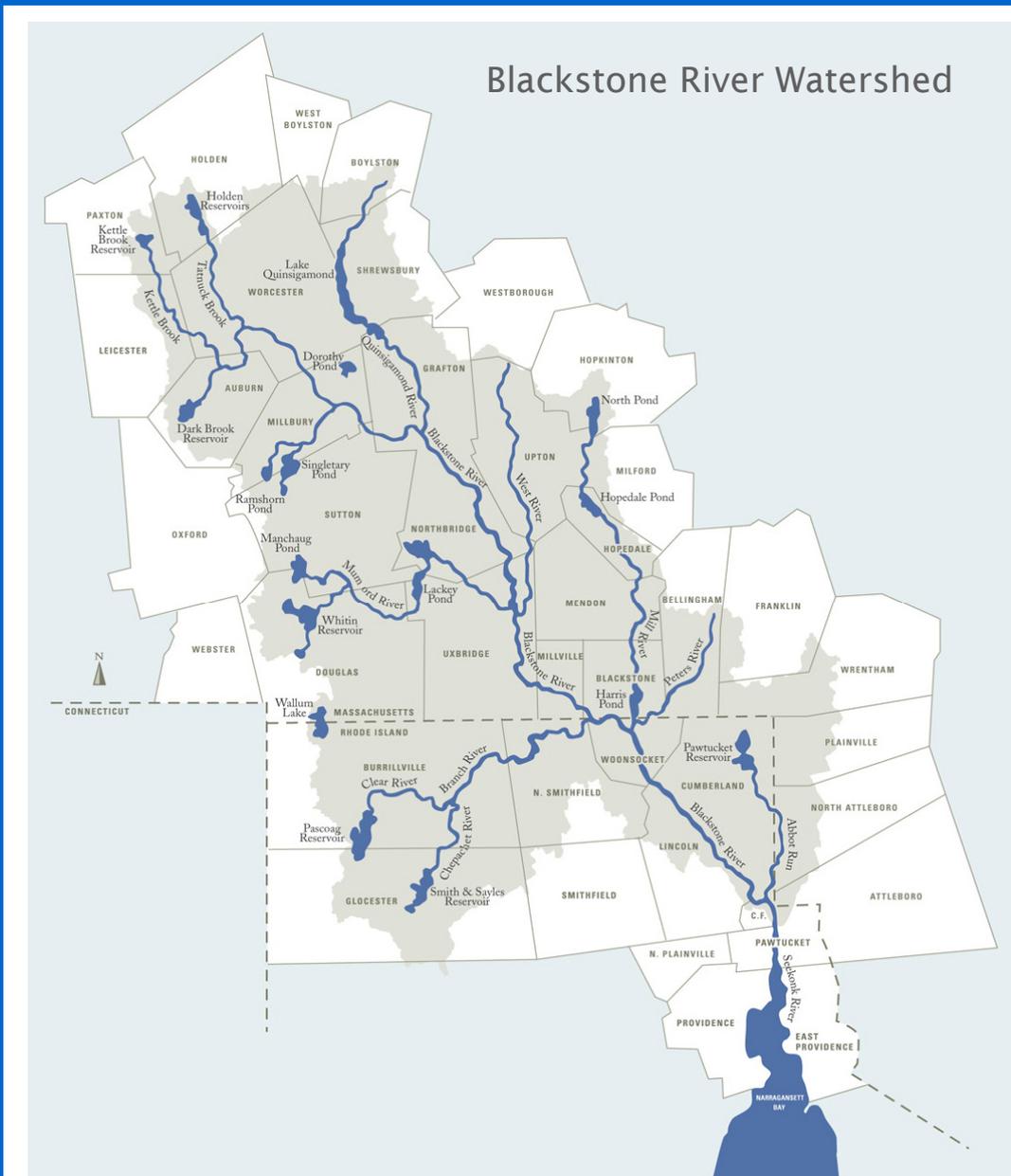


Forestry

Improperly managed logging operations can result in erosion and sedimentation.

- ◆ Conduct preharvest planning to prevent erosion and lower costs.
- ◆ Use logging methods and equipment that minimize soil disturbance.
- ◆ Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- ◆ Construct stream crossings so that they minimize erosion and physical changes to streams.
- ◆ Expedite revegetation of cleared areas.

A Homeowner's Guide to Protecting Water Quality in the Blackstone River Watershed



If you live in the shaded area of the map, then you live in the Blackstone River watershed. You can help restore and protect its water quality. Look inside to learn how. A cleaner Blackstone River begins in your own backyard!

The Blackstone River Coalition

ZAP

Campaign for a Fishable/Swimmable Blackstone River by 2015

A Homeowner's Guide to Protecting Water Quality in the Blackstone Valley

A Cleaner Blackstone River Begins in Your Own Backyard!

Lawns/
Gardens

Car Care

Pet Waste

Clean
Dishes/
Clean
Streams

Rooftop
Runoff

Household
Hazardous
Waste

Pervious
Surfaces

Stream
Buffers

THE BLACKSTONE VALLEY is, in fact, a watershed – a drainage basin that includes all the land over which rain and snowmelt flow to the Blackstone River. Reducing polluted runoff, or nonpoint source pollution, in the watershed is the major goal of the Blackstone River Coalition. We're working with homeowners, business owners, developers and local decision makers to all do their part – it's called the "Tackling Stormwater in the Blackstone River Watershed" initiative. Together, we can all help reach the goal of a fishable and swimmable Blackstone River by 2015.

Introduction:

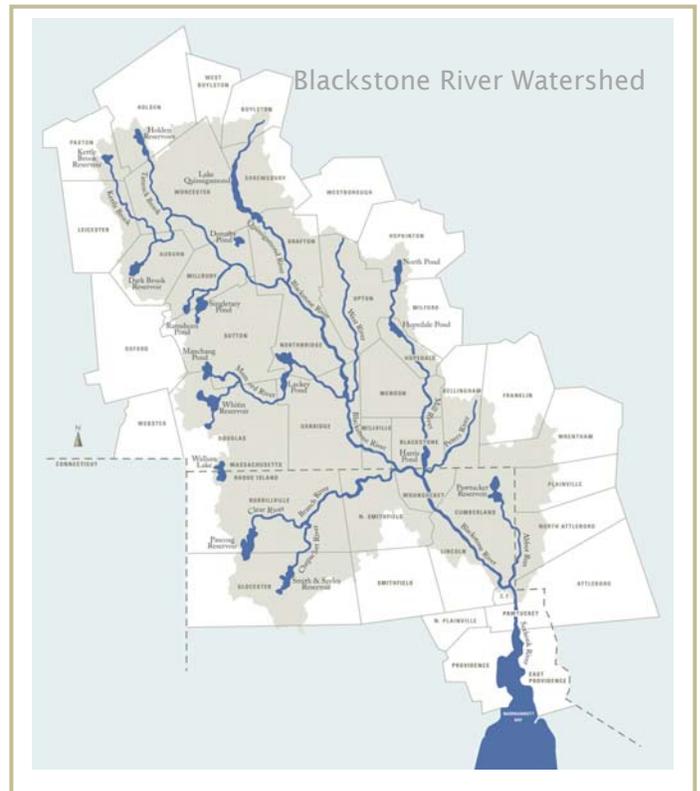
WE DRINK IT, bathe in it, flush it, swim in it and more. Water is an integral part of our every day lives. The water you use to drink, wash, and cook comes from a watershed near your home. Every community, whether it is hilly or flat, urban or rural, is part of a watershed. Ours is the Blackstone River's watershed, with many sub-watersheds for the tributaries that drain to it. Within each watershed, all water drains to the lowest point, carrying with it soil particles, oil, road salt, organic materials, pesticides, and fertilizers.

THE BLACKSTONE AND ITS TRIBUTARIES define our landscapes, yet their beauty hides the fact that beneath the surface, those streams and rivers are not entirely well. Runoff from roads, parking lots, lawns, and farms can carry oil, metals, bacteria, pesticides, and nutrients into streams, making them unhealthy places for critters like fish and aquatic insects to live. High bacterial levels can make it unsafe for humans to swim.

BUT THERE IS GOOD NEWS...we know the prescription for the Blackstone's health, and it starts with us. By each of us developing simple, water-friendly lifestyle practices right at home we can make a huge difference!

What You Can Do....

This guide is designed to help us reduce our impact on the streams and rivers in the Blackstone River watershed. To achieve this we need to develop new yard- and home-care practices that reduce our pollution, storm water volume, and water consumption. To learn how, turn the page.



If you live within the shaded area, you live in the Blackstone watershed.

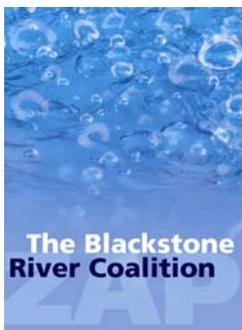
Reducing pollutants: Water running off our lawns, roads, and other surfaces picks up nutrients, bacteria, and chemicals, carries them to stormdrains in the roads, and then deposits them directly into streams in the Blackstone watershed. These pollutants can cause a variety of problems for living things — including humans — that live in or interact with our streams. For example, extra nutrients from fertilizer cause too much algae to grow, which robs the water of oxygen and makes it a bad place for fish, snails, and other stream critters to live. If the stream isn't a healthy habitat for these critters, this in turn affects animals that are higher in the food chain, like mammals and birds.

Reducing storm water volume: Another major problem for the streams in the Blackstone River watershed is the sheer volume of storm water that flows into them. As the land becomes more and more developed, impervious surfaces like roads, parking lots, driveways and rooftops generate more and more runoff. Because there are fewer and fewer vegetated areas, there is less and less infiltration of rainwater.

Storm water from all parts of the watershed is concentrated in the storm drain system and carried to our streams at very high speeds. When the water finally reaches the streams, it blasts adjacent stream channels, causing them to become wider and deeper. The soil eroded from stream banks during storms smothers aquatic habitat in the Blackstone River watershed. Over time, this sediment is carried downstream to Narragansett Bay, where it combines with sediment from other urban streams in the Bay. Sediment is one reason that the Bay is unhealthy.

Reducing water consumption: Water that we consume in the Blackstone watershed eventually flows back into the Blackstone watershed, either through septic systems, wastewater treatment plants, or untreated into our storm drains. Using less tap water prevents unnecessary chemical treatment and disposal from the treatment plant, and save you money on your water bill. By not overwatering your yard, you can help prevent too much water — and pollutants — from entering the streams in the watershed.

As you decide which actions to do, remember this: The actions you learn about will reduce both pollutants and the volume of storm water entering the stream from your yard.



The Blackstone River Coalition is a partnership of numerous organizations working to restore the Blackstone River and improve the health of its watershed. For more information contact BRC Coordinator Peter Coffin at 508-753-6087 or peter.coffin@zaptheblackstone.org.

This guide was developed by Mass Audubon for the BRC, with partial funding from Southold Meadow Farm, Auburn, MA. It is adapted from the Watershed Approach to Stream Health (WASH) Project.



Campaign for a Fishable/Swimmable Blackstone River by 2015

“Greening” Your Lawn and Gardens

Lawns/ Gardens

Reducing Your Use of Fertilizer, Toxic Pesticides, and Herbicide on Your Lawn and Gardens

WHY?

Car Care

Whether you are growing grass, beautiful flowers or delicious vegetables, consider doing this without using fertilizers, toxic pesticides, and herbicides.

Pet Waste



Lawn: If you have a lawn, you may be using fertilizers and weed killers to keep it green and weed-free. When it rains, these chemicals are washed into the street. **Storm drains** in the streets collect the runoff and empty it untreated into the nearest waterway. So, when you fertilize or treat your lawn, you could also be fertilizing or harming our lakes and streams. Fertilizer encourages algae growth. This can form large algae blooms and uses up oxygen that fish and other critters need to survive. Pesticides kill aquatic insects and herbicides kill aquatic plants, both of which fish and other species need to survive.

Clean Dishes/ Clean Streams

Gardens: In your gardens, herbicides and pesticides can harm children, pets, and local wildlife and kill helpful insects such as ladybugs and green lacewings that keep real pests in check. Even when used sparingly, these chemicals can end up washing down storm drains, into streams and eventually polluting the local water supply.

Rooftop Runoff

Here's how to create a natural lawn and help protect the health of your family, wildlife, and our local resources.



<http://www.lismore.nsw.gov>

Household Hazardous Waste

HOW?

- ◆ Get your soil tested and apply fertilizers only at the appropriate time in the right amounts. UMass Extension and URI Extension can help you test your soil and have information about chemical-free lawn and garden care.

- ◆ To naturally strengthen the resistance of your plants and lawn to pests, build healthy soil by adding organic matter such as compost. Make your own compost or purchase it.

- ◆ If you fertilize at all, it's better to use compost instead of chemical fertilizers. Fertilizers act as pollutants once they enter our waterways.

- ◆ If compost doesn't work for you, then use an organic or slow-release fertilizer. A slow-release fertilizer has at least half of the nitrogen in water insoluble form. These fertilizers gradually release nitrogen to plant roots. This provides a steady supply of plant nutrients over an extended period of time. Because you need less fertilizer, you will save time and money.

Stream Buffers

- ◆ Select a fertilizer with low or no phosphorus. Most lawns already contain enough phosphorus. Excess phosphorus is the primary culprit of algae blooms in our lakes.

- ◆ Make fertilizer-free zones of at least 20 feet from the edge of lakes, streams or storm drains.

More →

Campaign for a Fishable/Swimmable Blackstone River by 2015

Cleaner Car Care

Lawns/
Gardens

Fixing oil and antifreeze leaks, and getting clean on the green

WHY?

Car Care



Leaks: Oil, antifreeze and other fluids that leak from your car are washed from your driveway into the street, and then into **storm drains** that flow directly into our Blackstone watershed waterways. In the U.S., it is estimated that petroleum



Pet Waste

washed off the pavement every year, along with dirty oil dumped directly into storm drains, sends 15 times more oil into the ocean than the Exxon Valdez did. One pint of motor oil can contaminate 125,000 gallons of drinking water and make an oil slick about the size of two football fields.

Clean
Dishes/
Clean
Streams

Washing: How and where you wash your vehicle makes a difference to our local environment! The soap, together with dirt and oil washed from your vehicle, can find its way to local streams, wells and groundwater through storm drains, which are not linked to a water treatment plant. Runoff of excess phosphorous from cleaning products can contribute to the decline in health of our local streams. Phosphorus acts as a nutrient or fertilizer for aquatic plants, causing excessive growth. This pollution harms water quality and aquatic life.



<http://www.lismore.nsw.gov>

Rooftop
Runoff

Household
Hazardous
Waste

Here's how you can reduce harmful oil and cleaning-product runoff from your vehicle.

HOW?

Leaks:

Pervious
Surfaces

- ◆ If you notice vehicle fluids on your driveway, call your local repair shop to fix it, or repair it as soon as possible. If you change your own oil, return the used motor oil to the place where you bought it for recycling – it's the law in Massachusetts. Also you can check with your Department of Public Works to see if they collect it. Never pour it down the storm drain.

Stream
Buffers

- ◆ Clean up spills immediately. Use a non-toxic biodegradable chemical from your local hardware store that will safely break down oil deposits, or use kitty litter to soak up oil. Place it in your garbage can in a sealed bag. Do not hose fluids into the street where they can eventually reach local streams and lakes.
- ◆ When parked in your driveway, keep a drip pan under the leak until you repair it. Empty the collected fluids into a tightly sealed and labeled container, and recycle it.

more →

Campaign for a Fishable/Swimmable Blackstone River by 2015

Poop Pickup

Lawns/
Gardens

Cleaning Up After Your Dog



WHY?

Car Care



Poop pollutes. Thousands of dogs live in the Blackstone watershed and their waste is a health risk when deposited on streets and lawns.

It can be washed down **storm drains** and end up in our brooks, streams and rivers, and lakes and ponds. The bacteria, together with other pollutants, can make the water unsafe for swimming and cause health hazards for humans and aquatic life.

It may be difficult to picture how one dog depositing a small amount of animal waste here and there can result in potential water pollution, but studies have shown that the cumulative impact of waste from all the pets, livestock, and resident waterfowl within a watershed can have a significant impact on water quality. Here's how to take care of your pet's poop without polluting your neighborhood and its water quality.

Pet Waste

Clean
Dishes/
Clean
Streams

HOW?

