Volume

2

GUIDELINES AND
STANDARD OPERATING PROCEDURES

For Stormwater Phase II Communities in Maine

Standard Operating Procedures and Forms

PREPARED USING FUNDING PROVIDED BY

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Volume 2 Contents

Chapter

1

1. INTRODUCTION

This section describes the regulatory basis, intended audience, and overall organization of this manual.

1.1 BASIS FOR THE MANUAL

KEY AREAS ADDRESSED BY THIS MANUAL

- Illicit Discharge Detection and Elimination
- Pollution Prevention and Good Housekeeping for Municipal Operations

In June 2003, the Maine Department of Environmental Protection (MDEP) issued a General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s). Twenty-eight communities became subject to Stormwater Phase II regulations based on their designation as Urbanized Areas according to the 2000 US Census. The regulation specifies issuance of a General Permit every five years. The current General Permit, which is valid from June 2003 through June 2008, requires that each regulated community develop a five-year plan to:

> *"…(R)educe the discharge of pollutants from its regulated small MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act."*

Fourteen of the regulated communities in the Casco Bay watershed, with assistance from the Casco Bay Estuary Partnership (CBEP), Cumberland County Soil and Water Conservation District (CCSWCD), and others, formed an Interlocal Stormwater Working Group (ISWG) to collaborate on selected requirements of the General Permit. In particular, the ISWG identified the need for a locally-adaptable set of guidelines and standard operating procedures (SOPs) as a top priority to improve the quality of municipal stormwater practices. Six additional communities in southern Maine and central Maine joined with the ISWG to create this manual.

Stormwater accumulates sediments, pathogens, nutrients, toxic chemicals, and other pollutants as it runs off into storm drain systems and out into receiving water bodies, and is possibly the single greatest contributor of contaminants to Casco Bay (CBEP 1995). This non-point source of pollution directly contributes to degraded water quality throughout Maine, and can result in the closure of clam flats and swimming areas as well as degraded habitats within Casco Bay and other coastal areas. CBEP's 1995 *Casco Bay Plan* prioritizes the need to minimize the loading of pathogens, toxics, nutrients, and sediments from stormwater and combined sewer overflows to Casco Bay, as well as the need to reduce loading from non-point sources of pollution.

This manual seeks to further implement these goals in order to improve water quality throughout the Casco Bay watershed and the other watersheds in Maine. This manual is intended to provide local support to municipal staff in stormwater management efforts, guiding the employees who serve as the front-line in the implementation of the General Permit requirements.

1.2 OBJECTIVES OF THE MANUAL

The specific objectives of this manual are to:

- Provide a commonly-accepted set of technical standards and guidance on stormwater management measures that will control the quantity and quality of stormwater produced by municipal activities, new development and redevelopment;
- Assist municipalities in meeting Stormwater Phase II requirements;
- Encourage the use of targeted best management practices (BMPs) within the watershed with the long-term goal of consistent application by all regulated entities within the watershed;
- Encourage cost-savings for MS4s through proper and timely maintenance of stormwater systems; and
- Promote behavior that will improve water quality in the Casco Bay Watershed and other watersheds in Maine.

1.3 CONTENT OF THE MANUAL

The content of the manual is based primarily on selected requirements of the Stormwater Phase II program. Each community's five-year plan must address the following six minimum control measures:

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement and Participation
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 SOP manual addresses components for two of the minimum control measures as follows (the text in italics is language taken directly from the General Permit):

3. Illicit Discharge Detection and Elimination – This manual describes the procedures that should be taken to develop an IDDE program for a small MS4. Development of an IDDE program should be based on the specific needs of each municipality and the watersheds it falls within. Each community will develop its own unique IDDE program. Program Managers should complete the following steps to develop an effective IDDE program: *1. locate priority areas likely to have illicit discharges, 2. map the storm drain system, 3. develop an illicit discharge detection program, 4. develop procedures to trace the source of an illicit discharge, 5. develop procedures to remove a source, and 6. evaluate the IDDE program effectiveness.* This SOP manual provides guidance on how to complete each of these six steps, resulting in an effective IDDE program that fulfills the intent of the General Permit.

6. Pollution Prevention/Good Housekeeping for Municipal Operations – The General Permit requires inclusion of certain Pollution Prevention/Good Housekeeping components as part of the five-year plan, and suggests others. The required components addressed by this manual include development of:

   a) An operation and maintenance program that includes a training component for municipal employees and contractors and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations…this program must include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction, land disturbances, and stormwater system maintenance;

   b) A program to sweep all publicly accepted paved streets and publicly owned paved parking lots at least once a year as soon as possible after snowmelt;

   c) A program to evaluate and if necessary, clean catch basins and other stormwater structures that accumulate sediment at least once a year and dispose of the removed sediments in accordance with current state law; and

   d) A program to evaluate and if necessary prioritize for repairing, retrofitting, or upgrading the conveyance, structures, and outfalls of the regulated small MS4.

This manual also addresses development of *procedures for properly disposing of waste removed from the separate storm sewers*, which is a suggested component of the Pollution Prevention/Good Housekeeping minimum control measure. Just as for the IDDE Minimum Control Measure (MCM), the General Permit does not specify what the procedures should include. Therefore, each municipality will be developing its own unique program according to community needs and available resources.

1.4 MANUAL AUDIENCE AND ORGANIZATION

The Stormwater Phase II Program requires the development of new programs and training for municipal employees to implement new programs during daily activities. For this reason the manual addresses two distinct audiences: (1) Program Managers,

who will direct the development of new programs, and (2) municipal employees, such as public works personnel, who will implement the programs on a day-to-day basis.

Volume 1 is intended for use by individuals who are responsible for overseeing and implementing the Stormwater Phase II Program (the "Program Manager"). For the purposes of this manual, the Program Manager is typically in a supervisory or managerial position and in a position to train other employees in procedures required by the Stormwater Phase II Program. Chapter 1 provides an introduction and overview of the manual. Chapter 2, *Illicit Discharge Detection and Elimination*, presents procedures for Program Managers to use in identifying high priority areas, tracing illicit discharges, and eliminating illicit discharges. Chapter 3, *Pollution Prevention and Good Housekeeping*, provides general discussions of the many ways that municipal activities such as vehicle and facilities maintenance may adversely affect stormwater, and reviews ways to modify municipal operations to better prevent and reduce stormwater pollution. Chapter 3 guides the Program Manager through decisions they will need to make in developing procedures related to good housekeeping and pollution prevention. Tables, figures, and forms cited within the text are provided at the end of the volume.

Volume 2 is intended for use by "hands-on" municipal employees. Chapter 1 provides an introduction and overview of the manual. Chapter 2 contains Standard Operating Procedures (SOPs) and forms for use in the performance Illicit Discharge Detection and Elimination. Chapter 3 contains SOPS for use during regular work duties. The SOPs, which are designed to be concise and easy to use, are divided into three categories: *Always*, *Whenever Possible*, and *Never*. The SOPs include forms and summary sheets for use during illicit discharge tracing and elimination and routine work activities. Specific training on the SOPs will help to reinforce their importance and encourage implementation.

