Illicit Discharge Detection and Elimination Plan

For the

Town of Cape Elizabeth,

Maine

For the

2022 General Permit for Storm Water Discharges from Municipal Separate Storm Sewer Systems

December 2014

Revised April 2015, May 2019, Sept. 2019, and February 2021

Table of Contents

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List of Attachments

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1.0 INTRODUCTION

The Town of Cape Elizabeth is subject to the requirements of the Maine Department of Environmental Protection (Maine DEP) General Permit for Storm Water Discharges from Municipal Separate Storm Sewer Systems (hereafter referred to as the MS4 General Permit).

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.

See Section 3.0 of this Plan for a list of the allowed non-storm water discharges.

The MS4 General Permit requires permittees to address six Minimum Control Measures throughout the Town's Urbanized Area:

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

This document describes the IDDE Plan for the Town of Cape Elizabeth, Maine. The IDDE Plan described in this document fulfills the Minimum Control Measure 3 IDDE requirements specified in Part IV.C.3.b of the MS4 General Permit.

1.1 IDDE Responsibilities in the Town of Cape Elizabeth

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The Town's Public Works Director is responsible for overall permit compliance, and for implementation of this IDDE Plan. The following other Town personnel support

implementation of this Plan:

Public Works staff: conduct outfall, ditch and catch basin inspections and monitoring, and conduct illicit discharge investigations, supported by third party contractors where necessary.

Planner: is primary administrator for ArcGIS ESRI licensing (for mapping) and facilitates any required ordinance changes related to non-stormwater discharges through Planning Board.

Code Enforcement Officer/Health Inspector: assists Public Works staff in illicit discharge investigations when needed (e.g., if plumbing inspections are needed).

1.2 Amendments and updates to the IDDE Plan

The MS4 General Permits are designed to provide coverage for five-year periods. The first MS4 General Permit applicable to the Town of Cape Elizabeth became effective in 2003 and expired in 2008. Subsequent General Permits were issued, providing the Town with continuous coverage for their storm water discharges.

This IDDE Plan has been developed to meet the requirements of the 2022 MS4 General 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 Plan document,
- the Town of Cape Elizabeth identifies that the Plan is not effective,
- municipal operations change which need to be reflected in this Plan.

The Public Works Director will either modify this IDDE Plan or engage a third party to update the document.

The following table briefly summarizes the origin and amendments to this document.

Date of Document	**Description of changes**
December 2014	Development of document from Stormwater Management Plan BMPs and Measurable Goals.

April 2015	Document updated to reflect electronic mapping and inspections using IPAD
May 2019	Document updated to reflect: - Updated Non-Stormwater Discharge Ordinance (new Chapter number) - Hydrant flushing information - New Watershed Map (added road names) - Addition of Permit year 6 and 7 inspections because of Permit Continuation. - New DOT contact
February 2021	Updated document to reflect 2022 MS4 General Permit requirements including QAPP and required inspection fields and domains for the GIS.

1.3 Typical Illicit Discharges

Commented [KLR4]: This is just an introductory section, and not required, but it sets a basis for what we mean by illicit discharges.

The 2022 GP does say the IDDE plan must address "dumping that results in illicit discharges to the MS4"

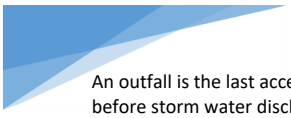
The Center for Watershed Protection (CWP) developed a comprehensive IDDE Manual in 2004 and provided an abbreviated update in 2011 which classifies illicit discharges into three categories related to frequency of discharge. This categorization allows communities to develop a comprehensive IDDE Plan that 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 transitory 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 to an authority through a citizen complaint 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 personnel 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 General 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 than transient, 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.



An outfall is the last accessible point before storm water discharges to a water body. Some things that are NOT outfalls include: driveway culverts that connect ditch segments, culverts that convey water bodies under roadways, and pipes that discharge to other storm water infrastructure elements.