Rooftop
Runoff

- ◆ When walking your dog, bring a small trowel or "pooper-scooper" and a plastic bag.
- ◆ Make sure your pet does not pee directly on the pavement. It is less likely the next rainstorm will wash the waste into the storm drains or local tributaries.
- ◆ After your pet does its business, scoop the poop and place it in the bag. Tie it shut until you get home.
- ◆ Flush the poop down the toilet or place the bag in your garbage can.

Household
Hazardous
Waste

- ◆ It's not just your dog! Feeding ducks and geese may seem harmless but, in fact, can be a nuisance to people and harmful to our water. Feeding waterfowl causes them to become dependent on humans. This, in turn, creates unnaturally high populations and problems in our parks and lakes. Waterfowl waste can pollute our water with harmful bacteria.

Pervious
Surfaces

RESOURCES

<http://www.uri.edu/ce/healthylandscapes/tips/7.html>

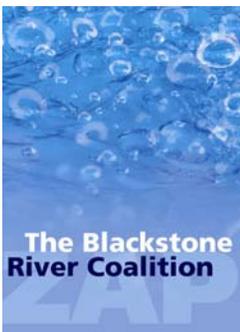
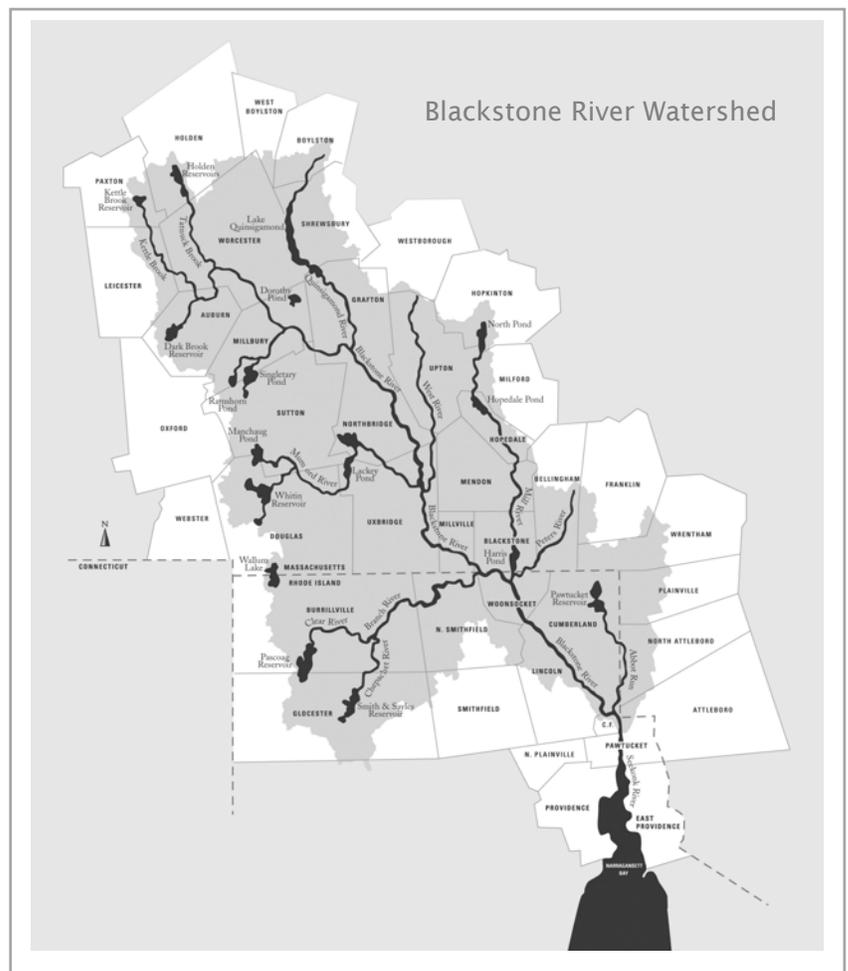
Stream
Buffers

BENEFITS

You help keep the watershed healthy, protecting fish and wildlife habitats. You also make your neighborhood more enjoyable.

more →

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Campaign for a Fishable/Swimmable Blackstone River by 2015

Clean Dishes and Clean Streams



Lawns/
Gardens

Using phosphate-free detergent in your dishwasher

WHY?

Dirty soapy water from your dishwasher flows into your septic system, and can leach into the nearest waterway, bringing with it lots of phosphorus. Phosphorus is a nutrient and causes excessive aquatic plant growth, maybe in your local swimming area. Even if your home is sewer, treatment plants don't remove all phosphorus, discharging some to waterways.

Car Care

Pet Waste

HOW?

◆ You can help improve water quality by using no- or low-phosphorus dishwasher detergent. Read labels and make sure phosphorus is not a listed ingredient. Most common brands of dishwasher detergent contain phosphorus, with the amount varying considerably by brand and by type, with the lesser amounts in gels and liquids, and greater amounts in powders and tablets/pacs. The chart shows percentage of phosphate by brand and type.

Clean
Dishes/
Clean
Streams

Rooftop
Runoff

Household
Hazardous
Waste

RESOURCES

This shelf survey was conducted at Big Y, Hannaford, Market Basket, Shaw's, Stop & Shop and Trader Joe's. Information is from the Mass. Department of Environmental Protection and the New Hampshire Department of Environmental Services website
<http://www.des.state.nh.us/bb.htm>

Pervious
Surfaces

Stream
Buffers

BENEFITS

You reduce the amount of phosphorus entering our waterways and the wastewater treatment plants.

Automatic Dishwasher Detergent	% Phosphorus
Gel/Liquid	
Citrus Magic	0
Seventh Generation	0
Palmolive Gel	3.3
Electrasol Gel	3.7
Hannaford Gel	4.0
Best Yet Gel	4.0
Sunlight Gel	4.3
Cascade Liquid	4.5
Cascade Gel	4.5
Cascade Complete	5.0
Powder	
Trader Joe's	0
Electrasol	4.5
Sunlight 2 in 1	4.5
Hannaford	5.3
Cascade	6.4
Cascade Complete	6.9
Tablets/Pacs	
Sun & Earth Concentrated Pacs	0
Market Basket Tabs	8.0
Cascade 2-1 Pacs	8.0
Sunlight 3 in 1 Pacs	8.6
Electrasol Tabs	8.7
Electrasol 3 in 1 Tabs	8.7
Electrasol Gel Pacs	8.7
Dishwashing Liquid	
No phosphates allowed	0
Laundry Detergent	
No phosphates allowed	0

more →

Campaign for a Fishable/Swimmable Blackstone River by 2015

Rooftop Runoff - Harvesting Rainwater

Lawns/
Gardens

Redirecting downspouts, collecting rainwater in rain barrels, and creating rain gardens can cut down on your water bill as well as protect water quality.

WHY?

Car Care



Water running off your roof during a rainstorm can be part of the problem — or a resource you can put to good use! On many properties in the Blackstone watershed, rooftop runoff from the gutter and downspout drains to the driveway or onto yards with compacted clay soil. In either case, it eventually flows into **storm drains** in the road and directly into our local streams, often causing flooding. Reducing storm water runoff is the first step to reviving life in urban streams.

Pet Waste

Clean
Dishes/
Clean
Streams

What's a rain garden? A rain garden is an attractive native plant garden with a special purpose: to reduce the amount of stormwater that rushes into our streams and other waterways. It is constructed as a place to direct the stormwater that falls on your property and is landscaped with water-loving native plant species. By creating a rain garden in your yard, you can use rain the way nature intended — instead of wasting this valuable resource!



http://nemo.uconn.edu/tools/publications/rain_garden_broch.pdf

Rooftop
Runoff

Here's how to divert rainwater runoff away from hard surfaces and create rain gardens to infiltrate more, so that you can help support aquatic life and reduce stream bank erosion. What's more, rainwater diversion can help you save water for use in your yard, eliminate potential flooding in your basement, and reduce your water bill.

Household
Hazardous
Waste

HOW?

Redirect downspouts:

◆ Check your gutters and roof drains and remove any leaves or other debris that may block water flow. If leaf accumulation is a recurring problem, consider installing commercial gutter shields.

◆ If your roof drain downspouts discharge to your driveway or too close to the house, install extensions that carry the water at least six feet away from the driveway or foundation to a vegetated area of your yard. Use additional pieces of downspout or open gutters for the extensions. Place a splash block at the end of the extension to spread out the water as it runs onto your lawn. This reduces the potential for soil erosion.

◆ Or you can collect runoff in a rain barrel to use for irrigation. Cut off your downspout at an appropriate distance from the ground, and place a rain barrel underneath. Place screening over it to protect it from leaf litter and mosquitoes. Attach a hose to the spigot or use a watering can.



Pervious
Surfaces

Stream
Buffers

more →

Campaign for a Fishable/Swimmable Blackstone River by 2015

H2W – Household Hazardous Waste

Lawns/
Gardens

Carefully storing and disposing of household cleaners, chemicals, and oils



WHY?

Car Care



Antifreeze, household cleaners, gasoline, pesticides, oil paints, solvents, and motor oil are just some of the common household products that can enter our **storm drains**. Help keep these out of our lakes and streams. Instead of putting these items in the trash, down the storm drain, or on the ground, take them to a local hazardous waste center or collection day.

Pet Waste

HOW?

Clean
Dishes/
Clean
Streams

Here are some simple steps you can take to carefully dispose of household wastes and help keep our water clean. Give them a try. A few simple changes can make a big difference!

Rooftop
Runoff

- ◆ Identify it. Be aware of household products that can harm children, pets, and the environment. The words "danger," "caution," "warning," or "toxic" indicate that you need to be careful in how you use and dispose of the product.

- ◆ Less is better. Reduce waste and save money by purchasing only the materials you need. When possible, choose less toxic alternatives. For example, try cleaning your windows with vinegar and water.

Household
Hazardous
Waste

- ◆ Store properly. Keep unused products in their original containers with labels intact. Select cool, dry storage areas that are away from children, pets, and wildlife.

Pervious
Surfaces

- ◆ Disposal is key. Never dump motor oil, chemicals, and other toxic materials down storm drains, sinks, or on the ground. Contact your local community for disposal locations, guidelines, and dates.

- ◆ Don't forget the RV. Dispose of recreational vehicle sanitary waste at a nearby drop-off location. Never put it down a storm drain or roadside ditch!

Stream
Buffers

RESOURCES

<http://www.uri.edu/ce/wq/has/PDFs/WQP.Hazardous.pdf>

For more information on RV dump locations and requirements:

MA: <http://www.rvdumps.com/dumpstations/node/46>

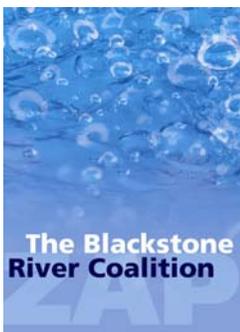
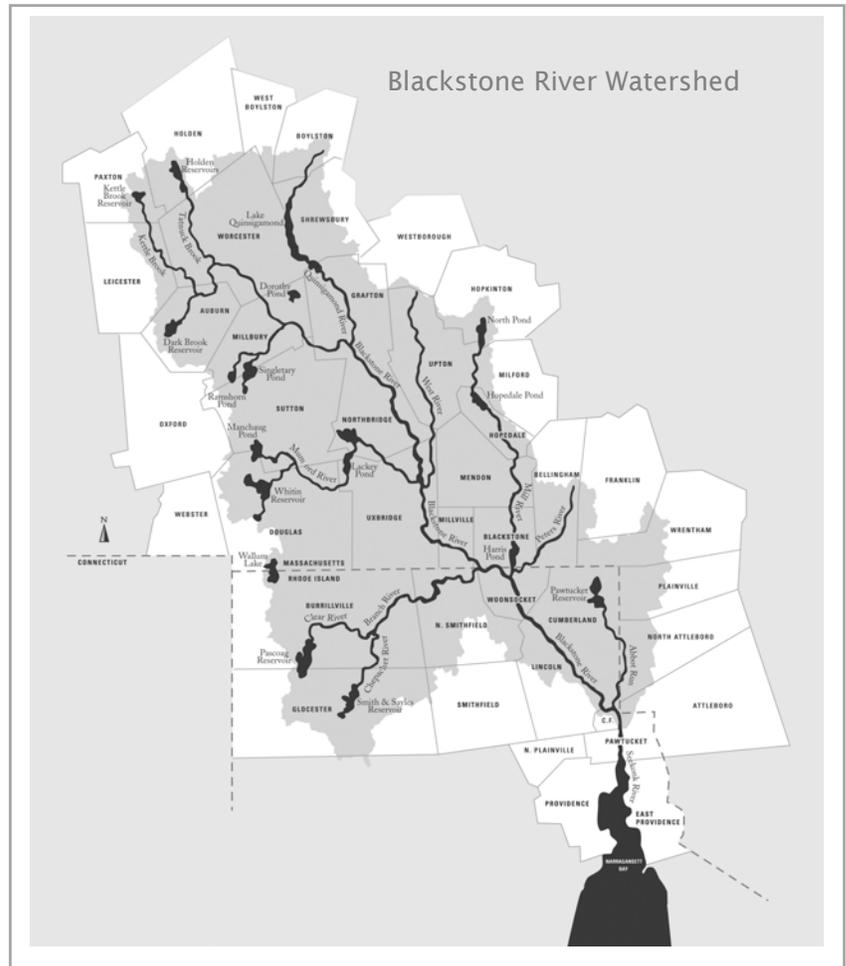
RI: <http://www.rvdumps.com/dumpstations/node/65>

more →

BENEFITS

By keeping these toxic materials out of our waterways, you make living much easier for aquatic critters and plants.

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Campaign for a Fishable/Swimmable Blackstone River by 2015

Homeowners: UNPAVE!



Lawns/
Gardens

Reducing paved surfaces

WHY?

Car Care



This is one of the most important actions you can take toward helping to improve our local streams in the Blackstone watershed. Did you ever consider how much water runs off your property during a rainstorm? Every time there's a heavy rain, hundreds—even thousands—of gallons of water fall on your roof, driveway, patio, and other paved surfaces. These surfaces are called “impervious” because it is impossible for the water to penetrate them.

Pet Waste

Instead of seeping back into the ground, the water rushes from your property into **storm drains**, picking up chemicals, litter, oil and other pollutants along the way. From the storm drains, it flows directly into local streams, untreated. The large volume of water that flows into our streams during a rainstorm flushes life out of our waterways, erodes stream banks, recedes quickly, and leaves excessively low levels of water in the stream after a rain. Storm water running off of impervious surfaces does not infiltrate to ground water, so there is less recharge in our streams. Our streams are “flashier”, with higher high water and lower low water.

Clean
Dishes/
Clean
Streams

Rooftop
Runoff

Here's how you can reduce runoff from your property and infiltrate more.

HOW?

Household
Hazardous
Waste

- ◆ Analyze how much of your property is covered with paved surface. Make a list of all of the impervious surfaces, including your roof, driveway, patio, and other paved areas.
- ◆ When it comes time to repave your driveway, front walk, or other pathways, choose gravel, wood mulch, or open-design pavers such as flat stones, bricks, pre-cast concrete lattice pavers, or pervious concrete. Place the new cover on well-drained soil or on a sand or gravel bed, so that rainwater can soak into the ground. (If weeds grow in the spaces between pavers, consider introducing moss as a natural way to crowd out weeds and make the area more attractive.)
- ◆ If you want to take action right away, decide where you could most easily remove impervious surface and replace it with wood mulch, gravel, soil, or alternative pavers.

Pervious
Surfaces

Stream
Buffers

- Start with one small area or project, and expand from there.
- Remove the paved surface or compacted soil using a pick or hire a contractor to remove the pavement for you.
- Break up the compacted soil underneath, and add shredded leaf mulch to help the soil retain water.
- Cover with the pervious surface of your choice, as indicated above.

more →

◆ If you're thinking about building an addition on your house, consider building up — not out.

