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Tighe&Bond

OPERATION & MAINTENANCE PLAN

Prepared For:

Town of Granby, Massachusetts

April 2018

Tighe&Bond

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SECTION 1

Section 1

Introduction

This Operations and Maintenance (O&M) Plan was prepared to formalize practices and present a consistent framework for use town-wide among staff in various departments, boards, and commissions. This plan applies to all town-owned and/or operated buildings and facilities, parks and open space, vehicles and equipment, drainage infrastructure, and wastewater assets. The plan identifies municipal activities with a range of pollution potential, provides Standard Operating Procedures to address activities and pollutants of concern, and establishes responsibilities and schedules for implementation.

1.1 Regulatory Overview

The U.S. Environmental Protection Agency (EPA) nationally regulates the discharge of stormwater runoff that is transported into local water bodies through Municipal Separate Storm Sewer Systems (MS4) that are located in Urbanized Areas (also known as “regulated areas”). The Town of Granby meets EPA’s regulatory threshold, and therefore is required to be covered under a National Pollutant Discharge Elimination System (NPDES) permit for its stormwater discharges from the MS4 in its Urbanized Area. Figure 1-1 includes a map prepared by EPA Region 1 showing Granby’s Urbanized Area based on the 2000 census and the 2010 census, where the red hatching denotes the urbanized area in Granby.

In Massachusetts, the EPA Region 1 and the Massachusetts Department of Environmental Protection (MassDEP) jointly administer the municipal stormwater program. EPA and MassDEP originally authorized Granby to discharge stormwater in 2003 under a *NPDES General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems*, known as the “Small MS4 General Permit.” Under this permit, Granby has developed and implemented a Stormwater Management Program (SWMP) to reduce the contamination of stormwater runoff. The Small MS4 Program contains six elements called *minimum control measures* (MCMs) that, when implemented, should result in a significant reduction in pollutants discharged into receiving waters.

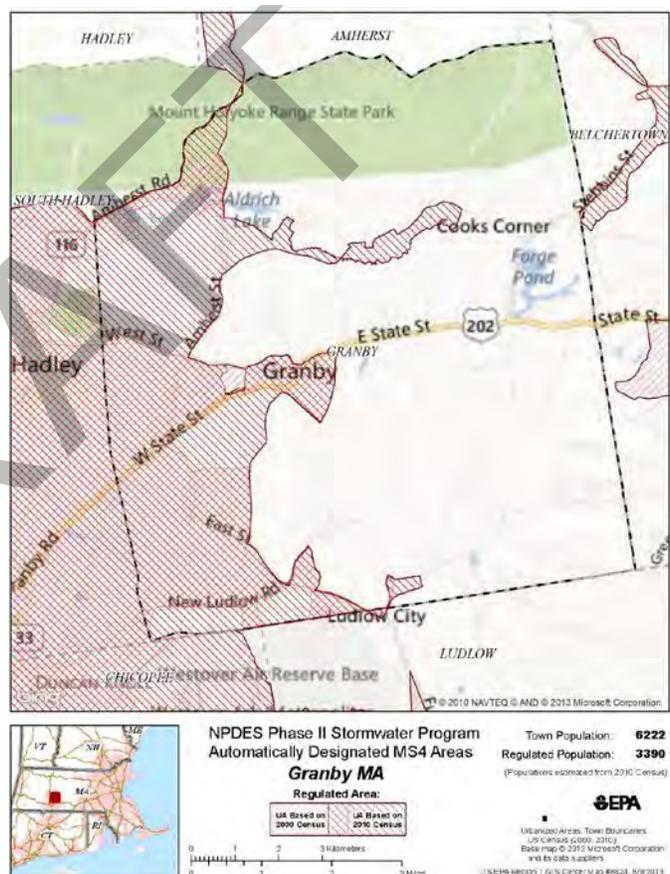


Figure 1-1. Granby’s Urbanized Area

The Small MS4 Program MCMs are:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination (IDDE)
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Good Housekeeping and Pollution Prevention

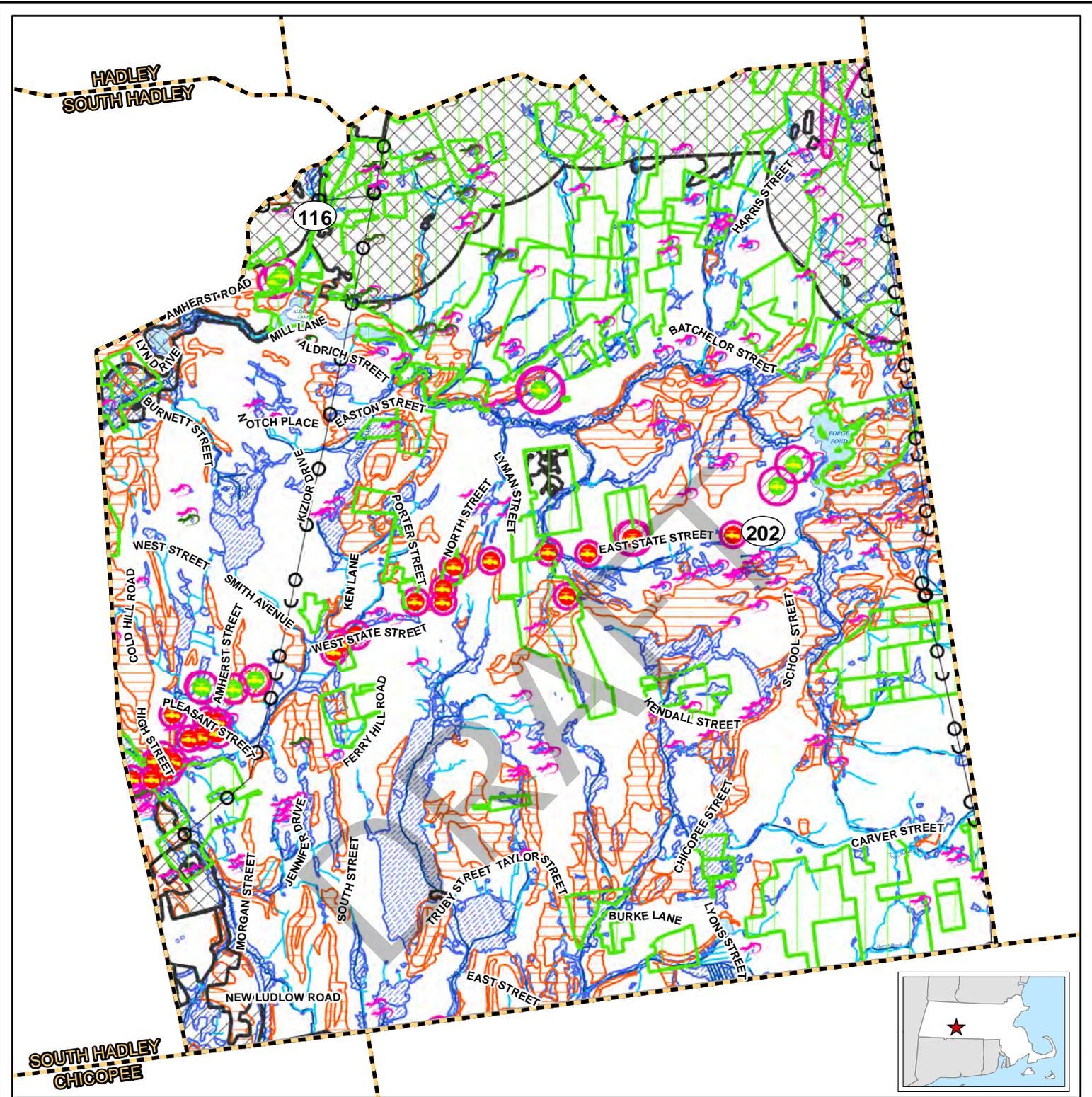
On April 13, 2016, EPA published the final NPDES General Permit for Stormwater Discharges from Small MS4 in Massachusetts ("2016 Small MS4 General Permit"). On June 29, 2017, an EPA stay delayed the effective date of the General Permit until July 1, 2018, the start of Fiscal Year 2019 (FY19). MassDEP has also adopted this delayed effective date. The 2016 Small MS4 General Permit substantially increases stormwater management requirements and mandates specific timelines for compliance. This O&M Plan was developed to be consistent with the requirements of the sixth MCM of the 2016 Small MS4 General Permit, Good Housekeeping and Pollution Prevention in Town-Owned Operations.

