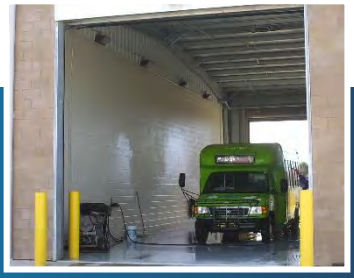



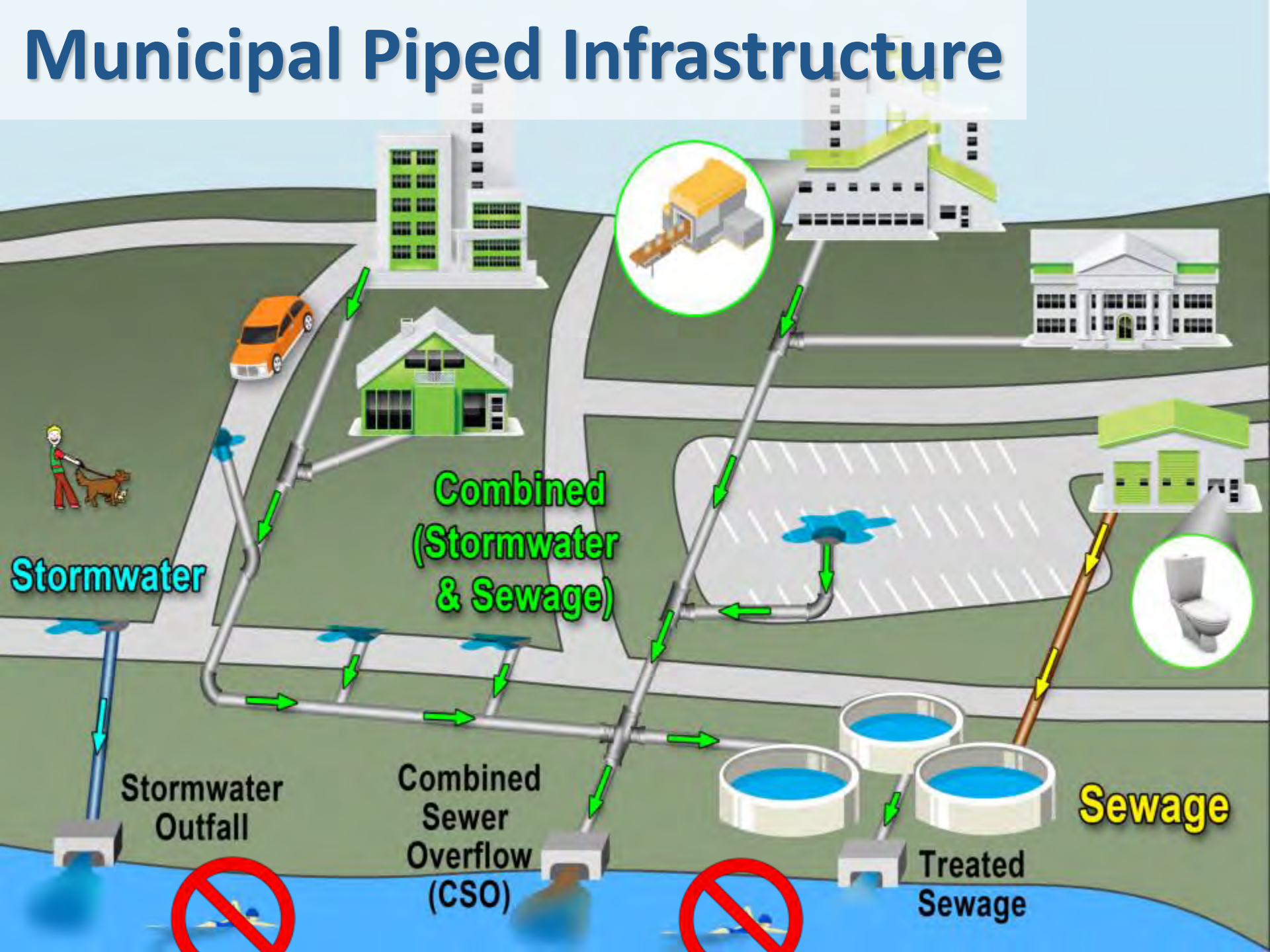

MUNICIPAL OPERATIONS

ANNUAL STORMWATER TRAINING

Fred Dillon – Stormwater Program Coordinator

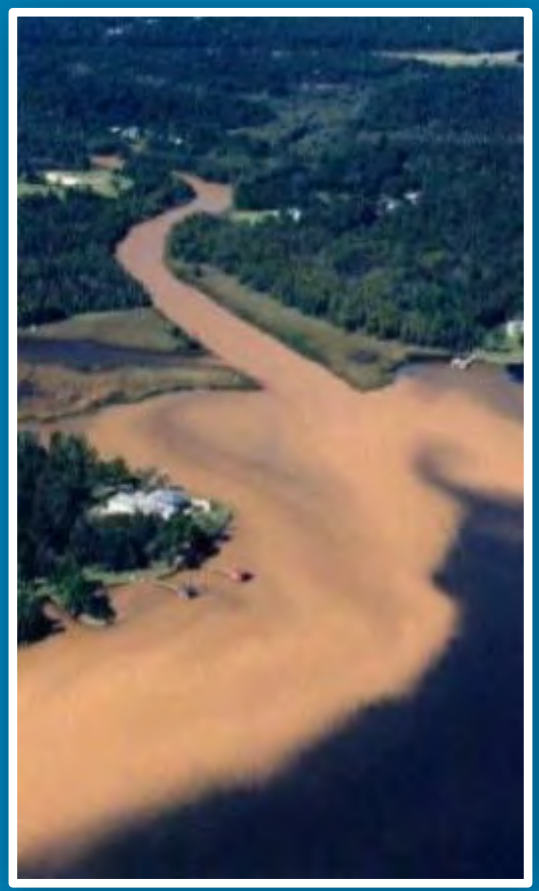
June 19, 2019

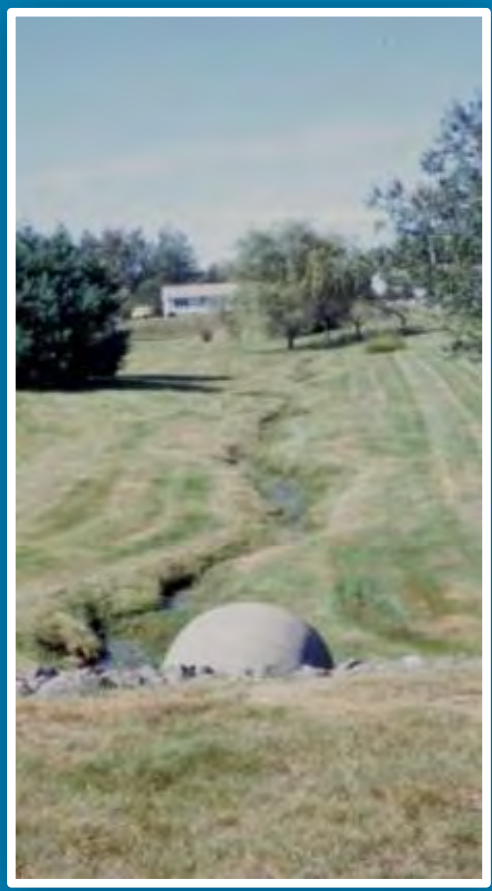
Municipal Piped Infrastructure

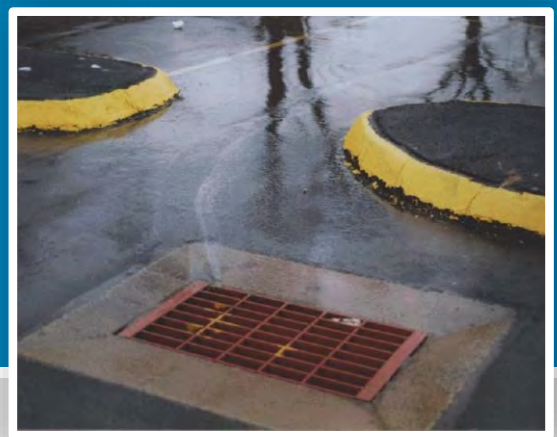


Polluted Stormwater

- Drainage systems also carry pollutants like sediment, oil, fertilizers, salt, pet waste and trash.
- Rainwater that falls on paved streets, lawns, parking lots and sidewalks becomes polluted stormwater.