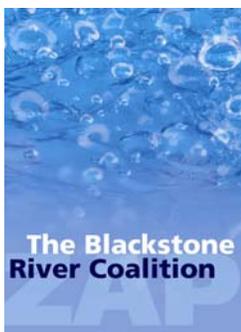
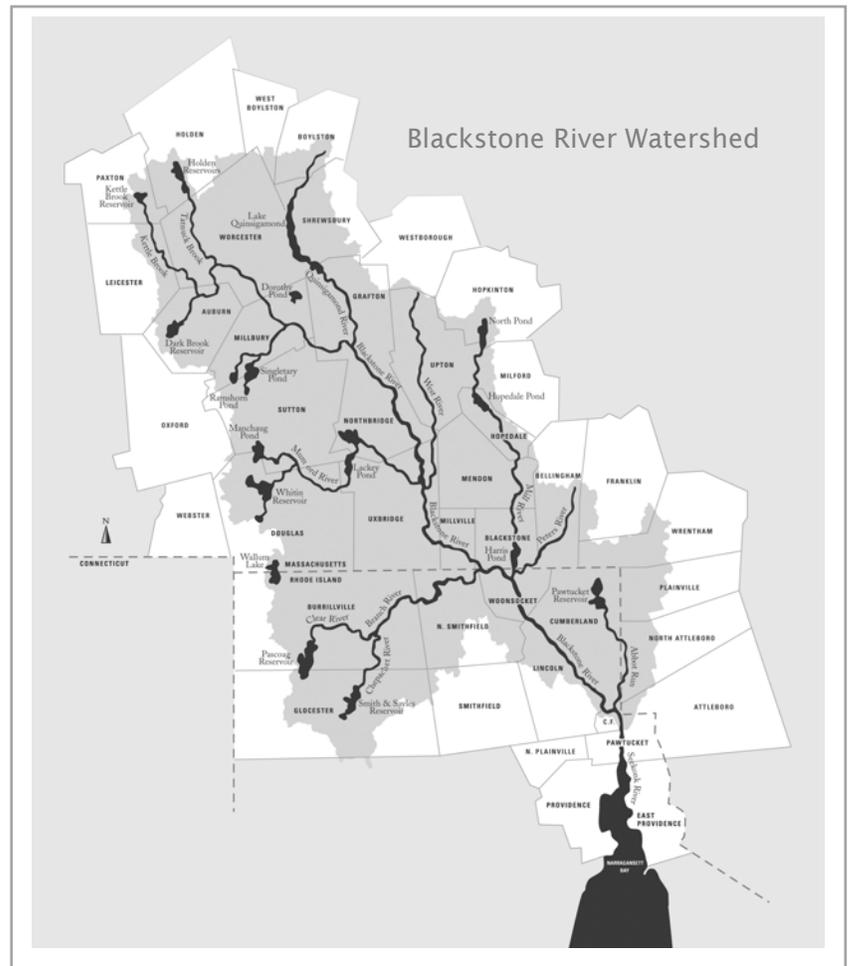
RESOURCES

http://www.recycleworks.org/greenbuilding/sus_impervioussurfaces.html
<http://www.spacreek.org/cn-storm.htm>

BENEFITS

By replacing hard surface with porous surface, you will allow water to be absorbed into the ground. Not only will you save thousands of gallons of rainwater from running into the storm drains and into the streams – you are helping to replenish our groundwater at a time when water is more precious than ever!

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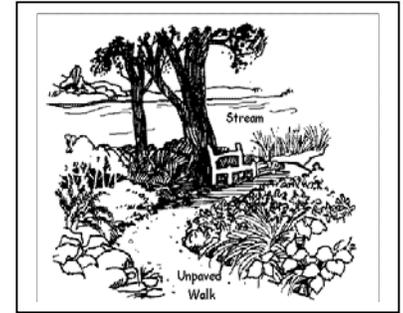


Blackstone River Coalition www.zaptheblackstone.org



Campaign for a Fishable/Swimmable Blackstone River by 2015

Life on the Edge – of a Waterway



dsf.chesco.org/

Lawns/
Gardens

Maintaining stream buffers and tree canopies

WHY?

Car Care

A key component for improving water quality is the protection of environmentally sensitive areas of vegetation that exist near streams, lakes and ponds, and wetland areas. These buffer areas help protect water quality in local streams and the mainstem of the Blackstone.

Pet Waste

Vegetated buffers and tree canopies along stream banks shade waterways thus keeping temperatures down and dissolved oxygen up, provide detritus in the stream that serves as food and shelter for aquatic species, and stabilize stream banks, stream channels and floodplains from the erosion and scour of high velocity flood flows. These buffers also serve as the link between terrestrial wildlife and their source of water, food and cover. The roots absorb and "take up" nutrients and other pollutants from ground water as it migrates through the root zone. Plant stems and leaves filter pollutants and sediment from overland flow of storm water through passing through the buffer.

Clean
Dishes/
Clean
Streams

Rooftop
Runoff

Buffers prevent lawn chemicals from entering the waterway. Fertilizers washing into aquatic systems can cause algae blooms, which can ruin swimming and boating opportunities, create foul taste and odor in drinking water, and kill fish by removing oxygen from the water. Buffers also prevent sedimentation from erosion. Too much sediment can cloud the water, reducing the amount of sunlight that reaches aquatic plants, and raising water temperature thus reducing oxygen. Sediment can also clog the gills of fish or smother fish larvae.

Household
Hazardous
Waste

It is very important to protect and restore stream buffers and tree canopy to help preserve these environmentally sensitive areas. If you are lucky enough to have a waterway or wetland on your property, you have a unique opportunity to help improve water quality in your neighborhood and the Blackstone River. Here's how to create, protect and maintain buffer areas.

Pervious
Surfaces

HOW?

Stream
Buffers

- ◆ Don't mow down to your stream. Leave at least 10 feet in native plant buffer to filter pollutants.
- ◆ If you fertilize your lawn, stop application at least 20 feet from water's edge to minimize runoff.
- ◆ Reduce surface water runoff and erosion by using permeable paving surfaces, directing runoff to planted areas and increasing groundwater recharge.



more →

- ◆ If your stream bank has begun to erode, seek expert help to repair it.
- ◆ Compost yard waste such as grass clippings, sticks, leaves, and brush; do not dump on the river's edge or into the water, as it can add nutrients that result in excessive aquatic plant growth just like fertilizer does.

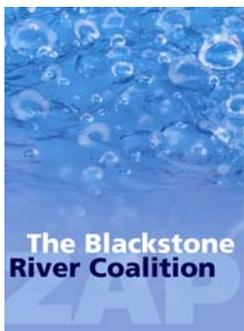
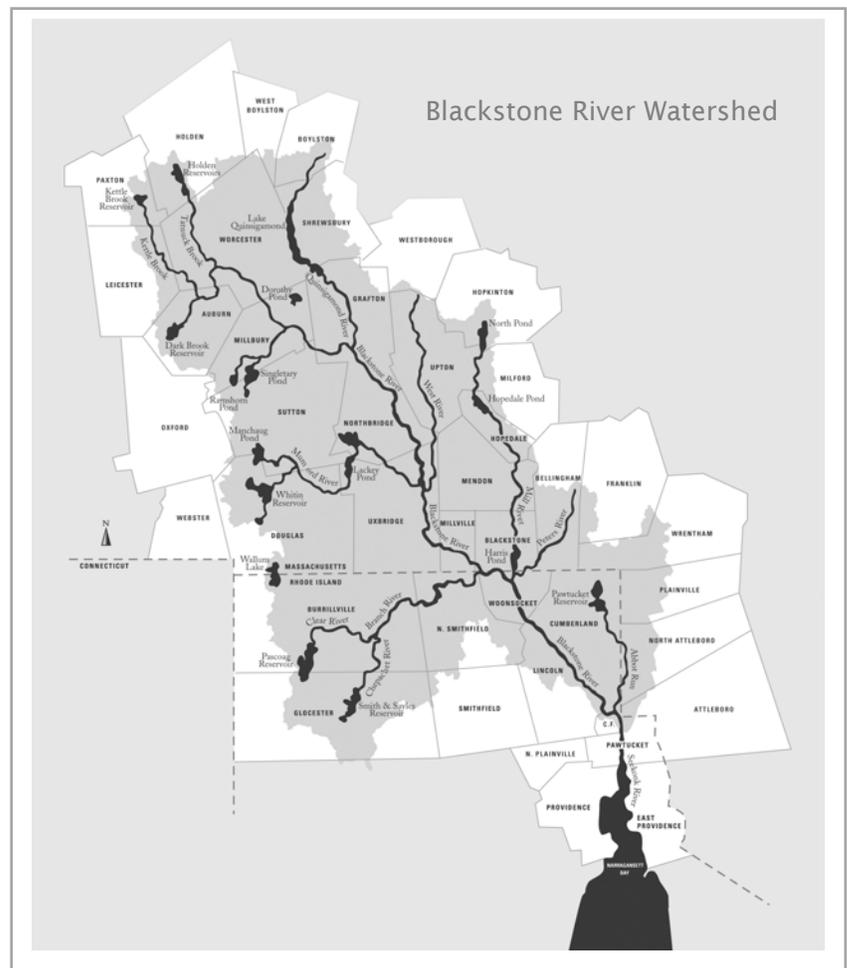
RESOURCES

http://www.uri.edu/ce/healthylandscapes/URI_HomeLandImprovement.pdf

BENEFITS

You help keep the watershed healthy, protecting fish and wildlife habitats. You also make your neighborhood more enjoyable.

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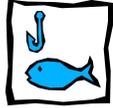
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10 THINGS YOU CAN DO TO IMPROVE WATER QUALITY IN RHODE ISLAND



There are many streams and rivers that flow through our backyards and drain into ponds, lakes, bays and ultimately the ocean. Pollutants such as animal feces, fertilizer, oil, hazardous waste, road sand, and grease on the land can be washed into our waters, but we can reduce this type of pollution. Here is a list of 10 things you can do to help clean our local waterways.



1. Learn about your local waters. Everyone lives in a **watershed**, which is the drainage area to a local waterbody (think of washing everything in a sink down the drain and the drain is your local river or stream). Figure out what waters are closest to you and where they flow. Learn about local animal life and plants that live in and around these waters. Check out DEM's website at www.dem.ri.gov to find out more.



2. Don't feed ducks! Although you may enjoy feeding geese, ducks, gulls and other waterfowl, remember that they too contribute to the same type of pollution that limits swimming and shellfishing. One bird dropping can contaminate 10,000 gallons of water. Bread and other human food are bad for bird's digestive tracts too. Feeding waterfowl can also attract larger bird

populations and may cause some birds to stop migrating.



3. Pick up after your pets. Dog waste and feces from other warm-blooded animals pollute local waterways and are larger polluters than you may think. This type of pollution contributes to the closing of beaches and shellfish beds all over the state. Pick up your pet's waste and deposit it in a trash can.



4. Inspect septic systems. Approximately 1/3 of the state uses some form of septic system for sewage disposal. Failing septic systems or cesspools are a major source of pollution to ground water and local reservoirs. What you flush directly affects the water we drink and the waters where we fish, swim and boat. If you have a septic system, inspect it regularly, pump and repair it as needed. If you have a cesspool, replace it. For more information on maintaining a healthy septic system the **Septic System Checkup Handbook** is available online at www.dem.ri.gov/pubs/regs/regs/water/isdsbook.pdf.



5. Avoid over-fertilizing your lawn. During rainstorms, **nutrients** from lawn fertilizer can be washed off lawns and paved areas into local waters. This type of pollution contributes to **eutrophication**, a process that causes nuisance algal blooms and reduction of habitat and oxygen levels for

many aquatic organisms. This leads to a decline in fish and shellfish populations, and reduces the diversity of fish in our waters. Get your soil tested to see if it really needs more fertilizer and if so, use as little as necessary. Read the label on fertilizer packages, apply according to directions, and clean-up any fertilizer left on paved areas. Also, reduce your lawn area by planting native, more drought-tolerant plants that are better adapted for the environment, and can act as buffers to prevent runoff from your lawn. For more information and fact sheets, log onto the **University of Rhode Island Cooperative Extension Home*A*Syst** website at www.uri.edu/ce/wq.



6. Minimize the use of hazardous products and **recycle** as much as possible. Cleaning and other household products contain many hazardous chemicals. Try to use the least harmful products available. Learn how to dispose of household hazardous chemicals properly by calling the **RI Resource Recovery program** at 942-1430 x 241 or visit them online at www.rirrc.org. The RIRRC website also has recycling information. Recycling helps to conserve natural resources and reduces the amount of refuse sent to landfills. Start a compost bin and buy products made with or packaged in recycled material to reduce waste further. Consult your town for **recycling** guidelines and check the RIRRC website listed above.



7. Get involved. Volunteer.

Help with clean-up efforts or be a volunteer water monitor. Participate in local activities that benefit the environment. Find out if there is a watershed council near you. A list is available at www.ririvers.org. If your watershed does not have an association, start one! Other statewide non-profit organizations also need volunteers. For more information check out the websites for Save the Bay at www.savebay.org and URI's Watershed Watch at www.uri.edu/ce/wq/. Every little bit you do counts! **Speak out.** Attend public meetings that pertain to water quality. Your participation makes the statement that your community is concerned about local waterways. Public involvement is imperative if your local and state public servants are to help you make large-scale improvements in your watershed. If you see a problem in your area or want something done, say something! If you don't have time to attend meetings, call or contact a city or town official, a state representative, or DEM.



8. Conserve water.

If you are connected to a public sewer, conserving water will help reduce the discharge from your wastewater treatment facility into local waters. Water conservation helps prevent septic system failures. To learn more about conserving water, visit the RI Water Resources Board at www.wrb.state.ri.us.



9. Pump it, don't dump it! If you own a sailboat or a motorboat have your holding tank emptied at one of the local pumpout stations around Rhode Island. For a list of **pumpout locations** call 222-3961 or visit www.dem.ri.gov/maps/mapfile/pumpmap.pdf. Also, if you have an old engine on your motor boat, look into updating it to a new 2-cycle or 4-cycle engine. They are cleaner for the environment and more efficient, which means they are lighter on your wallet!



10. Get out!

Get out on the water. Swim, sail, surf, kayak, fish, windsurf, boat, shellfish, go birding or walk along the shore. Explore the waters near your home or visit other parts of the state. For information about beach closures, contact the Department of Health **Beach Hotline** at 222-2751 or www.health.state.ri.us/topics/bathing.php. For information on **shellfish bed closures**, call **DEM** at 222-3961. Make it a point to enjoy the benefits of living near the water, and while you're out there keep an eye out for problems or pollution sources. **To file an environmental complaint with DEM** (which can be anonymous), call: 222-1360.

Rhode Island Department of Environmental Management
Office of Water Resources
235 Promenade Street, Providence, RI 02908-5767
Phone (401) 222-6800 • www.dem.ri.gov/



V. Masson
Updated May 2007

10

SIMPLE THINGS YOU CAN DO TO HELP CLEAN RHODE ISLAND WATERS





4. Environmental degradation

Waterfowl naturally congregate in wetlands, when and where natural foods are plentiful. However, when hand feeding occurs, the over-concentration of birds may ultimately cause overgrazing and degradation to the landscape.

High concentrations of birds cause:

- ◇ Overgrazing of vegetation leading to soil erosion.
- ◇ Degradation of the landscape making it undesirable for other species and unsightly for humans.
- ◇ Unsanitary conditions due to large quantities of bird feces.



5. Water pollution

People will often feed ducks or swans at the local pond, or gulls at the beach. This not only causes a nuisance situation with birds begging for and stealing food, but also contributes significantly to water pollution in the form of *fecal coliform bacteria*. High levels of fecal coliform bacteria in the water cause beach closures and the prohibition of shellfishing in certain areas. This pollution directly affects the enjoyment of our local waters and impairs the livelihood of local shellfishermen.

Feeding the birds can:

- ◇ Cause gulls to be a nuisance by begging and stealing food and garbage.
- ◇ Contribute to beach closures.
- ◇ Contribute to the prohibition of shellfishing in coastal areas.



Feeding Waterfowl is Banned in Rhode Island

As a result of the harm that hand feeding wild waterfowl causes to both the waterfowl and the environment, DEM banned the feeding of wild waterfowl statewide in 2003.

When people feed waterfowl

- ◇ Waterfowl can become concentrated in small urban environments that are not capable of supporting large flocks.
- ◇ Waterfowl may become malnourished and risks of disease increase.
- ◇ Birds can become nuisance animals at feeding sites and other areas where they congregate.
- ◇ Unnatural concentrations of waterfowl can cause overgrazing and erosion, which may be undesirable for other species.
- ◇ High concentrations of fecal coliform bacteria contribute to unsanitary conditions and to closures of beaches and shellfish beds.