1.2 Local Conditions Driving Pollution Prevention and Good Housekeeping in Municipal Operations

Preservation of water resources within the Town of Granby is critical to maintaining the community's overall character and economy. Preventing pollution and practicing good housekeeping procedures in municipal operations and at municipal facilities will support this goal by:

- Preserving the water quality of lakes and streams for public health, recreation, and wildlife habitat
- Providing a sustainable, high-quality drinking water source for residents, institutions and commercial establishments
- Operating and maintaining Granby's drainage system to protect public health and property
- Complying with federal and state environmental regulations such as the NPDES permits, Massachusetts Stormwater Management Standards, Massachusetts Wetlands Protection Act, Total Maximum Daily Load (TMDL) provisions of the Clean Water Act, and the Safe Drinking Water Act

Priority resource areas for operations and maintenance of town-owned and operated facilities and municipal activities include drinking water resources, wetlands and vernal pools, and waterbodies that have impaired water quality. Figure 1-2 shows the location and extent of these priority resource areas in relation to municipally-owned parcels.



Legend

- Town Boundary
- County Boundary
- Parcel Boundaries
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- Community Groundwater Source
- Surface Water Intake
- Non-Community Groundwater Source
- Emergency Surface Water
- Powerline
- Pipeline
- Protected and Recreational Open Space
- DEP Approved Wellhead Protection Area (Zone I)
- DEP Approved Wellhead Protection Area (Zone II)
- DEP Interim Wellhead Protection Area (IWPA)
- Area of Critical Environmental Concern (ACEC)
- NHESP Priority Habitats for Rare Species
- NHESP Estimated Habitats for Rare Wildlife
- Farmland of Statewide Importance
- Hydrologic Connections
- Stream/Intermittent Stream
- Public Surface Water Supply (PSWS) Water Bodies
- Inland Wetlands (MassGIS)
- Coastal Wetlands (MassGIS)
- 100 Year Flood Zone
- 500 Year Flood Zone

1. Data source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, MassIT) Executive Office of Environmental Affairs. Data valid as of March 2018.
 2. Based on MassGIS Color Orthophotography (2013)

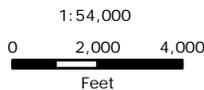


FIGURE 1-2
PRIORITY RESOURCE AREAS

Operation & Maintenance Plan
 Granby, Massachusetts

March 2018

1.2.1 Areas of High Environmental Value

1.2.1.1 Drinking Water Sources

Drinking water sources in the Town of Granby includes eight (8) community groundwater sources and 24 non-community groundwater sources. A community water source is a public water system that serves at least 15 service connections or serves an average of 25 individuals daily at least 60 days of the year. A non-community water source is a public water system that does not meet the qualifications for a community water source.

All community groundwater sources have a DEP Approved Zone I Protection radius, required by 310 CMR 22.02. Additionally, there are both DEP Approved Zone II Protection Areas and Interim Wellhead Protection Areas (IWPA) in Granby. A Zone II is a wellhead protection area determined by hydrogeologic modeling. When zones have not been developed via modeling, an IWPA is established based on well pumping rates in a radius proportional to the pumping rate. A medium yield aquifer occupies approximately 123,300 acres of the Town of Granby.

1.2.1.2 Outstanding Resource Waters (ORWs) and Wetland Resources

The Town of Granby has 21 vernal pools that have been certified by the Natural Heritage and Endangered Species Program (NHESP), which are considered ORWs. Additionally, Granby has numerous wetland resources and 147 potential vernal pools.

1.2.2 Impaired Waterbodies

In fulfillment of requirements of the Clean Water Act (CWA), the *Massachusetts Year 2014 Integrated List of Waters*¹ identifies waterbodies that are not expected to meet surface water quality standards and prioritizes and schedules those waterbodies that require the derivation of total maximum daily loads (TMDLs).

The *Massachusetts 2014 Integrated List of Waters* assigns each waterbody one of the following categories:

- Category 1: Waters attaining all designated uses
- Category 2: Attaining some uses, other uses not assessed
- Category 3: No uses assessed
- Category 4a: TMDL is completed
- Category 4b: Impairment controlled by alternative pollution control requirements
- Category 4c: Impairment not caused by a pollutant – TMDL not required
- Category 5: Waters requiring a TMDL

Per the *Massachusetts 2014 Integrated List of Waters*, the Town of Granby has five impaired waterbodies, as described in Table 1-1 below.

¹ *Massachusetts Year 2014 Integrated List of Waters*:
<http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf>.

Table 1-1

Massachusetts Year 2014 Integrated List of Waters, Granby

Waterbody Name	Segment ID	Impairment Level	Impairment Cause
Bachelor Brook	MA34-07	Category 4a	Nutrient/Eutrophication Biological Indicators
Ingraham Brook Pond	MA34037	Category 4c	Non-Native Aquatic Plants
Stony Brook	MA34-19	Category 5	Non-Native Aquatic Plants Escherichia coli Turbidity
Weston Brook	MA34-23	Category 5	Phosphorus (Total)
Forge Pond	MA34024	Category 5	Non-Native Aquatic Plants Nutrient/Eutrophication Biological Indicators

In the draft *Massachusetts Year 2016 Integrated List of Waters*², the impairment categories and causes are not proposed to change for Ingraham Brook, Stony Brook, Weston Brook, and Forge Pond. Bachelor Brook is proposed to be changed to a listing as a Category 5 water impaired by *Escherichia coli*.

1.2.3 Waterbodies with a Total Maximum Daily Load

Per section 2.2.1(b)(ii)(1) of the 2016 Small MS4 General Permit, the Town of Granby is a municipality that contains a lake or pond subject to an approved lake or pond phosphorus TMDL, and must meet the requirements of Appendix F, part A.II with respect to reduction of phosphorus discharges. Table F-6 in Appendix F identifies Aldrich Lake East in Granby as being required to reduce phosphorus from urban stormwater sources by 0%.

Granby's MS4 is located within the Connecticut River watershed, which is part of the drainage basin of the Long Island Sound (LIS). The LIS has an approved TMDL for nitrogen, which establishes both in-basin nitrogen reductions and out-of-basin (north of Connecticut) nitrogen reductions necessary to achieve water quality standards for Dissolved Oxygen in Long Island Sound. Per section 2.2.1(c)(i)(1) of the 2016 Small MS4 General Permit, the Town of Granby must comply with the requirements of Appendix F part B.I with respect to nitrogen discharges.

Part 2.2.2(b)(i)(1) further identifies the Town of Granby as an MS4 with a waterbody that is impaired due to Total Phosphorus (Weston Brook), and must meet the requirements of Appendix H part II with respect to the control of phosphorus discharges.

1.3 Operation and Maintenance Plan Development

To prepare this O&M Plan, Tighe & Bond worked closely with Town of Granby staff to develop an inventory of municipal facilities, infrastructure, vehicles and equipment, and operations. Additionally, a site visit was conducted to aid in the development of this plan.

² Proposed Massachusetts Year 2016 Integrated List of Waters:
<http://www.mass.gov/eea/docs/dep/water/resources/07v5/16ilwplist.pdf>

The pollution prevention and good housekeeping controls outlined in this document and referred to as Standard Operating Practices (SOPs), are standard operating procedures for Town of Granby personnel and for use at all applicable town-owned facilities. These SOPs are intended to serve as guidance on good housekeeping practices as they relate to reducing pollutants in runoff from municipal operations.

The targeted facilities include specific locations owned and operated by the Town of Granby at which municipal activities have the potential to contribute pollutants to stormwater. To create the initial inventory, a list of town-owned parcels was obtained using the MassGIS Assessor's database. A category was assigned to each parcel (e.g., buildings, schools, public safety, cemetery, etc.) based on what activities may occur on the site that have the potential to contribute pollution to stormwater runoff.

Tighe & Bond gathered publicly available data about each site including the area of buildings, parking, and wastewater disposal type (septic or sewer). The following key features were inventoried during Tighe & Bond's site visit:

- Outfalls/drainage features
- Heating type
- Above ground storage tank (AST) and generator
- Waste management (trash)
- Vehicle maintenance
- Vehicle washing
- Chemical storage
- Floor drains
- Equipment storage
- Equipment maintenance
- Irrigation



Figure 1-3: Examples of Key Features Inventoried during Site Visits: Waste Management (left) and Drainage Features (right)

Based on these categories, Tighe & Bond staff, accompanied by David Desrosiers, Highway Superintendent and John Sullivan, Superintendent of the Department of Public Facilities, visited the municipal buildings, schools, libraries, public safety complex, cemeteries, and parks and open space areas with active and passive use on December 15, 2017. Figure 1-4 shows the locations of sites visited.