1.5 COMMON STORMWATER POLLUTANTS, SOURCES AND IMPACTS

Stormwater runoff contains pollutants that can harm human health, degrade water quality and aquatic habitat, and impair ecosystem functions. On its way to streams, estuaries, and other receiving water bodies, stormwater runoff accumulates pollutants such as oil, gas, and other hydrocarbons, heavy metals, deicers, pesticides, fine sediment, fertilizers, and bacteria, all of which can impair water quality. The pollutants of greatest concern in Casco Bay are nitrogen, toxic contaminants such as polycyclic aromatic hydrocarbons (PAHs), and fecal coliform bacteria. Runoff from fertilized lawns contributes excess nutrients to water bodies, which can lead to algal blooms and in extreme cases, fish kill events due to low dissolved oxygen levels. Elevated fecal coliform levels impair water quality and can lead to restrictions on the use and enjoyment of natural resources such as shellfish beds and swimming areas. Other stormwater pollutants of concern are toxic contaminants, such as heavy metals and pesticides, which originate from vehicles and businesses or from homeowner activities.

All of these pollutants can wash into receiving waterbodies during storm events. Understanding the sources of these pollutants and the impacts each pollutant has

can help inform municipal planning and assist in identifying priority goals and objectives when managing stormwater. The following table summarizes common stormwater pollutants, their sources and potential impacts.

Table 1-1. Common Stormwater Pollutants, Sources, and Impacts.

Pollutant	Sources	Impacts
Sediment	Construction sites; eroding streambanks and lakeshores; winter sand and salt application; vehicle/boat washing; agricultural sites.	Destruction of plant and fish habitat; transportation of attached oils, nutrients and other pollutants; increased maintenance costs.
Nutrients (phosphorus, nitrogen)	Fertilizers; malfunctioning septic systems; livestock, bird & pet waste; vehicle/boat washing; grey water; decaying grass and leaves; sewer overflows; leaking trash containers.	Increased potential for nuisance or toxic algal blooms; increased potential for hypoxia/anoxia (low levels of dissolved oxygen which can kill aquatic organisms).
Hydrocarbons (Polycyclic Aromatic Hydrocarbons)	Vehicle and equipment leaks; vehicle and equipment emissions; pesticides; fuel spills; equipment cleaning; improper fuel storage & disposal.	Toxic at low levels.
Heavy Metals	Vehicle brake and tire wear; vehicle/equipment exhaust; batteries; galvanized metal; paint and wood preservatives; batteries; fuels; pesticides; cleaners.	Toxic at low levels; drinking water contamination.
Pathogens	Livestock, bird and pet wastes; malfunctioning septic systems; sewer overflows.	Risk to human health leading to closure of shellfish areas and swimming areas; drinking water contamination.
Toxic Chemicals	Heavy metals; PAHs; pesticides; dioxins; PCBs; from wear, spills, illegal discharges and leaks.	Toxic at low levels.
Debris/Litter	Improper waste disposal and storage; fishing gear; leaking rubbish containers; cigarette butts; littering.	Potential risk to human and aquatic life.

Table 1-2. GOOD HOUSEKEEPING/POLLUTION PREVENTION SOPS/ACTIVITY MATRIX				
SOP	**Vehicle/Equipment Maintenance**	**Facilities Maintenance**	**Storm Drain System Maintenance**	**Construction Activities and Other Land Disturbances**
3.1 Catch Basin Cleaning			X	
3.2 Catch Basin Repair			X	
3.3 Outfall Repair			X	
3.4 Storm Drain System Repair			X	
3.5 Erosion and Sediment Control		X	X	X
3.6 Landscape Design and Management		X		X
3.7 Lawncare - Fertilizer & Pesticide Storage/Handling		X		X
3.8 Lawncare – Fertilizing and Turf Health		X		X
3.9 Lawncare - Weed and Pest Control		X		
3.10 Lawncare - Mowing and Watering	X	X		
3.11 Vehicle and Equipment Storage	X	X	X	X
3.12 Vehicle and Equipment Washing	X	X		X
3.13 Vehicle Fueling	X	X		X
3.14 Spill Clean-up	X	X		X
3.15 Parts Cleaning	X			
3.16 Spare Parts Storage	X	X		
3.17 Alternative Products Use/Storage/Disposal	X	X		
3.18 Petroleum and Chemical Disposal	X	X		
3.19 Petroleum and Chemical Handling	X	X		
3.20 Petroleum and Chemical Storage - Bulk	X	X		
3.21 Petroleum and Chemical Storage – Small Quantity	X	X		
3.22 Garbage Storage	X	X		
3.23 General Facility Housekeeping	X	X		
3.24 Floor Drains	X	X		
3.25 Painting	X	X		
3.26 Street Sweeping	X	X		X
3.27 Snow Disposal		X		
3.28 Sand and Salt Storage		X		
3.29 Salt Application		X		

Chapter

2

2. ILLICIT DISCHARGE DETECTION AND ELIMINATION SOP LIST

Standard Operating Procedure for:	
2.1 IDDE: Inspections During Mapping	
Purpose of SOP:	To record basic characteristics of individual storm drain outfalls, and evaluate suspect outfalls for illicit discharges.

Always:

- Conduct inspections during dry weather periods.
- Characterize and record the outfall's dimensions, shape, and component material.
- Characterize and record observations on basic sensory and physical indicators (e.g., odor, color, oil sheen).
- Follow procedure below if an obvious illicit discharge is encountered (such as raw sewage, paint, etc.).

Dry Weather Discharge

The CWP defines **dry weather** as a 48 hour period with no runoff-producing rainfall. NEIWPCC defines dry weather as a 48-72 hour period with less than 1/10-inch rainfall. Each community should refine the definition of dry weather to suit its specific conditions.

Whenever Possible:

- Photograph the outfall with a digital camera.
- Identify and label the outfall with a unique identifier. For example "SWO-013".
- If dry weather flow is present at the outfall, and the flow does not appear to be an obvious illicit discharge (e.g., flow is clear, odorless, etc.), attempt to identify the source of the flow (intermittent stream etc.), then document the discharge for future comparison.

Never:

- Never put yourself in danger.
- Never enter private property without permission.

Equipment list for mapping:

1. Existing paper maps
2. Field sheets
3. Camera (preferable digital)
4. GPS Unit
5. Spray paint (or other marker)
6. Cell phones or hand-held radios
7. Clip boards and pencils
8. First aid kit
9. Flash light or head lamp
10. Surgical gloves
11. Tape measure
12. Temperature probe
13. Waders
14. Watch with a second hand
15. Five 1-liter sample bottles

Procedures to follow if illicit discharge is detected:

? Call dispatch / supervisor.

? Trace upstream to locate the source.

? Take photos.

? Estimate flow/collect samples if instructed to do so.

Standard Operating Procedure for:	
2.2 IDDE: Long-Term Inspections	
Purpose of SOP:	Long-term dry weather inspections of outfalls are a primary means of detecting illicit discharges and identifying any necessary maintenance or repairs.

Always:

- Perform more frequent inspections on outfalls with suspected illicit discharges and/or high priority areas.
- Conduct inspections during dry weather periods.
- Check the outfall's dimensions, shape, and component material.
- Characterize and record observations on basic sensory and physical indicators (e.g., odor, color, oil sheen).
- If an obvious illicit discharge is encountered (such as raw sewage, paint, etc.), follow the procedure below.
- Analyze inspection results for trends and evaluate the effectiveness of the IDDE Program.

Whenever Possible:

- Perform inspections of all the outfalls at least once per permit cycle (long term).
- Photograph the outfall with a digital camera.
- Identify and label the outfall with a unique identifier. For example "SWO-013".
- If dry weather flow is present at the outfall, and the flow does not appear to be an obvious illicit discharge (e.g., flow is clear, odorless, etc.), attempt to identify the source of the flow (intermittent stream, etc.) then document the discharge for future comparison.
- Identify the source of the discharge.

Never:

- Never put yourself in danger.
- Never enter private property without permission.