For more information please call:



Rhode Island Department of Environmental Management.



www.dem.ri.gov

Waterfowl questions? Contact:
Division of Fish and Wildlife (401) 789-0281

Water quality concerns? Contact:
Office of Water Resources (401) 222-4700

WRITTEN AND PREPARED BY: MICHAEL HUGUENIN,
CHARLES ALLIN AND VERONICA MASSON

5 REASONS WHY FEEDING WATERFOWL IS HARMFUL



PHOTO:GLEN SMART/ USFWS

People have always enjoyed feeding gulls, geese, ducks or swans at beaches and parks. What they might not realize is that feeding these animals is detrimental to the birds and the environment in many significant ways. As a result of the harm it causes, a law was passed that prohibits feeding wild waterfowl. Please read on to learn more about the harmful effects of hand feeding waterfowl.

Birds have amazing survival skills

Waterfowl have an incredible ability to survive and avoid harsh weather conditions. They migrate hundreds of miles south to a warmer climate for the winter where food is abundant, or simply endure the harsh winter weather in northern areas. Many species of migratory and resident waterfowl spend the winter in Rhode Island. For all waterfowl, the abundance of naturally occurring food and the quality of their diet are the main driving forces behind the birds' ability to survive.



Food quality is critical

Waterfowl require proper nutrition to survive New England winters. The diet of a young bird during its first year of life must be high in essential fats, proteins and nutrients to ensure proper development. Adults need a nutrient rich diet in order to replace feathers, and recondition their bodies after migration and during breeding cycles. People unknowingly harm waterfowl by hand feeding food that is low in nutritional value.

High nutrition foods include:

Insects,

Grasses, and

Submerged Aquatic Plants



Low nutrition foods include:

Bread,

Crackers,

Popcorn, and

Pastries



Problems associated with feeding waterfowl include:



- ◇ Malnutrition
- ◇ Dependency
- ◇ Disease
- ◇ Water pollution
- ◇ Environmental degradation

Each problem is described below in detail.



1. Malnutrition

Through evolution wildlife species have developed skills to obtain food that contains the essential nutrients needed to survive, reproduce and live a healthy life. These skills help maintain a balance between animals and their natural habitat. This balance is compromised by hand feeding, which is physically harmful to birds and is one of the primary causes of malnutrition. Malnutrition is caused by the types of food that people hand feed to the birds. Foods such as bread and crackers don't provide the necessary energy and nutrients for proper health, and energy is wasted in digesting these foods. Birds become dependent upon humans because more poor quality foods are needed to make up the difference.

Malnutrition leads to:

- ◇ Low energy and muscle deterioration.
- ◇ Development of deformed wings in young birds.
- ◇ Loss of flight later in life.
- ◇ Lowered ability to avoid predation.
- ◇ Decrease in successful reproduction.
- ◇ Lowered life expectancy.



2. Dependency

Waterfowl, particularly Canada geese and mallards, will congregate in areas with abundant food and space. Unfortunately, hand feeding can cause birds to become concentrated in small urban areas that are incapable of supporting large numbers of birds. The birds then become dependent upon humans for food and can become nuisance animals. Some species, particularly mute swans, can become aggressive and may need to be removed.

Dependence upon humans for food causes:

- ◇ Loss of their natural fear of humans, which creates aggressive behavior.
- ◇ Concentration of birds near highways and airports, potentially causing motor vehicle and airplane accidents.
- ◇ Overpopulation of small wetlands and ponds.
- ◇ Delay or halting of migration to natural wintering sites.



3. Disease

Lowered nutrition and overpopulation allow disease to spread more quickly, potentially infecting thousands of birds with fatal diseases such as Avian Cholera, Duck Plague, Avian Influenza and Avian Botulism. Although these diseases have always existed in waterfowl populations, the risks increase when bird populations become concentrated at feeding sites.

How to Dispose of Medicines Properly

DON'T: Flush expired or unwanted prescription and over-the-counter drugs down the toilet or drain unless the label or accompanying patient information specifically instructs you to do so.

DO: Return unwanted or expired prescription and over-the-counter drugs to a drug take-back program or follow the steps for household disposal below.

1ST CHOICE: DRUG TAKE-BACK EVENTS

To dispose of prescription and over-the-counter drugs, call your city or county government's household trash and recycling service and ask if a drug take-back program is available in your community. Some counties hold household hazardous waste collection days, where prescription and over-the-counter drugs are accepted at a central location for proper disposal.



Drug Take-Back Event

Courtesy: Upper Watauga Riverkeeper
and Appalachian Voices

2ND CHOICE: HOUSEHOLD DISPOSAL STEPS*



1. Take your prescription drugs out of their original containers.



2. Mix drugs with an undesirable substance, such as cat litter or used coffee grounds.



3. Put the mixture into a disposable container with a lid, such as an empty margarine tub, or into a sealable bag.



4. Conceal or remove any personal information, including Rx number, on the empty containers by covering it with permanent marker or duct tape, or by scratching it off.



5. The sealed container with the drug mixture, and the empty drug containers, can now be placed in the trash.

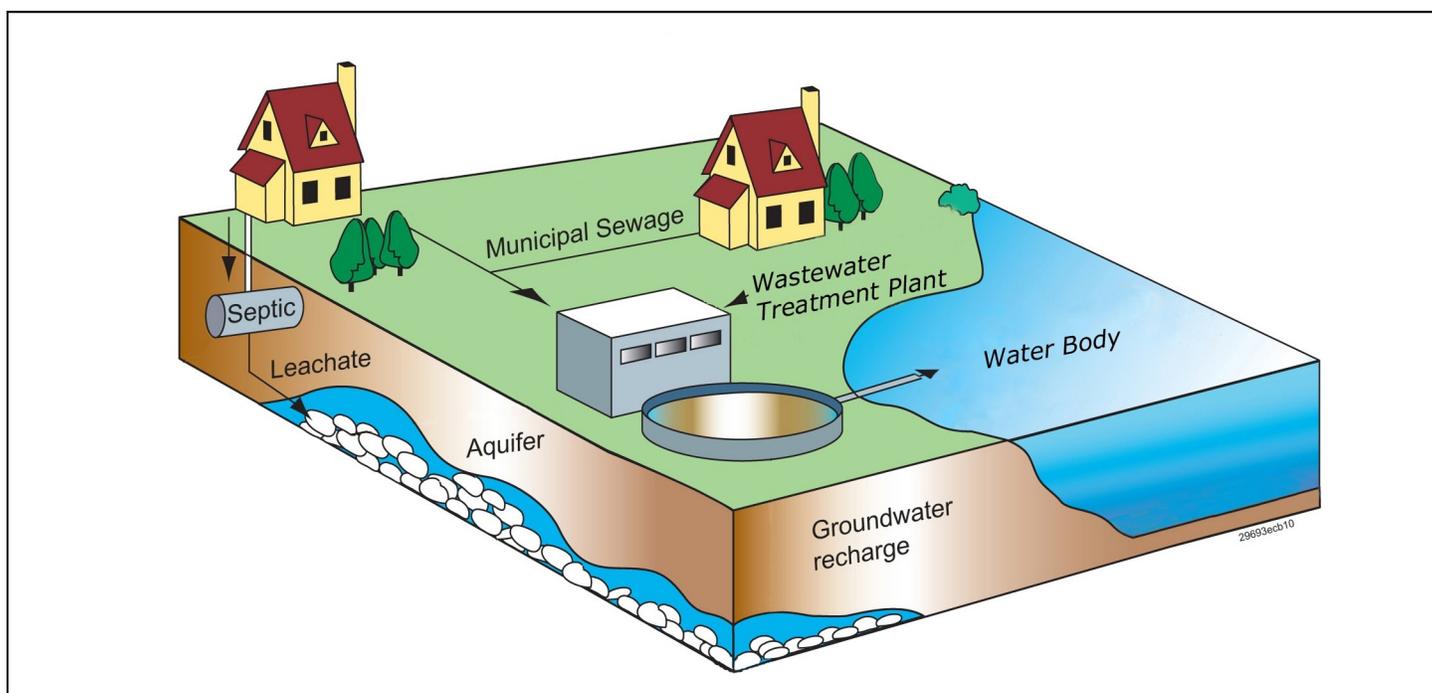
How Proper Disposal of Medicines Protects You and the Earth:

- Prevents poisoning of children and pets
- Deters misuse by teenagers and adults
- Avoids health problems from accidentally taking the wrong medicine, too much of the same medicine, or a medicine that is too old to work well
- Keeps medicines from entering streams and rivers when poured down the drain or flushed down the toilet

How Improper Disposal of Medicines May End Up in Our Drinking Water Sources

In homes that use septic tanks, prescription and over-the-counter drugs flushed down the toilet can leach into the ground and seep into ground water.

In cities and towns where residences are connected to wastewater treatment plants, prescription and over-the-counter drugs poured down the sink or flushed down the toilet can pass through the treatment system and enter rivers and lakes. They may flow downstream to serve as sources for community drinking water supplies. Water treatment plants are generally not equipped to routinely remove medicines.



For more information, go to www.epa.gov/ppcp/
Or call the Safe Drinking Water Hotline at 800-426-4791

APPENDIX B

APPENDIX C

Lincoln, RI
Stormwater Pollution Prevention Plan
(SWPPP)
Department of Public Works
August 2021

HIGHWAY GARAGE
94 OLD RIVER ROAD



B E T A

315 Norwood Park South
2nd Floor
Norwood, Massachusetts 02062
781.255.1982
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Stormwater Pollution Prevention Plan (SWPPP)

Lincoln, RI

Department of Public Works

HIGHWAY GARAGE 94 OLD RIVER ROAD

Prepared by: BETA GROUP, INC.

Prepared for: Town of Lincoln

August 2021

SWPPP Certification

Non-Storm Water Discharges

All storm water outfalls to surface waters at this facility have been evaluated and found to be free of non-storm water discharges.

Storm Water Pollution Prevention Plan

This Storm Water Pollution Prevention Plan has been prepared in accordance with good engineering practices. Qualified personnel properly gathered and evaluated information submitted for this Plan. The information in this Plan, to the best of my knowledge, is accurate and complete.

Authorized Official

Title

Date

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INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) has been developed by BETA Group, Inc. (BETA) on behalf of the Town of Lincoln, Rhode Island (the Town), Department of Public Works (DPW) to address the requirements of the Rhode Island Pollutant Discharge Elimination System (RIPDES) Program issued General Permit for Stormwater Discharge from Small Municipal Separate Storm Sewer Systems (MS4s) and from Industrial Activity at Eligible Facilities Operated by Regulated Small MS4s, hereafter referred to as the PERMIT. This SWPPP is outlined as follows:

1. *Pollution Prevention Team*
2. *Description of Facility*
3. *Stormwater Controls and Management Practices*
4. *Site Evaluations*
5. *Recommendations*

1.0 POLLUTION PREVENTION TEAM

The Lincoln DPW has assigned a Pollution Prevention Team (PPT) for this SWPPP. PPT team members and contact information are summarized below. The role of the PPT is to develop, implement, maintain, and revise as necessary, this SWPPP. The PPT also has the following responsibilities:

Name:	Michael J. Gagnon	Title:	Public Works Director	Department:	DPW
Phone:	401-333-8423	Email:	mgagnon@lincolnri.org		
Responsibilities: Coordinate all stages of plan development, inspections, and implementation; coordinate employee training program; keep records and ensure that reports are submitted.					

Name:	Bill Beachemin	Title:	Highway Garage Supervisor	Department:	DPW
Phone:	401-333-1107	Email:	bbeachemin@lincolnri.org		
Responsibilities: Implement the preventive maintenance program; oversee good housekeeping activities; serves as spill response coordinator.					

Name:	Leslie C. Quish	Title:	Town Engineer	Department:	Engineering
Phone:	401-333-8415	Email:	lquish@lincolnri.org		
Responsibilities: Coordinate SWPPP development, conduct initial training.					

Name:	Melissa Recos, PE	Title:	Project Manager	Company	BETA Group
Phone:	781-255-1982	Email:	MRecos@beta-inc.com		
Responsibilities: MS4 Consultant to the Town					

2.0 DESCRIPTION OF FACILITY

2.1 FACILITY SUMMARY

The Town of Lincoln Highway Garage is located at 94 Old River Road in Lincoln, Rhode Island (the site) and is owned and operated by the Town. Information provided in this, and the following sections is based on observations made during a site visit on March 11, 2021. During the site visit, BETA personnel were escorted by Lincoln DPW staff who provided a general overview and layout of facility operations, activities performed and material storage information.

The site consists of one irregular-shaped parcel that includes approximately 2.75 acres of land with a salt shed, vehicle parking areas and the Highway garage building. The Highway garage has two sections to it, the front section has a garage for vehicle and equipment storage and administrative offices and the rear section of the building is a garage for vehicle maintenance. There are no dumpsters, waste storage or disposal areas on this site. The salt shed is located in the center of the property and the Highway garage on the east side with paved parking and vehicle storage area between. There is a fueling station near the front of the facility with an above ground gasoline storage tank with secondary containment. The northwest portion of the site has a compacted dirt surface and is used for material stockpiling and storage. There is a drainage swale that runs along the northwest property line between the site and the adjacent Town Municipal Buildings and parking lot. Abutting the southern property line, downstream of the site, are wooded areas and wetlands and a single family residential lot. The paved parking lot area on the North side of the Highway garage slopes toward Old River Road which is state owned. The surrounding area is primarily residential. The site's location is depicted on the Site Map included in Appendix A. Pertinent site details, including layout, location of any stormwater outfalls, receiving waters and structural controls, are depicted on the Site Map.

2.2 SITE MAP

The facility operates on approximately 2.75 acres and contains the structures and other features identified above, shown on the Site Map and described in detail in the following sections. Components shown on the site map:

- Surface flow direction (there is no engineered drainage system onsite and no outfalls)
- Site discharge points and identification of watershed receiving waters
- Resource areas and surface waters
- Structural stormwater pollution control measures
- Aboveground storage tanks (indoors and outdoors)
- Salt storage areas
- Materials stockpiles
- Waste disposal areas (not applicable to this site)
- Vehicle washing (not applicable to this site)

2.2.1 INVENTORY OF BUILDING

The site includes the following buildings and structures and their use:

Table 2-1. Inventory of Buildings

No.	Use	Floor Drain
1a	Administration Office & Vehicle Storage	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
1b	Vehicle Maintenance	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
2	Salt Storage	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N

2.2.2 PARKING AREAS

Parking areas are located north and west of the Highway Garage. See Site Map for more details.

2.2.3 INVENTORY OF VEHICLES & EQUIPMENT

The Town maintains an inventory of vehicles and heavy equipment. A copy of the inventory is included in Appendix B.

2.2.4 WETLANDS AND ENDANGERED SPECIES

The site map includes wetlands mapping from RIGIS Wetlands (1993) layer which is derived from 1988 aerial photography. Downgradient wetlands are located offsite along the southwest property line.

RIDEM Environmental Resource Online Mapping indicates the site is within a natural heritage area. RIDEM/Natural Heritage Program was contacted by BETA group via email on March 23, 2021 and follow-up phone conversations to request confirmation and documentation that no endangered or threatened species, or critical habitat are near this facility. Correspondence is included in Appendix C. As of June 16, 2021 there has not been a response provided. It is reasonable that determination of "no effect" is appropriate for this site given that all discharges identified are an existing condition currently subject to MS4 General Permit and any best management practices discussed or recommended here will improve the stormwater discharge quality from the site. If any future stormwater projects or activities that require construction permitting are proposed the Town will have to re-initiate either informal or formal consultation with RIDEM.

2.3 SITE DRAINAGE & RECEIVING WATERS

There are no catchbasins, drain pipes or any other stormwater management structures on this site. Roof downspouts are directed to the ground surface. Stormwater runoff from impervious areas on the site generally follows surface topography and flows to three concentrated discharge points. North of the maintenance garage, flow moves north over paved surfaces and eventually discharges to a catch basin on Old River Road. West and South of the garage flow makes its way in a southeasterly direction offsite to a catch basin on Simon Sayles Road. The third point of surface flow discharge from the site is southwest of the salt shed into the adjacent wetland. Floor drains in the vehicle storage area of the highway garage have been plugged. Floor drains located in the vehicle maintenance garage discharge to

a tight tank located within the building that is periodically pumped and transported to a waste handling facility. Surface runoff flow direction and features are indicated on the Site Map.

