

City of South Portland, Maine

Illicit Discharge Detection and Elimination Plan



July 2022

In Compliance with the

**2022 General Permit for the Discharge of Stormwater from
Small Municipal Separate Storm Sewer Systems**

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Cover Photo: Stormwater Intern Gretchen Anderson collecting stormwater sample from catch basin (June 2015)

1.0 INTRODUCTION

The City of South Portland, Maine (hereafter the City) is subject to the requirements of the Maine Department of Environmental Protection (DEP) General Permit for Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (hereafter the MS4 Permit). The MS4 Permit requires permittees to address the following six Minimum Control Measures throughout the City's Urbanized Area:

Maine DEP defines an illicit discharge as any discharge to an MS4 that is not composed entirely of storm water, except that the following are not considered illicit discharges:

- Discharges authorized under a Maine DEP permit (38 M.R.S §413)
- Uncontaminated groundwater,
- Water from a natural resource (such as a wetland), or
- an allowable non-storm water discharge (Section 3.0).

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement and Participation in City's Stormwater Program
3. Illicit Discharge Detection and Elimination (IDDE)
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management in New Development and Redevelopment
6. Pollution Prevention/Good Housekeeping for Municipal Operations

This document describes the IDDE Program for the City in fulfillment of the Minimum Control Measure 3 IDDE requirements specified in Part IV.C.3.b of the MS4 Permit.

1.1 IDDE Responsibilities in the City of South Portland

The City's Water Resource Protection Department (hereafter WRP) Director is ultimately responsible for overall permit compliance, and for implementation of this IDDE Plan. The Director receives direct support in Plan implementation from the Collection Systems Division (hereafter CSD) Manager and Stormwater Program Coordinator, both of whom will assist in the facilitation of any required changes to the Non-Stormwater Discharge Ordinance. Additional City staff also support implementation of this Plan:

- CSD staff: conduct outfall, ditch and catch basin inspections and monitoring, and conduct illicit discharge investigations.
- WRP Engineering Division Manager: primary administrator for ArcGIS ESRI licensing (for mapping).

- Code Enforcement Officer/Health Inspector: assists CSD staff in illicit discharge investigations when needed (e.g., plumbing inspections).

1.2 Amendments and updates to the IDDE Program

DEP designs MS4 Permits to provide coverage for five-year periods. The first MS4 Permit applicable to the City became effective in 2003 and expired in 2008. DEP issues subsequent Permits in 2008 and 2013, providing the City with continuous coverage for their stormwater discharges.

This IDDE Program has been developed to meet the requirements of the 2022 MS4 Permit. This Plan will be updated if any of the following occur:

- a new permit is issued which changes the requirements described in this IDDE Program document;
- the City identifies that the Program is not effective;
- municipal operations change which need to be reflected in this Program.

The WRP Director is responsible for overall permit compliance and will modify this IDDE Plan as needed with the assistance of the CSD Manager and Stormwater Program Coordinator.

1.3 Typical Illicit Discharges

The [Center for Watershed Protection \(CWP\) developed a comprehensive IDDE Manual in 2004](#) and provided an abbreviated update in 2011, which classifies illicit discharges into three categories related to frequency of discharge. This categorization allows communities to develop a comprehensive IDDE program that will address all kinds of illicit discharges. The three categories of illicit discharges identified in the CWP manual are described below along with examples of the types of discharges that may be encountered:

1. Transitory illicit discharges are typically one-time events resulting from spills, breaks, dumping, or accidents. Examples of illicit discharges include:
 - a. paint equipment rinse water
 - b. carpet cleaning water
 - c. sediment from construction sites

- d. wash water from vehicles other than individual residential car washing by an owner
- e. oil or gasoline spill from a vehicle crash or other source
- f. yard waste
- g. litter or pet waste

Transitory illicit discharges are often reported through citizen complaints line or following observation by a municipal employee during regular duties. Because they are not recurring, they are the most difficult to investigate, trace, and remove. The best method to reduce transitory discharges is through general public education, education of municipal staff to minimize spills and accidents, tracking of discharge locations (to identify potential patterns associated with spills), and enforcement of an illicit discharge ordinance.

2. Intermittent illicit discharges occur occasionally over a period of time (several hours per day, or a few days per year). Intermittent discharges can result from legal connections to the storm drain system, such as a legal sump pump connection that is illegally discharging washing machine water, a single home sanitary connection, or from illegal connections such as floor drains from industrial or commercial operations. Intermittent discharges can also result from activities such as excessive irrigation or wash down water from exterior areas. The 2022 Permit requires that MS4s consider illicit discharges that might result from dumping. One example of this would be trash or litter dumped in/near stormwater structures might leak leachate into the system intermittently. Because intermittent discharges are longer lasting, they are more likely to be discovered during an opportunistic or regularly scheduled inspection. They are less difficult to trace and remove than transitory discharges but can still present significant challenges. These discharges can have large or small impacts on water bodies depending on pollutant content.
3. Continuous illicit discharges are typically the result of a direct connection from a sanitary sewer, overflow from a malfunctioning septic system, or inflow from a nearby subsurface sanitary sewer that is malfunctioning. Continuous illicit discharges are usually easiest to trace and can have the greatest pollutant load but are typically the most costly and time

consuming to correct because they likely involve construction and alteration of subsurface connections. (CWP and Robert Pitt 2004)

1.4 Overview of IDDE Program Components

The MS4 Permit requires that an IDDE program be developed and implemented which contains six components. An overview of each component is provided in this subsection, and the remaining sections of this document describe how the City is implementing each component.

- Development of a watershed-based map: The City is required to develop a watershed-based map of the storm sewer system infrastructure including: catch basins, drain manholes, connecting surface and subsurface infrastructure, the direction of in-flow and out-flow pipes, and the locations of all discharges from the City's MS4 outfalls into any other interconnected MS4 or receiving water. The catch basins and outfalls must have unique identifiers. The following outfall information is included in the map system: the type of outfall (a connected pipe, a culvert, or a ditch), the material, its size, the name and location of the nearest named water body to which it discharges. Section 2.0 of this document describes the City's watershed-based map.
- Authority to Prohibit Illicit Discharges: To the extent allowable under state or local law, the City must effectively prohibit, through an ordinance or other regulatory mechanism, non-storm water discharges into the system and implement appropriate enforcement procedures and actions. Section 3.0 of this document describes how the City's Non-Storm Water Discharge Ordinance is implemented.
- Identification of High Priority Areas for Inspections: Prior MS4 Permits required the City to identify priority protection areas for potential illicit discharges. The 2022 MS4 Permit does not have this requirement, but does require that the City have "procedures for prioritizing watersheds". The City's high priority areas are described in Section 4.0 of this document, including a discussion of the basis for determining the high priority areas.
- Procedures to Locate Illicit Discharges (inspections): The City must develop procedures for locating illicit discharges by conducting dry weather outfall inspections and assessing catch basins for evidence of pollutants. The City also conducts ditch inspections. The 2022 MS4 Permit also requires analytical monitoring for outfalls that are flowing during dry weather. Section 5.0 of this document describes the City's inspection Plan.

- Procedures to Investigate and Remove Illicit Discharges: The City must develop procedures for locating the source of the discharge and procedures for the removal of the source. Sections 6.0 and 7 of this document describe how the City investigates potential discharges to determine their sources and removes illicit discharges once the source is discovered.
- Procedures to Document Illicit Discharges: The City must develop procedures for documenting actions and evaluating impacts on the storm sewer system subsequent to the removal. Section 8.0 describes how the City tracks illicit discharges.

Section 9.0 of this document describes the record retention requirements of the MS4 Permit and Section 10.0 of this document provides references.

2.0 STORMWATER INFRASTRUCTURE GIS DATA LAYERS

The City maintains and routinely updates stormwater infrastructure information in Geographic Information System (GIS) format. South Portland's stormwater map was created from a variety of sources including:

- GPS data collection & field verification
- Incorporation of features from existing City maps & plans (some in paper format)
- Incorporation of features from new electronic development and redevelopment plans (usually provided in CADD format)
- Incorporation of features from Maine Department of Transportation (MDOT) & Maine Turnpike Authority (MTA) plans (usually provided in CADD format)
- Staff knowledge of stormwater infrastructure

WRP maintains the authoritative stormwater GIS layers on the City's server, which staff can access using a variety of ESRI-based platforms including ArcMap, ArcGIS Pro, ArcGIS Online (AGOL) and ArcGIS Field Maps (for mobile devices). Additionally, CSD staff use the GraniteNet inspection software to assess the condition of stormwater infrastructure. GIS data for this application derives from the authoritative data layers on the server. These authoritative data layers are regularly updated (at least annually) by the City's GIS consultant to reflect any changes to the collection systems. [An AGOL map](#) with most of the attribute information for the City's piped infrastructure is available on [WRP's main webpage](#) for access by the public and other interested parties. A similar data set is also available to the public on the City's

[web-based GIS viewer \(AxisGIS\)](#). The City's GIS consultant CAI Technologies has overall responsibility for data quality and integrity. The following subsections provide general information on the infrastructure naming protocols and procedures in use to keep GIS data layers updated.

2.1 Infrastructure Naming Protocols

WRP has historically referenced sixteen watersheds within the City's boundaries. The City's GIS consultant created delineations for these watersheds by using a combination of existing GIS data layers, ESRI's hydrologic modeling tools and ground-truthing. DEP staff also conducted intensive field investigations and worked closely with the City's GIS consultant to refine the Trout Brook and Barberry Creek watersheds. Each watershed is uniquely identified numerically with an ESRI object id number and includes a unique alphabetic watershed name in the attribute table. The naming protocol for the City's stormwater infrastructure applies to five primary data layer types and subtypes as follows:

- **Drainage Structures:** all have unique 5 character GIS IDs
 - Separated catch basins
 - Combined catch basins (discharging to sewer)
 - Drain manholes
- **Drainage Pipes:** all have unique 5 character GIS IDs
 - Gravity
 - Culvert
 - Combined sewer (storm drains that discharge to sewer system)
- **Drainage Outfalls:** each piped outfall has unique alphanumeric characters denoting the watershed in which the outfall resides and a unique sequential number (e.g., AC_### for Anthoine Creek)
- **Drainage Ditches:** each ditch has unique alphanumeric characters denoting the watershed in which the ditch resides and a unique sequential number (e.g., LCD_### for Long Creek Ditch)
- **Stormwater Treatment Systems:** each of the 40 stormwater treatment systems (as of July 2022)

has unique alphanumeric characters denoting the watershed in which the system resides, a “BMP” designation indicating a structural asset and a unique sequential number (e.g., AC-BMP-## for a stormwater treatment system in the Anthoine Creek watershed).

