

Year 3 Annual Report

Massachusetts Small MS4 General Permit

Reporting Period: July 1, 2020-June 30, 2021

****Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form****

Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed. Please ONLY report on activities between July 1, 2020 and June 30, 2021 unless otherwise requested.

Part I: Contact Information

Name of Municipality or Organization: Town of Leicester

EPA NPDES Permit Number: MAR041202

Primary MS4 Program Manager Contact Information

Name: Dennis Griffin

Title: Highway Superintendent

Street Address Line 1: 59 Peter Salem Road

Street Address Line 2:

City: Leicester

State: MA

Zip Code: 01524

Email: Griffind@leicesterma.org

Phone Number: (508) 892-7021

Stormwater Management Program (SWMP) Information

SWMP Location (web address): <https://www.leicesterma.org/highway-department/pages/stormwater-information>

Date SWMP was Last Updated: Jun 30, 2021

If the SWMP is not available on the web please provide the physical address:

N/A

Part II: Self-Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4. Make sure you are referring to the most recent EPA approved Section 303(d) Impaired Waters List which can be found here: <https://www.epa.gov/tmdl/region-1-impaired-waters-and-303d-lists-state>

Impairment(s)

- ☒ Bacteria/Pathogens
 ☐ Chloride
 ☐ Nitrogen
 ☒ Phosphorus
☒ Solids/ Oil/ Grease (Hydrocarbons)/ Metals

TMDL(s)

- In State:**
☐ Assabet River Phosphorus
 ☐ Bacteria and Pathogen
 ☐ Cape Cod Nitrogen
☐ Charles River Watershed Phosphorus
 ☒ Lake and Pond Phosphorus
Out of State:
☐ Bacteria/Pathogens
 ☐ Metals
 ☒ Nitrogen
 ☐ Phosphorus

Clear Impairments and TMDLs

Next, check off all requirements below that have been completed. **By checking each box you are certifying that you have completed that permit requirement fully.** If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.

Year 3 Requirements

- ☒ Inspected and screened all outfalls/interconnections (excluding Problem and Excluded outfalls)
☒ Updated outfall/interconnection priority ranking based on the information collected during the dry weather inspections as necessary
☐ Post-construction bylaw, ordinance, or other regulatory mechanism was updated and adopted consistent with permit requirements

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide any additional information, and/or if any of the above year 3 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

The post-construction bylaw, ordinances, and other regulatory mechanisms are in progress with the Town and are expected to be incorporated into the Town's ordinances and bylaws at the Spring 2022 annual Town Meeting.

Annual Requirements

- ☒ Provided an opportunity for public participation in review and implementation of SWMP and complied with State Public Notice requirements
☒ Kept records relating to the permit available for 5 years and made available to the public
☐ The SSO inventory has been updated, including the status of mitigation and corrective measures implemented
 - ☐ This is not applicable because we do not have sanitary sewer
 - ☒ This is not applicable because we did not find any new SSOs

- ☐ The updated SSO inventory is attached to the email submission
- ☐ The updated SSO inventory can be found at the following website:

- ☒ Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- ☒ Provided training to employees involved in IDDE program within the reporting period
- ☒ All curbed roadways were swept at least once within the reporting period
- ☒ Updated system map due in year 2 as necessary
- ☒ Enclosed all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- ☒ Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- ☒ Updated inventory of all permittee owned facilities as necessary
- ☒ O&M programs for all permittee owned facilities have been completed and updated as necessary
- ☒ Implemented all maintenance procedures for permittee owned facilities in accordance with O&M programs
- ☒ Implemented program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- ☒ Inspected all permittee owned treatment structures (excluding catch basins)

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide any additional information, and/or if any of the above annual requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- ☒ Annual message was distributed encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- ☒ Permittee or its agents disseminated educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time
- ☒ Provided information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

N/A

Nitrogen (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- ☒ Distributed an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers
- ☒ Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- ☒ Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- ☒ Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Potential structural BMPs

Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents was tracked and the nitrogen removal by the BMP was

☐ estimated consistent with Attachment 1 to Appendix H. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP were documented.

- ☐ The BMP information is attached to the email submission
- ☐ The BMP information can be found at the following website:

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The Town has noted BMPs on its Phase I Map. The Town is currently evaluating these BMPs and is assessing means to track nitrogen removal.

Phosphorus (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- ☒ Distributed an annual message in the spring (April/May) encouraging the proper use and disposal of grass clippings and encouraging the proper use of slow-release and phosphorus-free fertilizers
- ☒ Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

- ☒ Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- ☒ Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Potential structural BMPs

- ☐ Any structural BMPs already existing or installed in the regulated area by the permittee or its agents was tracked and the phosphorus removal by the BMP was estimated consistent with Attachment 3 to Appendix F. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP were documented.

- ☐ The BMP information is attached to the email submission
☐ The BMP information can be found at the following website:

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The Town has noted BMPs in its Phase I Map. The Town is currently evaluating these BMPs and is assessing means to track phosphorus removal.

Solids, Oil and Grease (Hydrocarbons), or Metals

Annual Requirements

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- ☒ Increased street sweeping frequency of all municipal owned streets and parking lots to a schedule that targets areas with potential for high pollutant loads
- Prioritized inspection and maintenance for catch basins to ensure that no sump shall be more than 50
- ☒ percent full; Cleaned catch basins more frequently if inspection and maintenance activities indicated excessive sediment or debris loadings

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

N/A

Lake and Pond Phosphorus TMDL

- ☒ Completed the funding source assessment

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The Legal Analysis requirement was also completed during the Year 3 reporting period.

Optional: Use the box below to provide any additional information you would like to share as part of your self-assessment:

Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted?

☒ Yes

☐ No

If yes, describe below, including any relevant impairments or TMDLs:

The number of outfalls for each receiving waterbody was adjusted after dry weather outfall investigations were conducted. The current number of outfalls are shown in the Year 3 Stormwater Management Program, which can be found at the following link: <https://www.leicesterma.org/highway-department/pages/stormwater-information>

Part IV: Minimum Control Measures

Please fill out all of the metrics below. If applicable, include in the description who completed the task if completed by a third party.

MCM1: Public Education

Number of educational messages completed **during this reporting period:**

*Below, report on the educational messages completed **during this reporting period**. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.*

BMP: Proper Disposal of Pet Waste

Message Description and Distribution Method:

The public education flyer encourages pet owners to properly dispose of pet waste in order to help reduce stormwater pollution. A copy of the flyer is provided with a dog license application or renewal. The flyer was distributed at Town offices. A new link to an updated flyer was provided under the stormwater page at the Town's website and the flyer was posted on the Town of Leicester home page. A link to the updated flyer was posted to the Town's social media accounts during the Year 3 reporting period.