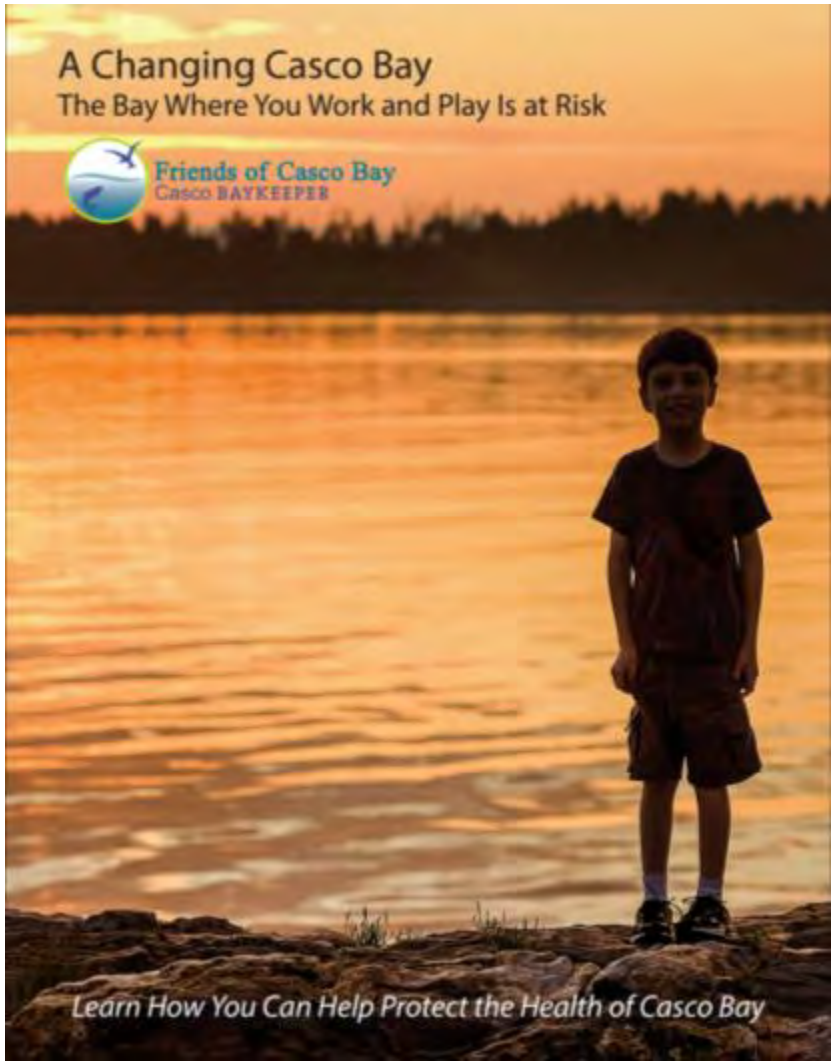




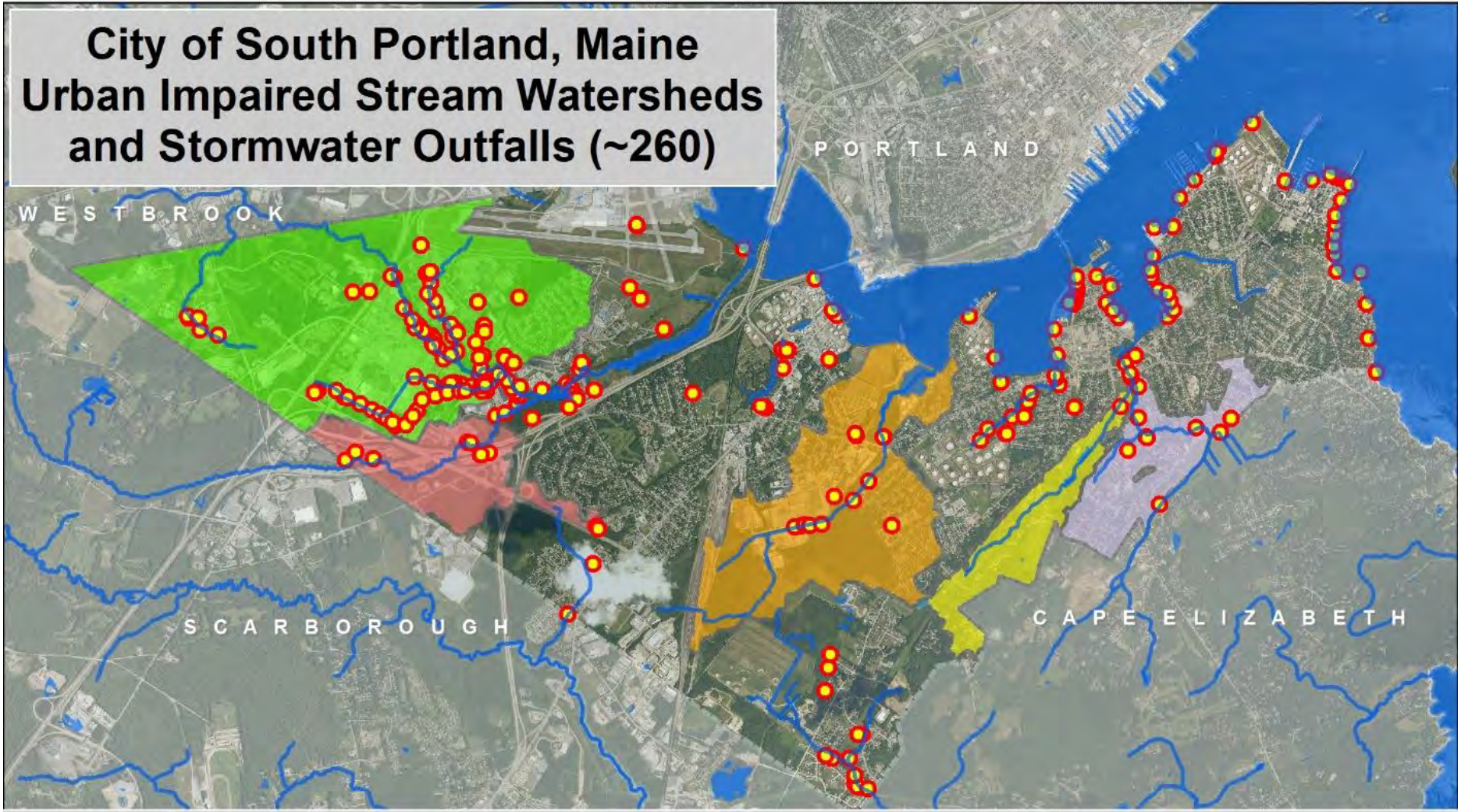


Why it Matters

- Polluted stormwater is one of the largest remaining sources of pollution for the Nation's waters ("…one of the great challenges of modern water pollution control")
- Polluted stormwater is "only increasing source of water pollution in many watersheds" – *Seth Brown, WEF Stormwater Program Director*



City of South Portland, Maine
Urban Impaired Stream Watersheds and Stormwater Outfalls (~260)



Urban Impaired Stream Watersheds

- Barberry Creek
- Red Brook
- Kimball Brook
- Trout Brook
- Long Creek
- Outfalls (~260)

0 0.5 1 1.5 2 2.5 Miles

N

City of South Portland
Water Resource Protection

Data Sources: CoSP, MEGIS
Date: 8/7/16 by F. Dillon

Clean Water Act

Regulated municipalities **must have a permit** to direct runoff to water bodies in their communities and **must meet requirements to minimize pollution**.