Replaced structures or pipes retain the same IDs and newly installed structures or pipes are assigned new IDs using the naming protocols described above. When previously unidentified publicly owned piped infrastructure is found (which occurs rarely), it is assigned a unique ID using the naming protocols above.

2.2 Procedures to Update Map of Infrastructure

The City makes updates to City-owned stormwater infrastructure and associated GIS data as follows:

1. CSD’s construction crew completes routine maintenance to the stormwater system based on condition assessments of existing infrastructure and planned upgrades or additions to address problem areas. The City’s GIS consultant periodically updates associated GIS data layers to reflect these changes (typically at least annually).
2. More significant changes, such as for stormwater separation projects, are constructed by outside contractors after the preparation of formal design drawings. The City’s GIS consultant incorporates these changes into WRP’s GIS data layers after record drawings (i.e., “as-builts”) for the project have been completed.

3.0 AUTHORITY TO PROHIBIT ILLICIT DISCHARGES

The City’s authority to prohibit illicit discharges became effective in September 2004 with the passage of a Non-Stormwater Discharge Ordinance ([Chapter 22, Article XIV](#)). The ordinance was adapted to be City-specific from a model ordinance created by the Maine Municipal Association for communities regulated by the MS4 Permit. Though the MS4 Permit is only applicable to the Urbanized Area of City, the City implements the Non-Stormwater Discharge Ordinance in all areas of City. The Ordinance allows the following non-stormwater discharges to the storm drain system:

- landscape irrigation;
- diverted stream flows;
- rising ground waters;
- uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));

- uncontaminated pumped ground water;
- uncontaminated flows from foundation drains;
- air conditioning and compressor condensate;
- irrigation water;
- flows from uncontaminated springs;
- uncontaminated water from crawl space pumps;
- uncontaminated flows from footing drains;
- lawn watering runoff;
- flows from riparian habitats and wetlands;
- residual street wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material has been removed and detergents are not used);
- hydrant flushing and firefighting activity runoff;
- water line flushing and discharges from potable water sources.

The ordinance also allows discharges associated with dye testing with verbal notice to the WRP Director, who administers the ordinance and has the authority to issue a Notice of Violation if needed.

Discharges of hydrant and water line flushing require dechlorination whenever they will flow through the City's MS4 and into a small stream. In accordance with DEP's 11/18/2016 Issue Profile for Drinking Water System Discharges to Regulated Small MS4s, the Portland Water District (PWD) either aerates or dechlorinates during flushing to meet Total Residual Chlorine (TRC) acute water quality criteria as follows:

- Fresh water 19 ug/L (adjusted to 50 ug/L, per the Maine DEP as the reporting limit for available reliable and consistent test methods)
- Marine water 13 ug/L (adjusted to 50 ug/L, per the Maine DEP as the reporting limit for available reliable and consistent test methods)

The PWD flushes the system every three years and provides an annual report to the City describing water dechlorination methods in use and testing results for any flushing conducted. The PWD reports are included with the City's annual MS4 Program reports, which are posted on [WRP's stormwater webpages](#).

4.0 IDENTIFICATION OF PRIORITY AREAS

Prior MS4 Permits required that the City identify priority areas for targeted IDDE activities (i.e., outfall and ditch inspections). The 2022 MS4 Permit no longer includes this requirement, but the City will continue to prioritize IDDE activities based on impairment status and compliance with water quality classification standards. The City's five urban impaired stream watersheds (Long Creek¹, Red Brook, Barberry Creek, Trout Brook and Kimball Brook) will be high priorities. Willard Beach will also be a high priority given the fact that it is a swimming beach and frequently used by the public on a year-round basis (Attachment A). Additionally, as resources allow, the City will prioritize Anthoine Creek given the episodic occurrence of summertime algal blooms in the adjacent tidal flats leading to the Fore River. The City may also use this prioritization for illicit discharge investigations if there are insufficient resources to address all potential illicit discharges simultaneously.

5.0 PROCEDURES TO LOCATE POTENTIAL ILLICIT DISCHARGES

The City uses the following methods to locate illicit discharges:

1. Observations during catch basin cleaning
2. Reports of illicit discharge issues by the public or other entities
3. Dry weather outfall inspections
4. Outfall Sampling and Analysis (for flowing outfalls and to identify potential illicit discharge sources)
5. Opportunistic ditch inspections
6. Other opportunistic inspections

CSD staff document catch basin cleaning, dry weather outfall and ditch inspections with iPads using the cloud-based ArcGIS Collector App. Responses to illicit discharge reports are documented using a form adapted from the Center for Watershed Protection (Attachment B).

5.1 Catch Basin Cleaning Inspections

The 2022 MS4 Permit requires catch basin cleaning and inspection every two years. However, CSD staff will attempt to annually clean and inspect all of the City's publicly-owned catch basins (~2,800). In

1. DEP also regulates Long Creek with a General Permit separate and distinct from the MS4 General Permit.

addition to documenting structural conditions, inspections also identify the presence of illicit discharges, such as oil, litter, sewage, pet waste or other potential pollutants. Any evidence of illicit discharges is documented and forwarded to the Stormwater Program Coordinator for further action.

5.2 Reports of Illicit Discharges

The public or other entities (e.g., other City departments, staff from other utilities, anonymous parties, etc.) can report suspected or actual illicit discharges by phone or with the [City's online reporting webpage](#). This system automatically forwards all reports to the CSD Manager and Stormwater Program Coordinator for further action as needed.

5.3 Dry Weather Outfall Inspections

During previous permit cycles, CSD staff conducted dry weather outfall inspections in the highest priority urban impaired stream watersheds as identified in the City's Stormwater Management Plans (e.g., Long Creek, Trout Brook and Barberry Creek). As described above, while the 2022 MS4 Permit no longer requires this prioritization, the City will focus on all five urban impaired stream watersheds, Willard Beach and Anthoine Creek as time and resources allow. CSD staff will conduct inspections as follows:

Dry weather is defined in the permit as a time when:

- There has been no snow or ice melt for 72 hours or
- There has been no precipitation greater than ¼" for 72 hours.

If an outfall is inspected within the 72 hour window for rain or melting, and it is not flowing, the inspection can be considered a dry weather inspection.

- During periods of dry weather whenever possible.
- Where field inspections can be conducted in a safe and efficient manner;
- During periods of no or minimal snow cover and prior to the growth of vegetation (or after leaves have fallen) such that outfalls may be easily spotted;
- During periods with low or minimal snow cover when temperatures are well below freezing to minimize staff exposure risks to tick-borne diseases, such as Lyme, Powassan, Anaplasmosis, Babesiosis, etc.
- Visual observations will include the following at a minimum: visible sheen, discoloration, foaming, evidence of sanitary sewage, excessive algal growth and similar visual indicators,

and detection of odor

- Photographs may be taken at the time of inspection for either maintenance or illicit discharge documentation.
- MS4 outfalls will be inspected where the City has safe and legal access to the structure to be inspected.
- When maintenance or potential illicit discharge issues are identified, the CSD Manager and Stormwater Program Coordinator will be informed so that any necessary follow-up work can be planned and scheduled accordingly.

5.4 Outfall Sampling and Analysis

Outfall sampling and analysis is required under the 2022 MS4 Permit when an outfall is observed to be flowing during dry weather conditions whether or not it has exhibited evidence of an illicit discharge. Outfalls and/or other structures may also be sampled if other evidence of illicit discharges is observed during inspection. The Stormwater Program Coordinator may request the assistance of other utility operators (e.g., PWD, MDOT, MTA, etc.) to collect samples for field screening depending on the conditions encountered.

A Quality Assurance Project Plan (QAPP) has been developed to provide sampling personnel the information that will assist them in collecting samples and using field equipment, test kits and obtaining analyses (Attachment C). The QAPP describes the sampling procedures that should be used as well as the analytical methods and field equipment that are appropriate for use in investigating potential illicit discharges and flowing outfalls. The QAPP also provides guidance on interpretation of the results obtained so that investigators can make informed decisions about whether to continue investigating a potential source, or whether the results indicate a flowing outfall might be from a natural source.

Wet weather sampling is not required by the MS4 Permit at this time, but the CSD may choose to conduct wet weather sampling if they suspect a discharge occurs only during wet weather (such as may be the case for failed septic systems or leaking sewer pipes).

5.5 Ditch Inspections

The 2022 MS4 Permit does not require ditch inspections to be completed. For previous MS4 Permit requirements, CSD completed ditch inspections annually in the Long Creek, Trout Brook and Barberry

Creek watersheds beginning in 2013. The inspections were completed using a variety of mobile devices and cloud-based data collection platforms based on the availability of technology and funding (e.g., iPhones using Fulcrum, iPads using Collector, etc.). The City will continue to inspect ditches for potential illicit discharges on an annual basis using the following guidelines:

- Field inspections will be performed during periods of dry weather when possible.
- Inspections will be performed during periods low flow where field inspections may be performed in a safe and efficient manner;
- Inspections will be performed during periods of no snow cover and prior to the growth of ditch vegetation such that potential outfalls may be easily spotted;
- Evidence of potential illicit discharges will be documented using the City's standard ditch inspection form.

When maintenance or potential illicit discharge issues are identified, the CSD Manager and Stormwater Program Coordinator will be informed so that any necessary follow-up work can be planned and scheduled accordingly.

5.6 Septic System Inspections

As required by the 2013-2018 MS4 Permit, the City developed a list of septic systems with the potential to discharge to the MS4 system in the event of failure. While the vast majority of the City is serviced by public sewers, 183 parcels with septic systems were identified and inspected on a "drive-by" basis in the fall of 2016. Some systems were flagged as being potentially problematic due to the presence of greener grass above the leach fields (the inspections were conducted during an extended period of extreme drought). However, since no other corroborating problem indicators were observed (e.g., ponding or sewage breakout) no further actions were deemed necessary. None of the systems were observed to have evidence of leakage or failure. Because this effort did not yield useful information on septic system failures and was of questionable value, it is no longer being conducted.

5.7 Cooperation with other MS4s

Because the City's MS4 infrastructure has interconnections with other MS4s, it may be necessary to conduct cooperative investigations with these entities or to inform them of issues associated with

the City’s infrastructure. The other MS4 contacts with which the City has interconnections are listed below (as of January 2021).