This manual is intended to be a "living document" that is updated as needed to meet the town's needs while striving to reduce pollution "to the maximum extent practicable" under the 2016 Small MS4 General Permit. When updates to this document occur, the document should be included in Annual Reports provided to the MassDEP and the EPA in compliance with the 2016 Small MS4 General Permit.

Parcel I.D.	Municipal Facility
Municipal Buildings	
4_A_5_1	Town Hall/COA
9_C_4-3	Granby Free Public Library
3_C_11	Granby Highway Department
8_B_D_3	Carnegie Library
School Buildings	
9_B_14	Granby Junior Senior High School
9_B_13	East Meadow School
Fire and Safety	
9_C_8	Aldrich Field / Public Safety Complex
Cemetery	
3_C_3	West Cemetery
10_B_A_40	Batchelor Street Cemetery
Municipal Parks and Open Space	
6_B_8	Brown-Ellison Park
8_B_4	Dufresne Park
Active Recreation and Open Space	
14_B_6	Forge Pond
14_B_8-1	Forge Pond
14_B_17	Forge Pond
14_B_6-1	Forge Pond

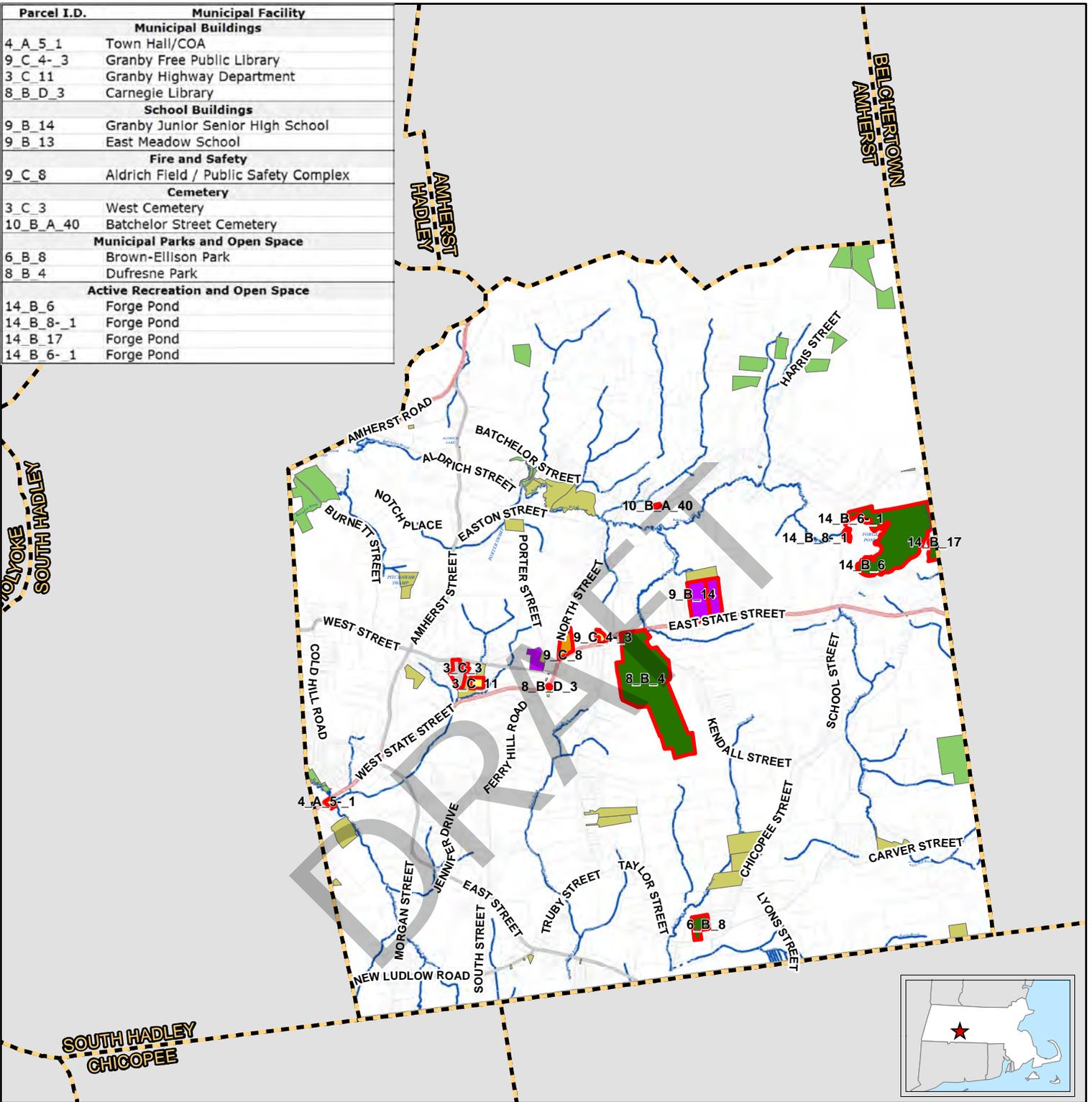


FIGURE 1-4
MUNICIPAL FACILITIES VISITED

Operation & Maintenance Plan
Granby, Massachusetts

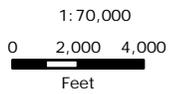
March 2018

- Legend**
- Town Boundary
 - County Boundary
 - Municipal Facilities Visited
- Road Type**
- Limited Access Highway
 - Multi-lane Hwy, not limited access
 - Other Numbered Highway
 - Major Road, Collector
 - Stream/Intermittent Stream
 - Assessor's Parcels

- Municipal Use**
- Active Recreation and Open Space
 - Cemetery
 - Designated Open Space
 - Fire and Safety
 - Municipal Buildings
 - School Buildings
 - Undeveloped Land

Tighe & Bond
Engineers | Environmental Specialists

1. Data source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, MassIT Executive Office of Environmental Affairs. Data valid as of March 2018.
2. Based on MassGIS Color Orthophotography (2013)



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SECTION 2

Section 2 Municipal Activities and Associated Potential Pollutants

Numerous activities on municipally-owned parcels and various municipal operations have potential to contribute pollutants to stormwater runoff. For example, in parks and open space, there is the potential for pet waste, littering, mowing, landscaping, and chemical application, which may contribute pollutants such as bacteria, trash, nutrients, pesticides, and other toxins to stormwater runoff. Management of municipal facilities, such as building repairs and maintenance, parking lot repairs, and loading, unloading, and storage of chemicals, materials, and oil/fuel have the potential to contribute sediment, metals, hydrocarbons, toxins, and numerous other pollutants to stormwater runoff. Even winter operations such as deicing and snow removal can contribute sodium chloride to the environment. Construction, if not properly managed, can also cause significant sediment and nutrient loading to the environment.

Table 2-1 provides an overview of the potential pollutants likely associated with activities at municipal facilities.

Table 2-1
Potential Pollutants Likely Associated with Specific Municipal Facilities

Municipal Facility Activity	Potential Pollutants									
	Sediment	Nutrients	Trash	Metals Bacteria & Pathogens	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances	Toxins	
Building Maintenance (e.g., window washing)	●			●		●		●		
Building Repair	●		●	●	●					
Chemical Handling – Loading, Unloading, Storage					●		●		●	
Construction	●	●	●	●	●					
Grounds Maintenance and Repair	●	●	●	●	●	●	●	●	●	
Outdoor Container Storage of Liquids		●		●	●	●	●	●		
Outdoor Loading and Unloading of Materials	●				●			●		
Outdoor Process Equipment	●		●	●	●	●				
Outdoor Storage of Raw Materials	●	●	●		●	●	●	●	●	
Parking Lot Maintenance	●	●	●	●	●	●		●		
Salt Storage									●	
Septic System		●		●	●	●			●	

Table 2-1
Potential Pollutants Likely Associated with Specific Municipal Facilities

Municipal Facility Activity	Potential Pollutants									
	Sediment	Nutrients	Trash	Metals	Bacteria & Pathogens	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances	Toxins
Snow Dumping	●	●		●		●				
Solid Waste Management (including scrap metal)	●	●		●	●	●				
Vehicle and Equipment Fueling			●	●		●	●			●
Vehicle and Equipment Maintenance and Repair				●		●	●			●
Vehicle and Equipment Storage				●		●	●			
Vehicle and Equipment Washing	●	●	●	●		●	●			●
Waste Handling and Disposal	●	●	●	●	●	●	●	●	●	
Waste Oil Storage, Handling, and Disposal						●				●

Table 2-2 lists potential pollutants likely associated with municipal activities. These tables were adapted from the California Stormwater Quality Association Municipal BMP Handbook³ and Manual 9: Municipal Pollution Prevention/Good Housekeeping Practices of the Center for Watershed Protection’s Urban Subwatershed Restoration Manual Series⁴.