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

In July 2020, 150 copies were printed for distribution. The flyer has been available on the Town website since June 2019. The Town is monitoring the number of copies distributed. The Town had 1,140 followers on Twitter at the time the flyer was posted.

Message Date(s):

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Tips for Proper Leaf Disposal

Message Description and Distribution Method:

The public education flyer provides tips to residents as to how they can help protect local waterways through proper leaf disposal. This includes mulching and composting. A link to the flyer was posted to the Town's social media accounts during the Year 3 reporting period. A link to the flyer was also provided under the stormwater page at the Town's website and the flyer was posted on the Town of Leicester home page.

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

The Town has approximately 1,140 followers on Twitter.

Message Date(s): 10/22/2020

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Stormwater Pollution and Lawn Maintenance

Message Description and Distribution Method:

The public education flyer included tips involving lawn maintenance and use of phosphorus free slow release fertilizers to help reduce stormwater pollution. The flyer was distributed at Town offices. A new link to the brochure was provided under the stormwater page at the Town's website and posted on the Town of Leicester home page. A link to the flyer was posted to the Town's Twitter account during the Year 3 reporting period.

Targeted Audience: Residents

Responsible Department/Parties: Highway Department

Measurable Goal(s):

250 copies were printed for distribution in the Spring of 2021. The Town is monitoring the number of copies distributed. The Town has approximately 1,140 followers on Twitter.

Message Date(s): 4/29/2021

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

Add an Educational Message

MCM2: Public Participation

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) **during this reporting period:**

The Town's SWMP is posted on the Town of Leicester website stormwater link for viewing by the public. In addition, a hard copy of the SWMP is located at the Highway Department Office for review by the public.

Was this opportunity different than what was proposed in your NOI? Yes ☐ No ☒

Describe any other public involvement or participation opportunities conducted **during this reporting period:**

The Town's Household Hazardous Waste Cleanup Day was held on April 2, 2021 at the Highway Department garage. Due to COVID-19, the Annual Public Safety Day was postponed during the reporting period.

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

Check off the box below if the statement is true.

☐ This SSO section is NOT applicable because we DO NOT have sanitary sewer

*Below, report on the number of SSOs identified in the MS4 system and removed **during this reporting period.***

Number of SSOs identified:

Number of SSOs removed:

MS4 System Mapping

Optional: Provide additional status information regarding your map:

Current MS4 system mapping follows Phase I requirements. No updates were made during the Year 3 reporting period.

Screening of Outfalls/Interconnections

If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring results should include the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses. Please also include the updated inventory and ranking of outfalls/interconnections based on monitoring results.

- ☐ No outfalls were inspected
- ☒ The outfall screening data is attached to the email submission
- ☐ The outfall screening data can be found at the following website:

Below, report on the number of outfalls/interconnections screened **during this reporting period**.

Number of outfalls screened: 89

Below, report on the percent of outfalls/interconnections screened **to date**.

Percent of outfalls screened: 100

Optional: Provide additional information regarding your outfall/interconnection screening:

Four outfalls had dry weather flow and were subsequently sampled. Outfalls 74 and 75, located on Grove Street, indicated a possible illicit discharge. Additional samples were collected from two upstream manholes, one catch basin, and Outfall 74. It was determined that the potential illicit discharge originated at the manhole between 69 and 65 Grove Street. The Town continues to investigate this potential illicit discharge. Any outfall in an area of concern to public health or going to an impaired waterbody is considered "High Priority" in the Outfall Inventory and Priority Ranking Matrix.

Catchment Investigations

If conducted, please submit all data collected during this reporting period as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.

- ☒ No catchment investigations were conducted
- ☐ The catchment investigation data is attached to the email submission
- ☐ The catchment investigation data can be found at the following website:

Below, report on the number of catchment investigations completed **during this reporting period**.

Number of catchment investigations completed this reporting period: 0

Below, report on the percent of catchments investigated **to date**.

Percent of total catchments investigated: 0

Optional: Provide any additional information for clarity regarding the catchment investigations below:

The Town has developed a methodology for catchment investigations and will utilize this methodology to investigate catchments associated with Problem Outfalls by the end of the Year 7 reporting period.

IDDE Progress

If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.

- ☐ No illicit discharges were found
- ☒ The illicit discharge removal report is attached to the email submission
- ☐ The illicit discharge removal report can be found at the following website:

Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed **during this reporting period**.

Number of illicit discharges identified: 0

Number of illicit discharges removed: 0

Estimated volume of sewage removed: 0 gallons/day

Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed **since the effective date of the permit (July 1, 2018)**.

Total number of illicit discharges identified: 0

Total number of illicit discharges removed: 0

Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:

Outfalls 74 and 75, located on Grove Street, indicated a possible illicit discharge. Additional samples were collected from two upstream manholes, one catch basin, and Outfall 74. It was determined that the potential illicit discharge originated at the manhole between 69 and 65 Grove Street. The Town continues to investigate this potential illicit discharge. An Illicit Discharge Tracking Sheet is provided with this Annual Report summarizing completed and planned corrective measures taken.

Employee Training

Describe the frequency and type of employee training conducted **during this reporting period**:

A training session was held for Highway Department personnel on December 16, 2020. A total of eleven employees attended the session. The training session included a presentation on the basic principles of illicit discharges, examples of illicit and non-illicit discharges, short training videos, an overview of the Town's IDDE bylaw, discussion on SSOs, review of Town inspection forms, and methods for implementing corrective actions if an illicit discharge is discovered. Documentation of the IDDE training session is included in the Town's written IDDE Plan, which was updated in June 2021 and included as part of the Town's SWMP.

MCM4: Construction Site Stormwater Runoff Control

Below, report on the construction site plan reviews, inspections, and enforcement actions completed **during this reporting period**.

Number of site plan reviews completed: 4

Number of inspections completed: 0

Number of enforcement actions taken: 0

Optional: Enter any additional information relevant to construction site plan reviews, inspections, and enforcement actions:

The Town completed four site plan reviews during the reporting period and currently has one site plan under review.

MCM5: Post-Construction Stormwater Management in New Development and Redevelopment

As-built Drawings

*Below, report on the number of as-built drawings received **during this reporting period**.*

Number of as-built drawings received:

Optional: Enter any additional information relevant to the submission of as-built drawings:

N/A

Street Design and Parking Lots Report

Describe the status of the street design and parking lots assessment due in year 4 of the permit term, including any planned or completed changes to local regulations and guidelines:

This assessment has not yet been started to date.