Entity	Division/Department	Contact Person	Position	Email	Phone
Town of Cape Elizabeth	Public Works Department	Jay Reynolds	Public Works Director	jay.reynolds@capeelizabeth.org	799-4151
City of Portland	Water Resources	Doug Roncarati	Stormwater Program Coordinator	dar@portlandmaine.gov	874-8848
Town of Scarborough	Planning Dept.	Angela Blanchette	Town Engineer	ablanchette@scarboroughmaine.org	730-4031
City of Westbrook	Public Services	Lynn Leavitt	Sustainability Coordinator	lleavitt@westbrook.me.us	591-8135
Maine Department of Transportation	Environmental Office	Peter Newkirk	Stormwater Engineer	peter.newkirk@maine.gov	877-5081
Maine Turnpike Authority	Environmental Office	John Branscom	Environmental Services Coordinator	jbranscom@maineturnpike.com	871-7771
Southern Maine Community College	Environmental Health & Safety Office	Jennifer Otenti	Environmental Health & Safety Coordinator	jotenti@smccme.edu	741-5932

Documentation of correspondence with interconnected MS4s is contained in Attachment D to this IDDE Plan.

6.0 PROCEDURES TO INVESTIGATE ILLICIT DISCHARGES

CSD conducts all investigations for illicit discharge issues. This process begins with visual observations of the potential illicit discharge location to identify whether evidence of an illicit discharge still exists. If CSD staff confirm the presence or occurrence of an illicit discharge, they attempt to locate its source by systematically inspecting upstream structures in the stormwater drainage system. For example, if CSD staff observed evidence of residue from petroleum products while cleaning catch basins, they would visually inspect upstream infrastructure until locating its source. In addition to opening drainage structures, this inspection could involve using the City’s TV van to identify internal pipe conditions and lateral pipe locations, dye testing to confirm lateral pipe connections, or smoke testing to confirm potential breaks in storm drains or co-located sewer lines. CSD staff could also use analytical monitoring as described in section 5.4 to identify potential illicit discharge sources. If CSD staff are unable to confirm the source upon initial investigation, the area may be re-inspected to assess if the illicit discharge was a one-time or repeating occurrence with investigations conducted as needed.

7.0 PROCEDURES TO REMOVE ILLICIT DISCHARGES

Once CSD identify the potential source of the illicit discharge, they will then contact the responsible party to initiate its removal or discontinuation. If a private entity is responsible for the illicit discharge and

does not take timely action to eliminate it, the WRP Director may invoke the Non-Storm Water Discharge Ordinance to compel compliance (Section 3.0 above). This could begin with verbal or email notice to the responsible party followed by a formal Notice of Violation (NOV). The NOV will specify that the responsible party must remove the illicit discharge within 60 days of its source identification. If this timeframe is infeasible, the responsible party must work with WRP to establish a schedule to remove the illicit discharge as expeditiously as possible.

If the City is the source of an illicit discharge, WRP will work directly with the responsible municipal department to remove or discontinue the illicit discharge within 60 calendar days of its source identification or will develop a schedule to expedite removal.

8.0 PROCEDURES TO DOCUMENT ILLICIT DISCHARGES

The City will document the progress of investigating and removing illicit discharges using an IDDE Tracking Table. This table is included in annual MS4 program reports and posted on [WRP's Stormwater Program webpage](#). The Stormwater Program Coordinator will retain electronic copies of IDDE Tracking Tables as back-up documentation for any investigative and removal work completed.

9.0 RECORDS RETENTION

The Stormwater Program Coordinator will retain paper or electronic files of inspections and investigations including laboratory reports, for a minimum of three years after expiration of the MS4 Permit term. If the MS4 Permit expires on June 30, 2021, the files may be discarded July 1, 2024.

10.0 REFERENCES

CWP and Robert Pitt 2004. *Illicit Discharge Detection and Elimination Manual – A Guidance Manual for Plan Development and Technical Assessments*.

https://www3.epa.gov/npdes/pubs/idde_manualwithappendices.pdf

Aquarion Engineering Services and Casco Bay Estuary Partnership 2004. *Guidelines and Standard Operating Procedures for Stormwater Phase II Communities in Maine*.
<http://thinkbluemaine.cumberlandswcd.com/wp-content/uploads/2017/08/sopv2.pdf>

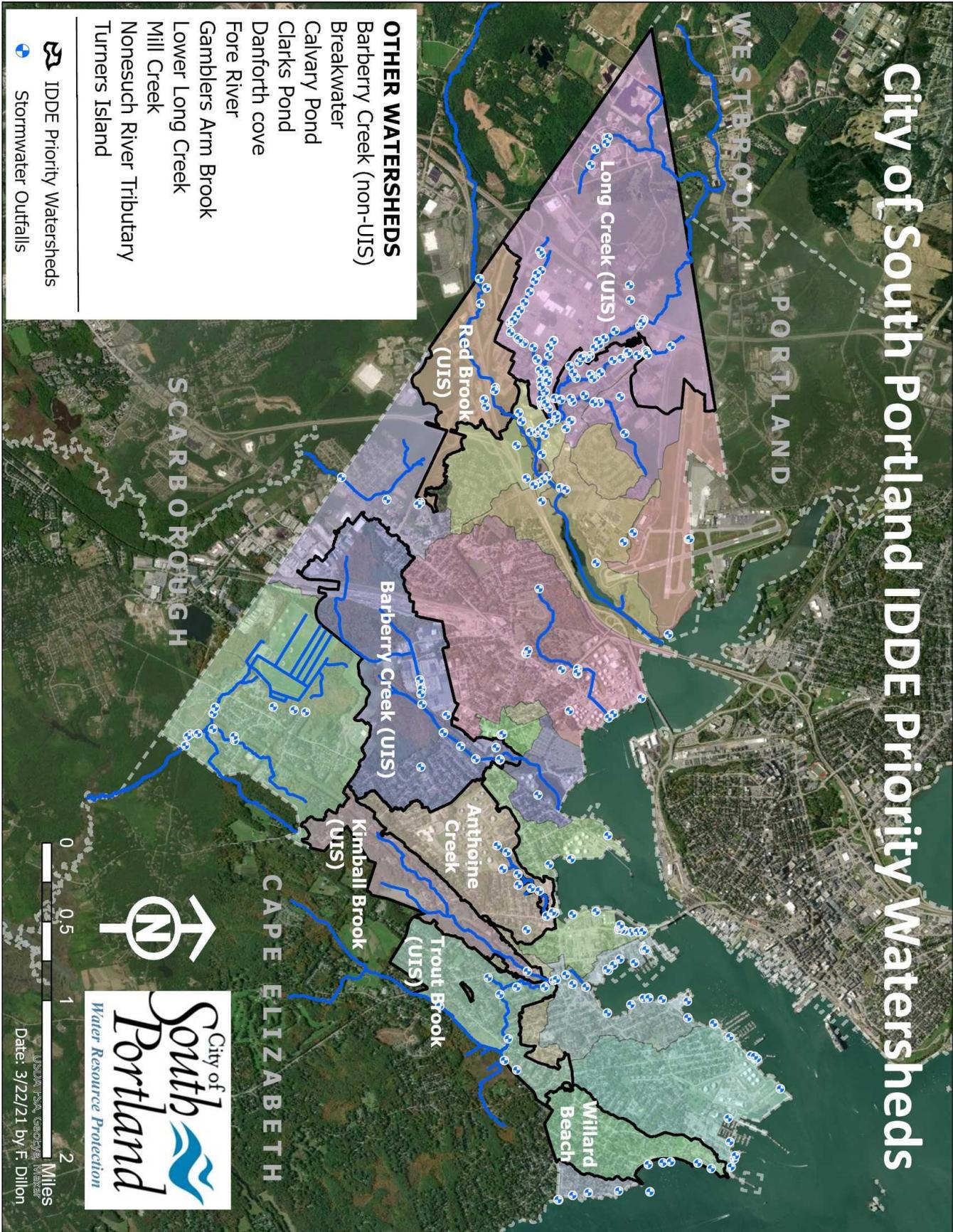
CWP and Robert Pitt 2011 (updated 2016). *Illicit Discharge Detection and Tracking Guide*.
<https://owl.cwp.org/mdocs-posts/idde-and-tracking-guide/>

USEPA New England Bacterial Source Tracking Protocol 2012.
<https://www3.epa.gov/region1/npdes/stormwater/ma/2014AppendixI.pdf>

ATTACHMENT A

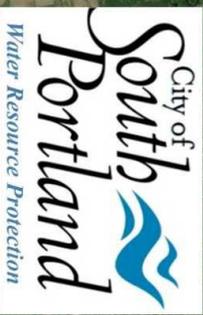
SOUTH PORTLAND IDDE PRIORITY WATERSHEDS MAP

City of South Portland IDDE Priority Watersheds



- OTHER WATERSHEDS**
- Barberry Creek (non-UIS)
 - Breakwater
 - Calvary Pond
 - Clarks Pond
 - Danforth cove
 - Fore River
 - Gamblers Arm Brook
 - Lower Long Creek
 - Mill Creek
 - Nonesuch River Tributary
 - Turners Island

-  IDDE Priority Watersheds
-  Stormwater Outfalls



Date: 3/22/21 by F. Dillon

ATTACHMENT B

IDDE INSPECTION REPORTING FORM

City of South Portland Illicit Discharge Detection & Elimination (IDDE) Reporting Form*				
Incident ID:				
Reporter Information				
Incident Date:			Incident Time:	
Caller contact information (if available):				
Responder Information				
Call taken by:			Call date/time:	
Response date/time:			Precip prev. 24-48 hrs:	
Incident Location				
Latitude / Longitude:				
Stream address or outfall #:				
Closest street address:				
Nearby landmark:				
Primary Location Description		Secondary Location Description		
<input type="checkbox"/> Stream corridor	<input type="checkbox"/> Upland area	<input type="checkbox"/> Outfall	<input type="checkbox"/> Near storm drain	<input type="checkbox"/> In-stream flow <input type="checkbox"/> Near other waste source (SW pond, wetland, etc.)
Description of location & incident details:				
Upland Problem Indicator Description				
<input type="checkbox"/> Dumping	<input type="checkbox"/> Wash water, suds, etc.	<input type="checkbox"/> Oils/solvents/chemicals	<input type="checkbox"/> Sewage	
		<input type="checkbox"/> Other: _____		
Stream Corridor Problem Indicator Description				
Odor	<input type="checkbox"/> None	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rancid/sour	<input type="checkbox"/> Petroleum (gas)
	<input type="checkbox"/> Sulfide	<input type="checkbox"/> Other (describe in narrative section)		
Appearance	<input type="checkbox"/> "Normal"	<input type="checkbox"/> Oil sheen	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Suds
	<input type="checkbox"/> Other (describe in narrative section)			
Floatables	<input type="checkbox"/> None	<input type="checkbox"/> Sewage (toilet paper, etc.)	<input type="checkbox"/> Algae	<input type="checkbox"/> Dead fish
	<input type="checkbox"/> Other (describe in narrative section)			
Description of problem indicators & response:				
Suspected Violator (name, personal or vehicle description, license plate #, etc.):				
Report completed by:				