Procedures to follow if illicit discharge is detected:

? Call dispatch / supervisor.

? Trace upstream to locate the source.

? Take photos.

? Estimate flow/collect samples if instructed to do so.

Standard Operating Procedure for:	
2.3 IDDE: Opportunistic Inspections	
Purpose of SOP:	To ensure personnel follow proper procedures if they observe illicit discharges while conducting their regular duties.

Always:

- Call dispatcher, supervisor, or code enforcement if you see evidence of an illicit discharge.
- Assess the general area of the illicit discharge to see if you can identify its source.

Whenever Possible:

- Use the Incident Tracking Sheet to document observations.
- Take photographs of the illicit discharge.
- Carry a Dry Weather Outfall Inspection Form.

Never:

- Never enter private property without permission.
- Never put yourself in danger.

Standard Operating Procedure for:	
2.4 IDDE: Citizen Call-in Inspections	
Purpose of SOP:	To collect appropriate information from a citizen reporting a potential illicit discharge to increase the chances of identifying and removing its source.

Always:

- Use the Incident Tracking Sheet to collect the appropriate information.
- Document any further action taken.

Whenever Possible:

- Train Dispatch Personnel in the use of the Incident Tracking Sheet.
- Document and review incidents reported by citizens on an annual basis to look for patterns of illicit discharges.

Never:

- Never enter private property without permission.
- Never put yourself in danger.

Standard Operating Procedure for:	
2.5 IDDE: Septic System Inspections	
Purpose of SOP:	Failed septic systems can adversely impact water quality. Completing septic system inspections in suspect areas can assist in timely correction.

Always:

- Use a certified inspector or a licensed site evaluator.
- Survey high risk areas (older areas or areas near lakes or impaired waterbodies).

Whenever Possible:

- Document septic system inspections in a summary report for future reference.

Never:

- Never enter private property without permission.
- Never put yourself in danger.

Standard Operating Procedure for:	
2.6 IDDE: Tracing Illicit Discharges	
Purpose of SOP:	To efficiently and systematically identify the source of an illicit discharge.

Always:

- Review / consider information collected when illicit discharge was initially identified (Incident Tracking Sheet or Dry Weather Outfall Inspection Form).
- Survey the general area / surrounding properties to identify potential sources of the illicit discharge as a first step.
- Trace illicit discharges using the procedures below.

Whenever Possible:

- Use weirs, sandbags, or dams to trap intermittent discharges during dry weather.
- Smoke test or televise the storm drain system to trace high priority, difficult to detect illicit discharges.

Never:

- Never enter private property without permission.
- Never put yourself in danger.

Tracing Procedures

Flowing discharges – use visual tracing and/or dye testing.

Non-flowing discharges – inspect storm drain access points for staining/ residual evidence and/or use dye testing.

Standard Operating Procedure for:	
2.7 IDDE: Removing Illicit Discharges	
Purpose of SOP:	Proper removal of an illicit discharge will ensure it does not recur. Using legal methods for the removal will minimize the municipality's liability.

Always:

- Determine who is financially responsible:
  - Municipality
  - Private property owner
  - Exempt person
- Suspend access to storm drain if an "imminent and substantial danger" exists.
- If the discharge is from an exempt facility (see box below) notify the facility operator and the appropriate enforcement authority.
- Repair/correct cause of discharge if municipality is responsible.

Never:

- Never repair/correct cause of discharge on private property until directed to do so by the appropriate municipal authority (stormwater program manager, etc.)

Exempt Facility	Alternate Regulation They Are Subject To	Enforcement Authority
Maine Turnpike Authority and Maine DOT (in selected urbanized areas)	Maine General Permit for the Discharge of Stormwater from MDOT and MTA MS4s	Maine DEP
Portsmouth Naval Shipyard, Southern Maine Community College, USM Gorham, Bangor Air National Guard	Maine General Permit for the Discharge of Stormwater from State and Federally Owned MS4s	Maine DEP
Industrial Facilities with selected SIC codes (See Table 2-8 for a complete list)	Multi Sector General Permit for Industrial Activities	USEPA (Until October 2005) Maine DEP (After October 2005)

Standard Operating Procedure for:	
2.8 IDDE: Tracking / Evaluating Illicit Discharges	
Purpose of SOP:	Taking time to track and evaluate illicit discharge locations and types is necessary for an effective IDDE program.

Always:

- Review illicit discharge activities annually to identify patterns, trends, areas of high or low illicit discharge activity and revise inspection procedures accordingly.
- Select a tracking system that fits the municipality:
  - Three ring binder method (small communities)
  - MS4 ASIST Professional Database (medium and large communities)
  - Custom Database (medium and large communities)

Whenever Possible:

- Use a tracking program that can be linked to your mapping data.

Dry Weather Outfall Inspection Form

Location Information

Date: _____ **Inspector:** _____

Time: _____

Outfall ID: _____

Outfall Location: _____

Receiving Waterbody: _____

Photo Taken: Yes No **Photo ID:** _____

Weather: Clear Cloudy **Approximate Temp:** _____ **Wind Present:** Yes No

Precipitation in the past 3 days: Yes No

Pipe Flow: None Trickle Steady 1/4 pipe flow or more

Seepage Flow: None Trickle Steady 1/4 pipe flow or more

Color (if flow is present): _____

Inspection Information *Select all that are applicable*

Obvious Debris/Pollution:		**Odor:**		**Water Clarity:**	
None	0	None/Natural	0	Clear	0
Foam	3	Musty	5	Cloudy	5
Floating Green Scum	8	Sewage/septic	10	Opaque	10
Oil / Film	9				
Vegetative Mat	9				
Sewage Solids	10				
TOTAL		**TOTAL**		**TOTAL**	

GRAND TOTAL SCORE = _____

Additional Information

Sediment Condition: Open 1/4 Full 1/2 Full 3/4 Full Plugged

Structure Condition: Excellent Good Fair Poor

Trash/litter present: Yes No

Yard waste observed: Yes No

General Comments _____

_____

Actions Taken: _____

_____

_____

Follow up required: Yes No

Storm Drain Outfall Characteristics Form

Location Information

Date: _____ **Inspector:** _____

Time: _____

Outfall ID: _____

Outfall Location: _____

Receiving Waterbody: _____

Photo Taken: Yes No **Photo ID:** _____

Weather: Clear Cloudy **Approximate Temp:** _____ **Wind Present:** Yes No

Precipitation in the past 3 days: Yes No

Dry Weather Inspection Form Used: Yes No

Outfall Description *Select all that are applicable, fill in as necessary*

Type:	Open Pipe-	RCP	Circular	Dimension (inches) _____
		PVC	Elliptical	
		Steel	Box	
		CMP	Other _____	
		HDPE		
		Other _____		
	Open Drainage-	Concrete	Trapezoidal	Depth (inches)_____
		Earthen	Parabolic	Top width (inches)_____
		Riprap	Other _____	Bottom width (inches)_____
		Other _____		
	Submerged in water-	no		
		partially		
		fully		

ILLICIT DISCHARGE HOTLINE INCIDENT TRACKING SHEET

Copied with permission from: *Illicit Discharge Detection and Elimination-A Guidance Manual for Program Development and Technical Assessments*, CWP, 2004.