Green Infrastructure Report

Describe the status of the green infrastructure report due in year 4 of the permit term, including the findings and progress towards making the practice allowable:

This report has not been started to date.

Retrofit Properties Inventory

Describe the status of the inventory, due in year 4 of the permit term, of permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas and report on any properties that have been modified or retrofitted:

This inventory has not been compiled to date.

MCM6: Good Housekeeping

Catch Basin Cleaning

*Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins **during this reporting period**.*

Number of catch basins inspected: 1,500

Number of catch basins cleaned: 1,500

Total volume or mass of material removed from all catch basins: 400 cubic yards

Below, report on the total number of catch basins in the MS4 system.

Total number of catch basins: 1,265

If applicable:

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

The Town of Leicester is working on surface runoff control to stabilize flow at two locations, including the intersection of Westminster and Stafford Street, and the intersection of Sabina and Charlton Street. All problem catch basins are cleaned twice per year. Drainage system repairs are completed by Highway Department personnel when blockages are detected and catch basin inspections reveal structural and operational deficiencies.

Street Sweeping

*Report on street sweeping completed **during this reporting period** using one of the three metrics below.*

☒ Number of miles cleaned: 175

☐ Volume of material removed: [Select Units]

☐ Weight of material removed: [Select Units]

Stormwater Pollution Prevention Plan (SWPPP)

*Below, report on the number of site inspections for facilities that require a SWPPP completed **during this reporting period**.*

Number of site inspections completed: 2

Describe any corrective actions taken at a facility with a SWPPP:

N/A

Additional Information

Monitoring or Study Results

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.

- ☒ Not applicable
- ☐ The results from additional reports or studies are attached to the email submission
- ☐ The results from additional reports or studies can be found at the following website(s):

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

N/A

Additional Information

Optional: Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above:

The Highway Department typically repairs an average of 15-20 catch basins per year in order to maintain infrastructure quality.

Leicester conducts jetting in areas of the drainage system where any blockages are observed.

Leicester updated its SWPPP for the Highway Department Garage in Year 3.

COVID-19 Impacts

Optional: If any of the above year 3 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

N/A

Activities Planned for Next Reporting Period

Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 4 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree ☒

- Develop a report assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover
- Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist
- Identify a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious areas

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4
- Continue public education and outreach program
- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all curbed streets at least annually
- Continue investigations of catchments associated with Problem Outfalls
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- Review inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; update if necessary
- Review O&M programs for all permittee owned facilities; update if necessary
- Implement all maintenance procedures for permittee owned facilities in accordance with O&M programs
- Implement program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Enclose all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Review as-built drawings for new and redevelopment to ensure compliance with post construction bylaws, regulations, or regulatory mechanism consistent with permit requirements

- Inspect all permittee owned treatment structures (excluding catch basins)

Provide any additional details on activities planned for permit year 4 below:

Part V: Certification of Small MS4 Annual Report 2021**40 CFR 144.32(d) Certification**

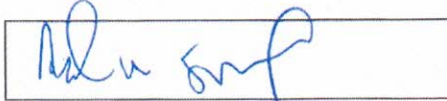
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, 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.

Name:

David A. Genereux

Title: Town Administrator

Signature:



Date:

7/27/21

[Signatory may be a duly authorized representative]

**Summary of Outfall Analytical Results
Leicester, Massachusetts**

<i>Sample Location Identifier</i> <i>Sample Date</i> <i>Sample Location</i> <i>Weather Conditions</i> <i>Precipitation Previous 48 Hours</i>		Outfall 17 5/25/2021 Peter Salem Road Sunny, 60's 0.04"	Outfall 74		Outfall 75 5/25/2021 Grove Street Sunny, 60's 0.04"	Outfall 89 5/25/2021 Birchwood Road Sunny, 60's 0.04"	Benchmark Field Measurement Screening Values
			5/25/2021 Grove Street Sunny, 60's 0.04"	6/10/2021 Grove Street Sunny, 70's 0.05"			
PARAMETER - Method (units)							
Microbiology							
	E. Coli - EPA 1603 (cfu/100 mL)	<10.0	3,650	202	24,200	<10.0	235
Classic Chemistry				NT			
	Ammonia as N - EPA 350.1 (mg/L)	<0.10	0.14		4.16	0.22	0.5
	Conductivity - EPA 2510B (umhos/cm)	239	863		1,370	813	2,000
	MBAS as LAS - EPA 5540C (mg/L)	<0.1	<0.1		<0.1	<0.1	0.25
	Nitrate as N - EPA 353.2 (mg/L)	1.04	0.248		0.329	0.616	
	Nitrite as N - EPA 353.2 (mg/L)	<0.010	<0.010		0.175	<0.010	
	Salinity - EPA 2520B (ppt)	0.1	0.4		0.7	0.4	
	Total Nitrogen - EPA 4500N (mg/L)	1.37	0.595		17.9	1.04	
	Total Phosphate as P - EPA 365.1 (mg/L)	0.16	0.13		1.73	0.11	
	Total Chlorine (mg/L)	<0.02	<0.02		0.04	0.03	0.02
	Temperature (°F)	54	58.6		56.3	55.5	

Notes:

1. ppt = parts per thousand; mg/L = Milligrams per liter; cfu = colony forming units; umhos/cm = umhos per centimeter; °F = Fahrenheit
2. Values preceded by "<" indicate that the result is non detect and the method reporting limit is shown
3. NT = Not Tested.
4. Temperature was measured in the field using a pH/Temperature probe
5. Total Chlorine was measured in the field using a Hach Chlorine Analyzer



CERTIFICATE OF ANALYSIS

Derek McClellan
Tata and Howard
67 Forest Street
Marlborough, MA 01752

RE: Leicester Outfall Sampling (4708)
ESS Laboratory Work Order Number: 21E0848

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 11:46 am, Jun 03, 2021

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

BAL Laboratory - Cranston, RI

E Coli



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21E0848

SAMPLE RECEIPT

The following samples were received on May 25, 2021 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR Part 136, as amended.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
21E0848-01	Outfall 17	Surface Water	2510B, 2520B, 350.1, 353.2, 365.1, 4500N, 5540C, SM9223B
21E0848-02	Outfall 74	Surface Water	2510B, 2520B, 350.1, 353.2, 365.1, 4500N, 5540C, SM9223B
21E0848-03	Outfall 75	Surface Water	2510B, 2520B, 350.1, 353.2, 365.1, 4500N, 5540C, SM9223B
21E0848-04	Outfall 89	Surface Water	2510B, 2520B, 350.1, 353.2, 365.1, 4500N, 5540C, SM9223B