Regulatory Background

Federal Authority
National Pollutant Discharge Elimination System (NPDES)

State Delegated Authority
Maine Pollutant Discharge and Elimination System (MPDES)

Municipal Permit
Municipal Separate Storm Sewer System (MS4)

- 5-year permit cycles, first permit issued in 2003
- Additional regulations in each permit cycle
- Next permit was due in July 2018 but delayed until July 2020

Stormwater Program Elements

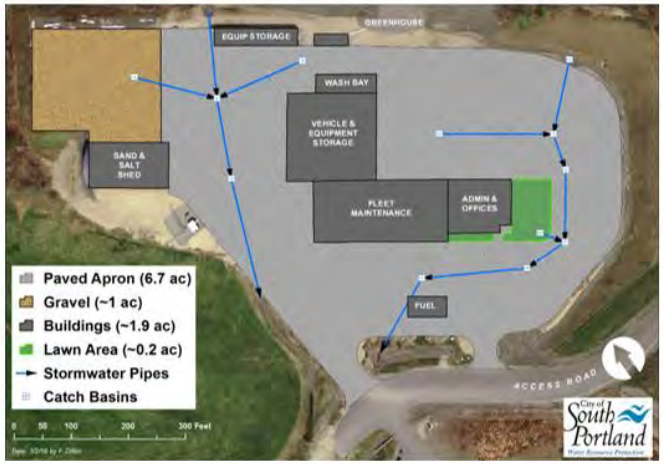
Stormwater Pollution Prevention Plans

Required for DPW, Transfer Stations and School Bus Facilities

City of South Portland

Stormwater Pollution Prevention Plan

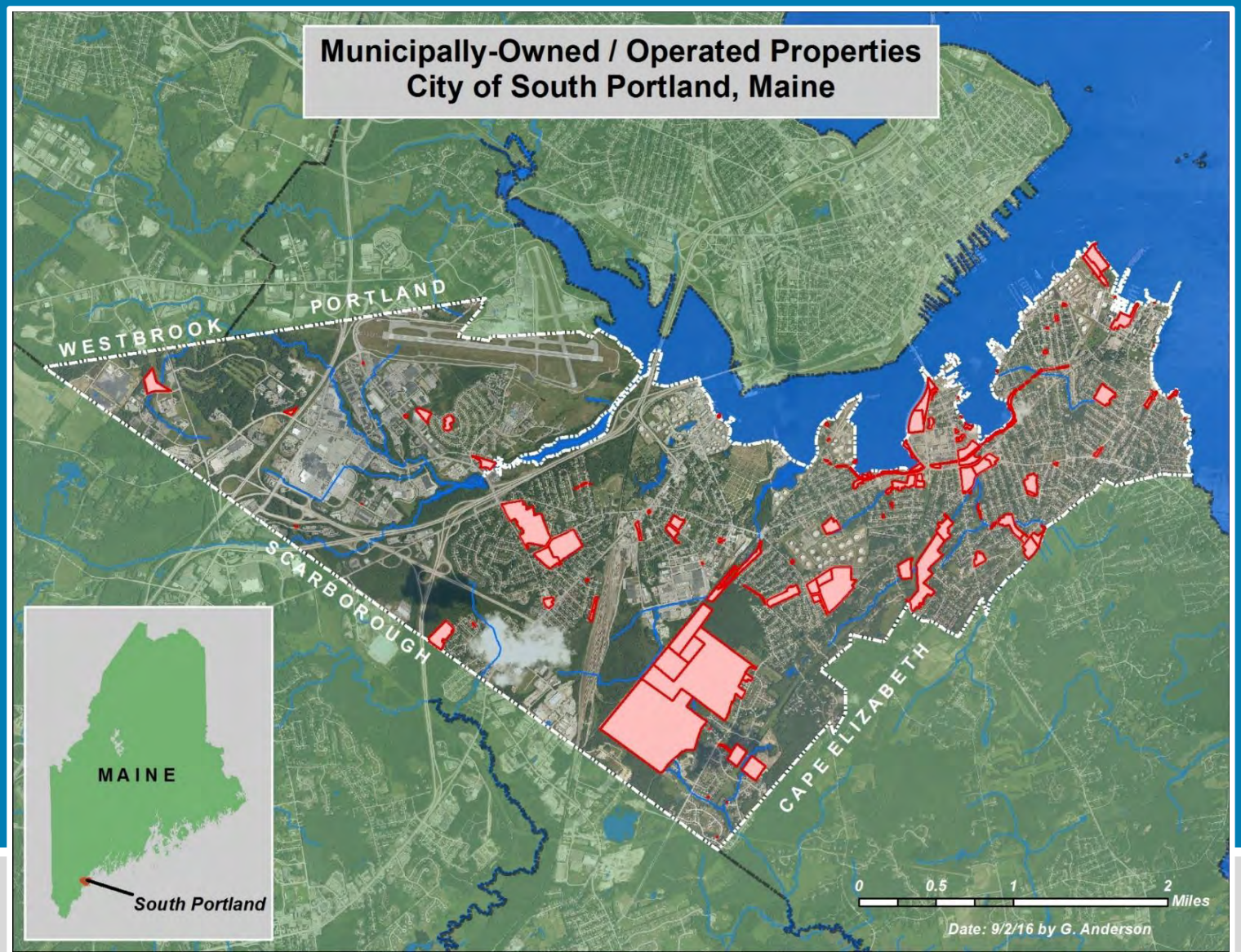
Municipal Services Facility
929 Highland Avenue
South Portland, ME, 04106



March 2018

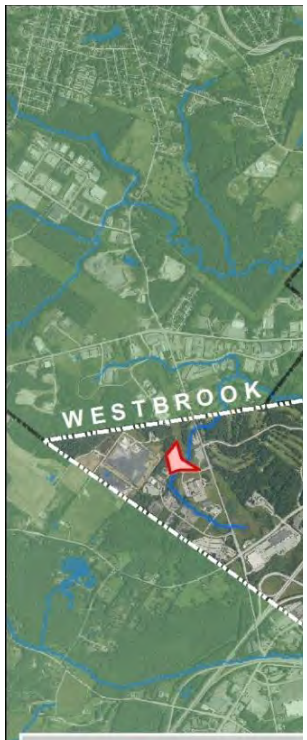
Operation & Maintenance Plans

Required for all other activities & facilities with potential to pollute water



Operation & Maintenance Plans

Required for all other activities & facilities with potential to pollute water



POINTS OF CONTACT (POC)