2.3.1 RECEIVING WATERS

The RIDEM GIS mapping shows that this site is split by topography so that it falls within two different stormwater watersheds, as shown by the discharge points on the Site Map. Runoff into the drainage system on Old River Road is within the Scott Pond watershed, a sub-watershed of the Blackstone River. Scott Pond is assigned the unique identifier RI0001003L-01 and is considered a Category 5 water body, meaning that more than one designated use is impaired and that a TMDL will be required. Runoff to a small pond and wetland just off-site to the southwest make their way to an unnamed river within the Moshassuck River headwaters including tributaries to Barney Pond. RIDEM GIS mapping of sub watersheds includes the site’s southeast discharge point to Simon Sayles Road drainage system within the Moshassuck River headwaters. According to the February 2021 Impaired Waters Report, The Moshassuck River & Tribs is identified as RI0003008R-01A and is designated a Category 4A system, meaning that it is impaired or threatened for one or more of its designated uses and a water quality restoration plan (TMDL) has been completed. The Blackstone River Watershed has a TMDL for Pathogen and Trace Metals Impairments.

Impairments of these water bodies are shown in Table 2-2, below.

Table 2-2. Impaired Waters Receiving Drainage from the Facility

Water Body Name	ID	Category	Impairment(s)
Scott Pond	RI0001003L-01	5	Oxygen, Dissolved Phosphorus (Total)
Moshassuck River & Tribs	RI0003008R-01A	4A	Enterococcus Benthic-Macro-invertebrate Bioassessments
Blackstone River Watershed		NA	TMDL for Pathogen and Trace Metals

The types of impairments documented for these surface water bodies are related to nutrients and bacteria, for example fertilizer, grass clipping, leaf litter, and fecal material.

The good housekeeping practices, preventative maintenance and Best Management Practices implemented at the facility are methods to limit potential negative impacts to stormwater. The control measures specifically to address the pollutants contributing to impairments in the downstream waterbody and are discussed further in Section 3.0.

2.4 POTENTIAL POLLUTANT SOURCES

An inventory of materials and activities performed at the site and associated potential stormwater pollutants is provided in Appendix D. Locations of activities and potential stormwater pollutants are indicated on the Site Map.

2.5 WASH WATER & WASTEWATER

Vehicle washing takes place at a third-party vehicle washing facility off-site.

2.6 SALT STORAGE

Salt storage pile is covered and enclosed by a building to prevent exposure to precipitation. The building is open on the end and large enough for loading and unloading of salt to occur under cover.

2.7 DISCHARGES FROM THE SITE

As noted in Section 2.3, there are no outfall points from this site and therefore no historical or ongoing stormwater discharge monitoring data. The three points where concentrated overland discharge leaves the site were looked at during the site inspection for the presence of potential pollutants. Sand from winter pavement treatment was the only potential pollutant observed in the discharge flow paths. The Town will continue routine sweeping of pavement surfaces to prevent discharge of sand from the site.

Certain sources of non-storm water that are allowable and may occur on this site include flow from fire hydrants and potable water from hoses.

3.0 STORMWATER CONTROLS AND MANAGEMENT PRACTICES

The following sections summarize the management practices (non-structural stormwater controls) that are implemented at the site to mitigate the potential for potential pollutants to impact stormwater. These controls, used and maintained in accordance with good engineering practices, manufacturer's specifications and management practices detailed below, address the quality of discharges from the site.

3.1 MINIMIZE OR PREVENT EXPOSURE

To the extent practicable, either locate materials and activities inside or protect them with storm-resistant coverings in order to prevent exposure to rain, snow, snowmelt and runoff (although significant enlargement of impervious surface area is not recommended). Materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged directly or indirectly to surface waters or to the MS4 or if discharges are authorized under another NPDES permit.

Fueling Areas

Vehicle fueling activities can result in gasoline and diesel fuel entering the storm drain system. Spills can occur by topping off fuel tanks and during deliveries. Currently the fueling area is not under cover, however, when the concrete pad under the fuel tanks is up for replacement, spill containment features will be installed to minimize exposure. Best management practices for fueling areas include the following:

- Deliveries to fuel tanks and fueling of vehicles and equipment occur on impervious surface. There are spill response kits readily accessible at fueling station and maintenance areas.
- Currently the fuel dispenser area does not have containment features (grooves in concrete pad perimeter) but it is kept free of debris and routinely swept. Modification of concrete pad to better contain fuel spills is a viable future update to the fueling area.

Vehicle Storage

Rainfall on vehicles and equipment storage areas has the potential to collect pollutants and result in high loads of nutrients, metals, and hydrocarbons in stormwater runoff. To prevent this, best management practices include the following:

- All vehicles, equipment and hazardous waste storage containers should receive regular maintenance and be inspected for leaks or defective parts. If any leaks are found it is recommended vehicles be stored indoors or containment be provided until repaired. More frequent sweeping of outdoor vehicle storage will help to minimize oil, sediment, and other pollutants from entering the storm drain system in the adjacent roadways or directly toward the wetland.

Vehicle and Equipment Maintenance

Vehicle and equipment maintenance shall be conducted in a manor to reduce the discharge of pollutants by following these best management practices:

- Conduct routine inspections of heavy equipment and vehicles to proactively identify maintenance needs or potential leaks.
- Use drip pans as needed until repairs can be performed and when drip pans are used, avoid overtopping.

- Drain fluids from leaking or wrecked vehicles and parts as soon as possible. Dispose of fluids properly.
- Perform routine preventive maintenance to ensure heavy equipment and vehicles are operating optimally.
- Recycle or dispose of waste properly and promptly.
- Conduct all body repair and painting work indoors.
- Minimize waste from paints and thinners. Calculate paint needs based on surface area.
- Do not wash or hose down storage areas unless wash water will be captured by floor drains connected to the tight tank and the tight tank has the capacity to hold the wash water volume. Use dry cleanup methods (vacuum, sweep) to clean up metal filings and dust and paint chips from grinding, shaving and sanding. Sweep debris from wet sanding after allowing it to dry overnight on the shop floor. Dispose of waste properly; never dump waste into storm or sanitary sewers.
- Do not dump any liquids or other materials outside, especially near or in storm drains or ditches.
- Store materials and waste in labeled containers under cover and in secondary containment.
- Chemicals should not be combined in containers.
- Carefully transfer collected fluids from containers into designated storage areas as soon as possible.
- Waste liquids (oil, antifreeze, etc.) should be properly stored on-site and routinely disposed by licensed waste haulers at licensed disposal facilities.
- Store new and used batteries securely to avoid breakage. Store indoors or in secondary containment to contain potential acid leaks. Recycle used batteries.

Parts Cleaning

Cleaning of parts can transport pollutants into the storm drain system or surface waters. The MS4 Permit does not authorize these types of discharges. Best management practices to avoid this include the following:

- Use designated areas for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors. If parts cleaning equipment is not available, then capture parts cleaning fluids.
- Recycle cleaning solution. Never discharge waste to the sanitary sewer or storm sewer.
- Use steam cleaning or pressure washing of parts instead of solvent cleaning. Cleaning equipment must be connected to an oil/water interceptor prior entering the sanitary sewer.
- When using solvents for cleaning, drain parts over the solvent tank to avoid drips to the floor. Catch excess solutions and divert them back to tank. Allow parts to dry over the hot tank.

Vehicle and Equipment Wash Waters

Washing down of maintenance and fueling areas, as well as equipment and vehicles can transport pollutants into the storm drain system or surface waters. The MS4 Permit does not authorize these types of discharges. Vehicle and equipment washing is not done on this site. The Town has a contract with an off-site vehicle washing station where these activities take place.

Earth Material Stockpile Areas

Stockpiling material on the site may be needed temporarily or permanently depending on the time or year or town projects. BMPs for protecting stockpiles include adequate cover or temporary stabilization as well as temporary sediment perimeter controls at the base of the stockpile.

- Divert stormwater runoff around stockpile areas.
- Cover stockpiles with plastic, geotextile or temporary seed.
- Temporary sediment perimeter controls, including silt fence, filters socks, or fiber rolls, may be placed a short distance from the base of the stockpile. Maintaining a short distance from the base of the stockpile to the perimeter control is important as it allows water to pond, if needed.

3.2 GOOD HOUSEKEEPING

All exposed areas that are potential sources of pollutants, shall be kept clean using such measures as sweeping at regular intervals. Ensure that trash containers are closed when not in use, keep storage areas well swept and free from leaking or damaged containers; and store leaking vehicles needing repair indoors.

Sweeping and Cleaning of Parking Lots

Vehicle surfaces can collect a variety of contaminants such as sediments, oil, grease, and metals during daily activities. The MS4 permit requires that parking lots are swept, and surrounding areas of the facility are kept clean to reduce runoff of pollutants.

Pavement sweeping and cleaning follows the same schedule as street sweeping, at least twice per year in Spring and Fall, with additional sweeping as need. The Town owns a street sweeper that is kept on this site and use to sweep the parking lot areas, typically 6-8 times a year.

Waste Management

All liquid and solid waste must be disposed of properly. Some of the most common sources of pollution at municipal facilities are a result of littering, improper collection of debris, and improper disposal of solid or liquid waste. This site does not collect or store waste from off-site and does not have dumpsters. Any waste created from site activities is removed through routine trash pick-up. Best management practices for handling, storage, transfer and disposal of trash and recyclables include the following:

- All waste and recycling receptacles must be leak-tight with tight-fitting lids or covers.
- Keep lids on trash containers closed at all times unless adding or removing material.
- Place waste or recycling receptacles indoors or under a roof or overhang whenever possible.
- Prior to transporting waste, trash, or recycling, ensure that containers are not leaking (double bag if needed) and properly secure containers to the vehicle.
- Clean up any liquid leaks or spills with dry cleanup methods.

- Arrange for waste or recycling to be picked up regularly and disposed of at approved disposal facilities.
- Never place hazardous materials, liquids, or liquid-containing wastes in a dumpster or recycling or trash container.
- Do not wash trash or recycling containers outdoors or in parking lots.
- Conduct periodic inspections of solid and liquid waste storage areas to check for leaks and spills.
- Conduct periodic inspections of work areas to ensure that all wastes are being disposed of properly.
- Regularly pick up surrounding trash and debris that may accumulate on-site and regularly sweep the area.

3.3 PREVENTATIVE MAINTENANCE

All equipment and systems shall be regularly inspected, tested, maintained, and repaired to avoid situations that may result in leaks, spills, and other releases of pollutants to stormwater and receiving waters. Inspections shall occur at a minimum once per quarter.

Use Storage and Disposal of Potential Pollutants

Potential pollutants or hazardous wastes that may be used and stored in or around municipal building and facilities include pesticides, paints, cleaners, petroleum products, fertilizers, and solvents. Careful handling and proper storage of these products are the best means of preventing spills and pollution to the environment. Best management practices include the following:

- Storage and handling of potential pollutants is within the highway building and/or salt shed to reduce potential contact with stormwater and wind.
- Potential pollutants should be transported using approved methods and containers to minimize the chance of spillage, and by employees that have familiarity with the potential environmental and human health hazards of the products.
- Proper spill kits applicable to the products being used area easily accessible and marked clearly so employees can follow procedures quickly and effectively. Leaks or spills should be cleaned up in a timely manner.
- Storage areas and cabinets are designated for these types of products with measures in place to contain any spill leaking out of the storage area.
- A designated person is be responsible for these areas.
- The storage areas are be inspected frequently, kept clean and in good order with proper labels and signs, and consistent disposal practices.
- Floor drains in storage areas are be disconnected from the stormwater system.
- Routine inspection of buildings and facilities for areas of potential leaks.
- Paint and other chemicals shall not be applied on the outside of buildings when it is raining or prior to expected rain.

- When sanding, painting, power washing, etc., the site shall be properly prepared (e.g., use tarps) and cleaned (e.g., use dry cleaning methods). Protection shall be in place for the catch basins off-site when maintenance work is conducted upgradient of them.
- When painting, use a drop cloth and clean up any spills immediately.
- Open containers are not to be left on the ground where they may accidentally tip over.
- Wash water will not be allowed to flow into the off-site storm drain system or wetlands.

3.4 SPILL PREVENTION AND RESPONSE

There have been no significant spills or chronic leaks at this facility in the past 3 years. If significant spills (> 5 gallons) or chronic leaks occur at this facility in the future they will be recorded in the Spills & Leaks Reporting Log in Appendix E. Locations on this site with a potential for spills that could result in a non-stormwater discharge include the outdoor fuel pumps and the waste oil storage tank and maintenance garage floor drain tight tank during pump out. There are not any written Spill Prevention and Response Procedures for these specific pumps and tanks. Spill Prevention and Response Procedures in place specific to these locations at this facility include:

- Fuel and oil tanks are equipped with secondary containment and checked regularly for leaks.
- Bollards are in place between the fuel pumps and storage tanks as barrier from traffic areas.
- Spill response kits are kept at the fuel pumps, in the vehicle storage area (Building 1a) and in the maintenance garage (Building 1b) adjacent to the waste oil tank/tight tank and include granular absorbent, absorbent pads, absorbent socks, rubber gloves & plastic bags. All personnel are instructed in spill kit & supplies location and use including procedures for stopping, containing, and cleaning up leaks, spills and other releases.
- The pollution prevention team leader or the spill coordinator is advised immediately of all spills of hazardous materials or regulated materials, regardless of quantity.
- Spills are evaluated to determine the necessary response. If there is a health hazard, fire or explosion potential, 911 will be called. If a spill is large or threatens surface waters, including storm drains, state or federal emergency response agencies will be called.
- Spills are to be contained as close to the source as possible with a dike of absorbent materials from the emergency spill kit. If necessary additional dikes will be constructed to protect off-site catch basins or wetland.

3.5 EROSION AND SEDIMENT CONTROL

Structural and non-structural control measures are used at the facility to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation.

Erosion Control

Site maintenance activities include erosion control, specifically with respect to poor vegetation cover and particularly within 50 feet of the adjacent wetland. Best management practices include the following:

- Prevention of erosion and sedimentation is preferable to installing treatments devices.

- Protect vegetated and wooded buffers and leave vegetated areas undisturbed to the extent possible.
- Inspect site regularly for locations of poor vegetation cover, erosion and sedimentation and channelization. If stabilization is required, corrective actions should be identified and implemented as soon as possible.
- If exposed, soils should be stabilized by mulching, seeding with fast-growing native grass and/or planted with native tree and shrubs. Use erosion control blankets when seeding slopes.
- If necessary, slow stormwater runoff velocities with conveyance measures such as riprap channels or vegetated swales, check dams, level spreaders and outlet protection, etc.
- A buffer/filter strip should be left around wetland area. No fertilizers or pesticides are applied in the buffer/filter strip except where necessary.

3.6 MANAGEMENT OF RUNOFF

Stormwater runoff from the facility is managed to prevent or reduce the discharge of pollutants. There are no drainage structures or structural BMPs on this site to manage overland runoff. Management includes diverting runoff from areas that are potential sources of pollutants and containing runoff on-site to promote infiltration where possible. At the southern property line, downgradient of the paved parking area between the salt shed and the highway garage there is a concrete block wall and earthen berm to prevent runoff from discharging onto the adjacent residential property. This wall/berm slows the flow and redirects it west toward the pervious driveway and stockpile area where low flow may infiltrate and high flow discharges towards the wood and wetland area. Recommendations to improve on runoff management are included in Section 5.0.

3.7 EMPLOYEE TRAINING

The permittee shall regularly train employees who work in areas where materials or activities are exposed to stormwater, or who are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance personnel), including all members of the Pollution Prevention Team. Training shall cover both the specific components and scope of the SWPPP, and the control measures required under this part, including spill response, good housekeeping, material management practices, any best management practice operation and maintenance, etc. EPA recommends annual training.

The permittee shall document the following information for each training:

- The training date, title and training duration
- List of municipal attendees
- Subjects covered during training

3.8 MAINTENANCE OF CONTROL MEASURES

The permittee shall maintain all control measures, required by the permit in effective operating condition. The permittee shall keep documentation onsite that describes procedures and a regular schedule for preventative maintenance of all control measures and discussions of back-up practices in place should a runoff event occur while a control measure is off-line. Nonstructural control measures shall also be diligently maintained (e.g., spill response supplies available, personnel trained).