*Adapted from Center for Watershed Protection's Illicit Discharge Detection and Elimination Technical Appendices (Oct. 2004)

City of South Portland IDDE Inspection Report ~

INSERT MAP HERE

City of South Portland IDDE Inspection Report ~



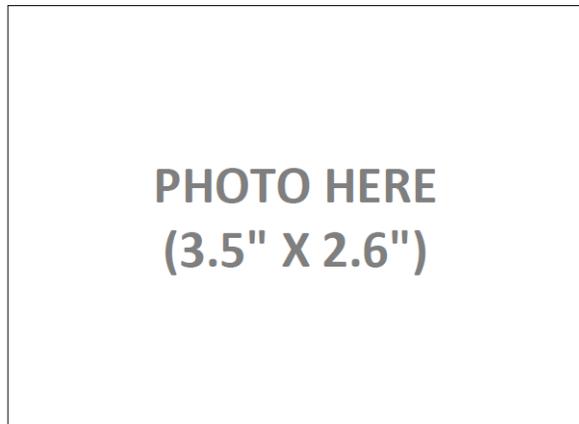
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ATTACHMENT C

QUALITY ASSURANCE PROJECT PLAN

ISWG and SMSWG
Stormwater Monitoring Program QAPP
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Revision 2

**Stormwater Monitoring Quality Assurance Project
Plan Template**

1.0 Background and Scope

In Maine, there are 30 municipalities (permittees) regulated by the 2022 Maine General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4 General Permit). The MS4 General Permit requires that the municipalities conduct dry weather inspections on 100% of their outfalls during the 5-year term of the MS4 General Permit.

Under most conditions, if an outfall is observed to have dry weather flow, monitoring must be conducted to assess whether there is an illicit discharge associated with the flow. (Part IV(C)(3)(e)(vi) of the MS4 General Permit contains a few conditions under which flowing outfalls do not need to be monitored.)

The following monitoring needs to be conducted whether or not the outfall’s dry weather flow exhibits evidence of an illicit discharge:

- E. coli, enterococci, total fecal coliform or human bacteroides;
- Ammonia, total residual chlorine, temperature, and conductivity; and
- Optical enhancers or surfactants.

The objective of the monitoring is to collect data that can be used to determine if there is an illicit discharge present in the flow, or if the flow is from uncontaminated groundwater, water from a natural resource, or an allowable non-stormwater discharge.

The purpose of this Quality Assurance Project Plan (QAPP) is to provide sampling personnel information that will assist them in collecting samples and analyzing the samples using field equipment/test kit(s) and/or laboratories in a manner that ensures sufficient accuracy and precision so that sampling personnel and regulators can be confident there is or is not an illicit discharge present in dry weather flow from an outfall. This QAPP provides information on several field equipment/test kit(s) and analytical methods available to permittees that can be used to comply with the requirements for Dry Weather Outfall Monitoring.

Illicit Discharge means any discharge to a regulated MS4 system that is not composed entirely of stormwater other than:

- discharges authorized pursuant to another permit issued pursuant to 38 M.R.S. §413;
- uncontaminated groundwater;
- water from a natural resource [such as a wetland]; or
- other Allowable Non-Stormwater Discharges identified in Part IV(C)(3)(h) of the MS4 General Permit.

Each municipality is required by the MS4 General Permit to prepare a written Illicit Discharge Detection and Elimination (IDDE) Plan. This QAPP has been developed to be an attachment to a municipality’s IDDE Plan.

2.0 Sampling Procedures

Samples are required to be collected at outfalls that exhibit dry weather flow (defined as flow after there has been no precipitation greater than ¼ inch for 72 hours, and no melt water from snow or ice).

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Personnel should be prepared to collect samples during any outfall inspection, because dry weather flow is sometimes intermittent, and if personnel need to return to the site later in the same day, or several days later, the dry weather flow may no longer be present.

Samples will be collected from a flowing source only (not from stagnant water), and where the pipe outlet has at least 1 or 2 inches of free-flowing drop before any standing water or pool below it. Stagnant water should not be sampled unless the municipality deems it necessary for some reason.



This outfall, though in poor condition because it is cantilevered, provides a good opportunity for a clean catch of its discharge.



This outfall is partially submerged and a clean catch of its discharge is not possible. If tidal influences are strong, wait until low tide to sample. Additional options include: sampling upstream structures or using sand bags around the outfall to prevent contamination from backflow.

Table 1 provides a list of equipment that is generally required for dry weather outfall monitoring.

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Table 1 Field Equipment for Monitoring

1 Gallon of Distilled or de-ionized water for rinsing
1 Roll Paper towels
3-5 clean plastic 250 ml beakers for water sample collection in Baggie marked "Clean" or disposable "whirl bags"
Garbage bags
1 long sampling pole
Equipment to remove and access catch basin covers if needed (pull, hammer, crowbar)
Field equipment/test kits (see Table 2) and bottles for any laboratory samples or off-site field test kits. Ensure field test kits reagents have not expired typically keep bottles for 3-5 samples available
Non-latex gloves
Box of 1 gallon plastic bags
Cooler with ice
Camera or phone
Safety Vest
Steel toed boots, waterproof
scissors
Sun screen and bug spray
Clip board
3-5 Field Data Sheets (See Addendum 1 for examples)
Chain of Custody (obtained from laboratory or see Addendum 3 for examples)
Sharpies and water-proof pens
Packing tape and Duct tape
Sheet of blank labels for bottles
First aid kit
Small white board with pen to mark outfall ID, date, and time in photo

For each outfall sampled, a Field Data Sheet will be used to document the date, time, and location of sample(s) collected, weather conditions, any general observations related to the tests being performed, and results of any parameters analyzed using field equipment or test kits. Note that the Field Data Sheet has a place to document sample observations including odor, color, turbidity, presence of algae, etc. The observations can be documented in this location instead of, or in addition to the observations made during the normal outfall inspection (which should be conducted in accordance with the MS4's IDDE Plan or SOP).

Sample bottles that will be taken away from the sampling site for analysis will be labelled with the date, time and sample location as well as the name of the sampler. Example labels are provided in Addendum 1 along with an example field data collection sheet.

When using a third-party laboratory for any off-site analysis, sample bottles should be obtained before the sampling event. Coordination with the laboratory is also recommended to ensure that sample hold times and preservation requirements are being met. If samples are being collected on a Friday, some laboratories need prior notice to meet short hold times. Analytical methods, hold times and other pertinent information is described in Section 3 of this QAPP.

After sampling events, any reusable sample collection containers will be cleaned with soap and water or trisodium phosphate and water. Cleaning will be completed in a location where wash

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water can be discharged to a licensed wastewater treatment plant, sanitary sewer, or septic system.

3.0 Analyses and Reporting limits

The MS4 General Permit does not require samples to be analyzed using Clean Water Act (CWA) Methods published in 40 Code of Federal Regulations Chapter 136. The use of field equipment/ test kit(s) and laboratories are both allowed. The MS4 General Permit does not require samples to be analyzed by a laboratory that is certified by the Maine DEP. However, this QAPP specifies that when a commercial laboratory is used for a CWA method, it will be certified by the Maine DEP for the CWA method specified.

Use of a certified laboratory is specified in this QAPP because the data generated by a certified lab would be more likely to stand up in a court of law than data generated by a non-certified lab.

A list of commercial certified laboratories is available on the Maine DEP website at: <https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml> . Note also that many Wastewater Treatment Plants conduct bacteria analysis for operational purposes. If there is a Wastewater Treatment Plant in the area, it can also be used for the bacteria screening.

This QAPP does not specify CWA methods or Maine DEP certification for use of field equipment/test kit(s).

Table 2 provides information related to sampling parameters, analysis methods, and sample preservation and holding times that may be used during dry weather outfall monitoring. Analysis methods specified in **Table 2** include CWA methods, field equipment, and test kits, where applicable. **Table 2** also provides information on when a given CWA Method, Field Equipment, or Test Kit might be preferable if there are multiple options for a given parameter.

Prior to sampling, the sampler and Stormwater Manager or Coordinator will determine what analysis method (CWA Method, Field Equipment, or Test Kit) will be used.

User manual(s) and safety data sheets (SDS) for field equipment and/or test kit(s) that will be utilized for dry weather monitoring are included as Addendum 4 to this QAPP, or may be kept in a separate electronic or paper location as long as they are easily accessible to the field personnel who will be conducting the monitoring.

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Table 2 Sampling Parameters, Analysis Methods, and Sample Preservation and Holding Times

Bacteria - select one or more based on discharge environment	CWA Method, Field Equipment, or Test Kit	Preservation	Holding time	Bottle needed	Notes on Use
Bacteria - E. coli	SM 9223 B (IDEXX Colilert Quanti-Tray) EPA 1603 (membrane filtration, MF) Or SM 9221 B (Most probable number, MPN)	Ice	To lab within 6 hours Analyze within 2 hours of receipt	120 ml or 250 ml plastic sterile bottle with lid from lab	Use for discharges to freshwater (with ammonia and either optical enhancers or surfactants)
Bacteria - enterococcus	SM 9230 B, C or D, (MPN including IDEXX Enterolert, or MF) EPA 1600 (MF)	Ice	To lab within 6 hours Analyze within 2 hours of receipt	120 ml or 250 ml plastic sterile bottle with lid from lab	Use for discharges to salt water (with ammonia and either optical enhancers or surfactants)
Bacteria – Fecal Coliform	SM 9222 D (MF CFU/100ml) Or SM 9221 C, E (Multitube MPN/100ml)	Ice	To lab within 6 hours Analyze within 2 hours of receipt	120 ml or 250 ml plastic sterile bottle with lid from lab	Use for discharges to salt or freshwater (with ammonia and either optical enhancers or surfactants)
Bacteria – Human Bacteroides	Labs: EMSL (NJ), Microbial Insights (TN) or Source Molecular (FL) Or Dr. Steve Jones, UNH	Ice	To lab within 24 hours Analyze within 48 hours	1000 ml plastic bottle with sodium thiosulfate from lab (with insulated shipping box)	Use for discharges to salt or freshwater (with ammonia and either optical enhancers or surfactants). Not a CWA method, so Maine Laboratory certification not required.