Parks & Recreation Department
Director
Kevin Adams
767-7650

Deputy Director
Karl Coughlin
767-7670

Stormwater Coordinator
Fred Dillon
321-9437

Stormwater Management
Operation & Maintenance Procedures

Buildings & Grounds

Parks & Recreation Department

City of South Portland

← Call immediately in the event of a SPILL, RELEASE, or OBSERVATION OF POLLUTANTS in STORMWATER CONVEYANCES or WATER BODY

← Call immediately in the event of a SPILL, RELEASE, or OBSERVATION OF POLLUTANTS entering MUNICIPAL SEWER or a DRAIN

Activities & Pollutants

. . . that may have the potential to adversely impact water quality

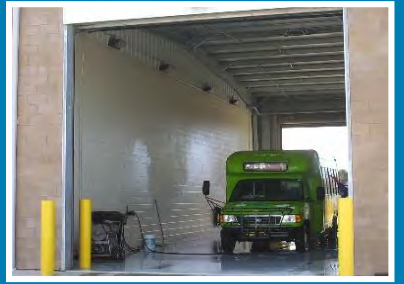
Activities

- Vehicle and Equipment O&M
- Materials Management
- Facilities & Systems O&M
- Construction









Pollutants

- Sand
- Salt
- Gasoline
- Diesel
- Detergents
- Paint
- What else?

Keep In Mind

Two types of BMPs

NON-STRUCTURAL

Operational and maintenance practices that prevent pollutants from entering runoff

STRUCTURAL

Engineered and constructed systems that collect and/or treat runoff

Keep In Mind:

Best Management Practices

Structural BMP?

Non-structural BMP?

Keep In Mind:
Training

- All employees/ subcontractors annually
- New employees within 6 months of being hired
- Maintain all training records
- Send copy of records to the municipal Stormwater Coordinator

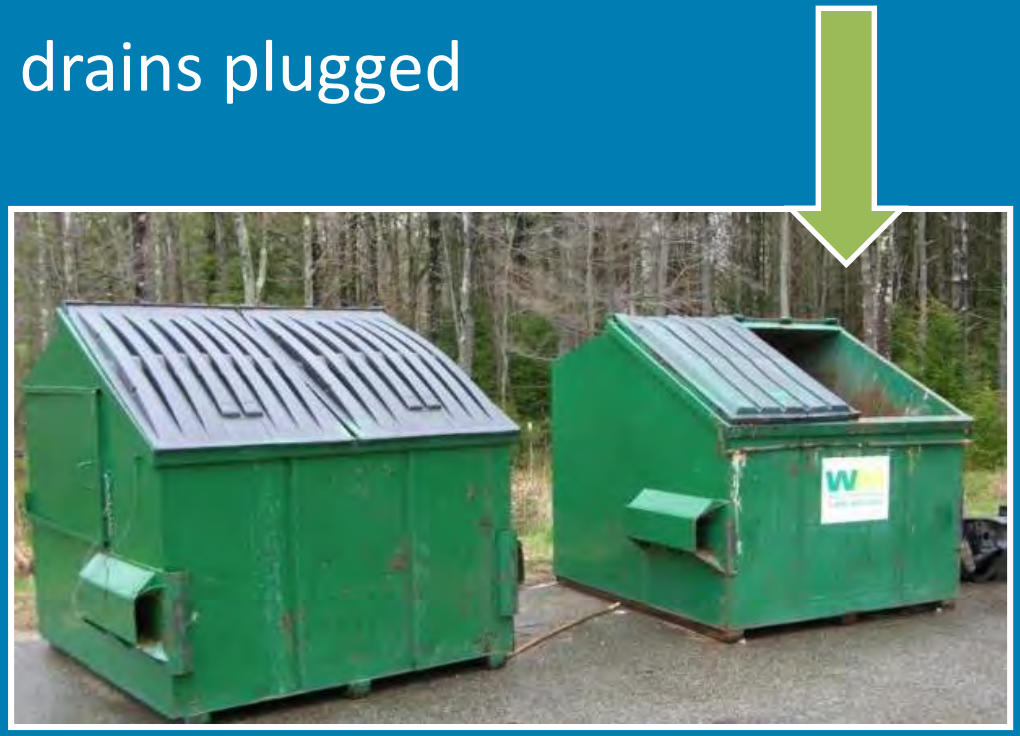
Keep In Mind:
Floor Drains

- Know where floor drains discharge
- Inspect/clean regularly and keep documentation
- Keep spill kits nearby
- Minimize water use
- NEVER dump chemicals down storm drains
- NEVER connect floor drains to storm sewer or the environment