4.0 SITE EVALUATIONS

Evaluations shall be conducted for the three site stormwater discharge points (since the site does not have outfalls) and the overall facility as follows. These points are indicated with a blue call-out on the Site Map in Appendix A.

4.1 QUARTERLY VISUAL MONITORING

Quarterly inspections shall occur at the three site stormwater discharge points and nearest off-site catch basin on Old River Road and Simon Sayles Road (since the site does not have outfalls). The visual evaluation must be made during daylight hours. Record will be taken of any observed contamination problems with the date and time. The source of the contamination will be identified and a solution to resolve the issue provided. A quarterly monitoring log is provided in Appendix F.

4.2 ANNUAL SITE INSPECTIONS

An annual inspection of the entire facility is required as part of the SWPPP. Inspect all areas that are exposed to stormwater and all stormwater control measures, and equipment stored on site. More frequent inspections may be required if significant activities are exposed to stormwater. Inspections shall be performed when the facility is in operation. During these site visits, the inspector(s) will observe contamination problems with the date and time documented. In addition, the source of contamination must be included in the site monitoring logs.

The permittee shall document the following information for each facility inspection:

- The inspection date and time
- The name of the inspector
- Weather information and a description of any discharge occurring at the time of the inspection
- Identification of any previously unidentified discharges from the site
- Any control measures (including BMPs) needing maintenance or repair
- Any failed control measures that need replacement
- Any SWPPP changes required as a result of the inspection
- Signed certification

If during the inspections, or any other time, the permittee identifies control measures that need repair or are not operating effectively, the permittee shall repair or replace them before the next anticipated storm event if possible, or as soon as practicable following that storm event. In the interim, the permittee shall have back-up measures in place.

A SWPPP Evaluation Report is provided in Appendix G. The permittee shall report the findings from the Site Inspections in the annual report.

4.3 RECORDKEEPING & REPORTING

The facility will maintain records of spills, leaks, inspections, and maintenance activities. Records described in this SWPPP will be retained on site for 5 years from the date of the cover letter that notifies this facility of coverage under the stormwater permit. These records will be made available to state or federal inspectors upon request. Additionally, employee training records shall also be maintained.

4.4 PLAN REVISIONS

If this facility expands its operations, or changes any significant material handling or storage practices which could impact storm water, this SWPPP will be amended. The amended Plan will describe the new activities that contribute to increased pollution and planned control measures.

This Plan will also be amended if a state or federal inspector determines that it is not effective in controlling storm water pollutants discharged to waterways.

5.0 RECOMMENDATIONS

Based on BETA's March 11, 2021 site visit, we are providing the following recommendations to attain or maintain compliance with the MS4 permit requirements.

1. The vehicle fueling area is uncovered and the concrete pad under the fuel dispensers do not have any containment features such as positive limiting barrier (grooves in concrete pad perimeter). Petroleum is a potential stormwater pollutant and releases during vehicle fueling may enter the storm drain if occurring during a rain event. We recommend that when the Town replaces the concrete pad, installation of containment features be included as part of the new foundation to prevent potential stormwater pollutants from entering the storm drainage system.
2. Construction, landscaping material and debris stockpiles located on the west side of the site are uncovered and located upgradient of wetlands. We recommend installing berms between this area and the downstream wetlands and/or containment around the stockpiles to prevent migration of materials off-site and encroachment into resource areas.
3. At the southern property line, downgradient of the paved parking area, there is a concrete block wall and earthen berm that channelized stormwater flows at a low point southwest of the salt shed and directly into the wetland. We recommend installing a sediment forebay or similar BMP at this location or diverting flow for infiltration on-site to mitigate impacts of stormwater runoff to the downstream wetlands.
4. Several empty barrels, miscellaneous old vehicle equipment and storage containers were observed during the site inspection. We recommend that these items be inventoried, and either be placed under cover, or removed from the site if not in use.
5. Routine (monthly/quarterly as needed) sweeping of impervious surfaces is recommended and imperative on this site to prevent potential stormwater pollutants from entering the off-site storm drainage system.

APPENDIX A – Site Map

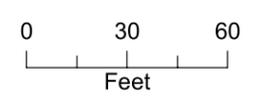
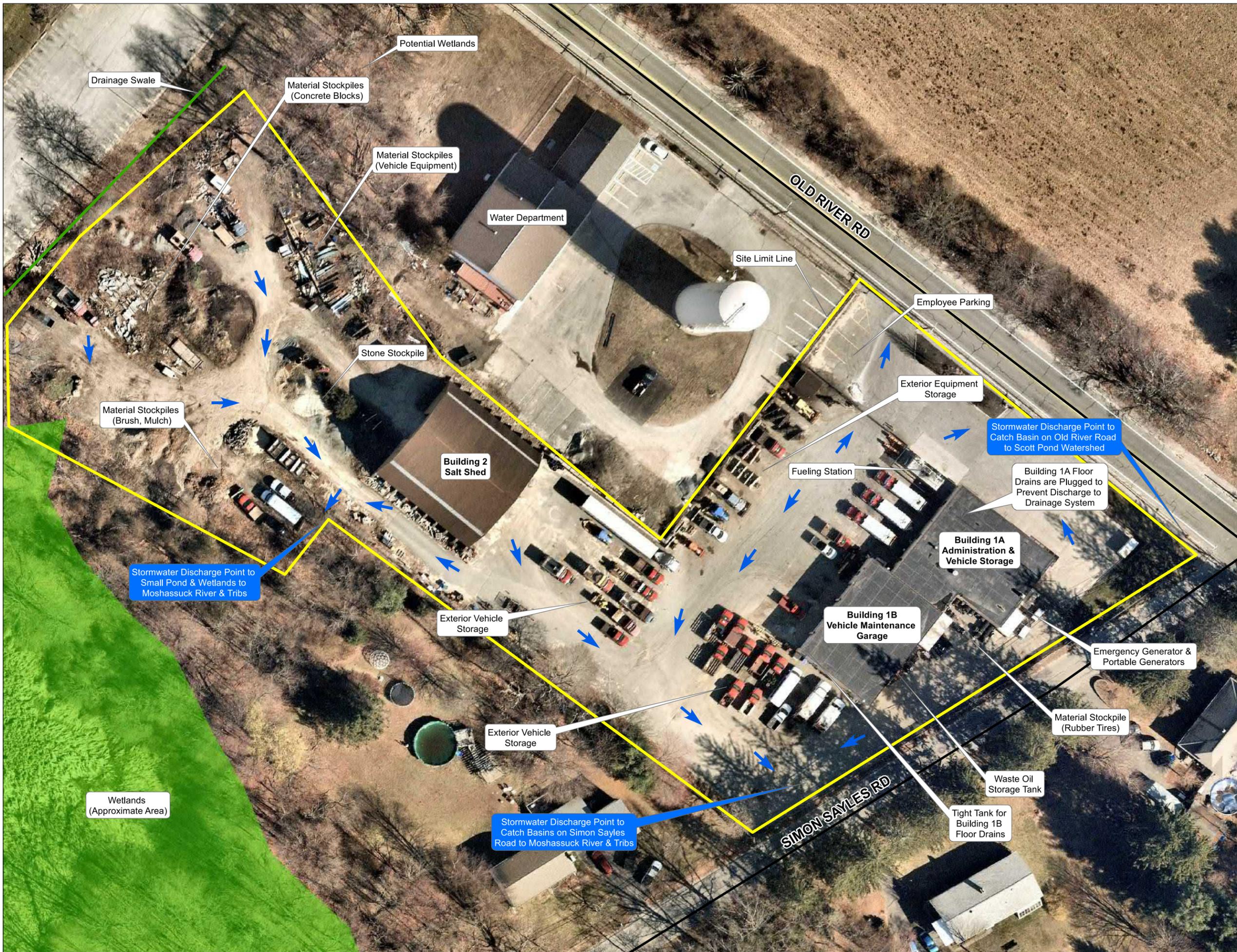
Map 1 of 1
Highway Garage

94 Old River Road

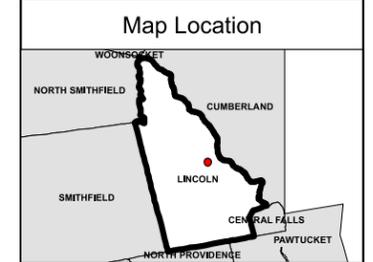
Town of Lincoln, RI
SWPPP Map

Stormwater Legend

- Drainage Swale
- ➔ Surface Flow



Reference:
RIGIS Wetlands (1993) Layer,
as Interpreted from 1988
Aerial Photography
Nearmap Aerial Taken March 21, 2020
Map Based on March 11, 2021 Site Visit
Plot Date: 3/30/2021



APPENDIX B – Vehicle Inventory

VEHICLE INVENTORY

AS OF

3/1/21

APPENDIX B
 VEHICLE INVENTORY
 HIGHWAY GARAGE
 94 OLD RIVER ROAD
 LINCOLN, RHODE ISLAND

TOWN
 OF
 LINCOLN

Plate #

ITEM #	DEPARTMENT	YEAR	MANUFACTURER & MODEL	VIN	TYPE	PLATE #
	HIGHWAY	2018	MACK TRASH R-1	1M2AX04C6J3M038021		4758
	HIGHWAY	2015	MACK TRASH R-2	1M2AX04C2FM022745		4889
	HIGHWAY	2012	MACK TRASH R-5	1M2AX04C0CM011027		1079
	HIGHWAY	1994	MACK TRASH R-7	1M2B210CORM014680		266
	HIGHWAY	2006	MACK TRASH R-8	1M2AG09C26M001483		4835
	HIGHWAY	2003	AUTO CAT TRASH R-9	5VCD16HE23N194302		4834
	P+R	2000	FORD 250 P#6	1FTNX21L3YEA59855		5118
	P+R	2011	FORD 350 P#7	1FTRF3BT8BEB46195		7017
	P+R	2009	FORD VAN P#8	1FB5531L0YDA27397		4148
	HIGHWAY	2005	GMC SERVICE UNIT 5	1GDHK24U05E327736		5592
	HIGHWAY	2003	FORD 450 #20	1FDXF47P73ED64104		165
	HIGHWAY	2005	MACK SANDER #21	1M2AG09C55M001282		5205
	HIGHWAY	2019	INT SANDER #22	1H2WNTAT8KH81262		5586
	HIGHWAY	2023	FORD 450 #23	1FDXF47F73EA62724		4881
	HIGHWAY	2006	MACK SANDER #24	1M2AG09C36M001394		4406
	HIGHWAY	2016	FORD 450 #25	1FDUF4HT4GEC32261		5562
	HIGHWAY	2021	INT SANDER #26	3HAEJTAR8ML535325		5664
	HIGHWAY	2019	FORD 550 #27	1EDUF5HYXKDA10307		5612
	HIGHWAY	2019	FORD 550 #28	1FDUF5HY8KDA00353		5491
	HIGHWAY	1999	INT SANDER #29	1H2DSAANSXHL66637		4807
	HIGHWAY	2000	FORD 450 #30	1FDXF47FXVEE25508		984
	HIGHWAY	1995	INT SANDER #31	1HTSDAAN25H212323		4809
	HIGHWAY	1995	FORD SANDER #32	1EDXR82E4SVA13668		5117
	HIGHWAY	1989	FORD #33	1FDYR90L9KVA60819		292
	P+R	2008	FORD PLU #34	1FTRF14W98KC46524		4660
	HIGHWAY	2020	INT SANDER #35	3HAEJTAR4LL856549		5758
	HIGHWAY	2001	FORD 450 #36	1FDXF47F41EA28365		777
	HIGHWAY	2016	FORD EXP #38	1FMSK8B89RGH28202		4742
	HIGHWAY	2013	FORD PLU #39	1FTME1EM9DKF27322		948
	HIGHWAY	2021	CHEVY EQ #41	2GNAXSEV5M6100491		5662
	HIGHWAY	2003	FORD 450 #42	1FDXF47F53EA62723		4882
	HIGHWAY	1987	INT TOW #43	1HTLCHXLH808174		1105
	HIGHWAY	2003	FORD PLU #44	1FTRF182X3NA31331		5490
	POLICE	2009	FORD VAN #45	1FTNE14W69DA27396		3953
	HIGHWAY	2006	FORD 450 #46	1FDXF47P76ED51695		4990
	HIGHWAY	1993	Vermeer chipper	1VRC14133P1003952		257
	HIGHWAY	2012	FORD PLU #48	1FTEX1EM2CFB87083		4582
	HIGHWAY	2012	FORD 450 #51	1FDUF4HT9CEC12209		5228
	HIGHWAY	2012	FORD 450 #52	1FDUF4HT7CEA07861		258
	HIGHWAY	2011	FORD PLU #54	1FTNF1EF4BRD97890		272
	HIGHWAY	2009	FORD ESC #56	1FMCU93G49KA94914		4149
	HIGHWAY	1991	INT SANDER #57	1HTSHNYROMH361935		5141
	HIGHWAY	1993	INT PLOW #58	1FDWK74C4PVA13778		734
	HIGHWAY	2018	FORD VAN #61	1FTYR2CM1JKA12554		7
	HIGHWAY	2011	FORD 350 #64	1FTRF3BT1BEB75698		235
	HIGHWAY	2004	FORD UTIL #65	1FTSF31P54ED36188		5065
	HIGHWAY	2007	STERL #66	2FZACGCS37AY65161		1084
	HIGHWAY	2013	INT SANDER #69	1HTWCAZR3DJ240607		4540
	HIGHWAY	2016	ELG Sweeper S-1	NR20819		4816
	HIGHWAY	2009	ELG Sweeper S-3	NS0916D		5281
	HIGHWAY	1995	CAT Loader	2XL01764		1312
	HIGHWAY	1998	BACKBE J.D.	T0710D5850354		919

APPENDIX C – Documentation of Endangered Species

Melissa Recos

From: Julia Stearns
Sent: Tuesday, March 23, 2021 9:36 AM
To: margarita.chatterton@dem.ri.gov
Subject: SWPPP permitting of a site located within Natural Heritage Endangered Species Habitat
Attachments: Appendix A_Lincoln Highway Garage SWPPP MAP.pdf

Hello Margarita – as we just spoke...I am working on a SWPPP permit under RI MS4 for the Town of Lincoln and my site is located within Natural Heritage and Endangered Species Habitat and requires review from RI DEM. There will be no development proposed to the existing facility, the Lincoln RI Highway Facility, see attached site locus. Overland flow from the site may discharge to wetlands in the vicinity.

Can you please confirm that the site will have no adverse effect on endangered species?
The site is located at 94 Old River Road in Lincoln.