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Table 2 Sampling Parameters, Analysis Methods, and Sample Preservation and Holding Times

Ammonia (select one method)	CWA Method, Field Equipment, or Test Kit	Preservation	Holding time	Bottle needed	Notes on Use
Ammonia	Hach Ammonia Test Strips	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	
Ammonia	Laboratory Method EPA 350.1/350.2	H ₂ SO ₄ (pH <2) + Ice	28 days	250 ml plastic bottle from lab	
Ammonia	Hach DR300 Pocket Colorimeter Ammonia Nitrogen or LaMotte 3680-01 DC1200 Colorimeter test kit	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	Reagent contains Mercury, Generates a Toxic Hazardous Waste (D009) instructional video (10 minutes): https://www.youtube.com/watch?v=hFiEEAmWfo_
Total Residual Chlorine (select one method)	CWA Method, Field Equipment, or Test Kit	Preservation	Holding time	Bottle needed	Notes on Use
Chlorine	Field kit – Hach Colorimeter II low range	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	Instructional video available at: https://www.youtube.com/watch?v=WTUD0Hq1Vw
Chlorine	Industrial test Systems Ultra-Low Total Chlorine Test Strips and other mid range chlorine test strips	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	As of 6/2020, USEPA had not used Ultra low chlorine test strips (0.2 to 0.5 mg/L). Informal review shows these should be used simultaneously with a mid range (0.5 to 10 mg/l) test strips to double check range.
Temperature and Conductivity (use both)	CWA Method, Field Equipment, or Test Kit	Preservation	Holding time	Bottle needed	Notes on Use
Temperature	Temperature/ Conductivity probe	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	Use to distinguish between groundwater and surface water.
Conductivity	Temperature/ Conductivity probe	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	Use to distinguish between salt water and fresh water.

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Table 2 Sampling Parameters, Analysis Methods, and Sample Preservation and Holding Times

Optical Enhancers or Surfactants (select one)	CWA Method, Field Equipment, or Test Kit	Preservation	Holding time	Bottle needed	Notes on Use
Surfactants	SM5540C	Ice	To lab within 24 hours Analyze within 48 hours	500 ml plastic bottle from lab	Works on most soaps (laundry detergent, personal care products, dish soap)
Surfactants	CheMetrics K-9400 field test kit (see Maine DEP guidance on handling and disposal in Addendum 2)	None	Immediate (w/in 15 minutes) in Field	Field jar or beaker	Works on most soaps (laundry detergent, personal care products, dish soap). Contains alcohol and chloroform. Generates a Flammable (D001) and Toxic (D022) Hazardous Waste. Do not use test kit in the field unless licensed to transport hazardous wastes. Instructional Video available at: https://www.youtube.com/watch?v=6vwiZgWqa04
Optical brighteners	VWR handheld UV lamp: UV-A: 360-365 nm, model number 89131-488	None	Analyze within 7 days	Unbleached cotton pad wetted with sample placed in sealed baggie	Works only on water with high to moderate laundry detergent. Provides only presence/absence.
Optical brighteners	Maine Healthy Beaches Fluorometer (\$15,000 unit)	None	Keep in a dark container, provide to MHB in 1-2 days, analyze within 7 days	Whirl bag or 100 ml plastic bottle.	Provides semi-quantitative numeric fluorescence of sample. Need to provide sample to MHB in bottle or whirl bag (in a box or cooler). One week hold time. Provide advanced notice to coordinate delivery to office. Organic matter or tannins, or color will interfere.

4.0 Quality Control

The following are the reporting limits required by the MS4 General Permit:

- Ammonia: 0.5 mg/L
- Surfactants: 0.25 mg/L
- Total Residual Chlorine: 0.05 mg/L
- E. coli bacteria 4 cfu/100 ml
- Enterococcus 10 cfu/100 ml

To ensure the data collected meets the required reporting limits, the MS4 permittee will use either a Maine Certified Laboratory or one of the field equipment/test kit methods listed in **Table 2** to assess dry weather flow.

Each of the test kits listed in **Table 2** has a use range that is appropriate for the work being conducted, and which meets the MS4 required reporting limits.

Test kit reagents that have expired will not be used. Test kit and temperature/conductivity probes that have useful life limits will be replaced when they have reached the end of their useful lives.

Maine Certified Laboratories have standard reporting limits for the parameters that conform to the MS4 General Permit required reporting limits.

4.1 Duplicate Samples (Optional - NOT REQUIRED BY PERMIT) To assess the precision of the dry weather flow monitoring, the municipality will collect one duplicate sample for every 10 samples collected. Precision reflects the reproducibility of a given parameter by calculating the Relative Percent Difference (RPD) of the samples. RPD is calculated as follows:

$$RPD = \frac{(X_1 - X_2) \times 100}{(X_1 + X_2) \div 2}$$

Where X_1 is the concentration of one sample and X_2 is the concentration of the duplicate sample.

Table 3 provides information on the use of duplicate samples and troubleshooting information in the event the duplicate samples results are outside acceptable precision limits. The Precision and Target Relative Percent Differences shown were taken primarily from the Draft USEPA Bacteria Source Tracking Protocol. It is not possible to cover all possible reasons a set of duplicate samples may be outside the precision or Relative Percent Difference targets but the last column of the table lists a few considerations. If RPDs are not met on a day when samples were collected from multiple sites, the sampler should consider carefully the conditions that may have lead to the issue and whether those conditions would cause all the sample results to be unreliable.

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Table 3 Sample Precision Goals

Parameter	Precision/ Target Relative Percent Difference	Use of Data when it meets the Precision or RPD	Comments/Troubleshooting if outside Precision or RPD
Temperature	0.1 °C or 0.2 °F	Retain both sets of data.	Because there are no thresholds for additional investigations for this parameter, just retain both sets of data and provide any comments that may have affected discrepancy such as age and condition of meter, or if exposure to ambient temperature could have affected temperature of sample.
Specific Conductance	5 uS/cm	Retain both sets of data.	Because there are no thresholds for additional investigations for this parameter, just retain both sets of data and provide any comments that may have affected discrepancy such as age and condition of meter.
Bacteria (E-Coli, Enterococci, or Fecal Coliform)	+/- 100 col/100ml or 30% RPD	Retain both sets of data, use an average of the samples to compare to the investigation thresholds.	Assess cleanliness of equipment used to collect sample. Review Laboratory quality control reports for any errors or issues. Review visual observations of sample collected to assess if there were any differences in color, clarity, odor, or volume of discharge that could account for discrepancy. Consider resampling site.
Dissolved Oxygen	0.02 mg/L	Retain both sets of data.	Assess cleanliness of equipment used to collect sample. Consider resampling site.
All other parameters	30% RPD	Retain both sets of data, use an average of the samples to compare to any investigation thresholds.	Assess cleanliness of equipment used to collect sample. Consider resampling site.

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4.2 Equipment or Rinsate Blanks. For most instances, dedicated equipment and containers are used to collect samples, so that equipment and rinsate blanks are not required to be collected and analyzed. However, if equipment or collection containers are being used multiple times in the field for different sample locations, they should be cleaned in between samples, wash water should be collected in the field and disposed of when returning to office or lab spaces, and equipment or rinsate blanks should be collected and assessed. The USEPA Volunteer Monitor's Guide to Quality Assurance Project Plans has additional guidance on how to complete these tasks (EPA Document 841-B-96-003).

5.0 Field Data Sheets and Chain of Custody

As described in Sampling Procedures, Field Data Sheets will be used to document sample collection. Field Data sheets will document the type of field equipment or test kit(s) used and results of any in-situ analysis. Example Field Data Sheets are provided in Addendum 1 to this QAPP.

Whenever samples will be sent to a laboratory for analysis, a Chain of Custody will be used to document sample collection dates, times, analytical methods requested, and custody of the sample from the time it was collected, until the time it was analyzed. Example Chains of Custody are provided in Addendum 3 to this QAPP.

6.0 Data Reports

Field data collection sheets shall constitute data reports for analyses using field equipment or test kits.

Whenever samples are sent to a laboratory for analysis, data reports are provided by the laboratory showing the sample location, date and time of collection, results of the analysis, the reporting limit, the person who conducted the analysis, the analytical method used.

7.0 Data Review and Follow up

Once all data has been received, it will be reviewed by a Stormwater Manager or Coordinator. Data shall also be stored electronically or in paper format for at least 3 years following the expiration date of the MS4 General Permit, as required by the MS4 General Permit.

If the person collecting the sample is the Stormwater Manager or Coordinator, they may opt to have another municipal staff person review the data, or a Stormwater Manager or Coordinator from another municipality if they deem it necessary to assist in the overall investigation. Data should be reviewed within 2 weeks of receipt and additional investigations should be scheduled or implemented to identify the source of any potential illicit discharge if any of the thresholds in Table 4 are exceeded.

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Table 4 Thresholds for Additional Investigation

Parameter	Threshold Level for Additional Investigation	Notes/Discussion
E. coli	236 cfu/100 ml – discharges into freshwater rivers or streams	All classifications of flowing fresh surface water in Maine (AA, A, B and C) have a standard that no more than 10% of the samples may exceed this concentration in any 90 day interval. A fresh surface water is at risk of impairment if it is receiving significant discharges from human sources above this concentration.
E. coli	194 cfu/100 ml – discharges into freshwater ponds	Great Ponds and lakes less than 10 acres have a standard that no more than 10% of the samples may exceed this concentration in any 90 day interval. A water of this type is at risk of impairment if it is receiving significant discharges from human sources above this concentration.
Enterococci	54 CFU/100 ml – discharges into saline/estuarine Class SA or SB	These waters have a standard that no more than 10% of the samples may exceed this concentration in any 90 day interval. A water is at risk of impairment if it is receiving significant discharges from human sources above this concentration. (Note Maine Healthy Beaches threshold is 104 MPN/100 ml)
Enterococci	94 CFU/100 ml – discharges into saline/estuarine Class SC	These waters have a standard that no more than 10% of the samples may exceed this concentration in any 90 day interval. A water is at risk of impairment if it is receiving significant discharges from human sources above this concentration. (Note Maine Healthy Beaches threshold is 104 MPN/100 ml)
Fecal Coliform	61 cfu/100 ml (2 times 31 cfu/100 ml for MF) to 100 cfu/100ml	The low end of this threshold is two times the 90 th percentile standards that DMR applies for approved (open) shellfish harvesting areas and is very conservative (90% of the samples collected from the area must be above these concentrations for the harvesting area to remain open and completely unrestricted for shellfish harvesting. See Addendum 2 for additional info from DMR)
Human Bacteroides	Any concentration may be indicative of human sewage, but MHB considers 4,200 col/100ml HB to be equivalent to the level of contamination that exceeds the EPA acceptable risk of gastrointestinal illness to swimmers. (Rothenburger and Jones, 2018 and Boehm, Soller and Shanks 2015)	Any concentration of human source of sewage should be investigated.
Ammonia	≥ 0.50 mg/L	This is the effective reporting limit of the Ammonia test strips and was taken from USEPA Draft 2012 Bacteria Source Tracking Protocol.
Chlorine	≥ 0.05 mg/L	Limit of test kit and was taken from USEPA Draft 2012 Bacteria Source Tracking Protocol.