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21E0848

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21E0848

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: Outfall 17
Date Sampled: 05/25/21 10:30
Percent Solids: N/A

ESS Laboratory Work Order: 21E0848
ESS Laboratory Sample ID: 21E0848-01
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Ammonia as N	ND (0.10)		350.1		1	EEM	05/27/21 14:41	mg/L	DE12625
Conductivity	239 (5)		2510B		1	CCP	05/26/21 20:22	umhos/cm	DE12637
MBAS as LAS	ND (0.1)		5540C		1	CCP	05/25/21 18:30	mg/L	DE12524
Nitrate as N	1.04 (0.0500)		353.2		2	JLK	05/25/21 21:59	mg/L	[CALC]
Nitrite as N	ND (0.010)		353.2		1	JLK	05/25/21 20:59	mg/L	DE12522
Salinity	0.1 (0.1)		2520B		1	CCP	05/26/21 22:09	ppt	DE12639
Total Nitrogen	1.37 (0.200)		4500N		2	JLK	05/28/21 17:05	mg/L	[CALC]
Total Phosphate as P	0.16 (0.10)		365.1		1	JLK	05/26/21 16:34	mg/L	DE12622



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: Outfall 17
Date Sampled: 05/25/21 10:30
Percent Solids: N/A

ESS Laboratory Work Order: 21E0848
ESS Laboratory Sample ID: 21E0848-01
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Microbiology

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>
E.coli	< 10.0 (N/A)		SM9223B		AJP	05/25/21 18:00	MPN/100mL



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: Outfall 74
Date Sampled: 05/25/21 11:15
Percent Solids: N/A

ESS Laboratory Work Order: 21E0848
ESS Laboratory Sample ID: 21E0848-02
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Ammonia as N	0.14 (0.10)		350.1		1	EEM	05/27/21 14:42	mg/L	DE12625
Conductivity	863 (5)		2510B		1	CCP	05/26/21 20:22	umhos/cm	DE12637
MBAS as LAS	ND (0.1)		5540C		1	CCP	05/25/21 18:30	mg/L	DE12524
Nitrate as N	0.248 (0.0300)		353.2		1	JLK	05/25/21 21:50	mg/L	[CALC]
Nitrite as N	ND (0.010)		353.2		1	JLK	05/25/21 21:05	mg/L	DE12522
Salinity	0.4 (0.1)		2520B		1	CCP	05/26/21 22:09	ppt	DE12639
Total Nitrogen	0.595 (0.200)		4500N		1	JLK	05/28/21 17:06	mg/L	[CALC]
Total Phosphate as P	0.13 (0.10)		365.1		1	JLK	05/26/21 16:36	mg/L	DE12622



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: Outfall 74
Date Sampled: 05/25/21 11:15
Percent Solids: N/A

ESS Laboratory Work Order: 21E0848
ESS Laboratory Sample ID: 21E0848-02
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Microbiology

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>
E.coli	3650 (N/A)		SM9223B		AJP	05/25/21 18:00	MPN/100mL



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: Outfall 75
Date Sampled: 05/25/21 11:45
Percent Solids: N/A

ESS Laboratory Work Order: 21E0848
ESS Laboratory Sample ID: 21E0848-03
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Ammonia as N	4.16 (0.10)		350.1		1	EEM	05/27/21 14:43	mg/L	DE12625
Conductivity	1370 (5)		2510B		1	CCP	05/26/21 20:22	umhos/cm	DE12637
MBAS as LAS	ND (0.1)		5540C		1	CCP	05/25/21 18:30	mg/L	DE12524
Nitrate as N	0.329 (0.0300)		353.2		1	JLK	05/25/21 21:51	mg/L	[CALC]
Nitrite as N	0.175 (0.010)		353.2		1	JLK	05/25/21 21:07	mg/L	DE12522
Salinity	0.7 (0.1)		2520B		1	CCP	05/26/21 22:09	ppt	DE12639
Total Nitrogen	17.9 (2.00)		4500N		10	JLK	05/28/21 17:18	mg/L	[CALC]
Total Phosphate as P	1.73 (0.10)		365.1		1	JLK	05/26/21 16:37	mg/L	DE12622



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: Outfall 75
Date Sampled: 05/25/21 11:45
Percent Solids: N/A

ESS Laboratory Work Order: 21E0848
ESS Laboratory Sample ID: 21E0848-03
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Microbiology

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>
E.coli	24200 (N/A)		SM9223B		AJP	05/25/21 18:00	MPN/100mL



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: Outfall 89
Date Sampled: 05/25/21 12:30
Percent Solids: N/A

ESS Laboratory Work Order: 21E0848
ESS Laboratory Sample ID: 21E0848-04
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Ammonia as N	0.22 (0.10)		350.1		1	EEM	05/27/21 14:44	mg/L	DE12625
Conductivity	813 (5)		2510B		1	CCP	05/26/21 20:22	umhos/cm	DE12637
MBAS as LAS	ND (0.1)		5540C		1	CCP	05/25/21 18:30	mg/L	DE12524
Nitrate as N	0.616 (0.0300)		353.2		1	JLK	05/25/21 21:52	mg/L	[CALC]
Nitrite as N	ND (0.010)		353.2		1	JLK	05/25/21 21:08	mg/L	DE12522
Salinity	0.4 (0.1)		2520B		1	CCP	05/26/21 22:09	ppt	DE12639
Total Nitrogen	1.04 (0.200)		4500N		1	JLK	05/28/21 17:08	mg/L	[CALC]
Total Phosphate as P	0.11 (0.10)		365.1		1	JLK	05/26/21 16:38	mg/L	DE12622



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: Outfall 89
Date Sampled: 05/25/21 12:30
Percent Solids: N/A

ESS Laboratory Work Order: 21E0848
ESS Laboratory Sample ID: 21E0848-04
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Microbiology

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>
E.coli	< 10.0 (N/A)		SM9223B		AJP	05/25/21 18:00	MPN/100mL



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21E0848

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Classical Chemistry

Batch DE12522 - General Preparation

Blank

Nitrite as N	ND	0.010	mg/L							
Nitrite as N	ND	0.010	mg/L							

LCS

Nitrite as N	0.262		mg/L	0.2497		105	90-110			
Nitrite as N	0.262		mg/L	0.2497		105	90-110			