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 Plan Components

The MS4 General Permit requires an IDDE Plan be developed and implemented to assist the Town in locating and eliminating Illicit Discharges. An overview of each component of the Plan is provided in this subsection, and the remaining sections of this document describe how the Town of Cape Elizabeth is implementing each component.

- Development of a watershed-based map: The Town is required to develop a watershed-based map of the storm sewer system infrastructure including: catch basins, connecting surface and subsurface infrastructure, the direction of in-flow and out-flow pipes, and the locations of all discharges from the Town'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 Town's watershed-based map.

- Authority to Prohibit Illicit Discharges: To the extent allowable under state or local law, the Town 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 Town's Non-Storm Water Discharge Ordinance is implemented.

- Identification of High Priority Areas for Inspections: Prior MS4 General Permits required that the Town identify priority areas that need to be protected from illicit discharges. The 2022 MS4 General Permit does not have this requirement, but it does require that the Town have "Procedures for prioritizing watersheds". The Town of Cape Elizabeth conducts inspections more frequently than the 2022 MS4 General Permit requires, so they continue to conduct inspections in the priority watershed first. The Town'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 Town must develop procedures for locating illicit discharges by conducting dry weather outfall inspections and assessing catch basins for evidence of pollutants. The Town also conducts opportunistic ditch inspections. The 2022 MS4 General Permit also

Commented [KLR5]: Not required component of IDDE plan, but I like putting this in here, because it lays out the structure of the map, and who updates what/when….

And the outfall information was from a prior permit, but I left it in.

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requires monitoring be conducted on outfalls that are flowing during dry weather. Section 5.0 of this document describes the Town's inspection Plan.

- Procedures to Investigate and Remove Illicit Discharges: The Town 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 Town investigates potential discharges to determine their sources and removes illicit discharges once the source is discovered.

- Procedures to Document Illicit Discharges: The Town must develop procedures for documenting actions and evaluating impacts on the storm sewer system subsequent to the removal. Section 8.0 describes how the Town tracks illicit discharges.

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

2.0 STORMWATER INFRASTRUCTURE MAP

The Town of Cape Elizabeth maintains storm water infrastructure information in Geographic Information System (GIS) format. Cape Elizabeth's storm water map was created from GPS data collection, review of subdivision plans, review of Maine Department of Transportation plans, and from public works knowledge of storm water infrastructure. Field verification has been used when needed to refine locations and infrastructure information.

The Public Works Department maintains the stormwater GIS layers in ArcGIS Online. The Town's Public Works Director has overall responsibility for data integrity. The ArcGIS license (Basic) is maintained on a computer in the public works department.

Though the storm water infrastructure information is not currently available to the general public it will be provided whenever requested verbally or in writing. The following subsections provide general information on the infrastructure naming protocols and procedures in use that

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keep the maps updated.

2.1 Infrastructure Naming Protocols

The Town of Cape Elizabeth has historically referenced four watersheds and two sub-watersheds within its Town Boundaries. In this document, to be consistent with the US Geologic Survey Hydrologic Unit Code (HUC) national naming system, these areas are referred to as "Drainage areas" and are technically HUC 14 level drainage areas. The areas are shown on the figure contained in Attachment A.

Each drainage area has a numeric series to distinguish it from the other areas as follows:

- Trout Brook Drainage area is designated as 1000 series,
- Casco Bay Drainage area is designated as 2000 series,
- Atlantic Ocean Drainage area is designated as 3000 series,
- Spurwink River Drainage area is designated as 4000 series
- Great Pond Drainage area is designated as 5000 series
- Alewife Drainage area is designated as 6000 series.

Generally, catch basins in the Town have a 4-digit unique identifier in the format: XYYY, where the X is either 1, 2, 3, 4, 5, or 6 depending on the location and associated series number and the Y's are numeric values between 000 and 999.