Facilities Management

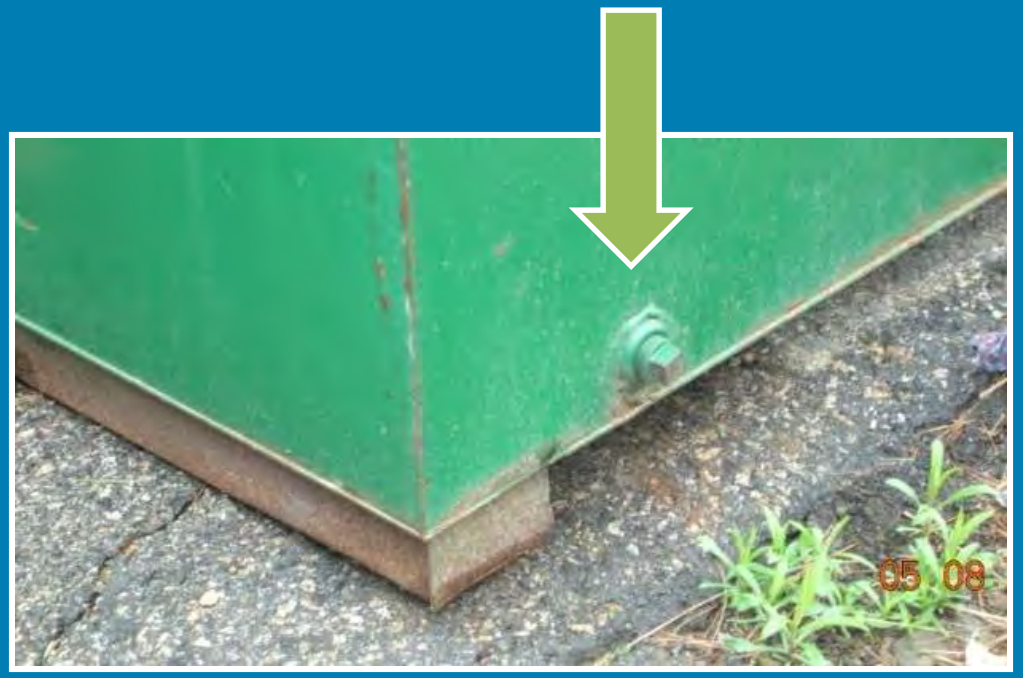
Facilities Management:
Dumpsters & Waste Handling

- Locate dumpsters on concrete or paved areas
- Only use dumpsters for solid waste
- Keep lids closed and drains plugged



Facilities Management:
Dumpsters & Waste Handling

- Report damage or leaking
- NEVER dump:
  - Chemicals
  - Hazardous waste
  - Universal waste
  - Special waste



Facilities Management:
Janitorial Procedures

- Use the least amount of product for the job
- Store cleaning products in original container
- NEVER dump mop water, chemicals, or cleaners:
  - Outside
  - In storm drains or sumps
  - In floor drains

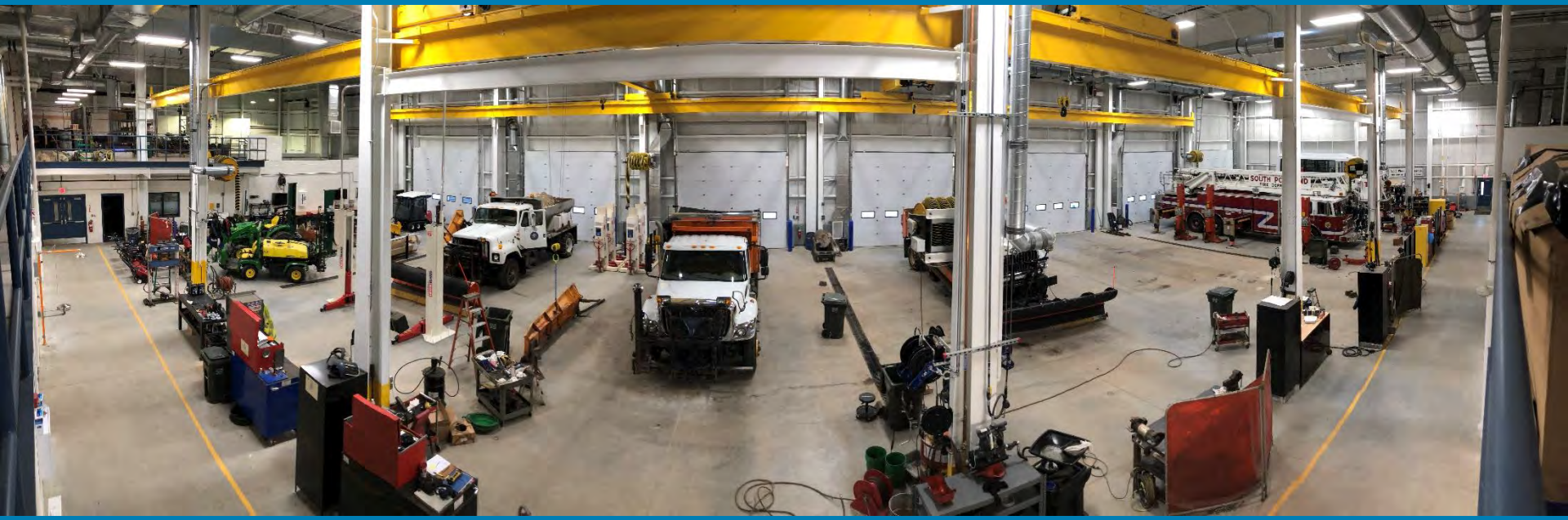
Facilities Management:
Painting Procedures

- Use impermeable ground cloths (tarps, plastic sheeting)
- Store materials away from stormwater
- Clean up spills immediately
- Clean up paint using dry methods
  (paint thinners/solvents create hazardous waste)

Facilities Management:
Parks Clean-Up & Maintenance

- Empty trash regularly
- Report erosion issues and spills to stormwater coordinator
- Store deicers in closed containers
- Use dry sweeping to clean walkways/parking lots - NEVER wash down or sweep into storm drains

Vehicles & Equipment



Vehicles & Equipment:
Fueling

- Fuel municipal vehicles at designated fuel island or vendor
- Inspect fueling area regularly
- Immediately respond and report all spills