Batch DE12523 - General Preparation

Blank

Nitrate/Nitrite as N	ND	0.020	mg/L							
Nitrate/Nitrite as N	ND	0.020	mg/L							

LCS

Nitrate/Nitrite as N	0.502		mg/L	0.5000		100	90-110			
Nitrate/Nitrite as N	0.502		mg/L	0.5000		100	90-110			

Batch DE12524 - General Preparation

Blank

MBAS as LAS	ND	0.1	mg/L							
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LCS

MBAS as LAS	1.0	0.1	mg/L	1.000		105	85-115			
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Batch DE12622 - TPO4 Prep

Blank

Total Phosphate as P	ND	0.10	mg/L							
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LCS

Total Phosphate as P	0.50	0.10	mg/L	0.5000		100	90-110			
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Batch DE12625 - General Preparation

Blank

Ammonia as N	ND	0.10	mg/L							
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LCS

Ammonia as N	0.98	0.10	mg/L	0.9994		98	80-120			
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Batch DE12637 - General Preparation

Blank

Conductivity	ND	5	umhos/cm							
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LCS

Conductivity	1330		umhos/cm	1413		94	90-110			
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Batch DE12639 - General Preparation

LCS

Salinity	1.1		ppt	1.000		109	85-115			
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Batch DE12711 - TKN Prep

Blank

Total Kjeldahl Nitrogen as N	ND	0.20	mg/L							
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LCS



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard

Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21E0848

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Classical Chemistry

Batch DE12711 - TKN Prep

Total Kjeldahl Nitrogen as N	21.6	2.00	mg/L	20.70		105	80-120			
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CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard

Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21E0848

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
<	Less than the Method Detection Limit.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21E0848

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002
<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tata and Howard - ML/ML
 Shipped/Delivered Via: ESS Courier

ESS Project ID: 21E0848
 Date Received: 5/25/2021
 Project Due Date: 6/2/2021
 Days for Project: 5 Day

1. Air bill manifest present? ☒ No
 Air No.: NA
2. Were custody seals present? ☒ No
3. Is radiation count <100 CPM? ☒ Yes
4. Is a Cooler Present? ☒ Yes
 Temp: 2.2 Iced with: Ice
5. Was COC signed and dated by client? ☒ Yes

6. Does COC match bottles? ☒ Yes
7. Is COC complete and correct? ☒ Yes
8. Were samples received intact? ☒ Yes
9. Were labs informed about short holds & rushes? ☒ Yes / No / NA
10. Were any analyses received outside of hold time? ☒ Yes / No

11. Any Subcontracting needed? ☒ Yes / No
 ESS Sample IDs: 1-4 Ecoi
 Analysis: ECOI
 TAT: 5

12. Were VOAs received? ☒ Yes / No
 a. Air bubbles in aqueous VOAs? ☒ Yes / No
 b. Does methanol cover soil completely? ☒ Yes / No / NA

13. Are the samples properly preserved? ☒ Yes / No
 a. If metals preserved upon receipt: ☒ Yes / No
 b. Low Level VOA vials frozen: ☒ Yes / No
 Date: _____ Time: _____ By: _____

Sample Receiving Notes:

Bacteria directly subbed

14. Was there a need to contact Project Manager? ☒ Yes / No
 a. Was there a need to contact the client? ☒ Yes / No
 Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	170122	Yes	N/A	Yes	1L Amber	NP	
1	170126	Yes	N/A	Yes	1L Poly	NP	
1	170130	Yes	N/A	Yes	1L Poly	H2SO4	
1	170134	Yes	N/A	Yes	100 mL Bacti	NP	
2	170123	Yes	N/A	Yes	1L Amber	NP	
2	170127	Yes	N/A	Yes	1L Poly	NP	
2	170131	Yes	N/A	Yes	1L Poly	H2SO4	
2	170135	Yes	N/A	Yes	100 mL Bacti	NP	
3	170124	Yes	N/A	Yes	1L Amber	NP	
3	170128	Yes	N/A	Yes	1L Poly	NP	
3	170132	Yes	N/A	Yes	1L Poly	H2SO4	
3	170136	Yes	N/A	Yes	100 mL Bacti	NP	
4	170125	Yes	N/A	Yes	1L Amber	NP	
4	170129	Yes	N/A	Yes	1L Poly	NP	
4	170133	Yes	N/A	Yes	1L Poly	H2SO4	
4	170137	Yes	N/A	Yes	100 mL Bacti	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tata and Howard - ML/ML

ESS Project ID: 21E0848
Date Received: 5/25/2021

2nd Review

Were all containers scanned into storage/lab?

Initials TD

Are barcode labels on correct containers?

Yes/No (NA)

Are all Flashpoint stickers attached/container ID # circled?

Yes / No (NA)

Are all Hex Chrome stickers attached?

Yes / No (NA)

Are all QC stickers attached?

Yes / No (NA)

Are VOA stickers attached if bubbles noted?

Yes / No (NA)

Completed

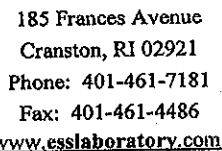
By: Taylor D. Dwyer

Date & Time: 5/25/21 1751

Reviewed

By: Daphne J. W.

Date & Time: 5/25/21 1825



ESS Lab # 71EP848 Page 1 of 1

ELECTRONIC DELIVERABLES (Final Reports are PDF)

Turn Time	<input type="checkbox"/> > 5	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> Same Day
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Regulatory State: MA Criteria: stormwater (MS4)

Is this project for any of the following?:

☐ CT RCP ☐ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

☐ Limit Checker ☐ State Forms ☐ EQuIS
☐ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: Tata + Howard
Address: 67 Forest St.
Marborough, MA 01752
Phone: 508-214-4161
mail Distribution List:

PROJECT INFORMATION

Project Name: Leicester Outfall Sampling
Project Location: Leicester
Project Number: 4708-
Project Manager: Derek McClellan
Bill to: _____
PO#: _____
Quote#: _____

Client acknowledges that sampling is compliant with all EPA / State regulatory programs.