Incident ID:	
Responder Information	
Call taken by:	Call date:
Call time:	Precipitation (inches) in past 24-48 hrs:
Reporter Information	
Incident time:	Incident date:
Caller contact information (*optional*):	

Incident Location *(complete one or more below)*			
Latitude and longitude:			
Stream address or outfall #:			
Closest street address:			
Nearby landmark:			
Primary Location Description	**Secondary Location Description:**		
☐ Stream corridor (*In or adjacent to stream)*	☐ Outfall	☐ In-stream flow	☐ Along banks
☐ Upland area *(Land not adjacent to stream)*	☐ Near storm drain	☐ Near other water source (stormwater pond, wetland, etc.):	
Narrative description of location:			

Upland Problem Indicator Description		
☐ Dumping	☐ Oil/solvents/chemicals	☐ Sewage
☐ Wash water, suds, etc.	☐ Other: _____	

Stream Corridor Problem Indicator Description				
Odor	☐ None	☐ Sewage	☐ Rancid/Sour	☐ Petroleum (gas)
	☐ Sulfide (rotten eggs); natural gas	☐ Other: Describe in "Narrative" section		
Appearance	☐ "Normal"	☐ Oil sheen	☐ Cloudy	☐ Suds
	☐ Other: Describe in "Narrative" section			
Floatables	☐ None:	☐ Sewage (toilet paper, etc)	☐ Algae	☐ Dead fish
	☐ Other: Describe in "Narrative" section			
Narrative description of problem indicators:				
Suspected Violator (name, personal or vehicle description, license plate #, address, etc.):				

Catch Basin Cleaning Form

Date:_____ **Precipitation in the last three days? No Yes**

Supervisor/Crew Leader:_____

Basin Location	Problem Identified? (Check all that apply)				Comments
	Flow	Poor Condition	Oil Sheen	Excess Sediment	

---SAMPLE---

NOTICE OF VIOLATION

Town of _____ , Maine
Planning and Permitting
Services
Planning~Building~Electrical~Plumbing~Code Enforcement

Address here, Maine 04210
TELEPHONE (207) XXX-XXXX FAX (207) XXX-XXXX

September 1, 2005

Citizen
22 Main Street
Auburn, ME 04210

RE: Tax Map #_____

Dear Citizen:

On August 30, 2004, Geoff Smith, Planning Inspector and I responded to a report of a discharge to the storm drain system on property owned by you at 22 Main Street in Auburn.

We did confirm the presence of _____. This is to confirm the conversation I had with you. You are in the process of _____ and we agreed you would have the correction completed by _____. We discussed you will _____.

This discharge is in violation of the City of Auburn's Non-Stormwater Discharge Ordinance, which is required by the Clean Water Act. Please keep me informed of how the correction is proceeding. Enclosed is a copy of the Ordinance for your review.

If I can be of further assistance please do not hesitate to contact my office. We are open Mondays from 7:00 a.m. to 5:30 p.m. and Tuesday through Friday, from 8:00 a.m. to 4:30 p.m. I can be reached at 333-6600, extension ___.

Sincerely,

Joe Inspector
Code Enforcement Officer

Chapter

3

3. POLLUTION PREVENTION AND GOOD HOUSEKEEPING SOPS

Standard Operating Procedure for:	
3.1 Catch Basin Cleaning	
Purpose of SOP:	To protect stormwater by maintaining the ability of catch basins to trap sediments, organic matter, and litter. This reduces clogging in the storm drain system as well as the transport of sediments and pollutants into receiving waterbodies.

Always:

- Inspect catch basins for structural integrity and evidence of illicit discharges during cleaning.
- Conduct a chemical analysis if sediment is suspected of contamination to determine if the recovered materials meet the EPA criteria for hazardous waste.
- Dispose of catch basin residues properly (Construction Demolition Debris [CDD] Landfill or secure municipal solid waste or special waste landfill). Beneficial use must be licensed by the MDEP unless Total Petroleum Hydrocarbon Analysis is less than 1,000 mg/kg.

Whenever Possible:

- Inspect each catch basin at least annually, during catch basin cleaning.
- Create a checklist for catch basins to help classify which catch basins require maintenance and how often.
- Perform street sweeping on an appropriate schedule to reduce the amount of sediment, debris and organic matter entering the catch basins, which in turn reduces the frequency with which they will need to be cleaned.
- Discharge fluids collected during catch basin cleaning to a sanitary WWTP.

Other Related SOPs:
– General Facility Housekeeping – Street Sweeping – IDDE SOP for Opportunistic Inspections

Standard Operating Procedure for:	
3.2 Catch Basin Repair	
Purpose of SOP:	To protect stormwater by inspecting, testing, and replacing or repairing equipment on a regular basis to prevent a failure of stormwater structures.

Always:

- Practice preventive maintenance and inspect on a regular schedule for cracks, leaks, and other conditions that could cause breakdowns in the system (this can be done during the cleaning process).
- Repair defective equipment or structures identified during an inspection as soon as possible.
- Document inspections and repairs and maintain complete records in a record-keeping system.
- Educate personnel on preventive maintenance inspections.

Whenever Possible:

- Research and implement new technology that will improve the overall performance of the catch basin.

Never:

- Never allow defective equipment or structures to go unrepaired.

Other Related SOPs:
– Outfall Repair – Storm Drain System Repair

Standard Operating Procedure for:	
3.3 Outfall Repair	
Purpose of SOP:	To protect stormwater by inspecting, testing, and replacing or repairing equipment on a regular basis to prevent a failure of stormwater structures.

Always:

- Locate all outfalls in the municipality and create an inspection schedule.
- Practice preventive maintenance and inspect at least one time per year for cracks, leaks, and other conditions that could cause breakdowns in the system.
- Repair defective structures or equipment identified during an inspection as soon as possible.
- Document inspections and repairs and maintain complete records in a record-keeping system.
- Educate personnel on preventive maintenance inspections.

Whenever Possible:

- Research and implement new technology that will improve the overall performance of the outfall.

Never:

- Never allow defective equipment or structures to go unrepaired.

Other Related SOPs:
– Catch Basin Repair – Storm Drain System Repair

Standard Operating Procedure for:	
3.4 Storm Drain System Repair	
Purpose of SOP:	To protect stormwater by inspecting, testing, and replacing or repairing equipment on a regular basis to prevent a failure of the storm drain system.

Always:

- Create an inspection and cleaning schedule for the municipal storm drain system, including stormwater detention ponds, energy dissipaters and associated structures.
- Practice preventive maintenance and inspect at least one time per year for cracks, leaks, and other conditions that could cause breakdowns in the system.
- Repair defective structures or equipment identified during an inspection as soon as possible.
- Dispose of collected materials according to state, regional and local regulations to avoid negative environmental impacts.
- Document inspections, cleanings and repairs and maintain complete records in a record-keeping system.
- Use appropriate erosion and sediment control practices when performing repairs.

Whenever Possible:

- Research and implement new technology that will improve the overall performance of the storm drain system.
- Perform street sweeping on a regular basis to reduce the amount of sediment, debris and organic matter entering the storm drain system, which in turn reduces the frequency with which the system will need to be cleaned.

Never:

- Never allow defective equipment or structures to go unrepaired.

Other Related SOPs:
– Street Sweeping – Catch Basin Repair – Outfall Repair

Standard Operating Procedure for:	
3.5 Erosion and Sediment Control	
Purpose of SOP:	To protect stormwater from pollution by reducing or eliminating pollutant loading from land disturbing activities.

Always:

- Use erosion control techniques or devices to stabilize disturbed areas.
- Use effective site planning to avoid sensitive areas.
- Keep land disturbance to a minimum.
- Inspect and maintain erosion control devices.
- Install erosion control devices properly.
- Install erosion control blankets when seeding drainage ways.