Table 2-2
Potential Pollutants Likely Associated with Specific Municipal Activities

Municipal Program	Activities	Potential Pollutants									
		Sediment	Nutrients	Trash	Metals	Bacteria & Pathogens	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances	Toxins
Roads, Streets, and Highways Operation and Maintenance	Sweeping and Cleaning	●		●	●		●			●	
	Street Repair, Maintenance, and Striping/Painting	●		●	●		●	●			
	Bridge and Structure Maintenance	●		●	●		●	●			

³ California Stormwater Quality Association Municipal BMP Handbook source: <https://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook>

⁴ Novotney, M., Winer, R. 2008. Manual 9: Municipal Pollution Prevention/Good Housekeeping Practices. Urban Subwatershed Restoration Manual Series. Center for Watershed Protection: <https://owl.cwp.org/mdocs-posts/urban-subwatershed-restoration-manual-series-manual-9/>

Table 2-2
Potential Pollutants Likely Associated with Specific Municipal Activities

Municipal Program	Activities	Potential Pollutants									
		Sediment	Nutrients	Trash	Metals	Bacteria & Pathogens	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances	Toxins
Plaza, Sidewalk, and Parking Lot Maintenance and Cleaning	Surface Cleaning	●	●			●	●			●	
	Graffiti Cleaning	●	●		●			●			●
	Sidewalk Repair	●		●							
	Controlling Litter	●		●		●	●			●	
Landscape Maintenance	Mowing/Trimming/Planting	●	●	●		●			●	●	
	Fertilizer & Pesticide Management	●	●						●		
	Managing Landscape Wastes			●					●	●	
	Erosion Control	●	●								
Drainage System Operation and Maintenance	Inspection and Cleaning of Stormwater Conveyance Structures	●	●	●		●		●		●	
	Controlling Illicit Connections and Discharges	●	●	●	●	●	●	●	●	●	
	Controlling Illegal Dumping	●	●	●	●	●	●	●	●	●	
	Maintenance of Catch Basins and Outfall Structures	●		●	●		●			●	
Waste Handling and Disposal	Solid Waste Collection		●	●	●	●	●	●		●	●
	Waste Reduction and Recycling			●	●					●	●
	Household Hazardous Waste Collection			●	●		●	●	●		●
	Leaf and Landscape Waste Collection	●	●	●		●			●	●	
	Controlling Litter			●	●	●		●		●	
	Controlling Illegal Dumping	●		●		●	●		●	●	
Water and Sewer Utility Operation and Maintenance	Water Line Maintenance	●				●	●				
	Sanitary Sewer Maintenance	●				●	●			●	
	Septic System Maintenance		●		●	●	●	●			●

Table 2-2
Potential Pollutants Likely Associated with Specific Municipal Activities

Municipal Program	Activities	Potential Pollutants									
		Sediment	Nutrients	Trash	Metals	Bacteria & Pathogens	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances	Toxins
	Spill/Leak/Overflow Control, Response, and Containment	●	●			●		●		●	●
Winter Operations	Snow Removal and Storage	●	●	●			●				●
	De-icing	●									●

The impacts of various pollutants in stormwater runoff in water quality are described in Table 2-3. Text included in this table is from the California Stormwater Quality Association Stormwater BMP Handbook for New Development and Redevelopment.⁵

Table 2-3
Pollutant Impacts on Water Quality

<p>Sediment</p> 	<p>Sediment is a common component of stormwater, and can be a pollutant. Sediment can be detrimental to aquatic life (primary producers, benthic invertebrates, and fish) by interfering with photosynthesis, respiration, growth, reproduction, and oxygen exchange in water bodies. Sediment can transport other pollutants that are attached to it including nutrients, trace metals, and hydrocarbons. Sediment is the primary component of total suspended solids, a common water quality analytical parameter.</p>
<p>Nutrients</p> 	<p>Nutrients including nitrogen and phosphorous are the major plant nutrients used for fertilizing landscapes, and are often found in stormwater. These nutrients can result in excessive or accelerated growth of vegetation, such as algae, resulting in impaired use of water in lakes and other sources of water supply. In addition, un-ionized ammonia (one of the nitrogen forms) can be toxic to fish.</p>
<p>Bacteria and Viruses</p> 	<p>Bacteria and viruses are common contaminants of stormwater. For separate storm drain systems, sources of these contaminants include animal excrement and sanitary sewer overflow. High levels of indicator bacteria in stormwater have led to the closure of beaches, lakes, and rivers to contact recreation such as swimming.</p>

⁵ California Stormwater Quality Association Stormwater BMP Handbook for New Development and Redevelopment source: <https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook>

Table 2-3
Pollutant Impacts on Water Quality

<p>Oil and Grease</p>	<p>Oil and grease includes a wide array of hydrocarbon compounds, some of which are toxic to aquatic organisms at low concentrations. Sources of oil and grease include leakage, spills, cleaning and sloughing associated with vehicle and equipment engines and suspensions, leaking and breaks in hydraulic systems, restaurants, and waste oil disposal.</p>
	
<p>Metals</p>	<p>Metals including lead, zinc, cadmium, copper, chromium, and nickel are commonly found in stormwater. Many of the artificial surfaces of the urban environment (e.g., galvanized metal, paint, automobiles, or preserved wood) contain metals, which enter stormwater as the surfaces corrode, flake, dissolve, decay, or leach. Over half the trace metal load carried in stormwater is associated with sediments. Metals are of concern as they are toxic to aquatic organisms, can bioaccumulate (accumulate to toxic levels in aquatic animals such as fish), and have the potential to contaminate drinking water supplies.</p>
	
<p>Organics</p>	<p>Organics may be found in stormwater at low concentrations. Often synthetic organic compounds (adhesives, cleaners, sealants, solvents, etc.) are widely applied and may be improperly stored and disposed. In addition, deliberate dumping of these chemicals into storm drains and inlets causes environmental harm to waterways.</p>
	
<p>Pesticides</p>	<p>Pesticides (including herbicides, fungicides, rodenticides, and insecticides) have been repeatedly detected in stormwater at toxic levels, even when pesticides have been applied in accordance with label instructions. As pesticide use has increased, so too have concerns about the adverse effects of pesticides on the environment and human health. Accumulation of these compounds in simple aquatic organisms, such as plankton, provides an avenue for biomagnification through the food web, potentially resulting in elevated levels of toxins in organisms that feed on them, such as fish and birds.</p>
	
<p>Gross Pollutants</p>	<p>Gross Pollutants (trash, debris and floatables) may include heavy metals, pesticides, and bacteria in stormwater. Typically resulting from an urban environment, industrial sites and construction sites, trash and floatables may create an aesthetic "eye sore" in waterways. Gross pollutants also include plant debris (such as leaves and lawn-clippings from landscape maintenance), animal excrement, street litter, and other organic matter. Such substances may harbor bacteria, viruses, vectors, and depress the dissolved oxygen levels in streams and lakes, sometimes causing fish kills.</p>
	
<p>Vector Production</p>	<p>Vector production (e.g., mosquitoes, flies, and rodents) is frequently associated with sheltered habitats and standing water. Unless designed and maintained properly, standing water may occur in treatment control Best Management Practices for 72 hours or more, thus providing a source for vector habitat and reproduction.</p>
	

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SECTION 3

Section 3 Inventory of Municipal Facilities and Assets

The Town of Granby owns and maintains over 60 individual parcels of land within the Town, ranging in size from 0.08 acres to the 200 acres that make up Dufresne Park. Operation and maintenance activities at each of these locations have the potential to cause pollution in stormwater runoff. In Appendix B, each town-owned parcel is listed and categorized by type or use. This town inventory includes:

- Municipal office buildings, centers and garages
- Schools
- Highway Department buildings and garages
- Fire and Safety Complex
- Roads & sidewalks
- Parking lots
- Wastewater infrastructure
- Stormwater infrastructure
- Parks and Open space
- Vacant land

Wastewater infrastructure includes all of the manholes, storage, pumping, and treatment facilities wastewater collection and treatment. There are no public drinking water or wastewater treatment systems located in the Town of Granby.