REQUESTED ANALYSES

Total Number of Bottles

[illegible]

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by : DSM

Laboratory Use Only

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration

☐ Lab FilterCooler Temperature (°C): 2.2

Relinquished by (Signature) _____

Date _____

Time

Received by (Signature) _____

Relinquished by (Signature) _____

Date _____

Time

Received by (Signature) _____

Deak McCall

$$5/25/21$$

2:00

✓

61

5/25/21

17-21

Taylor Wears
5/7/51-7/9

Relinquished by (Signature)

Date _____

Time

Received by (Signature) _____

Relinquished by (Signature)

Date _____

Time

Received by (Signature) _____



CERTIFICATE OF ANALYSIS

Derek McClellan
Tata and Howard
67 Forest Street
Marlborough, MA 01752

RE: Leicester Outfall Sampling (4708)
ESS Laboratory Work Order Number: 21F0389

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 12:27 pm, Jun 22, 2021

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

BAL Laboratory - Cranston, RI

E Coli



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21F0389

SAMPLE RECEIPT

The following samples were received on June 10, 2021 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR Part 136, as amended.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
21F0389-01	Outfall 74	Surface Water	9213D
21F0389-02	DMH2	Surface Water	9213D
21F0389-03	CB1	Surface Water	9213D
21F0389-04	DMH1	Surface Water	9213D



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21F0389

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21F0389

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: Outfall 74
Date Sampled: 06/10/21 13:00
Percent Solids: N/A

ESS Laboratory Work Order: 21F0389
ESS Laboratory Sample ID: 21F0389-01
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Microbiology

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>
E.coli	202 (N/A)		9213D		RJB	06/10/21 17:00	CFU/100mL



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: DMH2
Date Sampled: 06/10/21 13:15
Percent Solids: N/A

ESS Laboratory Work Order: 21F0389
ESS Laboratory Sample ID: 21F0389-02
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Microbiology

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>
E.coli	360 (N/A)		9213D		RJB	06/10/21 17:00	CFU/100mL



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: CB1
Date Sampled: 06/10/21 13:30
Percent Solids: N/A

ESS Laboratory Work Order: 21F0389
ESS Laboratory Sample ID: 21F0389-03
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Microbiology

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>
E.coli	5 (N/A)		9213D		RJB	06/10/21 17:00	CFU/100mL



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling
Client Sample ID: DMH1
Date Sampled: 06/10/21 13:45
Percent Solids: N/A

ESS Laboratory Work Order: 21F0389
ESS Laboratory Sample ID: 21F0389-04
Sample Matrix: Surface Water

All methods used are in accordance with 40 CFR 136.

Microbiology

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>
E.coli	840 (N/A)		9213D		RJB	06/10/21 17:00	CFU/100mL



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard

Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21F0389

Notes and Definitions

ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units



CERTIFICATE OF ANALYSIS

Client Name: Tata and Howard
Client Project ID: Leicester Outfall Sampling

ESS Laboratory Work Order: 21F0389

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

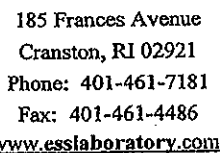
New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>



Turn Time	<input type="checkbox"/> > 5	<input checked="" type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> Same Day
Regulatory State:	MA		Criteria: stormwater MS4				
Is this project for any of the following?:							
<input type="checkbox"/> CT RCP	<input type="checkbox"/> MA MCP	<input type="checkbox"/> RGP	<input type="checkbox"/> Permit	<input type="checkbox"/> 401 WQ			

Page 1 of 1

ELECTRONIC DELIVERABLES (Final Reports are PDF)

- ☐ Limit Checker ☐ State Forms ☐ EQuIS
☐ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: Testa + Howard
Address: 67 Forest St.
Marlborough, MA 01752
Phone: 508-214-4161
Email Distribution List:

PROJECT INFORMATION

Project Name: stormwater outfalls
Project Location: Leicester
Project Number: 4708
Project Manager: Derek McChellan
Bill to: _____
PO#: _____
Quote#: _____

Client acknowledges that sampling is compliant with all EPA / State regulatory programs.

REQUESTED ANALYSES

Total Number of Bottles

[illegible]

Container Type:	AC-Air Cassette	AG-Amber Glass	B-BOD Bottle	C-Cubitainer	J-Jar	O-Other	P-Poly	S-Sterile	V-Vial
-----------------	-----------------	----------------	--------------	--------------	-------	---------	--------	-----------	--------

Container Type:	AC-Pan Classmate AC-Pan Mini Classmate										
Container Volume:	1-100 mL	2-2.5 gal	3-250 mL	4-300 mL	5-500 mL	6-1L	7-VOA	8-2 oz	9-4 oz	10-8 oz	11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H₂SO₄ 4-HNO₃ 5-NaOH 6-Methanol 7-Na₂SO₃ 8-ZnAc₂, NaOH 9-NH₄Cl 10-DI H₂O 11-Other

Sampled by :

Laboratory Use Only

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration

☐ Lab Filter

Cooler Temperature ($^{\circ}\text{C}$): 0.9
ice

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
<i>[Signature]</i>	6/10/21	2:30pm	<i>[Signature]</i>	<i>[Signature]</i>	6/10/21	16:23	<i>[Signature]</i>
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
<i>[Signature]</i>	6/10/21	16:24	K. D. <i>[Signature]</i>				

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Outfall Inventory and Priority Ranking Matrix
Leicester, Massachusetts
Revision Date: June 30, 2021