Whenever Possible:

- Protect disturbed areas from stormwater runoff by using stabilizers such as mulch.
- Limit construction activities during months with higher runoff rates.
- Assign responsibility for maintaining erosion control devices.
- Reduce the velocity of stormwater runoff.
- Divert clean water away from the disturbed area during construction activities.
- Protect vegetative buffers or create new ones.
- Stabilize soils by mulching and/or seeding when soils are exposed for more than one week during the dry season, and two days during the rainy season.

Never:

- Never divert runoff into a sensitive area.

Other Related SOPs:
– General Facility Housekeeping – Landscaping

Standard Operating Procedure for:	
3.6 Landscape Design and Management	
Purpose of SOP:	To protect stormwater by designing and managing landscaping in ways that minimize polluted runoff.

Always:

- Design landscaping by taking into account soil types, light, drainage, desired maintenance level and budget.

Whenever Possible:

- Minimize erosion prone steep slopes by using techniques such as terracing.
- Use native plants that are pest resistant. Plant the right plant in the right area.
- Manage water runoff by rerouting gutters away from storm drains and maintaining groundcovers between developed areas and waterways (ditches, swales, shorelines).
- Reduce or eliminate mown lawn in unused areas.
- Convert unused turf to meadow or forest.
- Establish set back distances from pavement, storm drains, and waterbodies. Allow these areas to serve as buffers with disease-resistant plants and minimal mowing.

Never:

- Never develop a landscape design without assessing its impact on water quality.

Other Related SOPs:
– General facility housekeeping
– Lawncare – Fertilizing
– Lawncare – Weed and Pest Control
– Lawncare – Mowing and Watering
– Alternative Products Use/Storage/Disposal

Standard Operating Procedure for:	
3.7 Lawn Care: Fertilizer and Pesticide Storage and Disposal	
Purpose of SOP:	To protect stormwater by properly storing and disposing of fertilizers and pesticides. Because storm drain water is not part of a wastewater treatment system, discharge of these chemicals flows untreated into ponds, lakes, rivers, streams, estuaries and bays.

Always:

- Store fertilizers and pesticides in high, dry locations, according to manufacturer's specifications and applicable regulations.
- Cleanup spills and leaks of pesticides and fertilizers to prevent the chemicals from reaching the storm drain system.
- Clearly label secondary containers.
- Properly dispose of fertilizers and pesticides according to manufacturer's specifications and applicable regulations.
- Regularly inspect fertilizer and pesticide storage areas for leaks or spills.

Whenever Possible:

- Store pesticides in enclosed areas or in covered impervious containment, preferably in a locked cabinet.
- Order fertilizers and pesticides for delivery as close to time of use as possible to reduce amount stored at facility.
- Order only the amount needed to minimize excess or obsolete materials requiring storage and disposal.
- Use ALL herbicides or pesticides appropriately to minimize the amount of chemicals requiring disposal.
- Dispose of old, unusable or "obsolete" pesticides as in accordance with applicable regulations.

Never:

- Never dispose of fertilizers or pesticides in storm drains.
- Never leave unlabeled or unstable chemicals in uncontrolled locations.

Other Related SOPs:
- General Facility Housekeeping
- Landscaping
- Alternative Products
- Use/Storage/Disposal

Standard Operating Procedure for:	
3.8 Lawncare – Fertilizing and Turf Health	
Purpose of SOP:	To protect stormwater by properly storing, applying, and disposing of fertilizers and by maintaining turf health to reduce diseases.

Always:

- Apply fertilizers based on a soil testing program, soil type, turf function, and assessment by qualified personnel.
- Store, use, and dispose of all fertilizers and contaminated wastes according to manufacturer's specifications and applicable regulations.
- Choose seed based on soil types, intended use of area, latest variety research, and assessment of past site performance.

Whenever Possible:

- Avoid fertilizing during a drought or when the soil is dry.
- Apply fertilizers during periods of maximum plant uptake (usually fall and spring).
- Avoid combined products such as weed and feed, which do not necessarily target specific problems at the appropriate time.
- Calibrate application equipment to ensure proper application.
- If phosphorus fertilizer is used when re-seeding, mix phosphorus into root-zone.
- Use natural compost and organic fertilizers instead of synthetic fertilizers.
- Aerate grassed areas to improve drainage and bring more oxygen to the soil.

Never:

- Never fertilize before a heavy rainfall.
- Never apply phosphorus fertilizer on soil surface.
- Never deposit fertilizer in the water, onto the street or into storm drains.
- Never apply fertilizer to frozen ground.

Other Related SOPs:

- General Facility Housekeeping
- Landscaping
- Alternative Products Use/Storage/Disposal

Standard Operating Procedure for:	
3.9 Lawncare – Weed and Pest Control	
Purpose of SOP:	To protect stormwater by properly storing, applying and disposing of herbicides and pesticides.

Always:

- Ensure that pesticides are only applied by personnel certified to do so.
- Use, store, and dispose of all chemicals and waste products according to manufacturer's specifications, the Maine Pesticides Control Board and any local requirements.
- Clean up any spilled chemicals.
- Store pesticide and herbicide-contaminated waste materials in a labeled, designated, covered, and contained area.
- Use pesticides and herbicides only when necessary.
- Rinse equipment only when necessary and use rinse water to dilute next mix as long as application rates are not exceeded.

Whenever Possible:

- Use alternative methods to control weeds and pests such as Integrated Pest Management strategies, biorational insecticides (natural soaps and oils) or biological controls.
- Mix/load pesticides in an area where spills can be contained.
- Pull weeds by hand or mechanically.
- Spot treat affected areas only instead of entire location.
- Apply pest control at the life stage when the pest is most vulnerable.
- Choose the least toxic pesticides and herbicides that still achieve results.
- Tolerate low levels of weeds.
- Allow grass to grow 2.5 to 3 inches high, reduce thatch build up and aerate soils.
- Reduce seed release of weeds by timing cutting at seed set.
- Establish setback distances from pavement, storm drains, and waterbodies; allow these areas to serve as buffers with disease-resistant plants and minimal mowing.

Never:

- Never mix or prepare pesticides or herbicides near storm drains.
- Never apply controlled pesticides or herbicides unless certified to do so.
- Never apply herbicides or pesticides before a heavy rainfall.
- Never discharge rinse water or excess chemicals to storm drain, sewer, or ground surface in excess of labeled rates.

Other Related SOPs:
– General Facility Housekeeping
– Alternative Products Use/Storage Disposal

Standard Operating Procedure for:	
3.10 Lawn Care – Mowing and Irrigation	
Purpose of SOP:	To protect stormwater by using proper mowing and watering techniques. Proper mowing and irrigation techniques will reduce organic matter and other pollutants from entering the storm drain system and waterbodies.

A

lways:

- Mow only as low as needed for the area's intended use.
- Vary mowing pattern.
- Base irrigation amounts on monitoring for moisture content.
- Water at appropriate times (when no rain is forecasted).
- Manage leaves, clippings, and compost so that runoff does not enter storm drain system or waterbodies.

Whenever Possible:

- Allow areas to go to meadow or field and mow once or twice per year rather than every week.
- Keep mower blades sharpened to avoid damaging grass leaf tissue.
- Mow when the grass is dry to prevent spread of turf diseases.
- Sweep lawn clippings and debris instead of using water.
- Mulch grass clippings using a mulching mower.
- Fill gas tanks in a controlled location.

Never:

- Mow an area just because it always has been mowed.
- Irrigate based on timers/schedules instead of monitoring for moisture content.
- Never dump gas, wastes or contaminated water down storm drains.
- Never refuel or change the mower oil near storm drains.
- Leave mower running in one location.