3.1 Parks and Open Space

There are numerous parks and extensive open space lands within the Town of Granby. These lands are owned by various entities. And are under different levels of protection (e.g., permanently protected, unprotected, conservation restriction, etc.). The Town of Granby owns a number of parks and open space lands that are actively used or actively managed. A map showing the municipally-owned and managed parks and open space is included in Appendix A. Appendix B provides a complete inventory listing of these lands. Appendix C includes maps of the individual facilities.

Table 3-1 lists parks and other open space that are utilized by the public and therefore have the potential for pollution from pet waste or trash, and also lists areas that are actively managed by the Town of Granby (e.g., mowing, lawn maintenance, landscaping, and/or pesticide/herbicide/fertilizer application). The inventory is up to date as of December 2017. There are a number of town-owned parcels that are undeveloped. These are included on the list for completeness, however, most of these properties are not currently actively maintained nor are they actively used by the public.

Table 3-1
Inventory of Parks and Open Space

Parcel I.D.	Name	Address	Responsible Board/Department	Size (acres)
<i>Parks and Open Space</i>				
Cemetery				
3_C_3	West Cemetery	Kellogg Street	Cemetery Commission	15.7
10_B_A_40	Batchelor St Cemetery	Batchelor Street	Cemetery Commission	0.7
Active Recreation and Open Space				
6_B_8	Brown-Ellison Park	Carver Street	DPW/Department of Public Facilities	12.2
8_B_4	Dufresne Park	32 Kendall Street	DPW/Department of Public Facilities	200.0
14_B_6	Forge Pond	School Street	Board of Selectmen/ Public Administrator	146.5
14_B_8-_1	Forge Pond	School Street	Board of Selectmen/ Public Administrator	1.2
14_B_17	Forge Pond	School Street	Board of Selectmen/ Public Administrator	6.7
14_B_6-_1	Forge Pond	School Street	Board of Selectmen/ Public Administrator	0.5
1_D_6-_3	Aldrich Lake	Trout Lily Lane	Board of Selectmen/ Public Administrator	1.8
1_D_6	Aldrich Lake	Trout Lily Lane	Board of Selectmen/ Public Administrator	0.5
1_D_4	Bachelor Brook	Porter Street	Board of Selectmen/ Public Administrator	4.6
Designated Open Space				
1_A_2	Cooley Field	Burnett Street	Board of Selectmen/ Public Administrator	30.8
1_B_1	Cooley Field	Burnett Street	Board of Selectmen/ Public Administrator	33.0
12_B_4	Ed Trompke "Peeper Pond"	Harris Street	Board of Selectmen/ Public Administrator	9.8
12_A_1-_1	Mt Holyoke Range	Harris Street	Board of Selectmen/ Public Administrator	15.6
12_B_4-_2	Mt Holyoke Range	Harris Street	Board of Selectmen/ Public Administrator	28.2
12_B_4-_3	Mt Holyoke Range	Harris Street	Board of Selectmen/ Public Administrator	13.4
10_C_18	Mt Holyoke Range	Batchelor Street	Board of Selectmen/ Public Administrator	10.0
16_B_21	Turkey Hill	Turkey Hill	Board of Selectmen/ Public Administrator	47.8

Table 3-1
Inventory of Parks and Open Space

Parcel I.D.	Name	Address	Responsible Board/Department	Size (acres)
17_A_20	Turkey Hill	Turkey Hill	Board of Selectmen/ Public Administrator	12.0
13_A_35	Marie Quirk	Harris Street	Board of Selectmen/ Public Administrator	15.0
13_B_1	Marie Quirk	Harris Street	Board of Selectmen/ Public Administrator	13.8
12_A_28	Marie Quirk	Harris Street	Board of Selectmen/ Public Administrator	15.2
13_A_3	Marie Quirk	Hilliards Knob	Board of Selectmen/ Public Administrator	8.0
3_D_A_10	Ed Trompke	Karen Drive	Board of Selectmen/ Public Administrator	5.9
3_D_A_9	Ed Trompke	1 Karen Drive	Board of Selectmen/ Public Administrator	0.5
Undeveloped Land				
3_C_8	Community Leach Field	West Street	DPW	15.8
1_C_A_31	Undeveloped Land	Aldrich Street	Board of Selectmen/ Public Administrator	0.7
2_B_5-_2	Undeveloped Land	Amherst Street	Board of Selectmen/ Public Administrator	8.9
2_B_7	Undeveloped Land	Amherst Street	Board of Selectmen/ Public Administrator	4.8
13_B_6-_2	Undeveloped Land	Batchelor Street	Board of Selectmen/ Public Administrator	1.1
9_A_14	Undeveloped Land	Batchelor Street	Board of Selectmen/ Public Administrator	13.4
9_A_15	Undeveloped Land	Batchelor Street	Board of Selectmen/ Public Administrator	47.8
16_B_8-_13	Undeveloped Land	Carver Street	Board of Selectmen/ Public Administrator	13.7
8_B_D_4	Undeveloped Land	Center Street	Board of Selectmen/ Public Administrator	0.8
6_B_13	Undeveloped Land	Chicopee Street	Board of Selectmen/ Public Administrator	20.0
6_B_14	Undeveloped Land	Chicopee Street	Board of Selectmen/ Public Administrator	15.3
6_B_15	Undeveloped Land	Chicopee Street	Board of Selectmen/ Public Administrator	25.4
5_D_B_2	Undeveloped Land	East Street	Board of Selectmen/ Public Administrator	0.3

Table 3-1
Inventory of Parks and Open Space

Parcel I.D.	Name	Address	Responsible Board/Department	Size (acres)
9_B_12	Undeveloped Land	East State Street	Board of Selectmen/ Public Administrator	14.4
14_B_A_12- _1	Undeveloped Land	MacDonald Avenue	Board of Selectmen/ Public Administrator	0.1
4_A_17	Undeveloped Land	Miller Street	Board of Selectmen/ Public Administrator	0.1
5_A_13	Undeveloped Land	Miller Street	Board of Selectmen/ Public Administrator	1.5
5_C_B_10	Undeveloped Land	New Ludlow Road	Board of Selectmen/ Public Administrator	0.3
5_C_B_16	Undeveloped Land	New Ludlow Road	Board of Selectmen/ Public Administrator	0.1
2_C_2	Undeveloped Land	Porter Street	Board of Selectmen/ Public Administrator	12.3
3_E_6	Undeveloped Land	Porter Street	Board of Selectmen/ Public Administrator	1.5
9_A_13	Undeveloped Land	Porter Street	Board of Selectmen/ Public Administrator	5.6
3_F_C_34	Undeveloped Land	Smith Avenue	Board of Selectmen/ Public Administrator	9.9
8_A_A_14	Undeveloped Land	State Street	Board of Selectmen/ Public Administrator	0.1
7_A_6-1_3	Undeveloped Land	Taylor Street	Board of Selectmen/ Public Administrator	2.1
7_A_6-_4	Undeveloped Land	Taylor Street	Board of Selectmen/ Public Administrator	13.2
8_A_A_11	Undeveloped Land	West Street	Board of Selectmen/ Public Administrator	0.1
4_A_21	Undeveloped Land	West State Street	Board of Selectmen/ Public Administrator	21.7
5_C_3	Undeveloped Land	New Ludlow Road	Board of Selectmen/ Public Administrator	1.2

The inventory included in Table 3-1 will change over time. Please consult with the Assessor's Office and Conservation Commission for the most up-to-date list of town-owned parks and open space.

3.2 Buildings and Facilities

There are eight buildings and facilities owned and/or operated by the Town of Granby through various responsible parties. Table 3-2 lists schools, town offices, public safety facilities, and other municipal facilities.

A map showing the locations of buildings and facilities is included in Appendix A. A complete inventory of the buildings and facilities is provided in Appendix B. Appendix C includes maps of individual facilities. This inventory is up to date as of December 2017.