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Parameter	Threshold Level for Additional Investigation	Notes/Discussion
Surfactants	≥ 0.25 mg/L	Taken from USEPA Draft 2012 Bacteria Source Tracking Protocol.
Optical Brighteners	≥ 100 ug/L) (≥ 0.10 mg/L)	This is used by Maine Healthy Beaches as an actionable threshold. If using a handheld fluorometer, conduct further investigation if presence of optical brighteners is detected

MS4s should use the thresholds listed above and the following general guidance to make determinations whether an outfall requires additional investigation for illicit discharges:

Outfalls that have some visual evidence of an illicit discharge and exceed at least one of the above thresholds and should be investigated further using techniques described in the MS4s IDDE Plan.

Outfalls that do not have any visual evidence of an illicit discharge but exceed more than one of the above thresholds should be investigated further using techniques described in the MS4s IDDE Plan

As described in Section 1 of this QAPP, if the above thresholds are not exceeded, the MS4 may make the determination that the flow is from uncontaminated groundwater, water from a natural resource, or an allowable non-stormwater discharge.

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Revisions:

1. Original document prepared for 2022 MS4 General Permit Submission to Maine DEP
2. Updated to remove voluntary items.

Addenda

1. Example Field Data Collection Sheet and labels
2. References:
 - a. E-mail on Surfactant field kit handling of residuals from DEP staff
 - b. E-mail on Fecal Coliform thresholds from DMR listed in Table 4
3. Example Chains of Custody
4. User Manual(s) and Safety Data Sheets (SDS) for Field Equipment and/or Test Kit(s) (This is an optional addendum. The information must be located where field personnel can access electronically or in paper form, so this Addendum can be used as a place to describe where field personnel will find equipment, manuals and SDSs).

References:

Rothenheber and Jones 2018. *Enterococci Concentrations in a Coastal Ecosystem are a function of fecal source input*. Published in Applied Environmental Microbiology, July 13, 2018.

Boehm, Soller and Shanks 2015. *Human-Associated Fecal Quantitative Polymerase Chain reaction Measurements and Simulated Risk of Gastrointestinal Illness in Recreational Waters Contaminated with Raw Sewage*. Published in Environmental Science and Technology Letters 2015, 2, 270-275.

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Addendum 1

Example Field Data Collection Sheet and labels

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Field Data Collection Sheet for Dry Weather Outfall Monitoring

Date _____	Project Name _____
Time _____	_____
Sampler's Name _____	Project Location _____
Weather: _____	
Sample Type: _____	
Sample Location/Sketch: _____	

Field Parameters to Monitor

Parameter	Result (units)	Equipment Used	Threshold triggering additional investigation (see QAPP)
Temperature (all flows)	C/F		No threshold. FYI: Temp. is dependent on season. Groundwater is typically 40-55 F. Surface water can be hotter or colder.
Conductivity (all flows)	µS		No threshold. FYI: Groundwater is typ. Less than 1000 µS. Freshwater can be as high as 2000 µS. Saltwater can be as high as 55,000 µS.
Ammonia (potential bacteria sources)	mg/L	Hach Test Strips	≥ 0.50 mg/L
Surfactants or Optical Brighteners (potential bacteria sources)			Surfactants ≥ 0.25 mg/L Optical Brighteners ≥ 100 µg/L or if present
Chlorine (potential chlorine sources)	mg/l	Hach Colorimeter II low range	≥ 0.05 mg/L (test kit limit)
Observations (unless already documented as part of outfall inspection: odor, color, turbidity, algae, etc): _____			

Laboratory Analyses (see QAPP for thresholds)

Parameter	Method/ Lab Code	Comments
E. coli	SM 9223 B, EPA 1603, or SM 9221 B	For freshwaters
Enterococci	SM 9230 or EPA 1600	For marine/estuarine waters
Fecal Coliform	SM 9222 D or SM 9221 D, E	For fresh or marine/estuarine waters
Human Bacteriodes	qPCR	For fresh or marine/estuarine waters

Comments/Field Notes

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This set of labels was designed to be used with Avery 5366 labels, but you can use any labels.

Sampler: _____ Date: _____
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Addendum 2

-Reference E-mails

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Kristie Rabasca

From: Hudson, Michael S <Michael.S.Hudson@maine.gov>
Sent: Monday, October 7, 2019 11:51 AM
To: Kristie Rabasca
Cc: Plummer, Cherrie F; Poirier, Rhonda
Subject: FW: Proper handling and disposal of CheMetrics Surfactant field test kit residuals
Attachments: surfactants_CHEMetrics_k9400instructs.pdf; surfactants_CHEMetrics_k9400_SDSs.pdf; EIASOP-SWTestKits_REV1.pdf

Importance: High

In response to the questions posed regarding proper handling and disposal of CheMetrics Surfactant field test kit residuals:

1. Can the Towns mix the liquids from a. and b. in a single container for disposal as D001 and D022 waste? Or do they need to keep them separate to dispose of them?
Answer: Chloroform is miscible in alcohols such as n-propanol and is compatible. The Hazardous Waste Management Rules, 06-096 C.M.R. ch. 850 through 858, do not prohibit the mixing of compatible wastes. If mixed, the waste mixture should be coded as both D001 and D022. The town/generator could check with the licensed hazardous waste transporter it intends to use for the hazardous waste pick-up and disposal to determine if it is advisable or more cost effective to keep the wastes separate.
2. The n-propanol waste is super tough to get out of the vial – we pretty much just dispose of the whole vial. Is that okay? Or can we break the vial? And dispose of the empty glass as solid waste (as long as it is RCRA empty). Answer: The whole vials containing n-propanol can be disposed of as hazardous waste. If the generator chooses to break the vial to dispose of the n-propanol as hazardous waste and the glass as a solid waste, then the generator must ensure the broken vials are RCRA-empty. Again, the town/generator could check with the licensed hazardous waste transporter it intends to use for the hazardous waste pick-up and disposal to determine if it is advisable or more cost effective to break and empty the vials to dispose of the glass and n-propanol separately. Of course, care and safety measures should be employed if breaking and handling glass vials.
3. Most of these towns are going to be SQGs (Maine Definition), and are going to be generating this waste while they are out in the field over a period of months. Then after each event, they are going to drive it back to the public works facility and set up a SQG haz waste storage area until they can get rid of it (either at HHWD collection, or have a specific pick up). They have 1 year to dispose of it. Have I missed any exemptions or special conditions for this? Is it okay that they are driving it around? Or should they be bringing the water samples back to public works and running the surfactant analysis on it at public works so they don't have to transport it. (its easier for them to run the sample right there while they are at the site).
Answer: It is preferable for the town/generator to bring samples back from field sites to its Public Works to do the test so that hazardous waste generated by the tests does not have to be transported from field sites. Under the rules, the town/generator would need hazardous waste licenses to transport or accept the hazardous wastes from off-site. Towns should set up a hazardous waste collection container for the hazardous wastes from the tests, with an appropriate size container, labeled as "Hazardous Waste" with an accumulation start date. If the town's Public Works is a Small Quantity Generator (SQG), i.e. it generates for all its hazardous wastes in aggregate no more than 27 gallons/month and accumulates no more than 55 gallon of all of its hazardous waste in aggregate, then the town/generator could accumulate the waste indefinitely until the container of hazardous waste from tests is full at which point the town/generator would have 180 days to ship

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via licensed hazardous waste transporter. Town/ Public Works should not dispose of these waste through the Household HW collection programs because they are not household exempt wastes.

4. We are going to do a training of the use of this kit on 10/17 in Portland. I would really like for attendees to be able to practice use of the kit at that training. Do I need to schedule with NRCC or Clean Harbors to come pick up the waste that day (as a licensed transporter), or could one of the communities transport it back to their public works facility for storage until later disposal (during HHWD)?

Answer: Under the rules, the generator should arrange for waste pick-up at the site of generation. These hazardous wastes are not exempt under the household waste exclusion and are not acceptable at Household Hazardous Waste collections events.

The guidance above is based on the information provided below and the applicable rules, Hazardous Waste Management Rules, 06-096 C.M.R. ch. 850 through 858, without information on the number of test kits expected to be used, frequency of testing and volumes of anticipated waste accumulation. If you have questions or would like to discuss the specifics, please feel free to contact me at Michael.s.hudson@maine.gov or 207-287-7884, or Cherrie Plummer of the Hazardous Waste Management Unit. Cherrie's contact is Cherrie.F.Plummer@maine.gov and 207-287-7882.

Michael S. Hudson, Supervisor, Hazardous Waste Management Unit
Maine Department of Environmental Protection
17 State House Station, Augusta, ME 04333-0017
Tel. 207-287-7884
www.maine.gov/dep

From: Poirier, Rhonda
Sent: Monday, October 07, 2019 9:37 AM
To: Hudson, Michael S <Michael.S.Hudson@maine.gov>
Subject: Proper handling and disposal of CheMetrics Surfactant field test kit residuals
Importance: High

Hi Mike,

The sampling she's describing is required by one of the permits in my stormwater program. She is giving a workshop on it on 10/17 and would like to talk to the proper DEP person before that, for planning purposes. Can you help her?

Thank you,
Rhonda

Rhonda Poirier
MEPDES Stormwater Program Manager
Bureau of Water Quality
Maine Department of Environmental Protection
207-592-6233
www.maine.gov/dep

From: Kristie Rabasca <krabasca@integratedenv.com>
Sent: Tuesday, October 01, 2019 4:02 PM
To: Poirier, Rhonda <Rhonda.Poirier@maine.gov>
Cc: Aimee Mountain (Aimee.Mountain@gza.com) <Aimee.Mountain@gza.com>; Damon Yakovleff <dyakovleff@cumberlandswcd.org>
Subject: Proper handling and disposal of CheMetrics Surfactant field test kit residuals

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Thanks for taking my call.