Other Related SOPs:
- General Facility Housekeeping - Landscaping

Standard Operating Procedure for:	
3.11 Vehicle and Equipment Storage	
Purpose of SOP:	To protect stormwater from petroleum products that may drip or leak from vehicles and equipment being stored or from dirt and sediment that accumulate in the storage areas.

Always:

- Inspect parking areas for staining/leaks on a schedule established by the appropriate personnel.
- Use drip pans for vehicles that drip a lot (provide a labeled location to empty and store drip pans).
- Address a known leak or drip as soon as possible.

Whenever Possible:

- Store vehicles inside.
- Store vehicles on paved areas if you can street sweep regularly to remove drips/leaks/dirt.
- Perform street sweeping of paved areas on a schedule established by the appropriate personnel, and dispose of street sweepings properly.
- Maintain vehicles to prevent leaks from occurring.
- Perform a pre-trip inspection of vehicle.

Never:

- Never store leaking vehicles over a storm drain.

Other Related SOPs:
– Street Sweeping – Spill Cleanup – Petroleum and Chemical Disposal – General Facility Housekeeping

Standard Operating Procedure for:	
3.12 Vehicle and Equipment Washing	
Purpose of SOP:	To protect stormwater using proper vehicle and equipment washing techniques, proper washing locations, and proper disposal of wash water.

Always:

- Wash vehicles and equipment in a designated area.
- Discharge all wash water containing degreasers, acids, bases, and/or metal brighteners to an on-site treatment facility, the sanitary sewer in accordance with the treatment plant standards, or an approved holding tank. If these are not available, discharge to a vegetated buffer.

Whenever Possible:

- Use a biodegradable, phosphate free soap.
- Use a commercial car wash for light duty vehicles.
- Wash cars on gravel, grass, or other permeable surfaces.
- Educate personnel on proper washing practices.
- Maintain vehicles and equipment to prevent leaks/drips, which would more easily enter wash water.
- Obtain and use drain guards (filter inserts) to catch sediments, petroleum products, etc. that might enter the storm drains as a result of vehicle washing.
- Minimize water and soap use when rinsing or washing vehicles.

Never:

- Never perform engine washing outside or over a storm drain.
- Never wash vehicles over a storm drain or near drinking water wells.

Other Related SOPs:
– General Facility Housekeeping – Alternative Products Use/Storage/Disposal

Standard Operating Procedure for:	
3.13 Vehicle and Equipment Fueling	
Purpose of SOP:	To prevent stormwater contamination originating from vehicle and equipment fueling.

Always:

- Fuel carefully to minimize drips to the ground surface.
- Maintain clean fuel dispensing areas using dry cleanup methods.
- Utilize fueling safeguards. Clearly label and tag all valves to reduce human error.
- Train employees and subcontractors on proper fueling methods and spill cleanup techniques.
- Maintain fuel storage tanks in accordance with local, state and federal laws.
- Have absorbent spill cleanup kits and materials available at fueling areas.
- Immediately clean up spills and properly dispose of contaminated soil and cleanup materials.

Whenever Possible:

- Install a canopy or roof over aboveground storage tanks.
- Regularly inspect fueling equipment for corrosion and structural failure, cracks in foundations, and physical damage to container systems.
- Use designated fueling areas built upon a level impervious surface (hard cement is best). If paved with asphalt, add a protective coating to create an impervious surface.
- Design fueling areas to minimize stormwater exposure. Prevent run-on and ponding of water, and use secondary containment systems.
- Protect storm drains from fueling areas using berms and dikes.
- Use drip pans or absorbent pads during fueling to collect leaks.
- Add automatic shutoff mechanisms and vapor recovery nozzles to fueling equipment.
- Install protective guards around fueling equipment, tanks, and piping to prevent collisions.

Never:

- "Top off" fuel tanks. Post signs to remind employees.
- Hose down or bury a fuel spill.

Other Related SOPs:
– General Facility Housekeeping – Alternative Products Use/Storage/Disposal – Vehicle Maintenance

Standard Operating Procedure for:	
3.14 Spill Cleanup	
Purpose of SOP:	To protect stormwater by educating employees on proper spill cleanup procedures, state reporting requirements and preventative actions.

Always:

- Stop the source of the spill.
- Contain any liquids.
- Contact the MDEP to report any size spill.
  Hazardous Material 1-800-452-4664
  Petroleum Products 1-800-482-0777
- Cover the spill with absorbent material such as kitty litter, sawdust, or oil absorbent pads. Do not use straw. Dispose of used absorbent material properly.
- Use water only when necessary and minimize use.
- Contact municipal officials _____ (phone #).
- Develop and maintain a Spill Prevention, Control, and Countermeasure (SPCC) Plan if the facility stores more than 1,320-gallons of petroleum.
- Fit petroleum and chemical storage containers with secondary containment structures.
- Keep a spill kit in areas where petroleum or hazardous materials are stored.
- Train employees in spill response procedures and equipment.
- Deploy containment booms if spill could potentially reach a storm drain or waterbody.
- Position mats to contain drips from equipment or vehicles until they can be repaired.

Whenever Possible:

- Seal the floor with paint to prevent absorption of fluids into concrete.
- Install low-level or low-pressure alarms and/or cut-off systems on hydraulic equipment.

Never:

- Never wash a spill into the storm drain or a water body.
- Never leave a spill without cleaning it up.

Other Related SOPs:
– Petroleum and Chemical Handling – Petroleum and Chemical Storage – General Facility Housekeeping – Fertilizer and Pesticide Storage and Disposal

Standard Operating Procedure for:	
3.15 Parts Cleaning	
Purpose of SOP:	To protect stormwater by practicing proper parts cleaning techniques and disposing of waste cleaners properly.

Always:

- Perform all cleaning in a designated area to minimize the potential for spills.
- Store waste cleaners in properly labeled containers in accordance with regulations.
- Dispose of all waste cleaners properly with a licensed contractor.

Whenever Possible:

- The variety of cleaners should be minimized to make recycling and disposal simpler.
- Use citrus-based cleaners and dispose of properly.
- Use steam cleaning and pressure washing instead of solvents; however wastewater must be discharged to an oil/water separator and the waste water treatment plant notified.

Never:

- Never dispose of spent cleaners down the floor drains, sinks or storm drain inlets.

Other Related SOPs:
– Spill Cleanup – Alternative Product Use/Storage/Disposal – Petroleum and Chemical Handling – Petroleum and Chemical Disposal – Petroleum and Chemical Storage

Standard Operating Procedure for:	
3.16 Spare Parts Storage	
Purpose of SOP:	To protect stormwater by properly storing spare parts. Improper storage of materials can result in pollutants and toxic materials entering ground and surface water supplies.

Always:

- Store spare parts in a designated area.
- Use drip pans for any parts that are dripping.

Whenever Possible:

- Store spare parts inside or under cover.
- Monitor storage areas for staining/leaks on a schedule decided on by the appropriate personnel.
- Clean the majority of petroleum products from the parts that are to be stored.

Other Related SOPs:
– Street Sweeping – Spill Cleanup – Vehicle and Equipment Storage

Standard Operating Procedure for:	
3.17 Alternative Products Use/Storage/Disposal	
Purpose of SOP:	To protect stormwater by using alternative products in an effort to decrease the presence of more toxic products in stormwater.

Always:

- Use, store, and dispose of alternative products according to manufacturer's specifications.