Outfall ID	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? ¹	Discharging to Area of Concern to Public Health? ²	Frequency of Past Discharge Complaints	Receiving Water Quality ³	Density of Generating Sites ⁴	Age of Development/ Infrastructure ⁵	Historic Combined Sewers or Septic? ⁶	Aging Septic? ⁷	Culverted Streams? ⁸	Additional Characteristics	Score	Priority Ranking
Information Source		Outfall inspections and sample results	GIS Maps	Town Staff	Impaired Waters List	Land Use/GIS Maps, Aerial Photography	Land Use Information, Visual Observation	Town Staff, GIS Maps	Land Use, Town Staff	GIS and Storm System Maps	Other		
Scoring Criteria		Yes = 3 (Problem Outfall) No = 0	Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0	TBD		
74	Sargent Pond	3	0	0	0	1	3	0	0	0	Sampling Indicates Illicit Sewer Discharge	7	Problem
75	Sargent Pond	3	0	0	0	1	3	0	0	0	Sampling Indicates Illicit Sewer Discharge	7	Problem
1	Burncoat Brook	0	0	0	2	1	3	0	0	0	Excessive Vegetation Around Outfall	6	High Priority
2	Burncoat Brook	0	0	0	2	1	3	0	0	0	Ditch Work Required, Branches and Leaves	6	High Priority
3	Burncoat Brook	0	0	0	2	1	1	0	0	0	None	4	High Priority
4	Cedar Meadow Pond	0	3	0	3	1	3	0	0	0	None	10	High Priority
5	Cedar Meadow Pond	0	3	0	3	1	1	0	0	0	Excessive Sediment	8	High Priority
7	Henshaw Pond	0	0	0	0	1	1	0	0	0	None	2	High Priority
8	Henshaw Pond	0	0	0	0	1	1	0	0	0	None	2	High Priority
9	Henshaw Pond	0	0	0	0	1	1	0	0	0	None	2	High Priority
10	Henshaw Pond	0	0	0	0	1	3	0	0	0	Crumbling Outfall, Ditch Work Required, Pipe Buried in Leaves	4	High Priority
11	Henshaw Pond	0	0	0	0	1	3	0	0	0	Ditch Work Required, Rocks, Sediment, and Leaves causing standing water	4	High Priority
12	Grindstone Brook	0	0	0	2	1	3	0	0	0	None	6	High Priority
14	Grindstone Brook	0	0	0	2	2	3	0	0	0	Ditch Work Required, Sediment Blocking Pipe	7	High Priority
15	Grindstone Brook	0	0	0	2	2	3	0	0	0	Ditch Work Required, Sediment and Leaves Blocking Pipe	7	High Priority
16	Grindstone Brook	0	0	0	2	2	3	0	0	0	None	7	High Priority
17	Grindstone Brook	0	0	0	2	2	3	0	0	0	None	7	High Priority
18	Grindstone Brook	0	0	0	2	2	3	0	0	0	None	7	High Priority
19	Grindstone Brook	0	0	0	2	2	1	0	0	0	None	5	High Priority
20	Grindstone Brook	0	0	0	2	2	1	0	0	0	Ditch Work Required, Sediment and Trees Blocking Pipe	5	High Priority
21	Grindstone Brook	0	0	0	2	1	3	0	0	0	None	6	High Priority

Outfall Inventory and Priority Ranking Matrix
Leicester, Massachusetts
Revision Date: June 30, 2021

Outfall ID	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? ¹	Discharging to Area of Concern to Public Health? ²	Frequency of Past Discharge Complaints	Receiving Water Quality ³	Density of Generating Sites ⁴	Age of Development/ Infrastructure ⁵	Historic Combined Sewers or Septic? ⁶	Aging Septic? ⁷	Culverted Streams? ⁸	Additional Characteristics	Score	Priority Ranking
Information Source		Outfall inspections and sample results	GIS Maps	Town Staff	Impaired Waters List	Land Use/GIS Maps, Aerial Photography	Land Use Information, Visual Observation	Town Staff, GIS Maps	Land Use, Town Staff	GIS and Storm System Maps	Other		
Scoring Criteria		Yes = 3 (Problem Outfall) No = 0	Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0	TBD		
22	Grindstone Brook	0	0	0	2	1	3	0	0	0	Ditch Work Required, Rocks, Sediment blocking pipe	6	High Priority
23	Grindstone Brook	0	0	0	2	1	1	0	0	0	None	4	High Priority
24	Grindstone Brook	0	0	0	2	1	1	0	0	0	None	4	High Priority
25	Grindstone Brook	0	0	0	2	1	3	0	0	0	None	6	High Priority
26	Greenville Pond	0	0	0	3	1	1	0	0	0	None	5	High Priority
27	French River	0	0	0	2	1	1	0	0	0	Crumbling Headwall Fell and Broke Pipe	4	High Priority
28	French River	0	0	0	2	1	3	0	0	0	None	6	High Priority
29	Unnamed	0	0	0	0	1	3	0	0	0	Pipe in Poor Condition	4	High Priority
30	Rochdale Pond	0	0	0	3	1	3	0	0	0	None	7	High Priority
31	Rochdale Pond	0	0	0	3	1	3	0	0	0	None	7	High Priority
32	Rochdale Pond	0	0	0	3	1	3	0	0	0	None	7	High Priority
33	Rochdale Pond	0	3	0	3	1	3	0	0	0	Ditch Work Required, Excessive Sediment	10	High Priority
34	Rochdale Pond	0	3	0	3	1	3	0	0	0	None	10	High Priority
35	Rochdale Pond	0	3	0	3	1	3	0	0	0	None	10	High Priority
36	Rochdale Pond	0	3	0	3	1	1	0	0	0	None	8	High Priority
37	Rochdale Pond	0	3	0	3	1	1	0	0	0	None	8	High Priority
38	Rochdale Pond	0	3	0	3	1	3	0	0	0	Ditch Work Required, Excessive Sediment	10	High Priority
39	French River	0	0	0	2	1	3	0	0	0	None	6	High Priority
40	Rochdale Pond	0	0	0	3	1	3	0	0	0	None	7	High Priority
41	Rochdale Pond	0	3	0	3	3	3	0	0	0	None	12	High Priority
42	French River	0	0	0	2	3	3	0	0	0	Ditch Work Required, Excessive Sediment	8	High Priority
43	Rochdale Pond	0	3	0	3	3	3	0	0	0	None	12	High Priority
44	French River	0	0	0	2	3	3	0	0	0	Ditch Work Required, Leaves Blocking Swale	8	High Priority
45	Rochdale Pond	0	3	0	3	3	3	0	0	0	Crumbling Pipe	12	High Priority
49	Waite Pond	0	0	0	3	1	3	0	0	0	None	7	High Priority
56	Cedar Meadow Pond	0	3	0	3	1	3	0	0	0	Ditch Work Required, Leaves and Branches around Opening	10	High Priority
57	Cedar Meadow Pond	0	3	0	3	1	1	0	0	0	None	8	High Priority

Outfall Inventory and Priority Ranking Matrix
Leicester, Massachusetts
Revision Date: June 30, 2021