Thank you,
Julia
508-404-5512

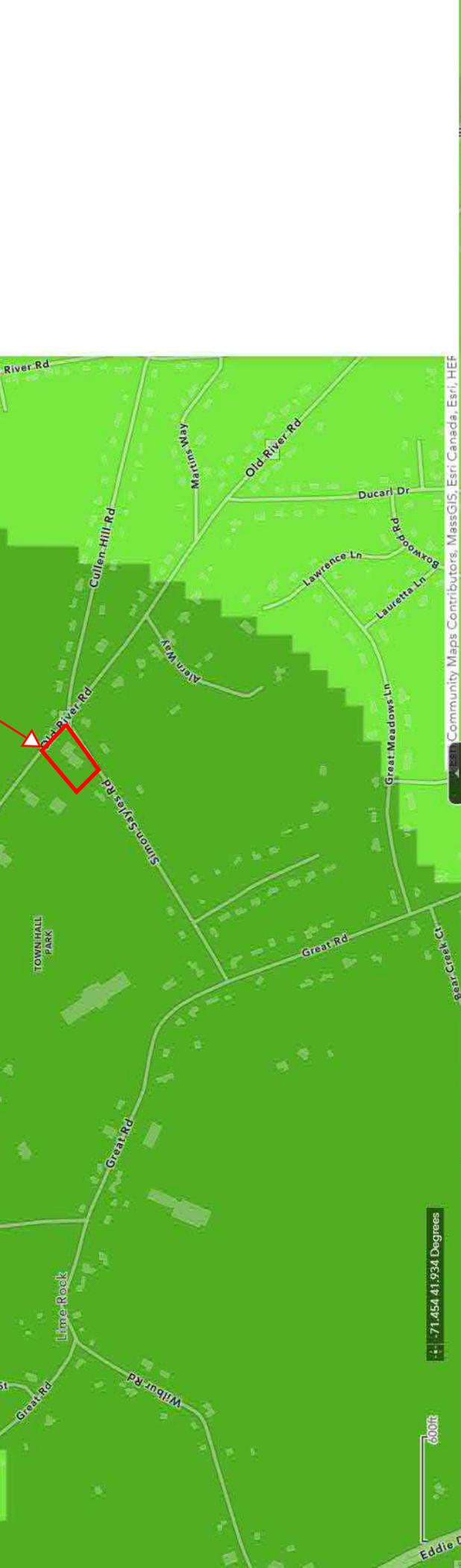
Julia Stearns

Project Scientist



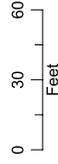
BETA Group, Inc.
401.333.2382





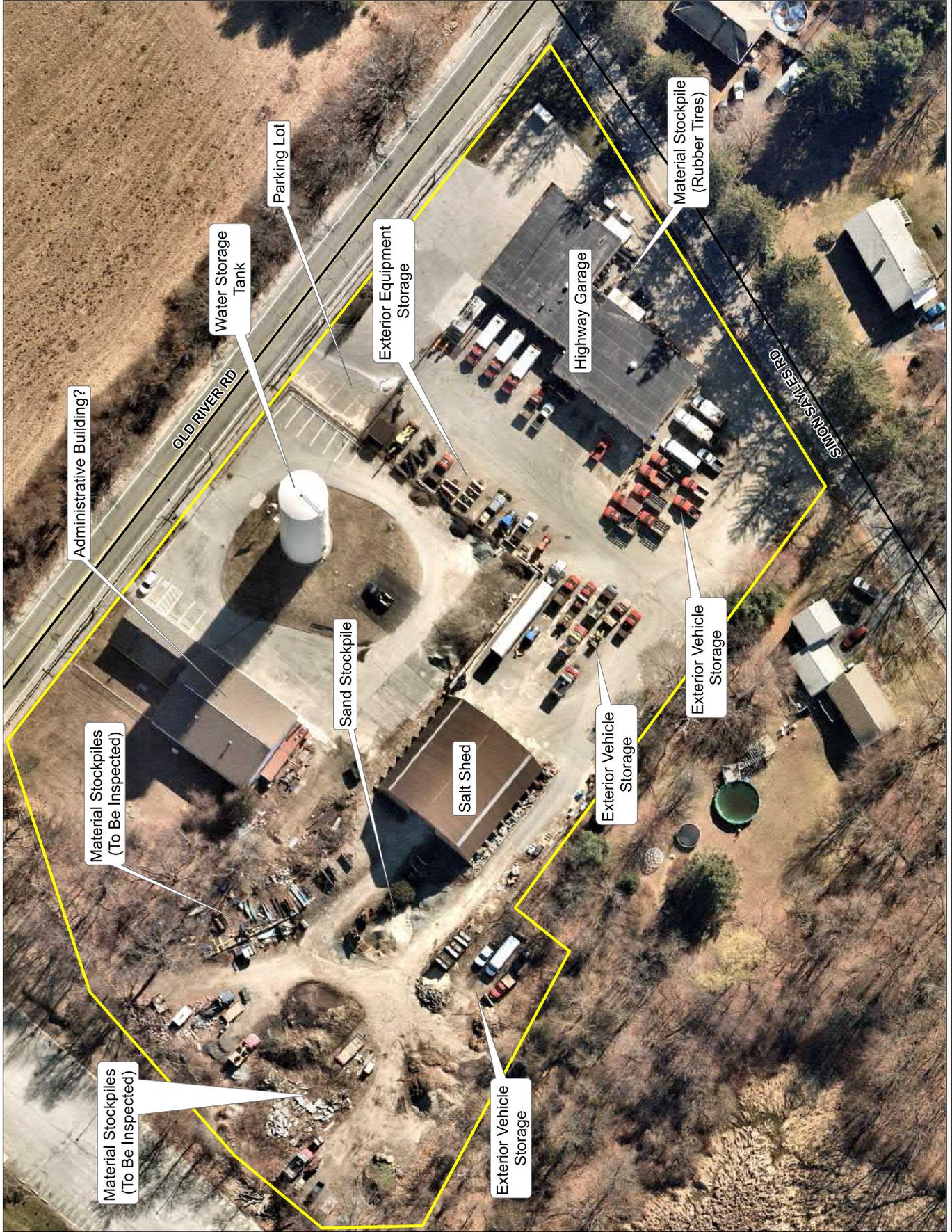
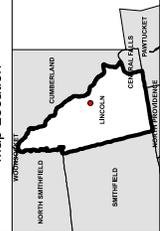
Map 1 of 1
Highway Garage
94 Old River Road
Town of Lincoln, RI
SWPPP Map

Stormwater Legend
Town Roads



Plot Date: 3/8/2021

Map Location



APPENDIX D – Summary of Site Activities

APPENDIX C: Summary of Site Activities and Potential Stormwater Pollutants

Activity	Description	Building Reference	Material Inventory	Potential Stormwater Pollutants	Quantity	Potential Exposure to Stormwater	Management Practices	
							Structural	Non-structural
Vehicle Fueling	Fueling of Town-owned and operated vehicles	Building 1A Administration & Vehicle Storage	Diesel Fuel Gasoline	Petroleum Hydrocarbons	4,000 Gallons 4,000 Gallons	High - during a spill, uncovered fueling area	Storage tank with concrete pad	Spill kit in close proximity
Landscape Equipment	Storage of Town-owned lawn equipment	Building 1B Vehicle Maintenance Garage	Mower String trimmers Blowers	Petroleum Hydrocarbons	Varies	Low - in covered bldg	Floor Drains to tight tank and pumped frequently	Maintenance conducted inside building, good housekeeping, tight tank routinely pumped
Vehicle Maintenance	Maintenance and Storage of Town-owned and operated vehicles and equipment	Building 1B Vehicle Maintenance Garage	Motor Oil Hydraulic Fluid Lubricants Transmission Fluid Waste Oil Antifreeze Coolant Brake Fluid	Petroleum Hydrocarbons Petroleum Hydrocarbons Petroleum Hydrocarbons Petroleum Hydrocarbons Petroleum Hydrocarbons Ethylene glycol Ethylene glycol Glycols	Varies	Low - in covered bldg	Floor Drains to tight tank and pumped frequently; Fluid/oil barrels stored on spill containment pallets	Maintenance conducted inside building, good housekeeping, tight tank routinely pumped
Construction Materials Storage and Handling	Storage and handling of construction materials and miscellaneous maintenance products (gravel, loam, aggregates, etc.)	Northwest of Building 2 Salt Shed	Aggregate Fill Mulch Brush/Compost Castings, blocks Scrap Metal	Sediment, debris Sediment, debris Sediment, debris Nutrients, debris Metals Metals	Varies	High - materials not covered and stored upgradient of nearby wetland	N/A	Routine inspection and maintenance, sweeping and good housekeeping practices
Salt Storage	Storage and handling of salt for winter roadway applications	Building 2 Salt Shed	Salt Sand	Chlorides Sediment	300 Tons 200 Tons	Low - covered storage	Covered storage	Routing sweeping Good housekeeping practices
Above Ground Storage Tanks	Waste oil	Building 1B Vehicle Maintenance Garage	Waste Oil	Petroleum Hydrocarbons	500 Gallons	Low - stored in tank with secondary containment	Storage tank with concrete pad	Spill absorbents in close proximity, good housekeeping practices
Emergency Generators	Multiple mobile generators Permanent generator	Building 1B Vehicle Maintenance Garage	Diesel Fuel Natural Gas	Petroleum Methane	Varies Varies	High - products are outside and uncovered	None	Good housekeeping practices
Solid Waste Management	Sent to landfill frequently	Building 1B Vehicle Maintenance Garage	Solid waste	Debris, metals	Varies	Low - potential pollutants are covered and contained. Routinely removed	Covered storage	Solid waste removal Good housekeeping practices
Parking Areas	Parking for Town employees	In front of Building 1A and along Building 1B	N/A	Sediment, oil from vehicles	Varies	High - stormwater discharges to off site catch basins	N/A	Routine sweeping Good housekeeping practices
Administration	Town administrative offices, and public meeting space	Building 1A Administration & Vehicle Storage	Miscellaneous equipment and supplies	Cleaning supplies	Varies	Low - stored in covered areas	Covered storage	Good housekeeping practices

APPENDIX E – Spills & Leaks Reporting Log

APPENDIX F – Quarterly Stormwater Monitoring Log

QUARTERLY STORMWATER MONITORING LOG

Instructions: Every quarter you must visually inspect stormwater outfalls at your facility following the monitoring log below

Quarter (circle one): Spring / Summer / Fall / Winter

Discharge Location	Observations (Contaminants observed/erosion/sediment runoff)	Probable Source of Any Observed Contamination	Action Taken to Prevent in Future
Driveway at Old River Road			
South corner of Site at Simon Sayles Road			
Driveway low point to wetlands near southeast corner of salt shed			

Completed By: _____

Date & Time: _____

Title: _____

Weather Conditions: _____

APPENDIX G – Annual SWPPP Evaluation Report

Report No. _____

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) EVALUATION REPORT

Location:	Highway Garage: 94 Old River Road	Date:		Last Insp:	
		Arrive:		Leave:	
Inspector:					
Recent Rainfall:		Current Weather:			
Unidentified Discharges? Spills?					
Add. Info:					

CONTROL MEASURES/ACTION REQUIRED: YES NO
(INSPECT FOR ALL APPLICABLE CONTROLS LISTED)

Control	Condition	Required Action	Completed (by)	Date
<input type="checkbox"/> Fuel Dispensing Area BMPs	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		<input type="checkbox"/>	
<input type="checkbox"/> Vehicle Repair Indoors	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		<input type="checkbox"/>	
<input type="checkbox"/> Pavement Sweeping	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		<input type="checkbox"/>	
<input type="checkbox"/> Trash Management	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		<input type="checkbox"/>	
<input type="checkbox"/> Spill Prevention & Response	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		<input type="checkbox"/>	
<input type="checkbox"/> Erosion & Sediment Controls	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		<input type="checkbox"/>	
<input type="checkbox"/> Manage Runoff	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		<input type="checkbox"/>	
<input type="checkbox"/> Salt Storage Area	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		<input type="checkbox"/>	
<input type="checkbox"/> Material Stockpiles	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		<input type="checkbox"/>	
<input type="checkbox"/> Other	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		<input type="checkbox"/>	

SWPPP CHANGES: YES NO

Control	Change	Completed (by)	Date
<input type="checkbox"/>		<input type="checkbox"/>	

MANAGEMENT PRACTICES

1. Minimize or Prevent Exposure: To the extent practicable either locate materials and activities inside, or protect them with storm-resistant coverings in order to prevent exposure to rain, snow, snowmelt and runoff (although significant enlargement of impervious surface area is not recommended). Materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged directly or indirectly to surface waters or to the MS4 or if discharges are authorized under another NPDES permit.
2. Good Housekeeping: Keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals. Ensure that trash containers are closed when not in use, keep storage areas well swept and free from leaking or damaged containers; and store leaking vehicles needing repair indoors.
3. Preventative Maintenance: Regularly inspect, test, maintain, and repair all equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater to receiving waters. Inspections shall occur at a minimum once per quarter. Look for oil/gas staining on paved surfaces.
4. Spill Prevention and Response: Minimize the potential for leaks, spills, and other releases that may be exposed to stormwater and ensure site and staff is prepared for effective response to such spills if or when they occur. Emergency Spill kits should be in place and well stocked.
5. Erosion and Sediment Control: Use structural and non-structural control measures at the facility to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation. Look for scouring or washout, particularly where runoff may channelize and in the pervious driveway and stockpile area upstream of the wetland area.
6. Management of Runoff: Manage stormwater runoff from the facility to prevent or reduce the discharge of pollutants. This includes diverting runoff from areas that are potential sources of pollutants including stockpiles and containing runoff onsite to infiltrate where possible.
7. Salt Storage Piles or Piles Containing Salt: Prevent exposure of the storage pile to precipitation by ensuring shed covering is in good shape and runoff is diverted away from loading areas. Salt should not migrate out of covered area due to loading or unloading activities and if it does should be swept up as soon as possible.

SWPPP Evaluation Report Certification

This SWPPP Evaluation Report has been prepared by qualified personnel who properly gathered and evaluated information submitted for this Report. The information in this Report, to the best of my knowledge, is accurate and complete.

Qualified Personnel

Title

Date

APPENDIX D

OUTFALL CONDITION REPORT

Outfall ID	Location	Material	Condition of Pipe	Condition of Surrounding Area	Maintenance Required (based on 2013 Observations)	2013 Condition (1-5 Rank)	2015 Maintenance	2017 Maintenance	2018 Maintenance	2019 Maintenance	2020 Maintenance	2020 Maintenance	2021 Condition (1-5 Rank)	2021 Maintenance	Maintenance Required (based on 2019/2020 inspections)
001	Babette Drive	RCP	Good	Fair	Clear vegetation from outfall pipe	3							2		Not blocked or worse than 2013. Clear leaves from outfall
002	Cider Mill Lane (end of road detention)	RCP	Good/Fair	Fair/Poor	Clear vegetation from outfall pipe	3							2		Not blocked or worse than 2013. Clear leaves and woody growth from outfall
003	Logan Drive	RCP	Fair	Poor	Clear vegetation and debris from outfall pipe	3							3		Not blocked or worse than 2013. Clear leaves and woody growth from outfall
004	Riata Drive	RCP	Good	Good		1							1		
005	Paddock Drive/Kendall Drive	RCP	Good	Fair	Clear sediment from outfall	3							4		Cut trees and remove rocks from outfall
006	King Philip Road (end of road)	RCP	Good	Good		1							1		
007	Anne Drive (Basin Outlet)	RCP	Good	Good/Fair	Remove small tree in riprap area	2							4		Remove small tree in riprap area
008	Mussey Brook Road	RCP	Good	Good	Vegetation could be cleared-not urgent	1							1		Same since 2013
009	20 Kennedy Blvd	RCP	Good	Good		1				Checked and cleared 6 times	Checked and cleared 2 times		1		Same since 2013
010	Mitris Blvd	RCP	Good	Good/Fair	Add riprap to prevent erosion	2							1		Same since 2013
011	Deerfield Court (end of road)	RCP	Good	Good		1							1		Same since 2013

OUTFALL CONDITION REPORT

Outfall ID	Location	Material	Condition of Pipe	Condition of Surrounding Area	Maintenance Required (based on 2013 Observations)	2013 Condition (1-5 Rank)	2015 Maintenance	2017 Maintenance	2018 Maintenance	2019 Maintenance	2020 Maintenance	2020 Maintenance	2021 Condition (1-5 Rank)	2021 Maintenance	Maintenance Required (based on 2019/2020 inspections)
012	Meadowbrook Road	CMP	Good	Good		1							1		Same since 2013
013	Spring Green Road	PVC	Good	Good	Clear vegetation	2							2		Clear leaves
014	Brushwood Drive	RCP	Good	Good	Remove sediment	3				Checked 6 times - cleared leaves	Checked and cleared 2 times		1		Same since 2013
015	Briarwood Road	RCP	Fair	Fair	Remove sediment - could be difficult - one pipe cracked - monitor	3				Checked 6 times - cleared leaves	Checked and cleared 2 times		3		Condition the same since 2013. Continue to monitor
016	Lantern Brook Drive	RCP	Good	Fair	Clear sediment from outfall	2							2		Condition the same since 2013. Clear sediment from outfall
017	Lantern Brook Drive	RCP	Good	Good	Vegetation could be cleared - not urgent	1							1		Same since 2013
018	Crownmark Drive	RCP	Good	Good	Remove sediment	1							1		Same since 2013
019	Wellington Road	RCP	Good	Good	Remove sediment	1				Checked 6 times - cleared leaves	Checked and cleared 2 times		1		Same since 2013
020	Powder Hill/Wellington Road	RCP	Good	Good	Clear vegetation - drain discoloration and orange sediment	3							2		Outfall good condition, discoloration in flow
021	Foxwood Drive	RCP	Unknown	Poor	Excessive vegetation	5		Outfall Cleaned					1		
022	Spring Green Road	RCP	Good	Good	Remove Sediment	1							1		Same since 2013