I am developing a dry weather monitoring training session for the ISWG and SMSWG MS4s, and am developing a QAPP and some checklists.

We will need to use the CheMetrics K-9400 field test kit for surfactants. I have attached the instructions for the kit, and the Safety Data Sheets for the two reagents. Generally for each sample we will do the following:

1. Add 5 ml of water to a small plastic vial
2. Add 4ml of the double tipped reagent (SDS attached and it is flammable and contains 71% chloroform)
3. Shake
4. Use the 0.25 ml sealed glass ampule (which is 98% N-propanol) to draw the organic phase out of the plastic vial with the water and the first reagent.
5. Use colorimeter to check detergent concentration of sample.

So the two wastes we have when done are:

- a. The mixture of the 5 ml water and the 4 ml 71% chloroform (which is still flammable) in the plastic vial (minus about 1 ml extracted into the n-propanol vial)
- b. About 1 ml of the n-propanol and the chloroform organic phase in a very small glass ampule.

I am requesting the EPA SOP on this – but I do not think it has the detail I want.

When I have used this in the past, I have given it to the municipality where it was generated and told them it was a Doo1 Flammable and D022 Tox-chloroform waste, and they hand it to clean harbors during household hazardous waste day.

We are going to have a lot more people generating this waste – using these kits, and we need to handle it properly. As we provide them with guidance, we want to make sure it is right.

My questions are:

1. Can the Towns mix the liquids from a. and b. in a single container for disposal as Doo1 and Do22 waste? Or do they need to keep them separate to dispose of them?
2. The n-propanol waste is super tough to get out of the vial – we pretty much just dispose of the whole vial. Is that okay? Or can we break the vial? And dispose of the empty glass as solid waste (as long as it is RCRA empty)
3. Most of these towns are going to be SQGs (Maine Definition), and are going to be generating this waste while they are out in the field over a period of months. Then after each event, they are going to drive it back to the public works facility and set up a SQG haz waste storage area until they can get rid of it (either at HHWD collection, or have a specific pick up). They have 1 year to dispose of it. Have I missed any exemptions or special conditions for this? Is it okay that they are driving it around? Or should they be bringing the water samples back to public works and running the surfactant analysis on it at public works so they don't have to transport it. (its easier for them to run the sample right there while they are at the site).
4. We are going to do a training of the use of this kit on 10/17 in Portland. I would really like for attendees to be able to practice use of the kit at that training. Do I need to schedule with NRCC or Clean Harbors to come pick up the waste that day (as a licensed transporter), or could one of the communities transport it back to their public works facility for storage until later disposal (during HHWD)?

So many questions.... Perhaps I could talk with someone at Haz waste.... Thanks for any help you can provide.

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Kristie Rabasca

From: Lewis, Bryant J <Bryant.J.Lewis@maine.gov>
Sent: Thursday, October 31, 2019 4:46 PM
To: Kristie Rabasca; Wahle, Benjamin
Subject: RE: simple summary of Fecal concentrations for open vs seasonal vs restricted vs prohibited?

Kristie,
I did misunderstand the question. Unless there is a specific area of concern where we are collaborating on a special study with a town, we typically provide a yearly update for each station's geomean and P90 incorporating the most recent 30 sample scores. That annual trend is provided to towns so we are not usually contacting a town based on any one score to tell them that there might be a problem.

However- if trying to determine a trigger on a single sample, there is some subjectivity to the answer. I would suggest a value between 50-100 as a high value trigger. There is merit to your suggestion of using twice the 31 value as well since that is within that range. Often, our Scientists would use 100 as the high score value as their own flag to watch a station since an area that is already at risk of exceeding the approved standard based on the last 30 samples would likely go over a P90 of 31 with a 100 added. I think you would likely accomplish your goal by using any of the three values; 50, 62, or 100. I would recommend starting with 62 then re-evaluating after some data is built up to determine if that should be increased or decreased based on program needs.

Bryant Lewis
ME Department of Marine Resources
Growing Area West Program Supervisor
194 McKown Point Road
West Boothbay Harbor, ME 04575
Tel: 207-633-9401
Cell: 207-215-4107

From: Kristie Rabasca <krabasca@integratedenv.com>
Sent: Thursday, October 31, 2019 2:42 PM
To: Lewis, Bryant J <Bryant.J.Lewis@maine.gov>; Wahle, Benjamin <Benjamin.Wahle@maine.gov>
Subject: RE: simple summary of Fecal concentrations for open vs seasonal vs restricted vs prohibited?

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

H Bryant,
I do a lot of illicit discharge investigations with and for the municipalities. Maybe I did not phrase my question properly.

For a single sample, at what concentration would DMR say to a municipality: "we think there might be a problem here". Is that concentration the 90th percentile number? 31? Or twice that?

Or do you wait until you see the GM or P90 number get close to its threshold for multiple samples?

Kristie L. Rabasca, P.E.
207-415-5830 (cell)

From: Lewis, Bryant J <Bryant.J.Lewis@maine.gov>
Sent: Thursday, October 31, 2019 2:33 PM

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Addendum 3

Example Chains of Custody

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EMSL Order Number (Lab Use Only):

EMSL ANALYTICAL, INC.
 200 ROUTE 130 NORTH
 CINNAMINSON, NJ 08077
 PHONE: (800) 220-3675
 FAX: (856) 786-0262

Company :		EMSL-Bill to: <input type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different please note in Comments**			
Street:		Third Party Billing requires written authorization from third party			
City:	State/Province:	Zip/Postal Code:	Country:		
Report To (Name):		Fax #:			
Telephone #:		E-mail Address:			
Project Name/ Number:					
Please Provide Results: <input type="checkbox"/> Fax <input type="checkbox"/> E-mail		PO#	State Samples Taken:		
Turnaround Time (TAT) Options* - Please Check					
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour	<input type="checkbox"/> 72 Hour	<input type="checkbox"/> 96 Hour
<input type="checkbox"/> 1 Week	<input type="checkbox"/> 2 Week				
*Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide. TATs are subject to methodology requirements.					
Fungi		Bacteria		Insects	
<input type="checkbox"/> ERM1 Panel (M180) <i>Dust Only</i>		<input type="checkbox"/> Human <i>Bacteroides</i> (M199)		<input type="checkbox"/> Bed Bug (<i>Cimex lectularius</i>) (M146)	
<input type="checkbox"/> EPA 36 Panel (M233) <i>Air, Swab</i>		<input type="checkbox"/> Total <i>Bacteroides</i> (M095)		<input type="checkbox"/> Tick - <i>Anaplasma phagocytophilum</i> Anaplasmosis (M261)	
<input type="checkbox"/> Water Damage 20 Panel (M181)		<input type="checkbox"/> <i>E. coli</i> O157:H7 (M140)		<input type="checkbox"/> Tick - <i>Babesia microti</i> Babesiosis (M260)	
<input type="checkbox"/> Wood Rot Fungi 10 Panel (M232)		<input type="checkbox"/> <i>E. coli</i> (M200)		<input type="checkbox"/> Tick - <i>Borrelia burgdorferi</i> Lyme disease (M196)	
<input type="checkbox"/> <i>Aspergillus</i> 15 Panel (M186)		<input type="checkbox"/> Total <i>Enterococcus</i> (M096)		Other	
<input type="checkbox"/> <i>Aspergillus</i> 6 Panel (M188)		<input type="checkbox"/> <i>Helicobacter pylori</i> (M207)		<input type="checkbox"/> <i>Acanthamoeba</i> spp. (M147)	
<input type="checkbox"/> <i>Penicillium</i> 13 Panel (M189)		<input type="checkbox"/> <i>Legionella pneumophila</i> (M103)		<input type="checkbox"/> <i>Cryptosporidium</i> spp. (M237)	
<input type="checkbox"/> Customized Fungi Panel (M100)		<input type="checkbox"/> <i>Legionella</i> 4 species-EPA (M162)		<input type="checkbox"/> <i>Giardia</i> spp. (M149)	
<input type="checkbox"/> <i>Penicillium</i> Mycotoxin 9 Panel (M190)		<input type="checkbox"/> <i>Legionella</i> Broad Screen (M163)		<input type="checkbox"/> Enterovirus RT-PCR (M142)	
Birds, Animal Droppings		<input type="checkbox"/> MRSA (M203)		<input type="checkbox"/> Food Authentication (F130)	
<input type="checkbox"/> <i>Chlamydomydia psittaci</i> (M234)		<input type="checkbox"/> <i>Mycobacterium avium</i> (M144)		<input type="checkbox"/> GMO Analysis (F131)	
<input type="checkbox"/> <i>Cryptococcus neoformans</i> (M143)		<input type="checkbox"/> <i>Mycobacterium tuberculosis</i> (M159)		<input type="checkbox"/> DNA Barcode Analysis (M195)	
<input type="checkbox"/> <i>Histoplasma capsulatum</i> (M208)		<input type="checkbox"/> <i>Pseudomonas aeruginosa</i>		<input type="checkbox"/> DNA Sequencing Fungi/Bacteria Isolates (M192)	
<input type="checkbox"/> Raccoon Roundworm (M236)		<input type="checkbox"/> <i>Salmonella</i> spp. (M141)		<input type="checkbox"/> Special Request:	
<input type="checkbox"/> Rodent (Mouse, Rat) Dropping (M271)		<input type="checkbox"/> <i>Shigella</i> spp. (F122)			
Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
Client Sample # (s): -				Total # of Samples:	
Relinquished (Client):				Date:	Time:
Received (Lab):				Date:	Time:
Comments:					

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Addendum 4
User Manual(s) and Safety Data Sheets (SDS) for
Field Equipment and/or Test Kit(s)
(This is an optional addendum. The information
must be located where field personnel can access
electronically or in paper form, so this
Addendum can be used as a place to describe
where field personnel will find equipment,
manuals and SDSs).

APPENDIX D

INTERCONNECTED MS4 COORDINATION LETTERS



Water Resource Protection

Fred Dillon, Stormwater Program Coordinator

September 28, 2020 (sent via email)

Jay Reynolds
Public Works Director
Town of Cape Elizabeth
Public Works Department
10 Cooper Drive
Cape Elizabeth, ME 04107

RE: MS4 Coordination for Illicit Discharges

Dear Jay:

The City of South Portland filed a notice of intent to comply with the Maine General Permit for the discharge of storm water from the municipal separate storm sewer system (MS4) in 2013. Under this permit (which has been administratively continued until June 30, 2021), we are required to coordinate with neighboring and nested MS4 permittees on spill response efforts in order to help improve the health of Maine's water resources.