Outfalls carry a unique three-digit identifier in the format: YYY. Drain manholes and pipes are also named using a straight numbering schema DMH-YYY.

Ditch names are simply the road names. Ditch outfalls are given a unique identifier in the format: DO-XXX where XXX is a three-digit number between 000 and 999. Ditch outfalls are inspected during ditch inspections. If a structure is replaced in its same location, it is renamed with an R designation to keep numbering intact. However, if the location is moved, the structure is given a new number. If new outfalls are discovered or created or moved, they may

be numbered with an A, B, or C designation at the discretion of the Public Works Director to keep numbering sequences geographically intact.

2.2 Procedures to Update Map of Infrastructure

The following describes the scenarios under which changes to the storm drain system are typically made, and how the map subsequently gets updated:

1. Generally, the Public Works Department constructs minor changes to the system based on immediate or planned need without formal design drawings. When the Public Works Department makes changes to the storm drain infrastructure, the online GIS layer is updated to reflect these changes using the Public Works Department IPAD, as an interface to the online files. These changes can be made within weeks of the physical changes on the ground depending on the workload of the employees that are trained in the IPAD.

2. More significant changes are typically constructed after preparation of formal design drawings, whereupon either the Public Works Department or a private contractor constructs the changes. Where a private contractor constructs the changes, the Town requires a formal as-built plan be prepared and submitted to the Public Works Director in electronic format, so that the infrastructure can be imported into the GIS. A third-party consultant is used to update the infrastructure for large projects such as this. These changes are typically made annually.

Paper maps are updated annually and more frequently if/when deemed necessary by the Public Works Director.

3.0 AUTHORITY TO PROHIBIT ILLICIT DISCHARGES

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The Town of Cape Elizabeth authority to prohibit illicit discharges became effective July 13, 2005, when the Town passed a Storm Water and Non-Storm Water Control Ordinance as part of Chapter 18 Conservation (Article II). The ordinance was created from a model ordinance developed by the Maine Municipal Association for Towns that are regulated by the MS4 General Permit. In 2016, the Town revised its Ordinances to create a stand-alone Stormwater Chapter and moved the content of the Non-Storm Water requirements into Chapter 25 Stormwater Section 25-1-8 Non-Stormwater Regulation. Though the MS4 General Permit is only applicable to the Urbanized Area of Town, the Town implements the Storm Water and Non-Storm Water Control Ordinance in all areas of Town.

The Ordinance allows the following non-storm water discharges to the storm drain system as long as they do not cause or contribute to violations of water quality standards:

- 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;
- individual residential car washing.

The Town's Public Works Director administers the ordinance and has the authority to issue a notice of violation if needed.

It should be noted that discharges associated with dye testing are also allowed with verbal notice to the Public Works Director.

In addition, discharges of hydrant and water line flushing are required to be dechlorinated if they are to be discharged to a portion of the MS4 system which discharges to a small stream. In accordance with the Maine DEP 11/18/2016 Issue Profile for Drinking Water System Discharges to Regulated Small MS4s, the Portland Water District 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 Portland Water District flushes the system every three years and provides an annual report to the Town describing water dechlorination methods in use and testing results for any flushing conducted. The upcoming flushing schedule for the Town of Cape Elizabeth is as follows: 2020, 2023, etc.

4.0 IDENTIFICATION OF PRIORITY AREAS

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Prior MS4 General Permits required that the Town identify priority areas that need to be protected from illicit discharges. The 2022 MS4 General Permit does not have this requirement, but the Town of Cape Elizabeth conducts inspections more frequently than the 2022 MS4 General Permit requires, so they continue to conduct inspections in the priority watershed first. The Town may also use this prioritization for illicit discharge investigations in the event there are insufficient

resources to address all potential illicit discharges simultaneously.

To identify areas within the Town that are high priority for illicit discharge inspections, the Town considered impaired waters (i.e., waters that are not meeting their designated classification) as highest priority.