OUTFALL CONDITION REPORT

Outfall ID	Location	Material	Condition of Pipe	Condition of Surrounding Area	Maintenance Required (based on 2013 Observations)	2013 Condition (1-5 Rank)	2015 Maintenance	2017 Maintenance	2018 Maintenance	2019 Maintenance	2020 Maintenance	2020 Maintenance	2021 Condition (1-5 Rank)	2021 Maintenance	Maintenance Required (based on 2019/2020 inspections)
023	Red Brook Crossing	RCP	Good	Good		1							1		Same since 2013
024	Red Brook Crossing	HDPE	Good	Poor	Signs of Erosion - Repair with riprap	5							2		Improved since 2012, monitor for erosion
025	Lennon Road (end of road)	RCP	Good	Good	Minor vegetation to be cleared	1							3		Vegetation could be cleared
026	Preakness Drive/Pike	RCP	Good	Good	Clear sediment from outfall	2							2		Same since 2013
027	Presidential Way	PVC	Good	Good	Remove vegetation growing in front of endwall	1							2		Outfall clear, some vegetation could be cleared downstream
028	Rivet Drive	RCP	Fair	Unknown - Fair	Excessive sediment in pipe - remove	5							5	cleaned in 2021	
029	Bridle Drive	RCP	Good	Good	Remove sediment	1							1		Same since 2013
030	Erica Drive (end of road)	HDPE	Good	Good	Vegetation could be cleared - not urgent	1							1		Same since 2013
031	Pine Tree Lane	RCP	Good	Good/Fair	Clear sediment from outfall	2							2		Same since 2013
032	Morgan Court	RCP	Good	Fair	Clear sediment from outfall	2							2		Same since 2013 - could clear outfall
033	Morgan Court	RCP	Good	Fair	Clear sediment from outfall	3							4		Clear sediment and rocks from outfall

OUTFALL CONDITION REPORT

Outfall ID	Location	Material	Condition of Pipe	Condition of Surrounding Area	Maintenance Required (based on 2013 Observations)	2013 Condition (1-5 Rank)	2015 Maintenance	2017 Maintenance	2018 Maintenance	2019 Maintenance	2020 Maintenance	2020 Maintenance	2021 Condition (1-5 Rank)	2021 Maintenance	Maintenance Required (based on 2019/2020 inspections)
034	Belmont Drive	RCP	Good	Good		1							4		Clear leaves from outfall
035	Jenckes Hill Road (btw Morgan & Bridle)	RCP	Good	Good	Clear vegetation and obstruction	1							5	cleaned in 2021	
036	Suffolk Way	RCP	Good	Fair		1			Vegetation cleared	Checked 6 times - cleared leaves	Checked and cleared 2 times		1		Same since 2013
037	Fair Oaks Drive (Basin Outlet)	RCP	Good	Good		1							1		Same since 2013, rusty water
038	Carriage Drive	RCP	Good	Good		1							1		Same since 2013
039	Rosewood Drive	RCP	?	?											
040	Payne Road & Greenwood Lane	RCP	Good	Good	Minor vegetation to be cleared	1							1		Same since 2013
041	Greenwood Road (end of road)	RCP	Good	Good/Fair	Remove sediment & rocks from outfall, maintain area	3							2		Same since 2013
042	Rollingwood	RCP	Good	Poor	Excessive sediment in pipe - remove	1			Outfall Cleaned				2		
043	Rollingwood Drive & Wingate Road	RCP	Good	Poor	Maintain area	2							2		Same since 2013
044	Middlebrook Lane	CMP	Good	Good		1							1		Same since 2013

OUTFALL CONDITION REPORT

Outfall ID	Location	Material	Condition of Pipe	Condition of Surrounding Area	Maintenance Required (based on 2013 Observations)	2013 Condition (1-5 Rank)	2015 Maintenance	2017 Maintenance	2018 Maintenance	2019 Maintenance	2020 Maintenance	2020 Maintenance	2021 Condition (1-5 Rank)	2021 Maintenance	Maintenance Required (based on 2019/2020 inspections)
045	Middlebrook Lane	RCP	Good	Good		1							1		Same since 2013
046	Lori Ellen Drive	PVC	Good	Good	Maintain area	2							5	cleaned in 2021	
047	Reverie Lane	RCP	?	?									1		
048	Whipple Road	PVC	Good/Fair	Good	Small slice through end of pipe - monitor, no action needed	1							1		Same since 2013
049	Sables Way	RCP	Good	Good/Fair	Maintain area	2							4		remove vegetation covering outfall
050	Sables Way	RCP	Good	Good		1							4		remove vegetation covering outfall
051	Winterberry Lane	RCP	Good	Good		1							1		Same since 2013
052	Angell Road / Michael Drive	PVC	Good	Good		1							1		Same since 2013
053	Linfield Drive	RCP	Good/Fair	Good	Remove sediment - Pipe cracked at end of pipe - monitor	2	Cleaned stream area						3		Increase in sediment
054	Linfield Drive	RCP	Poor	Good	Pipes not connected heading towards outfall - repair	5							5		Same sine 2013 - Pipes not connected heading towards outfall - repair
055	Maple Avenue / Rocky Cliff Drive	CMP	Good	Good		1							1		Same since 2013

OUTFALL CONDITION REPORT

Outfall ID	Location	Material	Condition of Pipe	Condition of Surrounding Area	Maintenance Required (based on 2013 Observations)	2013 Condition (1-5 Rank)	2015 Maintenance	2017 Maintenance	2018 Maintenance	2019 Maintenance	2020 Maintenance	2020 Maintenance	2021 Condition (1-5 Rank)	2021 Maintenance	Maintenance Required (based on 2019/2020 inspections)
056	Partridge Drive (to Anna Sayles)	STEEL	Fair	Good	Crack along edge of endwall	1	Reconstructed outfall and headwall						1		
057	Great Road at Anna Sayles Road	RCP	Good	Good		1							1		
058	Wilbur Road & Great Road	CMP	Good	Fair	Maintain area	2							2		
059	Thomas Drive	HDPE	Good	Fair	Add riprap to prevent erosion	3							2		Could use riprap but not urgent
060	Between Hill & Parker	HDPE	Good	Fair	Add riprap to prevent erosion	3							2		Could use riprap but not urgent
063	Rosemont Terrace	RCP	Good	Good/Fair	Minor vegetation to be cleared	2							2		Same since 2013
064	Eagle Nest Drive (Basin Outlet)	RCP	Good	Good	Minor vegetation to be cleared	1							1		Same since 2013
065	Eagle Nest Drive	RCP	Fair	Good	Clear vegetation; repair flared end	2							3		Flared end more damaged, not impeding flow, monitor
066	Eagle Nest Drive (Basin Outlet)	RCP	Good	Good		1							1		
067	South Eagle Nest & White Horse Road	PVC	Good	Good/Fair		1							1		
068	South Eagles Nest	HDPE	Good	Poor		1		Outfall Cleaned					1		

OUTFALL CONDITION REPORT

Outfall ID	Location	Material	Condition of Pipe	Condition of Surrounding Area	Maintenance Required (based on 2013 Observations)	2013 Condition (1-5 Rank)	2015 Maintenance	2017 Maintenance	2018 Maintenance	2019 Maintenance	2020 Maintenance	2020 Maintenance	2021 Condition (1-5 Rank)	2021 Maintenance	Maintenance Required (based on 2019/2020 inspections)
070	Longmeadow Road	RCP	Good	Good		1							2		Concrete Bell cracking at outlet
071	Brookside Drive	RCP	Good	Good	Wall above pipe is unstable	3				Checked 6 times - cleared leaves	Checked and cleared 2 times		2		Old but fine
073	Progress Street	RCP	Fair	Fair	Maintain surrounding area, remove tires	4							4		Clear surrounding area
074	Longmeadow Road	RCP	Good	Good		1							1		
075	Cynthia Road	RCP	Good	Poor	Excessive sediment and debris in pipe - remove	2			Outfall Cleaned				5		Pipe half full of sediment
076	Heidi Road	RCP	Good	Poor	Pipe is cracked in two - remove or join cracked off endwall	3			Outfall Cleared, :Pipe Repairs needed				1		
077	Joyce Anne Drive	RCP	Good	Good		1							1		
078	Cider Mill Lane (near Great Meadow)	RCP	Good	Good	Remove metal debris next to outfall	1							1		
079	Ducarl Road	PVC	Good	Good		1							1		
080	Cullen Hill Road (Bottom)	CMP	Fair	Poor	Excessive sediment in pipe - remove Severe erosion - implement riprap	2			Outfall Cleared, :Pipe is very old				2		
081	Lower River Road (near River Road)	RCP	Good	Poor	Excessive sediment in pipe - remove Excessive vegetation	4						Cleaned on 2/7/20	1		Outfall full in 2019, was cleared on 2/7/20

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Outfall ID	Location	Material	Condition of Pipe	Condition of Surrounding Area	Maintenance Required (based on 2013 Observations)	2013 Condition (1-5 Rank)	2015 Maintenance	2017 Maintenance	2018 Maintenance	2019 Maintenance	2020 Maintenance	2020 Maintenance	2021 Condition (1-5 Rank)	2021 Maintenance	Maintenance Required (based on 2019/2020 inspections)
082	Lower River Road (at Ave D)	HDPE	Good	Good		1							5		Need to clear out sediment of lower 2 pipes
083	Lower River Road (at Ave D)	HDPE	Good	Good		1							1		
084	Lower River Road (at Martins Way)	RCP	Good	Poor		4		Outfall Cleaned, needs to be cleaned more				Pipe/outfall replaced in 2020	1		Need to clear out sediment
085	Avenue F	PVC	Good	Good	Add riprap to prevent erosion	2							2		same 2013
086	Hidden Valley Lane	RCP	Good	Poor	Sediment in pipe - remove	4							2		
087	Chase Lane	RCP	Good	Poor	Clear vegetation/downed branches	3							2		Riprap needed
088	Eastward Drive	CMP	Poor	Poor	Excessive vegetation & debris- remove	5							5		Excessive vegetation & debris- remove
089	Kendall Drive	RCP	Good	Poor	Clear vegetation from outfall pipe	4							3		Clear vegetation from outfall pipe
090	Jason Drive	RCP	Good	Poor	Pipe nearly blocked by boulder - relocate boulder - note to dpw that backhoe is needed	5		Outfall cleaned but couldn't move rock					5		Need backhoe to move rock
091	Dexter Rock Road	CMP	Good	Fair	Remove downed trees from pipe and excess vegetation	3							3		
093	Citation Court	RCP	Good	Fair	Clear sediment from outfall	2							5		Clear pipe and vegetation

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Outfall ID	Location	Material	Condition of Pipe	Condition of Surrounding Area	Maintenance Required (based on 2013 Observations)	2013 Condition (1-5 Rank)	2015 Maintenance	2017 Maintenance	2018 Maintenance	2019 Maintenance	2020 Maintenance	2020 Maintenance	2021 Condition (1-5 Rank)	2021 Maintenance	Maintenance Required (based on 2019/2020 inspections)
094	Grandstand Drive	RCP	Good	Fair	Maintain area	3							4		Clear pipe and vegetation
095	Citation Court (across from #3)	HDPE	Good	Good/Fair	Remove sediment from outfall	2							4		Clear leaves from pipe area
096	Blackstone Valley Place (across from #4)	RCP	Good	Good		1							1		
097	Blackstone Valley Place (near Pare Corp)	RCP	Good	Good/Fair	Remove sediment from outfall	2							1		same 2013
098	Amica Center Blvd (Near Blackstone)	HDPE	?	Poor	Moderate Vegetation	3							4		Clear leaves from pipe area
099	Amica Center Blvd (Near Blackstone)	RCP	Good	Good/Fair	Remove sediment from outfall	2			Vegetation Cleared				3		Clear vegetation from pipe area
100	Amica Center Blvd (into pond near 116)	PVC	Good	Good		1							1		same 2013
101	Amica Center Blvd (into pond near 116)	RCP	Good	Good		1							1		
102	Lennon Road	RCP	Good	Good		1			Remodeled endwall, and surrounding area				2		
103	Graywood Drive	RCP	Good	Good		1							1		
104	Maria Street	RCP	?	Poor	Clear vegetation from Outfall pipe	2							2		

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Outfall ID	Location	Material	Condition of Pipe	Condition of Surrounding Area	Maintenance Required (based on 2013 Observations)	2013 Condition (1-5 Rank)	2015 Maintenance	2017 Maintenance	2018 Maintenance	2019 Maintenance	2020 Maintenance	2020 Maintenance	2021 Condition (1-5 Rank)	2021 Maintenance	Maintenance Required (based on 2019/2020 inspections)
105	Holiday Court (pond behind Lonsdale)	PVC	Good	Good/Fair	Remove sediment from outfall	2							1		same 2013
106	Riverside Drive	RCP	Good	Good		1							1		
107	Allan Drive	RCP	Good	Good/Fair	Remove sediment from outfall	2				Checked 6 times - cleared leaves	Checked and cleared 2 times		1		
108	From Ballou Avenue into swale	STEEL	Good	Good		1				Checked 6 times - cleared leaves	Checked and cleared 2 times		1		
109	From Ballou Avenue into swale	STEEL	Good	Good		1				Checked 6 times - cleared leaves	Checked and cleared 2 times		1		
110	From Cecile Street	STEEL	Good	Fair	Add riprap to prevent erosion	3							3		Same as 2013
111	Rockridge Road	CMP	Good	Poor	Clear area of obstructions	4							4		Clear area of vegetation
112	Woodland Street	RCP	Good	Good		1				Checked 6 times - cleared leaves	Checked and cleared 2 times		1		
113	Behind Saylesville School	HDPE	Good	Fair/Poor	Clear vegetation from outfall pipe	3							1		
114	Rockridge Road	RCP	Good	Good		1							2		Some leaves around outfall, not urgent
115	Grandview Avenue	RCP	Fair	Fair	Excessive sediment in pipe - remove	3		Outfall Cleaned, lots of roots					2		Same as 2013

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116	Mark Drive (pond outlet)	RCP	Good	Good		1							2		Some leaves around end section, not urgent
117	Stephanie Drive (pond outlet)	RCP	Good	Good		1							1		
118	Meader Pond Road	HDPE	Good	Fair	Poorly drained surrounding area	3							1		
119	Elbow Rock Road (basin outlet)	RCP	Good	Good		1							1		Flared end more damaged, not impeding flow, monitor
120	Longmeadow Road	CMP	Good/Fair	Fair/Poor	Clear vegetation from outfall pipe	3							3		Area could be cleared
121	Alyssa Lane	RCP	?	?									1		
122	Southwick Road	PVC	Good	Good		1							1		
123	Angell Road	HDPE	Good	Good		1							1		
124	Dennell Drive	RCP	Good	Good		1							1		
125	Heritage Drive	RCP	?	?									5		Clear outfall area
126	Evergreen Road	RCP	?	?									1		

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127	Almond Street	CMP	Good	Good		1							1		
128	Hazel Street	HDPE	?	?									1		
129	Progress Street	HDPE	Good	Good		1							1		
130	Timberland Drive- into woods	RCP	Good	Good		1							1		
131	Cormier Road	RCP	?	Poor	Excessive vegetation & and debris- remove	5		Follow up Inspection Conducted - pipe is					5		Clear outfall area
134	Ashley Drive	RCP	?	Poor	Clean out area and reestablish swale to drain	4							3		same as 2013
135	Maria Street	RCP	Good	?		1		Cleared vegetation, headwall needs					1		Stablize for erosion
136	Maria Street	RCP	Good	Good	Endwall Cracked	4							4		same as 2013
138	Willow Way	RCP	Good	Good		1							1		
139	Arlington Drive	CMP	Poor	Good	Pipe crushed - Repair pipe and block wall	5							5		Pipe crushed - Repair pipe and block wall, same as 2013
140	Vista Drive	CMP	Fair	Poor	Sediment in pipe and surrounding area - clean	4							5		Clear sediment out of pipe

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141	Pascale Drive	HDPE	Good	Fair	Maintain area	3							4		Clear vegetation and access
142	Beverly Drive	RCP	Good	Good		1							1		
143	Southwick Drive	HDPE	Good	Good	Repairs made in 2014 - Vegetation Removed	1							1		
144	Lower Road	CONCRETE	Good	Good		1							1		
146	Lower Road	OTHER	Good	Poor	Paved waterway - edge of pavement should be stabilized	4							1		
147	Lower Road	CMP	Poor	?	Pipe sections have separated - repair	5							5		same as 2013