Table 3-2
Inventory of Buildings and Facilities

Parcel I.D.	Name	Address	Responsible Board/Department	Size (acres)
Buildings and Facilities				
Municipal Buildings				
4_A_5_1	Town Hall/COA	10 West State Street	Department of Public Facilities	2.7
9_C_4_3	Granby Free Public Library	297 East State Street	Department of Public Facilities	4.0
3_C_11	Granby Highway Department Facility	15 Crescent Street	DPW/Department of Public Facilities	6.0
8_B_D_3	Carnegie Library	1 Library Lane	Department of Public Facilities	0.6
School Buildings				
9_B_14	Granby Junior Senior High School	385 East State Street	Department of Public Facilities	30.0
9_B_13	East Meadow School	393 East State Street	Department of Public Facilities	22.2
3_E_5	West Street Elementary School	14 West Street	Department of Public Facilities	11.9
Fire and Safety				
9_C_8	Aldrich Field / Public Safety Complex	527-259 East State Street	Department of Public Facilities	11.5

A site specific stormwater pollution prevention plan (SWPPP) must be developed for any town-owned or operated maintenance garages, public works yards, transfer stations, and/or other waste handling facilities where pollutants are exposed to stormwater. The Town of Granby Highway Department facility will require an individual SWPPP.



Figure 3-1: Granby Highway Department Facility

A site-specific SWPPP must be developed to include the following control measures:

- Minimize or prevent exposure
- Good housekeeping
- Preventative maintenance
- Spill prevention and response
- Erosion and sediment control
- Management of runoff
- Enclose or cover salt storage
- Employee training
- Maintenance of control measures.

3.3 Vehicles and Equipment

The Town of Granby owns approximately 80 vehicles that must be stored and maintained. An inventory of town-owned vehicles as of March 2018 is provided as Appendix D. The storage, fueling and maintenance of vehicles is a potential source of stormwater pollution given the location of storm drains on roads and in parking lots. An up-to-date inventory of town-owned vehicles is available from the Town Administrator, who maintains an updated list of assets in Granby.

3.4 Stormwater Infrastructure

Infrastructure includes all components of the MS4 (e.g., catch basins, drainage manholes, stormwater outfalls, drainage pipes, open channel conveyances, etc.), interconnections with other MS4s (e.g., abutting communities or MassDOT), culverts, dams, and town-owned or operated structural Best Management Practices (BMPs) such as detention basis, retention basis, swales, etc.

Stormwater infrastructure serves several important functions which can be broadly organized into two groups: drainage and water quality. The original goal of stormwater infrastructure was to remove water from roadways and other impervious surfaces to prevent icing and flooding. The systems were originally designed to collect runoff and quickly discharge it to the nearest water course. Now that the role of stormwater as a transport mechanism for non-point source pollution is better understood, the scope of stormwater infrastructure design has expanded to include water quality as well as quantity.

Table 3-3 presents a summary of the drainage assets in the Town of Granby.

Table 3-3
Stormwater Infrastructure in Granby

Drainage Infrastructure	Number
Catch Basins	506
Outfalls	131

3.5 Wastewater Assets

The Town of Granby does not have a centralized wastewater collection and treatment system, and therefore buildings are served by decentralized collection, treatment, and disposal systems or by on-site treatment and/or wastewater disposal systems. Seven municipal parcels have some form of wastewater collection, treatment, and/or disposal as follows:

- Seven of the parcels are served by an on-site wastewater treatment system, more commonly referred to as a septic system. A conventional septic system is an on-site system designed to treat and dispose of domestic sewage that is made up of a septic tank, distribution box, and a soil absorption system (SAS) (also known as a leach field, drain field, or absorption field).
- One parcel has a grease trap installed. Grease traps are watertight structures installed at restaurants, nursing homes, schools, hospitals and any other facility that discharges grease. The function of a grease trap is to separate out grease and oil from the other solid or liquid sewage.
- Three parcels have tight tanks. Tight tanks are similar to a septic tank except they do not have an outlet and must be pumped regularly to remain in proper working order.
- Three parcels have floor drains that discharge to an on-site tight tank.

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SECTION 4

Section 4

Standard Operating Procedures and Schedules

This section of the O&M Plan presents the Standard Operating Procedures (SOPs) and schedules for implementation for the municipal facilities and associated activities at each facility to address the pollutants of concern and reduce or eliminate potential pollution in stormwater runoff. SOPs for the Town of Granby include:

1. Building Maintenance
2. Catch Basin Inspection, Cleaning, and Maintenance
3. Fuel and Oil Handling Procedures
4. Lawn, Grounds, & Landscaping Maintenance
5. Oil/Water Separator Maintenance
6. Pesticides, Herbicides, and Fertilizer - Use, Storage, and Disposal
7. Petroleum and Hazardous Materials - Use, Storage, and Disposal
8. Pet Waste
9. Spill Prevention, Response, and Cleanup Procedures
10. Sweeping Streets and Town Owned Parking Lots
11. Trash/Solid Waste Management
12. Vehicle and Equipment Storage and Maintenance
13. Vehicle and Equipment Washing
14. Winter Deicing and Snow Removal

The inventory of municipal facilities included in Appendix B lists each facility, responsible party, and applicable SOPs. The municipal facilities SOPs are located in Appendix E. Each SOP describes the pollutants of concern addressed by the SOP.

4.1 Municipal Activity SOPs

The following sections provide additional detail on the sources of pollutants for specific activities, relevant SOPs, and additional pollution prevention measures applicable to the activity.

4.1.1 Parks and Open Space

Town staff must undertake efforts to manage potential sources of pollution from the activities conducted at parks and open spaces. Table 4-1 lists activities typical to parks and open spaces inventoried in Table 3-1, as well as potential sources of pollution, relevant SOPs, and pollution prevention measures.

Table 4-1
Activities with Pollution Potential and Relevant SOPs for Parks and Open Space

Activity	Source of Pollution	Relevant SOPs	Pollution Prevention Measures
Landscaping Equipment	Use of small engines such as lawn mowers and weed whackers requires the transport and use of gasoline and oil.	Spill Prevention, Response, & Cleanup Procedures	Personnel involved in fuel or oil handling are familiar with Oil Handling Procedures, the spill response kit and spill response procedures.
Fertilizer and Pesticide Application	If fertilizers and pesticides are not used in accordance with relevant regulations and instructions, or if they are not applied by properly trained personnel, these chemical treatments can enter stormwater in large quantities.	Pesticides, Herbicides, & Fertilizers – Use, Storage, & Disposal	Minimize the use of fertilizer and pesticide and use in strict accordance with the manufacturer’s instructions and with local regulations. Never over-apply. Pesticides shall be handled and applied by individuals licensed with Massachusetts Department of Agricultural Resources.
Field Painting	Marking lines on athletic fields can contribute to pollution of stormwater if the incorrect type of paint is used, or if the paint is not applied in an appropriate manner.	Lawn, Grounds, & Landscaping Maintenance	Use only purpose-made athletic field paint on athletic fields. To prevent paint from contaminating runoff, paint shall not be applied directly before a rainstorm.
Landscaping and Mowing Procedures	Maintaining landscaping includes mowing, applying fertilizer and/or pesticides, and irrigation. Improper techniques can generate runoff of nutrients, bacteria, pesticides, and organic carbon.	Lawn, Grounds, & Landscaping Maintenance	Evaluate revisions to existing lawn maintenance and landscaping practices regarding disposal of lawn clippings and use of drought-resistant plantings.
Management of Pet Waste	Pet waste is a source of bacteria when droppings left on impervious surfaces are washed into storm drains during rain events.	Pet Waste	Maintain pet waste handling, collection and disposal locations including waste disposal location identification signage.
Management of Refuse	Visitors to parks and open spaces generate waste that is stored on-site pending disposal.	Trash / Solid Waste Management	Continue to follow procedures in place for the management of trash containers at parks and open space. Cleaning around the trash cans, providing anti-littering signs, and preventing exposure to stormwater by keeping cans lidded can reduce pollutants.

4.1.2 Buildings and Facilities

Town staff must undertake efforts to manage potential sources of pollution from the activities conducted at municipal buildings and facilities. Table 4-2 lists activities typical to buildings and facilities inventoried in Table 3-2, as well as possible sources of pollution, relevant SOPs, and pollution prevention measures.