The Town of Cape Elizabeth identified Trout Brook as the highest priority for the following reasons:

1. It has aquatic life impairments, and
2. It has a high potential to be restored due to the preparation of a TMDL document and a Watershed Management Plan which is being implemented. The TMDL document identified that illicit discharges may be contributing to impairment.

The Town of Cape Elizabeth identified the Spurwink River is the second highest priority for the following reasons:

1. It has bacteria impairments affecting shell fishing, and
2. The TMDL document has been finalized, which identified that illicit discharges maybe contributing to the impairment.

5.0 PROCEDURES TO LOCATE POTENTIAL ILLICIT DISCHARGES

Commented [KLR11]: Required element

The Town of Cape Elizabeth uses the following methods to locate illicit discharges:

1. Observations during catch basin cleaning
2. Citizen reports of illicit discharge issues
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

Inspections are completed on the GIS typically accessed through an iPad. Attachment B contains a table showing the fields that are completed during inspections using the GIS.

Commented [KR12]: Or put your inspection forms in here for IDDE…

5.1 Catch Basin Cleaning Inspections

Although inspections are only required every two years by the MS4 General Permit, each year, a public works employee attempts to inspect all the Town's accessible catch basins to assess which need to be cleaned. During this inspection process, the employee is also inspecting to assess if any oil, litter, sewage, or other evidence of illicit discharges is present. If the employee sees any evidence of illicit discharges, the evidence is documented in the GIS and provided to the Public Works Director for further action.

5.2 Citizen Reports of Illicit Discharges

Citizen reports of illicit discharge issues received by phone are routed to the Public Works Department to be investigated. Most phone calls are received at the Public Works Department, but occasionally the public will call or email the Planner or Code Enforcement Officer, who directs the caller to Public Works.

5.3 Dry Weather Outfall Inspections

During previous permit cycles, dry weather outfall inspections have been conducted in the highest priority areas identified in Section 4.0 (Trout Brook and the Spurwink River Drainage Areas), and then expanded to other areas of Town. The Public Works Department began documenting the results of the inspections on the Public Works IPAD in the fall of 2014.

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 inch 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.

Although not required by the General Permit, the Town attempts to inspect all piped and ditch outfalls every year, if time and resources allow in accordance with the following:

- Inspections will be performed during periods of dry weather whenever possible.
- Inspections will be performed where field inspections may be performed in a safe and efficient manner;
- Inspections will be performed 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;
- Observations will include the follow at a minimum: observations of 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 Town has safe and legal access to the structure to be inspected.
- When maintenance or potential illicit discharge issues are identified, the Public Works Director will be informed so that he may prioritize the work with other required work for the Town.

5.4 Outfall Sampling and Analysis

Outfall sampling and analysis is required under the 2022 MS4 General 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 Public Works Director may solicit the assistance of the Portland Water District or a third-party contractor to collect a sample 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. 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. The QAPP is contained in Attachment C to this IDDE Plan.

Wet weather sampling is not required by the MS4 General Permit at this time, but the Public Works Department 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).

5.5 Ditch Inspections

The 2022 MS4 General Permit does not require ditch inspections be completed. Ditch inspections were completed by the Public Works Department on all ditches in the fall of 2014. The ditch inspections were completed using the IPAD and online map system.

Moving forward, the Town will generally inspect ditches for potential illicit discharges whenever maintenance work on ditches is being completed. The Town follows these guidelines in conducting inspections:

- Field inspection 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;

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- Evidence of potential illicit discharges will be documented in the IDDE Tracking Sheet.
- If maintenance issues are identified, the Public Works Director will be informed so that he may prioritize the work with other required work for the Town.