Whenever Possible:

- Use alternative products when deemed appropriate:
  - Instead of solvent-based parts cleaners use citrus–based cleaners or steam/pressure wash to an oil/water separator.
  - Instead of herbicides use bark mulch.
  - Instead of fertilizer use compost or manure.
  - Instead of pesticides plant marigolds, onion, or garlic as deterrents; release or attract beneficial insects.
- Train employees on the benefits of using alternative products.
- Minimize waste by purchasing recyclable products that have minimal packaging.
- Use less harmful deicers such as calcium magnesium acetate, potassium acetate, or organic deicers such as Magic Salt™.
- Use a "pre-mix" of 4 to 1 sodium chloride and calcium chloride, which is the most cost-effective alternative to straight salt.
- Substitute synthetic fertilizers with natural compost and organic fertilizers to improve soil pH, texture and fertility, and cause less leaching to groundwater.
  - Use no-phosphorus lawn fertilizer (phosphorus is rarely lacking in Maine soils).
  - Use natural or certified organic fertilizers with low phosphorus levels (8-2-4, 6-2-4, 9-1-1, 6-1-1).
- Use slow-release nitrogen fertilizers.
- Reduce or eliminate mown lawn in areas that are not actively used.
- Consider converting unused turf to meadow or forest.

Other Related SOPs:
– General Facility Housekeeping – Lawncare - Fertilizing – Lawncare – Weed and Pest Control – Lawncare – Mowing and Watering – Vehicle and Equipment Washing – Parts Cleaning – Salt Application – Petroleum and Chemical Storage – Petroleum and Chemical Handling

Standard Operating Procedure for:	
3.18 Petroleum and Chemical Disposal	
Purpose of SOP:	To protect stormwater from petroleum and chemical products due to improper disposal practices.

Always:

- Dispose of petroleum/chemicals according to manufacturer's specifications and state and federal regulations.
- Maintain tracking of chemicals and petroleum products being disposed off-site.
- Store waste petroleum/chemical products in a designated area labeled as such.
- Label each waste container with its contents.
- Transport used petroleum and chemical products with a licensed transporter and maintain records for three years.
- Train employees on proper disposal practices.
- Drain used oil filters for 24-hours before disposal (disposal in regular trash allowed).
- Inspect waste storage areas for staining/leaks on a regular basis.

Whenever Possible:

- Minimize the number of solvents used to reduce the variety of waste generated and to make recycling easier.
- Use safer alternatives. (see Alternative Products SOP)
- If burning used oil for on-site heat, analyze for Maine Waste Oil parameters (Arsenic, Lead, Cadmium, Chromium, F- listed Halogens, Flashpoint, PCBs) approximately once every 1,000 gallons.

Never:

- Never place hazardous waste in solid waste dumpsters.
- Never pour liquid waste down floor drains, sinks or outdoor storm drain inlets.
- Never mix petroleum waste and chemical waste.
- Never dispose of any gasoline-contaminated waste in the regular trash. Dispose of it only as a hazardous waste.

Other Related SOPs:
– General Facility Housekeeping
– Spill Cleanup
– Alternative Products Use/Storage/ Disposal

Standard Operating Procedure for:	
3.19 Petroleum and Chemical Handling	
Purpose of SOP:	To protect stormwater by properly managing petroleum products and chemicals used by municipalities.

Always:

- Train employees in hazardous material handling, safety, spill cleanup and reporting on an annual basis.
- Handle petroleum products and chemicals according to manufacturer's specifications.
- Conduct oil changes indoors for equipment that fits indoors.
- Use proper protective equipment.
- Maintain Material Safety Data Sheets (MSDS) for all chemicals used.
- Make MSDS sheets available on materials that require special handling, storage and/or disposal.
- Create a sign-off sheet for employees stating that they know the location of the MSDS(s).

Whenever Possible:

- Assess hazardous material needs to minimize the amount and variety of hazardous material in storage.
- Transfer materials from one container to another indoors in a well ventilated area. Properly label containers.
- Train new employees within six months of hire.

Never:

- Never treat or dispose of hazardous materials unless licensed to do so.
- Never mix petroleum or chemicals unless directed by manufacturer's instructions.

Other Related SOPs:
– Parts Cleaning – Spill Cleanup – General Facility Housekeeping – Alternative Products Use/Storage/Disposal – Mowing/Trimming

Standard Operating Procedure for:	
3.20 Petroleum and Chemical Storage - Bulk	
Purpose of SOP:	To protect stormwater by properly storing bulk petroleum products and chemicals (containers larger than 55 gallons).

Always:

- Store materials away from high traffic areas, posted with appropriate signage.
- Store materials according to manufacturer's specifications in approved containers and conditions.
- Be prepared for possible spills by having a spill kit nearby.
- Develop and use a Spill Prevention Control and Countermeasure (SPCC) plan if storing more than 1,320 gallons of petroleum (required).
- Store incompatible hazardous materials in separate areas.
- Inspect storage areas for leaks or drips frequently.
- Store bulk items within secondary containment areas if bulk items are stored outside.
- Conduct annual employee training to reinforce proper storage techniques for petroleum and chemical products.

Whenever Possible:

- Store bulk chemicals and petroleum products inside or under cover.
- Provide secondary containment for interior storage.

Never:

- Never store bulk chemicals or petroleum products near a storm drain.

Other Related SOPs:
– Chemical Handling – Spill Cleanup – General Facility Housekeeping

Standard Operating Procedure for:	
3.21 Petroleum and Chemical Storage – Small Quantity	
Purpose of SOP:	To protect stormwater from pollution by properly storing petroleum products or chemicals (containers smaller than 55-gallons).

Always:

- Store materials away from high traffic areas.
- Store materials according to manufacturer's specifications (e.g. in a flammable materials storage cabinet).
- Dispose of unused or waste materials properly.
- Train employees on proper storage procedures for petroleum and chemical products.
- Store materials in their original containers to maintain appropriate labeling.
- Be prepared for spills by having a spill kit nearby.
- Frequently inspect the storage areas for leaks or spills.
- Conduct annual employee training to reinforce proper storage techniques for petroleum and chemical products.

Never:

- Never store petroleum or chemical products near a floor drain or stormwater inlet.

Other Related SOPs:
– Spill Cleanup – General Facility Housekeeping

Standard Operating Procedure for:	
3.22 Garbage Storage	
Purpose of SOP:	To protect stormwater from contamination by properly storing garbage. Garbage and leachate can be transported by stormwater and enter the storm drain system and receiving waterbodies.

Always:

- Dispose of hazardous materials according to manufacturer's specifications and applicable regulations.
- Cover rubbish bins to keep rubbish and leachate in and wind and rain out.

Whenever Possible:

- Store garbage containers beneath a covered structure or inside to prevent contact with stormwater.
- Install berms, curbing or vegetation strips around storage areas to control water entering/leaving storage areas.
- Locate dumpsters on a flat, concrete surface that does not slope or drain directly into the storm drain system.
- Locate dumpsters and trash cans in convenient, easily observable areas.
- Provide properly-labeled recycling bins to reduce the amount of garbage disposed.
- Inspect garbage bins for leaks regularly, and have repairs made immediately by responsible party.
- Keep bins free of improperly discarded trash.
- Provide training to employees to prevent improper disposal of general trash.
- Minimize waste by purchasing recyclable products that have minimal packaging.
- Request/use dumpsters without drain holes.

Never:

- Never place hazardous wastes in a dumpster or trash bin.

Other Related SOPs:
– General Facility Housekeeping

Standard Operating Procedure for:	
3.23 General Facility Housekeeping	
Purpose of SOP:	To protect stormwater by maintaining a clean, organized facility.

Always:

- Keep a tidy facility.
- Store hazardous materials as specified by the manufacturer.