Vehicles & Equipment:
Fueling

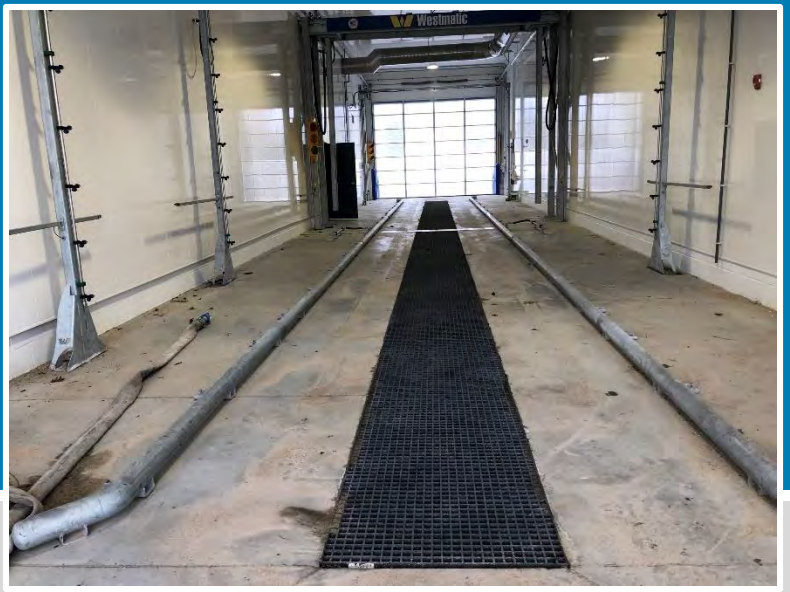
- Fuel municipal vehicles at designated fuel island or vendor
- Inspect fueling area regularly
- Immediately respond and report all spills

Vehicles & Equipment:
Mobile Fueling

- Choose a level paved surface when mobile fueling
- NEVER fuel vehicles or equipment near storm drains or water bodies

Vehicles & Equipment:
Washing

- Wash vehicles and equipment inside
- Use phosphate free soap
- NEVER wash engine/undercarriage outside
- NEVER wash near storm drains, catch basins, ditches, water bodies, or drinking water wells



Vehicles & Equipment:
Storage/ Maintenance

- Inspect storage/maintenance areas regularly
- Store vehicles and equipment on paved area
- Completely drain oil filters before disposal
- NEVER conduct maintenance near storm drains
- NEVER hose down the work area

Vehicles & Equipment:
Storage/ Maintenance

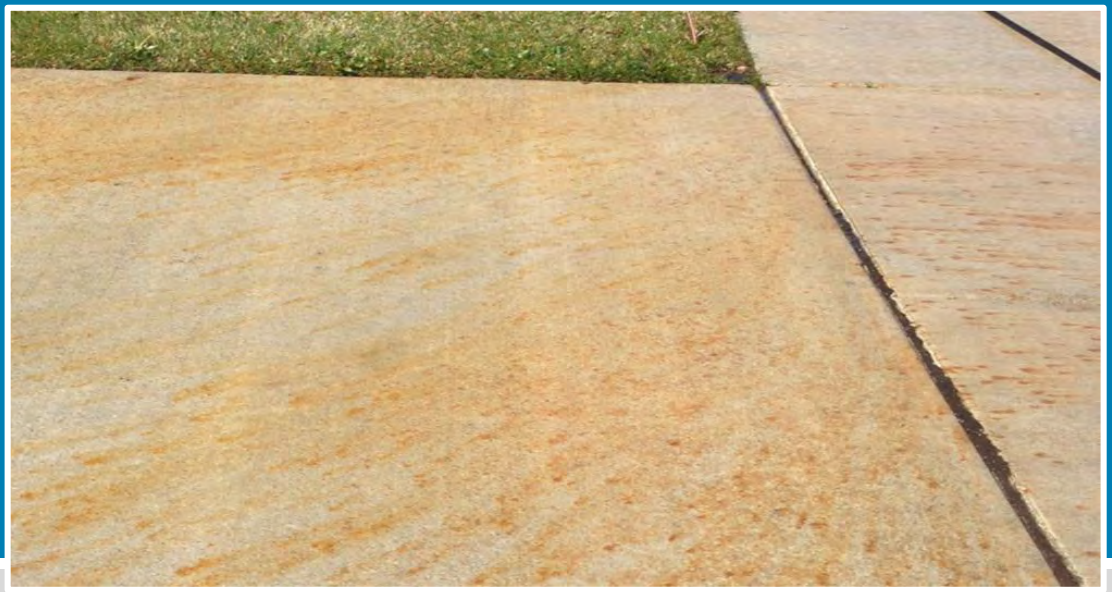
Landscaping & Outdoors

Landscaping & Outdoors:
Lawn Care

- Mow only as low as needed
- Leave grass clippings on lawn
- Water at appropriate times
- Re-seed or mulch bare soil

Landscaping & Outdoors:
Fertilizer Storage & Application

- Never apply fertilizer within:
  - 5 ft of pavement
  - 25 ft of storm drain inlet
  - 50 ft of stream/water body



Landscaping & Outdoors:
Pesticide Storage & Application*

- Use licensed commercial pesticide applicator as allowed by ordinance (Portland & S. Portland restrict use)
- Keep records of when/where materials are applied
- Consider weather forecast before application

Mostly only applies to Municipal Golf Course – prohibited elsewhere

Landscaping & Outdoors:
De-Icing Practices

- Clear snow as soon as possible
- Store deicers in closed containers
- Minimize use of salt and sand

Erosion & Sedimentation Control

Planning for Erosion Control and Pollution Prevention on Construction Project Sites

To help protect the region's vitally important and valuable water resources, this Environmental Protection Agency illustration was adapted by the City of South Portland to assist designers, developers and contractors with creating and implementing effective erosion control and pollution prevention plans for construction project sites.