5.6 Septic System Inspections

As required by the 2013-2018 MS4 General Permit, by June 30, 2016, the Town developed a list of aging (i.e., greater than 20 years old) septic systems in its two highest priority watersheds (Trout Brook and Spurwink River) that might discharge to the MS4 if they were to fail. There are 684 occupied parcels in the Trout Brook Watershed. 564 of these are on sanitary sewer. Of the remaining, Town documents show:

- 29 parcels have septic systems that are newer than 1997
- 19 parcels have septic systems that were installed in 1997 or earlier
- 72 parcels had insufficient information to assess if the septic systems were installed, or what age they were.

There are 937 occupied parcels in the Spurwink River Watershed. 585 of these are on sanitary sewer. Of the remaining, Town documents show:

- 90 parcels have septic systems that are newer than 1997
- 42 parcels have septic systems that were installed in 1997 or earlier
- 220 had insufficient information to assess if the septic systems were installed, or what age they were.

By June 30, 2017, the Town implemented a drive-by evaluation and documentation Plan of the aging septic systems. Drive by evaluations were attempted for all parcels needing inspection as identified during the PY 3 mapping activity. In the Trout Brook Watershed,

inspections were completed on 51 of the 91 parcels identified as having older septic systems or insufficient data to determine the date of the system. The other 40 parcels were determined to be condominiums, which were on sanitary sewer.

In the Spurwink River Watershed, all 42 of the aged septic systems were inspected, and 195 of the 220 parcels with insufficient data to determine their age were inspected. Of the other 25 parcels not inspected, 5 were not accessible from the public way, 1 was vacant (a municipal property that was known to not have any septic systems on it), and the remaining were determined to be either already on sanitary sewer or were on a common septic system which was not visible from public right of way.

None of the systems were observed to have evidence of leakage or failure.

Because this Plan did not yield useful information on septic system failures, it is no longer being conducted.

5.7 Cooperation with other MS4s

Because the Cape Elizabeth MS4 infrastructure has interconnections with other MS4s, it may be necessary to conduct cooperative investigations with other MS4s or to inform them of issues associated with the Cape Elizabeth infrastructure. The other MS4 contacts with which Cape Elizabeth has interconnections are:

Kerem Gungor Kerem.Gungor@maine.gov Ph: 207-592-3489

City of South Portland – Fred Dillon – fdillon@southportland.org Ph: 207-347-4138

There are no interconnections with Scarborough because the Spurwink River and Rachel Carson Reserve separate the two towns.

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

6.0 PROCEDURES TO INVESTIGATE ILLICIT DISCHARGES

Commented [KLR15]: Required elements

Investigations of illicit discharge issues are conducted by the Public Works Department. The Town relies on visual observations of the location where the illicit discharge was reported as a first step in identifying the source of the illicit discharge. If the evidence of the illicit discharge is still present in the initial structure or location where it was reported, the Town uses their knowledge of the infrastructure routing to systematically inspect other structures upstream of the initial location until either the evidence of the illicit discharge is no longer present, or until they locate a potential source of the illicit discharge.

For example, if evidence of gray water was observed during catch basin cleaning of a separated storm drain system, the Public Works Department would review as-built drawings, and the available GIS, and would inspect drain manholes and/or catch basins upstream of the initial observation until they could isolate one or more locations from which the gray water was likely emanating.

In the event visual observations of the structures cannot identify the source of an illicit discharge, the Public Works Director may employ televising, systematic dye testing, or smoke testing to identify the source. The Public Works Director could conduct dye testing but would need to hire a third-party contractor for smoke testing or televising. Sampling and analysis may also be conducted as described in subsection 5.4.

Commented [KLR16]: We just provide the Town's General approach to investigations because there are too many scenarios that could come up regarding how to investigate a potential illicit discharge. We would really just be re-writing the CWP guidance manual....

If no source can be located, the area may be re-inspected to assess if the illicit discharge was a one-time occurrence, or is a repeating occurrence, whereupon additional investigations may be conducted.