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Table 4-2
Activities with Pollution Potential and Relevant SOPs for Buildings and Facilities

Activity	Source of Pollution	Relevant SOPs	Pollution Prevention Measures
Landscaping Equipment	Use of small engines such as lawn mowers and weed whackers requires the transport and use of gasoline and oil.	Spill Prevention, Response, & Cleanup Procedures	Personnel involved in fuel or oil handling are familiar with Oil Handling Procedures, the spill response kit and spill response procedures.
Fuel Transfer Procedures	Emergency generators must be periodically fueled.	Fuel & Oil Handling Procedures	Fueling activities shall occur on impervious surfaces with proper containment and a spill response kit in close proximity.
Vehicle and Equipment Washing	Vehicle maintenance can potentially release pollutants as well as detergents into surrounding storm drain systems.	Vehicle & Equipment Washing	Vehicle washing activities shall follow the guidance described in SOP Vehicle Washing and shall not be completed in areas served by an  water separator.
Building Maintenance and Painting	Routine cleaning and maintenance practices can cause runoff of sediment, nutrients, paints and solvents from the site. Sanding, painting, power-washing, resealing or resurfacing roofs or parking lots should be carefully managed, especially when performed near storm drain	Building Maintenance	Provide temporary cover/tarps on worksites, employee training, contractor training, proper cleanup and disposal procedures, dry cleaning methods, and storm drain covers to minimize pollution.
Management of Refuse	Municipal buildings generate waste as part of daily operations that is stored on-site pending disposal. Cleaning around the dumpster and preventing exposure to stormwater by keeping dumpsters lidded and locked can reduce pollutants.	Trash/Solid Waste Management	Keep dumpsters closed and locked. Pickups should be scheduled on a regular basis.
Use, Storage, and Disposal of Petroleum Products and Hazardous Materials	Using, storing, and disposing of hazardous materials and petroleum products has the potential to contaminate groundwater and surface waters with oils and grease and toxins.	Petroleum Products & Hazardous Materials – Use, Storage, and Disposal	Keep petroleum products and hazardous wastes stored under cover and in proper containers with correct labeling.

Table 4-2
Activities with Pollution Potential and Relevant SOPs for Buildings and Facilities

Activity	Source of Pollution	Relevant SOPs	Pollution Prevention Measures
Oil/Water Separator Maintenance	Improperly maintained Oil/Water separators have the potential for oil and other grease products to overflow into stormwater system.	Oil/Water Separator Maintenance	Continue proper inspection, maintenance, and repairs of oil/water separators.
Parking Lot Maintenance	Pollutants accumulate on paved parking areas, and can enter the stormwater system and waterbodies with stormwater runoff.	Winter Deicing & Snow Removal Sweeping Streets & Town Owned Parking Lots Catch Basin Inspection, Cleaning, & Maintenance	Prevent solids and other pollutants from entering the drainage system and local waterbodies through proper winter deicing and snow removal procedures and frequent street sweeping. Remove pollutants from the drainage system through catch basin inspection, cleaning, and maintenance.

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4.1.3 Vehicles and Equipment

Operation and maintenance of town-owned vehicles and equipment inventoried in Appendix D must be completed in a manner to prevent pollution. Table 4-3 lists typical vehicle and equipment maintenance efforts and associated SOPs.

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Table 4-3
Activities with Pollution Potential and Relevant SOPs for Vehicles and Equipment

Activity	Source of Pollution	Relevant SOPs	Pollution Prevention Measures
Landscaping Equipment	Use of small engines such as lawn mowers and weed whackers requires the transport and use of gasoline and oil.	Spill Prevention, Response, and Cleanup Procedures	Personnel involved in fuel or oil handling are familiar with Oil Handling Procedures, the spill response kit and spill response procedures.
Fuel Transfer Procedures	Emergency generators must be periodically fueled.	Fuel and Oil Handling Procedures	Fueling activities shall occur on impervious surfaces with proper containment and a spill response kit in close proximity.
Vehicle and Equipment Washing	Vehicle maintenance can potentially release pollutants as well as detergents into surrounding storm drain systems.	Vehicle and Equipment Washing	Vehicle washing activities shall follow the guidance described in SOP Vehicle Washing and shall not be completed in areas served by an oil/water separator.
Vehicle and Equipment Storage	Poorly maintained equipment may leak contaminants. Sediments, oil, grease, and metals accumulate on vehicle and equipment during daily activities and may redeposit on impervious surfaces when stored or maintained.	Spill Prevention, Response, and Cleanup Procedures Vehicle and Equipment Storage and Maintenance Oil/Water Separator Maintenance	All vehicles and equipment used for municipal O&M shall receive regular maintenance and be inspected for leaks or defective parts. Municipal equipment stored on municipal properties is stored inside when not in use. Outdoor storage of vehicles and equipment shall not occur in areas that drain to the engineered storm drain system unless adequate devices are employed to remove oil and sediments.
Vehicle and Equipment Maintenance	Vehicle maintenance can potentially release pollutants including oil and grease and solvents into surrounding storm drain systems.	Vehicle and Equipment Storage and Maintenance	Perform all routine vehicle equipment maintenance indoors, utilize drip pans, disposal of used fluids properly, have spill materials available including storm drain covers and booms, train employees.

4.2 Drainage Infrastructure SOPs

4.2.1 Catch Basin Inspection, Cleaning, and Maintenance

In 2016 the Town of Granby cleaned over 500 catch basins, bringing the Town of Granby's catch basin inspections up-to-date. The Granby DPW should follow the following conditions to optimize routine inspections when cleaning and maintaining catch basins:

- Prioritize inspection and maintenance for catch basins located near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment). Clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.
- Establish a schedule with a goal that the frequency of routine cleaning will ensure that no catch basin at any time will be more than 50 percent full.
- If a catch basin sump is more than 50 percent full during two (2) consecutive routine inspections/cleaning events, the Town must document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practicable, abate contributing sources. Granby is required by EPA to describe any actions taken in its annual report.
- Granby currently meets EPA's requirement by keeping a log of catch basins cleaned or inspected.
- Granby must document its plan for optimizing catch basin cleaning, inspection plans, or its schedule for gathering information to develop the optimization plan in the SWMP and the first annual report under the new MS4 permit. Documentation is required to include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4.
- Granby must report in each annual report, under the new MS4 permit, the total number of catch basins, number inspected, number cleaned, and the total volume or mass of material removed from all catch basins.

Appendix E contains the procedures for cleaning catch basins.

4.2.2 Sweeping Streets and Town-Owned Parking Lots

The Granby DPW is required by EPA to establish and implement procedures for sweeping and/or cleaning streets and town-owned parking lots. All streets with the exception of rural uncurbed roads with no catch basins or high speed limited access highways must be swept and/or cleaned a minimum of once per year in the spring (following winter activities such as sanding). The Town of Granby meets this requirement by sweeping all public streets once per year to remove winter sand. The procedures must also include more frequent sweeping of targeted areas determined by the Granby DPW on the basis of pollutant load reduction potential, based on inspections, pollutant loads, catch basin cleaning or inspection results, land use, impaired or TMDL waters or other relevant factors as determined by the Town of Granby. The Granby DPW is required to report the number of miles cleaned and the volume or mass of material removed in each annual report under the new MS4 permit. The new MS4 permit will require Granby to sweep streets (with the exception of rural, uncurbed roads with no catch basins) twice a year, once in the spring and once after leaf fall in the fall due to the Long Island Sound TMDL.

For rural uncurbed roadways with no catch basins or limited access highways, Granby must either meet the minimum once per year sweeping, or develop and implement an inspection, documentation, and targeted sweeping plan within two (2) years of the effective date of the 2016 Small MS4 General Permit, and submit such plan with its annual report.

Appendix E contains the procedures for the reuse and disposal of streets and parking lot sweepings.

4.2.3 Storage and Disposal of Catch Basin Cleanings and Sweepings

In 2016 the Town of Granby produced over 43 tons of catch basin cleanings. To meet EPA's 2016 Small MS4 General Permit requirements, the Granby DPW must ensure proper storage of catch basin cleanings and street sweepings prior to disposal or reuse such that they do not discharge to receiving waters. Catch basin cleanings, including soil material such as leaves, sand and twigs removed during cleaning operations, are typically classified as solid waste by the MassDEP, and must be disposed of in accordance with applicable regulations, policies and guidelines. The general rule is that catch basins cleanings can be disposed of at a MassDEP permitted sanitary landfill unless there is evidence that the catch basin has been contaminated by a spill, sanitary waste or other means.