City of South Portland

10 Steps to Stormwater Pollution Prevention on Construction Project Sites

Stormwater management on construction sites does not need to be complicated

1. **Protect Areas Reserved for Vegetation or Stormwater Treatment and Preserve Existing Trees**
Keep infiltration systems like rain gardens & bioretention systems off limits to avoid compaction and sedimentation; preserve existing mature trees to minimize soil disturbance and amount of runoff.

2. **Soil Stockpiling**
Protect all soil stockpiles from run-on and runoff with perimeter controls; cover smaller stockpiles with tarps.

3. **Protect Construction Materials from Run-on and Runoff**
At the end of every workday and during precipitation events, provide cover for materials that could leach pollutants.

4. **Designate Waste Disposal Areas**
Clearly identify separate waste disposal areas on site for hazardous waste, construction waste, and domestic waste by designating with signage, and protect from run-on and runoff.

5. **Install Perimeter Controls on Downhill Edges of Project**
Install perimeter controls such as erosion control berms, silt fence, or sediment filter logs around downhill edges of project.

6. **Install Inlet Controls**
Use catch basin filter bags, sediment filter logs or sand / rock barriers to prevent sediment from getting into storm drains; remove accumulated sediment frequently and regularly.

7. **Install Concrete Washout Basin**
Designate leak-proof basin lined with plastic for concrete washing and NEVER wash concrete directly into storm drain or stream.

8. **Maintain Stabilized Construction Entrance**
Minimize sediment tracking from site onto street with area of crushed stone on top of geotextile fabric; remove all tracked materials from street at end of each workday.

9. **Keep Erosion Control Plan and Construction Project Inspection Log on Site**
Erosion control plan identifying locations of specific BMPs should be on site with construction project inspection log that documents weekly and post-precipitation event inspections.

10. **Site Stabilization**
Immediately stabilize exposed soil that will not be worked for more than 7 days even for temporary work stoppages; permanently stabilize site upon project completion.

DISCLAIMER: this flyer is provided for informational purposes only and is not intended to serve as a substitute for site-specific recommendations by qualified professionals.

Erosion vs. Sedimentation
SPECIAL NOTE

Erosion & Sedimentation Control:

Materials Storage

What BMPs would you recommend here?

Erosion & Sedimentation Control:

Materials Storage

Erosion & Sedimentation Control:

Tracking

What BMPs would you recommend for tracking?

Erosion & Sedimentation Control:

Tracking

Erosion & Sedimentation Control:

Inlet Protection

Erosion & Sedimentation Control:

Ditch Line Stabilization

Erosion & Sedimentation Control:

Silt Fence

Erosion & Sedimentation Control:

Permanent vs. Temporary Site Stabilization

Erosion & Sedimentation Control:
Dewatering

Best Management Practices:
Sweeping

Best Management Practices:
Catch Basin Cleaning & Outfall Inspection

What are you looking for?
What are you documenting?

Spill Response / Illicit Discharge

See it.

Stop it.

Say something.

Spills - Potential SW Pollutants

Maine is a "zero tolerance" State for uncontrolled spills that reach the environment.

We need to document and report spills of gasoline, motor oils, lubricating & hydraulic oil, asphalt residuals and other pollutants.

Stop & clean spill source ONLY IF SAFE TO DO SO

REPORT OUTSIDE SPILLS (even small ones)

- **Fire Dept (non-emergency):** 799-3314
- **Fire Dept (emergency):** 911
- **Stormwater Program Coordinator or Compliance Administrator:** 767-7675
- **DEP Petroleum Spill:** 800-482-0777
- **DEP HazMat:** 800-452-4664

Spill Response / Illicit Discharge

What do you see here?

Spill Response / Illicit Discharge

What do you see here?

Spill Response / Illicit Discharge

What do you see here?

Spill Response / Illicit Discharge

What do you see here?

Spill Response / Illicit Discharge

What do you see here?

Stop it


SpillSmart
Spill Kit
General Purpose
(Non - Aggressive Liquids)
SpillSmart
FloorSweep
Premium

Say something

SPILL OR INCIDENT REPORT FORM

Instructions: Complete for any type of petroleum product or hazardous materials/waste spill or incident. Provide a copy of this report to management.

1. WSDOT Personnel Involved in Spill Reporting:

Project Office: Name, Title, and Phone Number: _____

Regional Environmental Office: Name, Title, and Phone Number: _____

2. Contractor

Name and Title of Person Responsible for Spill Response: _____

Phone Number: _____

3. General Spill Information:

Common Name of Spilled Substance: _____

Quantity Spilled (Estimate): _____

Describe Concentration of Material (Estimate): _____

Date of Spill: ____/____/____

Time Spill Started: ____ AM ____ PM

Time Spill Ended: ____ AM ____ PM

4. Spill Location and Conditions:

Project Title: _____

Street Address and/or Milepost, City: _____

Weather Conditions: _____

If Spill to Water,

Name of Water Body (if ditch or culvert, identify the water body that the structure discharges to): _____

Identify the Discharge Point: _____

Estimate the Depth and Width of the Water Body: _____

Estimate Flow Rate (i.e. slow, moderate, or fast): _____

Describe Environmental Damage (i.e., fish kill?): _____

5. Actions taken:

To Contain Spill or Impact of Incident: _____

To Cleanup Spill or Recover from Incident: _____

To Remove Cleanup Material: _____

To Document Disposal: _____

To Prevent Reoccurrence: _____

Page 1 of 2

STORMWATER JEOPARDY!!!

https://jeopardylabs.com/play/pop-quiz-40

Questions?

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Melissa Hutchins

DPW Superintendent

mhutchins@southportland.org / 767-7637