Outfall ID	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? ¹	Discharging to Area of Concern to Public Health? ²	Frequency of Past Discharge Complaints	Receiving Water Quality ³	Density of Generating Sites ⁴	Age of Development/ Infrastructure ⁵	Historic Combined Sewers or Septic? ⁶	Aging Septic? ⁷	Culverted Streams? ⁸	Additional Characteristics	Score	Priority Ranking
Information Source		Outfall inspections and sample results	GIS Maps	Town Staff	Impaired Waters List	Land Use/GIS Maps, Aerial Photography	Land Use Information, Visual Observation	Town Staff, GIS Maps	Land Use, Town Staff	GIS and Storm System Maps	Other		
Scoring Criteria		Yes = 3 (Problem Outfall) No = 0	Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0	TBD		
58	Cedar Meadow Pond	0	3	0	3	1	3	0	0	0	Ditch Work Required, Leaves, Rocks, Sediment, and Branches around Opening	10	High Priority
59	Cedar Meadow Pond	0	3	0	3	1	3	0	0	0	Excessive Sediment	10	High Priority
60	Southwick Pond	0	3	0	3	1	3	0	0	0	Ditch Work Required, Excessive Sediment, Blocked Pipe	10	High Priority
61	Southwick Pond	0	3	0	3	1	3	0	0	0	None	10	High Priority
65	Smiths Pond	0	3	0	0	1	3	0	0	0	Section of Pipe Disconnected	7	High Priority
66	Smiths Pond	0	3	0	0	1	3	0	0	0	None	7	High Priority
76	Sargent Pond	0	0	0	0	1	3	0	0	0	None	4	High Priority
77	Sargent Pond	0	0	0	0	1	3	0	0	0	Covered with Debris	4	High Priority
78	Dutton Pond	0	0	0	3	2	3	0	0	0	Ditch Work Required, Excessive Sediment, Blocked Pipe	8	High Priority
79	Dutton Pond	0	0	0	3	2	3	0	0	0	Covered with Debris	8	High Priority
80	Henshaw Pond	0	3	0	0	2	3	0	0	0	Grass Clippings, Leaves, Sediment, Debris	8	High Priority
81	Henshaw Pond	0	3	0	0	2	2	0	0	0	Some Sediment	7	High Priority
83	Lynde Brook Reservoir	0	3	0	0	1	3	0	0	0	None	7	High Priority
84	Lynde Brook Reservoir	0	3	0	0	1	3	0	0	0	Remove Propane Tank in Swale	7	High Priority
85	Town Meadow Brook	0	0	0	0	1	3	0	0	0	None	4	High Priority
86	Town Meadow Brook	0	0	0	0	1	3	0	0	0	None	4	High Priority
87	Town Meadow Brook	0	0	0	0	1	3	0	0	0	None	4	High Priority
88	Town Meadow Brook	0	0	0	0	1	3	0	0	0	None	4	High Priority
89	Town Meadow Brook	0	0	0	0	1	3	0	0	0	Ditch Work Required, Sediment and Leaves Mostly Covering Opening	4	High Priority
46	Kettle Brook	0	0	0	2	1	1	0	0	0	None	4	Low Priority
47	Kettle Brook	0	0	0	2	1	1	0	0	0	Leaves at Opening	4	Low Priority
48	Kettle Brook	0	0	0	2	1	2	0	0	0	Ditch Work Required, Rip Rap and Leaves Blocking Pipe	5	Low Priority

Outfall Inventory and Priority Ranking Matrix
Leicester, Massachusetts
Revision Date: June 30, 2021

Outfall ID	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? ¹	Discharging to Area of Concern to Public Health? ²	Frequency of Past Discharge Complaints	Receiving Water Quality ³	Density of Generating Sites ⁴	Age of Development/ Infrastructure ⁵	Historic Combined Sewers or Septic? ⁶	Aging Septic? ⁷	Culverted Streams? ⁸	Additional Characteristics	Score	Priority Ranking
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Scoring Criteria		Yes = 3 (Problem Outfall) No = 0	Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0	TBD		
50	Kettle Brook	0	0	0	2	1	3	0	0	0	Ditch Work Required, Sediment and Leaves Covering Pipe	6	Low Priority
51	Kettle Brook	0	0	0	2	1	3	0	0	0	Ditch Work Required, Vegetation and Leaves Covering Pipe	6	Low Priority
52	City Pond	0	0	0	0	1	1	0	0	0	None	2	Low Priority
53	City Pond	0	0	0	0	1	1	0	0	0	None	2	Low Priority
54	Kettle Brook	0	0	0	2	1	3	0	0	0	Ditch Work Required, Sediment and Leaves at Opening	6	Low Priority
55	Kettle Brook	0	0	0	2	1	3	0	0	0	Ditch Work Required, Sediment and Leaves at Opening	6	Low Priority
64	Smiths Pond	0	0	0	0	1	1	0	0	0	None	2	Low Priority
67	Smiths Pond	0	0	0	0	1	3	0	0	0	Ditch Work Required, Sediment and Rocks Blocking Pipe	4	Low Priority
68	Smiths Pond	0	0	0	0	1	1	0	0	0	None	2	Low Priority
69	Smiths Pond	0	0	0	0	1	3	0	0	0	Excessive Vegetation Around Outfall	4	Low Priority
70	Smiths Pond	0	0	0	0	1	3	0	0	0	Ditch Work Required, Downed Trees and Branches Covering Pipe	4	Low Priority
71	Lynde Brook	0	0	0	0	1	3	0	0	0	None	4	Low Priority
72	Lynde Brook	0	0	0	0	1	3	0	0	0	None	4	Low Priority
73	Lynde Brook	0	0	0	0	1	3	0	0	0	None	4	Low Priority
82	Unnamed	0	0	0	0	1	3	0	0	0	None	4	Low Priority

Scoring Criteria:

¹ Previous screening results indicate likely sewer input if any of the following are true:

- Olfactory or visual evidence of sewage,
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and detectable levels of chlorine

² Outfalls/interconnections that discharge to or near any of the following areas: public beaches, recreational areas, drinking water supplies, or shellfish beds

³ Receiving water quality based on latest version of MassDEP Integrated List of Waters.

- Poor = Waters with approved TMDLs (Category 4a Waters) where illicit discharges have the potential to contain the pollutant identified as the cause of the impairment

Outfall Inventory and Priority Ranking Matrix
Leicester, Massachusetts
Revision Date: June 30, 2021

- Fair = Water quality limited waterbodies that receive a discharge from the MS4 (Category 5 Waters)
- Good = No water quality impairments

⁴ Generating sites are institutional, municipal, commercial, or industrial sites with a potential to contribute to illicit discharges (e.g., car dealers, car washes, gas stations, garden centers, industrial manufacturing, etc.)

⁵ Age of development and infrastructure:

- High = Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old
- Medium = Developments 20-40 years old
- Low = Developments less than 20 years old

⁶ Areas once served by combined sewers and but have been separated, or areas once served by septic systems but have been converted to sanitary sewers.

⁷ Aging septic systems are septic systems 30 years or older in residential areas.

⁸ Any river or stream that is culverted for distance greater than a simple roadway crossing.

Illicit Discharge Tracking Sheet

Leicester, Massachusetts

[illegible]