The City of South Portland has interconnections with your MS4 system or stormwater outfalls discharging to shared water resources (please see our online infrastructure map [here](#)). We will notify you of any illicit discharges in South Portland that could affect either your MS4 system or shared water resources. We respectfully request that you do the same. In the event of an emergency after hours, please contact South Portland's Public Safety Dispatch at 911.

I would appreciate it if you would forward this letter and/or request to any first responders or other municipal staff who may be in a position to coordinate spill response efforts with South Portland. Please contact me if you have any questions and thanks for your cooperation.

Sincerely,

A handwritten signature in black ink that reads "Fred Dillon".

Fred Dillon

Cc: Kristie Rabasca – Integrated Environmental Engineering, Inc.
Patrick Cloutier – South Portland Water Resource Protection Department Director
Dave Thomes – South Portland Collection Systems Division Manager
Justin Gove – South Portland Civil and Transportation Engineer
Doug Howard – South Portland Public Works Director
Melissa Hutchins – South Portland Public Works Superintendent
Jim Wilson – South Portland Fire Chief

*P.O. Box 9422 • South Portland, Maine 04116-9422 • Telephone (207) 767-7675 • Fax (207) 767-5697
fdillon@southportland.org • www.southportland.org*



Water Resource Protection

Fred Dillon, Stormwater Program Coordinator

September 28, 2020 (sent via email)

Kerem Gungor, P.E.
Stormwater Engineer
Maine Department of Transportation Environmental Office
16 State House Station
Augusta, ME 04333

RE: MS4 Coordination for Illicit Discharges

Dear Kerem:

The City of South Portland filed a notice of intent to comply with the Maine General Permit for the discharge of storm water from the municipal separate storm sewer system (MS4) in 2013. Under this permit (which has been administratively continued until June 30, 2021), we are required to coordinate with neighboring and nested MS4 permittees on spill response efforts in order to help improve the health of Maine's water resources.

The City of South Portland has interconnections with your MS4 system or stormwater outfalls discharging to shared water resources (please see our online infrastructure map [here](#)). We will notify you of any illicit discharges in South Portland that could affect either your MS4 system or shared water resources. We respectfully request that you do the same. In the event of an emergency after hours, please contact South Portland's Public Safety Dispatch at 911.

I would appreciate it if you would forward this letter and/or request to any first responders or other municipal staff who may be in a position to coordinate spill response efforts with South Portland. Please contact me if you have any questions and thanks for your cooperation.

Sincerely,

A handwritten signature in black ink that reads "Fred Dillon".

Fred Dillon

Cc: Patrick Cloutier – South Portland Water Resource Protection Department Director
Dave Thomes – South Portland Collection Systems Division Manager
Justin Gove – South Portland Civil and Transportation Engineer
Doug Howard – South Portland Public Works Director
Melissa Hutchins – South Portland Public Works Superintendent
Jim Wilson – South Portland Fire Chief



Water Resource Protection

Fred Dillon, Stormwater Program Coordinator

September 28, 2020 (sent via email)

Sean Donohue
Permitting Coordinator / Environmental Liaison
Maine Turnpike Authority
2360 Congress Street
Portland, ME 04102

RE: MS4 Coordination for Illicit Discharges

Dear Sean:

The City of South Portland filed a notice of intent to comply with the Maine General Permit for the discharge of storm water from the municipal separate storm sewer system (MS4) in 2013. Under this permit (which has been administratively continued until June 30, 2021), we are required to coordinate with neighboring and nested MS4 permittees on spill response efforts in order to help improve the health of Maine's water resources.

The City of South Portland has interconnections with your MS4 system or stormwater outfalls discharging to shared water resources (please see our online infrastructure map [here](#)). We will notify you of any illicit discharges in South Portland that could affect either your MS4 system or shared water resources. We respectfully request that you do the same. In the event of an emergency after hours, please contact South Portland's Public Safety Dispatch at 911.

I would appreciate it if you would forward this letter and/or request to any first responders or other municipal staff who may be in a position to coordinate spill response efforts with South Portland. Please contact me if you have any questions and thanks for your cooperation.

Sincerely,

A handwritten signature in black ink that reads "Fred Dillon".

Fred Dillon

Cc: Patrick Cloutier – South Portland Water Resource Protection Department Director
Dave Thomes – South Portland Collection Systems Division Manager
Justin Gove – South Portland Civil and Transportation Engineer
Doug Howard – South Portland Public Works Director
Melissa Hutchins – South Portland Public Works Superintendent
Jim Wilson – South Portland Fire Chief



Water Resource Protection

Fred Dillon, Stormwater Program Coordinator

September 28, 2020 (sent via email)

Doug Roncarati
Stormwater Program Coordinator
City of Portland
Department of Public Works
55 Portland Street
Portland, ME 04101

RE: MS4 Coordination for Illicit Discharges

Dear Doug:

The City of South Portland filed a notice of intent to comply with the Maine General Permit for the discharge of storm water from the municipal separate storm sewer system (MS4) in 2013. Under this permit (which has been administratively continued until June 30, 2021), we are required to coordinate with neighboring and nested MS4 permittees on spill response efforts in order to help improve the health of Maine's water resources.

The City of South Portland has interconnections with your MS4 system or stormwater outfalls discharging to shared water resources (please see our online infrastructure map [here](#)). We will notify you of any illicit discharges in South Portland that could affect either your MS4 system or shared water resources. We respectfully request that you do the same. In the event of an emergency after hours, please contact South Portland's Public Safety Dispatch at 911.

I would appreciate it if you would forward this letter and/or request to any first responders or other municipal staff who may be in a position to coordinate spill response efforts with South Portland. Please contact me if you have any questions and thanks for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "Fred Dillon".

Fred Dillon

Cc: Scott Reynolds – Portland Stormwater Program Coordinator
Patrick Cloutier – South Portland Water Resource Protection Department Director
Dave Thomes – South Portland Collection Systems Division Manager
Justin Gove – South Portland Civil and Transportation Engineer
Doug Howard – South Portland Public Works Director
Melissa Hutchins – South Portland Public Works Superintendent
Jim Wilson – South Portland Fire Chief

*P.O. Box 9422 • South Portland, Maine 04116-9422 • Telephone (207) 767-7675 • Fax (207) 767-5697
fdillon@southportland.org • www.southportland.org*



Water Resource Protection

Fred Dillon, Stormwater Program Coordinator

September 28, 2020 (sent via email)

Stephen Buckley
Public Works Deputy Director
Town of Scarborough
Public Works Department
20 Washington Avenue
Scarborough, ME 04074

RE: MS4 Coordination for Illicit Discharges

Dear Stephen:

The City of South Portland filed a notice of intent to comply with the Maine General Permit for the discharge of storm water from the municipal separate storm sewer system (MS4) in 2013. Under this permit (which has been administratively continued until June 30, 2021), we are required to coordinate with neighboring and nested MS4 permittees on spill response efforts in order to help improve the health of Maine's water resources.

The City of South Portland has interconnections with your MS4 system or stormwater outfalls discharging to shared water resources (please see our online infrastructure map [here](#)). We will notify you of any illicit discharges in South Portland that could affect either your MS4 system or shared water resources. We respectfully request that you do the same. In the event of an emergency after hours, please contact South Portland's Public Safety Dispatch at 911.

I would appreciate it if you would forward this letter and/or request to any first responders or other municipal staff who may be in a position to coordinate spill response efforts with South Portland. Please contact me if you have any questions and thanks for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "Fred Dillon", written over a light blue horizontal line.

Fred Dillon

Cc: Angela Blanchette – Scarborough Town Engineer
Patrick Cloutier – South Portland Water Resource Protection Department Director
Dave Thomes – South Portland Collection Systems Division Manager
Justin Gove – South Portland Civil and Transportation Engineer
Doug Howard – South Portland Public Works Director
Melissa Hutchins – South Portland Public Works Superintendent
Jim Wilson – South Portland Fire Chief

*P.O. Box 9422 • South Portland, Maine 04116-9422 • Telephone (207) 767-7675 • Fax (207) 767-5697
fdillon@southportland.org • www.southportland.org*



Water Resource Protection

Fred Dillon, Stormwater Program Coordinator

September 28, 2020 (sent via email)

Jennifer Otenti
Environmental, Health & Safety Coordinator
Southern Maine Community College
2 Fort Road
South Portland, ME 04106

RE: MS4 Coordination for Illicit Discharges

Dear Jennifer:

The City of South Portland filed a notice of intent to comply with the Maine General Permit for the discharge of storm water from the municipal separate storm sewer system (MS4) in 2013. Under this permit (which has been administratively continued until June 30, 2021), we are required to coordinate with neighboring and nested MS4 permittees on spill response efforts in order to help improve the health of Maine's water resources.

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I would appreciate it if you would forward this letter and/or request to any first responders or other municipal staff who may be in a position to coordinate spill response efforts with South Portland. Please contact me if you have any questions and thanks for your cooperation.

Sincerely,

A handwritten signature in black ink that appears to read "Fred Dillon".

Fred Dillon

Cc: Patrick Cloutier – South Portland Water Resource Protection Department Director
Dave Thomes – South Portland Collection Systems Division Manager
Justin Gove – South Portland Civil and Transportation Engineer
Doug Howard – South Portland Public Works Director
Melissa Hutchins – South Portland Public Works Superintendent
Jim Wilson – South Portland Fire Chief



Water Resource Protection

Fred Dillon, Stormwater Program Coordinator

September 28, 2020 (sent via email)

Lynn Leavitt
Sustainability Coordinator
City of Westbrook
Public Services Department
371 Saco Street
Westbrook, ME 04092

RE: MS4 Coordination for Illicit Discharges

Dear Lynn:

The City of South Portland filed a notice of intent to comply with the Maine General Permit for the discharge of storm water from the municipal separate storm sewer system (MS4) in 2013. Under this permit (which has been administratively continued until June 30, 2021), we are required to coordinate with neighboring and nested MS4 permittees on spill response efforts in order to help improve the health of Maine's water resources.

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Sincerely,

A handwritten signature in black ink that reads "Fred Dillon".

Fred Dillon

Cc: Patrick Cloutier – South Portland Water Resource Protection Department Director
Dave Thomes – South Portland Collection Systems Division Manager
Justin Gove – South Portland Civil and Transportation Engineer
Doug Howard – South Portland Public Works Director
Melissa Hutchins – South Portland Public Works Superintendent
Jim Wilson – South Portland Fire Chief