7.0 PROCEDURES REMOVE ILLICIT DISCHARGES

Commented [KLR17]: Required elements with new 2022 MS4 requirement to eliminate the illicit discharge within 60 days of its identification or develop a schedule to remove

Once the potential source of the illicit discharge is identified, the Public Works Director would identify and contact the responsible party in order to initiate removal or discontinuation of the illicit discharge.

If the illicit discharge is caused by a private entity, the Public Works Director may invoke the authority granted him/her under the Non-Storm Water Discharge Ordinance (See section 3.0 of this IDDE Plan). The Public Works Director typically provides initial verbal or email notice to any responsible party, then follows up with a Notice of Violation. The Notice of Violation specifies the illicit discharge be removed within 60 days of its source identification but allows that if removal within 60 days is not possible, the responsible party must work with the Public Works Department to establish a schedule to remove the illicit discharge as expeditiously as possible.

If the illicit discharge is caused by the Town, the Public Works Director would contact the department most responsible and work with them to remove or discontinue the illicit discharge within 60 calendar days of identification of the source or would develop a schedule to expedite elimination.

8.0 PROCEDURES TO DOCUMENT ILLICIT DISCHARGES

The Town will document the progress of investigating and removing illicit discharges using an IDDE Tracking Sheet. The spreadsheet is maintained on a Dropbox ® drive, shared by the Public Works Director and the Town's consultant. Each year, the Town is required to complete an annual report summarizing the activities completed under the MS4 Plan. The Public Works Director will print or retain an electronic copy of the IDDE Tracking Sheet for the year as back-up documentation of investigative and removal work completed.

9.0 RECORDS RETENTION

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

10.0REFERENCES

CWP and Robert Pitt 2004. *Illicit Discharge Detection and Elimination Manual* – A Guidance Manual for Plan Development and Technical Assessments. October 2004 Available: http://cfpub1.epa.gov/npdes/stormwater/idde.cfm

Aquarion Engineering Services and Casco Bay Estuary Partnership 2004. *Guidelines and Standard Operating Procedures for Stormwater Phase II Communities in Maine.* Available: http://www.thinkbluemaine.org/docs/index.htm

CWP and Robert Pitt 2011 Illicit Discharge Detection and Tracking Guide Available: http://www.cwp.org/2013-04-05-16-15-03/idde

USEPA New England Bacterial Source Tracking Protocol 2012. Provided by USEPA to Integrated Environmental Engineering. Available at

Commented [KLR18]: KR to send this document to ali for posting on think blue maine website

Commented [AM19]: Also available here: https://www3.epa.gov/region1/npdes/stormwater/ma/2014Appendixl.pdf

https://www3.epa.gov/region1/npdes/stormwater/ma/2014AppendixI.pdf

ATTACHMENT A

CAPE ELIZABETH WATERSHED MAP

Integrated Environmental ENGINEERING

ATTACHMENT B

INSPECTION FIELDS AND DOMAINS IN GIS

Integrated Environmental
ENGINEERING

IDDE Inspections using ArcGIS Online and Collector Ap:
As an inspector is using the iPad in the field, they tap on the structure or element they are inspecting and edit the inspection fields by either typing data or using the drop down entries where available. The following is a summary of the available fields associated with each type of inspection. Those items in BOLD are required as part of the MS4 General Permit.

Commented [KR20]: This and associated table or inspection forms will be very different for each MS4 depending on how you document your information. There is no one right way to do it – but be sure to review the General Permit text if you are making changes to your GIS.