Whenever Possible:

- Store materials and wastes inside or under cover if outside.
- Substitute less or non-toxic materials for toxic ones.
- Perform a routine cleaning of the facility.
- Inspect facility (interiors, exterior, parking areas, etc.) for stains.
- Conduct regular employee training and public education to reinforce proper housekeeping.

Other Related SOPs:
– Spill Cleanup
– Street Sweeping
– Alternative Product Use/Storage/Disposal

Standard Operating Procedure for:	
3.24 Floor Drains	
Purpose of SOP:	To protect stormwater from pollution caused by discharges of hazardous materials to the subsurface, ground surface, waterway or storm sewer through floor drains.

Always:

- Keep a spill kit in the vicinity of the floor drains.
- Obtain and use drain mats to cover floor drains in the event of spills.
- Use floor drains that are connected to a holding tank or to the sanitary sewer via an oil/water separator.

Whenever Possible:

- Register floor drains with the MDEP Underground Injection Control Program – bring them into compliance as needed, or close them out if they are not necessary.
- Minimize water use or run a dry shop.

Never:

- Never dump hazardous materials down the floor drains.
- Never store leaking vehicles over floor drains.
- Never store hazardous or petroleum products in the vicinity of floor drains.
- Never use floor drains if you are unsure of their discharge location.

Other Related SOPs:
– Spill Cleanup – Fertilizer and Pesticide Storage and Disposal – Petroleum and Chemical Handling – Petroleum and Chemical Storage – Petroleum and Chemical Disposal

Standard Operating Procedure for:	
3.25 Painting	
Purpose of SOP:	To protect stormwater by properly storing, using and disposing of paint and preparation materials.

Always:

- Store waste paints, solvent, and rags in covered containers.
- Contact the MDEP to determine if air emission permits are required.
- Perform abrasive blasting and spray painting in accordance with regulations.
- Properly clean, store, and dispose of paint and associated waste materials.
- Train employees on Best Management Practices concerning painting activities, cleanup and disposal.

Whenever Possible:

- Use less toxic paints such as latex or water-based paints.
- Use drop cloths under any painting or preparation activity such as scraping or sandblasting.
- Use techniques such as brushing and rolling to avoid overspray.
- Use vacuum sanders to collect paint dust.
- Perform abrasive blasting and spray painting in an enclosed or covered area that is safe for personnel.

Never:

- Never dispose of paint or waste paint products into the storm drain system, a waterbody, or onto the ground.

Other Related SOPs:
– General Facility Housekeeping – Petroleum and Chemical Storage, Small Quantity – Alternative Products Use/Storage/Disposal

Standard Operating Procedure for:	
3.26 Street Sweeping	
Purpose of SOP:	To remove sediment, debris and other pollutants from streets, parking areas, and paved surfaces through regular, properly timed sweeping schedules.

Always:

- Dispose of sweeping residual properly (reuse is unrestricted if evidence of litter and visual petroleum contamination is absent).
- Sweep in a pattern that prevents materials from being pushed into storm drains/catch basin inlets.
- Sweep all publicly accepted paved streets and parking lots at least once per year as soon as possible after snowmelt.

Whenever Possible:

- Perform additional sweeping on a seasonal schedule.
- Sweep in locations that generate debris, such as construction entrances, sand/salt loading areas, vehicle fueling areas, vehicle equipment, and s 3-25 as or on an as needed basis.
- Street sweep before a major rain event.
- Use dry vacuum assisted street sweepers (the most effective).
- Maintain street sweeping equipment for maximum effectiveness.
- Locate storage and disposal areas and manage street sweeping waste so that wastes cannot be transported into storm drain systems, waterbodies or wetlands.

Never:

- Never store street sweeping residuals in areas where stormwater could transport fines to the storm drain system or a waterbody.

Other Related SOPs:
– Vehicle and Equipment Storage – Sand and Salt Storage

Standard Operating Procedure for:	
3.27 Road Maintenance – Snow Disposal	
Purpose of SOP:	To protect stormwater by minimizing the impact of snow piles which contain sand, salt, and trash and which generate concentrated releases of pollutants during spring snowmelt conditions.

Always:

- Identify sensitive ecosystems prior to disposal and avoid snow disposal in these areas.
- Obtain a Waste Discharge License from MDEP if snow storage is near wetlands, aquifer recharge areas, ponds, streams, or tidal and river areas.
- Remove trash/waste from snow dump areas as soon as possible after snow melt.

Whenever Possible:

- Select storage locations that do not drain into surface waters and where environmental impacts of spring melt are minimal.
- Store snow on areas that are well above the groundwater table on a flat, vegetated slope.
- Avoid disposal on pavement, concrete, and other impervious surfaces.
- Do not pile snow in wooded areas, around trees or in vegetative buffers.
- Divert run-on of water from areas outside the snow piles.
- Manage remaining materials after snowmelt by containing and cleaning up the sediment, sand, and debris.
- Have the MDEP review your snow storage/disposal location(s).

Never:

- Never dispose of snow in wetlands, lakes, streams, rivers, shellfish beds, mudflats, or near drinking water sources.

Other Related SOPs:
– General Facility Housekeeping
– Sand and Salt Storage

Standard Operating Procedure for:	
3.28 Road Maintenance – Sand and Salt Storage	
Purpose of SOP:	To protect stormwater by properly storing deicing materials. Sand, salt and other deicing materials used during winter can be transported by runoff into the storm drain system and eventually into waterbodies if not stored properly.

Always:

- Cover sand/salt and salt piles that are situated on impervious surfaces.
- Register all new sand/salt storage areas with the MDEP.

Whenever Possible:

- Contain wash water from trucks used for salting and sanding in a holding tank for disposal or discharge into sanitary sewers.
- Place salt piles in areas not subject to flooding.
- Cover sand/salt and salt piles with a tarp (polyethylene) during non-freezing spring and summer months when storage facilities are not available.
- Contain stormwater runoff from areas where salt is stored by using buffers to diffuse runoff before entering waterbodies.
- Use diversion berms to minimize run-on to storage areas.
- Cleanup "track out" after storm events.
- Have the MDEP review your snow storage/disposal location(s).

Never:

- Never dispose of wash water from sanding and salting trucks into the storm drain system, a waterbody or septic system drain fields.

Other Related SOPs:
– General Facility Housekeeping – Street Sweeping – Alternative Products Use/Storage/Disposal

Standard Operating Procedure for:	
3.29 Road Maintenance – Salt Application	
Purpose of SOP:	To protect stormwater by improving application techniques of salt, sand, and other deicing materials.

Always:

- Calibrate sand/salt trucks in accordance with Maine DOT and Salt Institute recommendations.

Whenever Possible:

- Use the minimum amount of salt and sand needed to get the job done.
- Use coarse, clean sand, which is free of fine particles and dust and easier to clean in the spring.
- Train drivers to improve application techniques and reduce losses.
- Establish "low salt and/or sand areas" near sensitive environments. Sand may be detrimental in areas sensitive to sedimentation, such as streams, and salt can impact water supply wells.
- Remove snow manually from driveways and sidewalks.
- Limit toxic metals in specifications for deicers.
- Cleanup road grit as soon as possible.
- Use less harmful deicers such as calcium magnesium acetate, potassium acetate, or organic deicers such as Magic Salt™.
- Consider road temperatures when determining volume of salt to apply.
- Control the rate of spreading by equipping trucks with ground-speed sensors.

Other Related SOPs:
– General Facility Housekeeping – Alternative Products Use/Storage/Disposal

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