MS4 INSPECTION	GIS FIELDS AND DOMAINS COMPLETED AS PART OF INSPECTION
Catch Basins	**Cb_ID – Auto populated when selected** **PYxInspDate – manually selected (a new field is added for each permit year to replace the "x", date and time are recorded)** **PYxInspStatus – Needs_Inspection, Wet_Inspection Completed, Dry_Inspection Completed, Do_Not_Inspect (used for private or MDOT basins)** Condition – Excellent, Fair or Poor Sump_inch – manually entered if not already present – shows the depth of the sump in inches Sed_inches – manually entered shows how many inches of sediment are in the sump **Excess Sediment – Yes or No (Yes if the sump is ½ full of sediment or more full)** **NeedsClean – Yes, No, or No-Private** **Pollution – None, Sewage, Odor, Foam/Soap, Yard Waste, Oil, Pet Waste, Cig. Butts, or More Than One** Accessible – Accessible, Paved Over, Unopenable, Buried, or Not Found Cover_Shape – square or round RimElev – from design drawings (not entered in field) **Cleaned Date – Manually selected** Follow-up – Yes or No Comments – open text field Photos cannot be attached to the inspection but are taken if needed for IDDE documentation.
Outfalls	**Outfall ID – Auto populated** **PYxInspDate – manually selected (a new field is added for each permit year to replace the "x", date and time are recorded)** **PYxInspStatus – Needs_Inspection, Wet_Inspection Completed, Dry_Inspection Completed, Do_Not_Inspect (used for private or DOT basins)** Weather – Clear, PartlyCloudy, Cloudy, Raining, Snowing, other **Pipe Composition – Transite_Asbestos_Concrete, None, Cast_Iron, Vitrified_Clay, PVC_SDR, HDPE_ADS, Corregated_Metal, Concrete_RCP, Other, TypeC_UD, TypeB_UD** Pipe Shape – Circular, Elliptical, Box, Other **Pipe Diameter – manually entered in inches if not already present** **Pollution – Foam/Soap, FloatingGreenScum, Oil_Film, Vegegtative_Mat, Sewage_Solids, Multiple_Types, or Pet Waste** **Odor – None_Natural, Musty, Rancid_Sour, or Sewage_Septic** **Water Clarity – Not_Applicable, Clear, Cloudy, or Opaque** **Pipe Flow – None, Trickly, Steady, or ¼ pipe or More**

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MS4 INSPECTION	GIS FIELDS AND DOMAINS COMPLETED AS PART OF INSPECTION
	Seepage Flow – None, Trickly, Steady, or ¼ pipe or More **FlowSampled Enter the Date or Not applicable (open text field)** **Flow Color – Brown, Tan, Gray, Other** Sediment – Open, ¼ full, ½ full, ¾ full, or plugged Outlet Stable – Yes or No PipeCond – Excellent, Fair, Poor Litter Present – Yes or No Yard Waste Present – Yes or No Follow-up – Yes or No Comments – open text field Photos cannot be attached to the inspection but are taken if needed for IDDE documentation.
Ditches	**ID – Auto populated** Road Name – manually entered **Inspection Date - Manually selected** **InspectType – Needs_Inspection, Wet_Inspection Completed, Dry_Inspection Completed, Do_Not_Inspect (used for private or DOT basins)** Weather – Clear, PartlyCloudy, Cloudy, Raining, Snowing, other Trash/Litter Present – Yes or No Yard Waste Present – Yes or No **Pollution – Foam/Soap, FloatingGreenScum, Oil_Film, Vegegtative_Mat, Sewage_Solids, Multiple_Types,** or Pet Waste Odor – None/Natural, Musty, or Sewerage/Septic Standing Water – Yes or No Water Clarity – Clear, Cloudy, Opaque or Not applicable Flow Color –Clear, Orange, Brown, Black, or Green Inlet Condition - Free of Obstructions, Stable, or Unstable Outlet Condition – Free of Obstructions, Stable, Unstable, or Obstructed Sediment - Yes or No Condition – Excellent, Fair, Poor Excess Vegetation – Yes or No Invasive Vegetation – Yes or No **Erosion/Scouring - Yes or No** Woody Vegetation – Yes or No Follow-up – Yes or No Follow-up Reason - open text field Comments – open text field

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ATTACHMENT C

QUALITY ASSURANCE PROJECT PLAN (QAPP)

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ATTACHMENT D

COORDINATION LETTERS WITH INTERCONNECTED MS4S

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