Appendix E contains the procedures for the reuse and disposal of street sweepings and landfill restrictions regarding the acceptance of catch basin cleanings.

4.2.4 Winter De-icing and Snow Removal

To meet EPA's 2016 Small MS4 General Permit requirements, the Granby DPW must establish and implement procedures for winter road maintenance including the use and storage of salt and sand, minimizing the use of sodium chloride and other salts, and evaluating opportunities for use of alternative materials, and ensuring that snow disposal activities do not result in disposal of snow into surface waters. These procedures also apply to municipally owned and maintained parking lots, sidewalks, and other walkways around buildings and facilities.

See Appendix E for guidance on maintenance of snow disposal areas, including Massachusetts Executive Office of Energy and Environmental Affairs Snow Disposal Guidance #BRPG01-01.

4.2.5 Stormwater Best Management Practice (BMP) Inspection and Maintenance

Stormwater best management practices (BMPs) are structures designed to manage post-construction stormwater runoff through conveyance, treatment, infiltration, retaining, attenuation, and storage of stormwater runoff. These BMPs simultaneously manage water quantity and, in most cases, improve water quality.

Structural stormwater BMPs under the ownership or operation by the Town of Granby should be routinely inspected and maintained. The frequency of inspections and maintenance depend on the type and design of the BMP, but all treatment structures (excluding catch basins) must be inspected annually at a minimum.

As part of the Stormwater Program requirements under the 2016 Small MS4 General Permit, the Town of Granby will need to know where public and private stormwater BMPs

are located and if/when they are being maintained. As of the date of this O&M Plan, the Granby DPW is aware of two stormwater BMPs that are privately maintained. Section 5 of this volume includes a recommendation to identify, map, determine ownership, and develop maintenance procedures (SOPs) and schedules for BMPs on town properties or within the right-of-way.

4.3 Impaired Water SOPs

For facilities and activities in watersheds with impaired waterbodies or final TMDLs, additional good housekeeping and pollution prevention activities are required by EPA.

4.3.1 Aldrich Lake East Phosphorus TMDL Requirements

Between 1999 and 2010 EPA approved 13 Lake TMDLs within Massachusetts. Any municipality that discharges to a waterbody segment listed in 2016 Small MS4 General Permit Appendix F, Part A, Table F-6 is subject to additional requirements. Granby is listed as the primary municipality for Aldrich Lake East with a required percent reduction of 0%. Municipalities discharging to waterbodies with an associated 0% Phosphorus Required Percent Reduction are subject to Appendix F part II.2.f of the permit, which states that turf grass areas are managed in accordance with Massachusetts Regulation 331 CMR 31 which establishes limitations on the application of plant nutrients to lawns and non-agricultural turf.

4.3.2 Long Island Sound Nitrogen TMDL Requirements

Discharges from MS4s in Massachusetts to waters that are tributaries to the Long Island Sound, which has an approved TMDL for nitrogen, are subject to additional requirements listed in 2016 Small MS4 General Permit Appendix F, Part B. Granby discharges within the Connecticut River Watershed and therefore must comply with the following enhanced BMPs in addition to the requirements of part 2.3 of the permit:

- Establish requirements for use of slow release fertilizers on permittee owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in in part 2.3.7.1
- Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces
- As noted in Section 4.2.2, increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (following leaf fall)

4.3.3 Requirements Related to Discharges to Certain Water Quality Limited Waterbodies

The 2016 Small MS4 General Permit Appendix H, Part II establishes additional requirements to municipalities that have phosphorus impairments in surface waterbodies. The Town of Granby must identify and implement BMPs to reduce phosphorus discharges to the Weston Brook by complying with the following enhancements to the BMPs required by part 2.3 of the permit:

- Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces

- As noted in Section 4.2.2, increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall)

4.3.4 Requirements Related to Solids, Oil and Grease, or Metals Impairment

Appendix H, Part V of the 2016 Small MS4 General Permit establishes additional requirements to municipalities that discharge to waterbodies that are water quality limited due to solids, metals, or oil and grease (hydrocarbons), without an approved TMDL. The Town of Granby must identify and implement BMPs to reduce turbidity in Stony Brook by complying with the following enhanced BMPs required by part 2.3 of the permit:

- As noted in Section 4.22, increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times a year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall)
- Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full. Clean catch basins more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings

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SECTION 5

Section 5

O&M Plan Implementation

Implementation of the O&M Plan requires commitment from staff in various departments, boards, and commissions. This section presents the major steps necessary to implement Granby's comprehensive O&M program to prevent or reduce pollution in stormwater runoff from municipal facilities and operations.

5.1 Ongoing Implementation Activities

There are numerous ongoing activities necessary to support implementation of Granby's O&M program. The following sections provide additional detail on these activities and the general schedule.

5.1.1 Record Keeping

Records of good housekeeping and pollution prevention operations should be maintained to document efforts to prevent or reduce pollutants in stormwater runoff and protect water quality. EPA's 2016 Small MS4 General Permit requires Granby to keep written records of all inspection, maintenance, and trainings for a period of at least five years. Appendix F includes forms for employee training and O&M Plan amendments record keeping.

5.1.2 Annual Reporting

EPA's 2016 Small MS4 General Permit requires that Granby report on the status of the following in each annual report:

- Status of inventory of town-owned facilities and any subsequent updates
- Status of O&M programs for the municipal facilities and municipal operations
- The maintenance activities associated with each
- Good housekeeping/pollution prevention trainings completed

Annual Reports are due by September 30 annually under the 2016 Small MS4 General Permit and must cover the previous reporting period (July 1 through June 30).

5.1.3 Annual Update of Municipal Facilities Inventory

As part of preparing the Annual Report required by EPA's Small MS4 General Permit, the Town of Granby should review the inventory of parks and open space, buildings and facilities, vehicles and equipment, drainage infrastructure, and wastewater assets and update as needed. Appendix F includes a form to document changes to this O&M plan, including updated inventory components.

5.1.4 Annual Employee Training

Employees involved in good housekeeping and pollution prevention operations should be trained annually on the O&M Plan contents, proper procedures to reduce pollutants in stormwater runoff and protect water quality, and tracking and reporting. The 2016 Small MS4 General Permit specifically requires the following trainings:

- Employees that are responsible for handling petroleum products must be trained as necessary

- For the site-specific SWPPPs at the Highway Department facility, employees who work in areas where materials or activities are exposed to stormwater or who are responsible for implementing the SWPPP, including the Pollution Prevention Team, should be trained annually. Training should cover specific components and the scope of the SWPPP and the control measures to reduce pollution at the site, including spill prevention and response, good housekeeping, and materials management

Written records of any trainings conducted must be kept for a period of at least five years. Appendix F includes a log to document trainings completed.

5.1.5 Executing Standard Operating Procedures

Town of Granby staff must undertake ongoing efforts to manage potential sources of pollution from the activities conducted at parks and open spaces and buildings and facilities, from vehicles and equipment, and from drainage infrastructure operation and maintenance.

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APPENDIX A

HADLEY

AMHERST

BELCHERTOWN

SOUTH HADLEY

LUDLOW

CHICOPEE

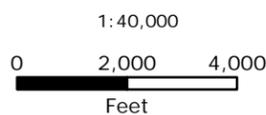


Legend

- Town-Owned Parcels
- Town Boundary
- Tax Parcels
- MassDOT Major Roads**
- Limited Access Highway
- Multi-lane Hwy, not limited access
- Other Numbered Highway
- Major Road, Collector



1. Based on MassGIS Color Orthophotography (2013-2014)
 2. Data Source: Office of Geographic Information (MassGIS) Commonwealth of Massachusetts, MassIT Executive Office of Environmental Affairs. Data valid as of October 2017



APPENDIX A

TOWN-OWNED PROPERTY

Granby, Massachusetts

December 2017

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APPENDIX B

Appendix B
Inventory of Municipal Facilities

Parcel I.D.	Name	Address	Responsible Board/ Commission/Department	Size (acres)	Building (Y/N)
Buildings and Facilities					
Municipal Buildings					
4_A_5_1	Town Hall/COA	10 West State Street	Department of Public Facilities	2.7	Y
9_C_4-_3	Granby Free Public Library	297 East State Street	Department of Public Facilities	4.0	Y
3_C_11	Granby Highway Department	15 Crescent Street	Department of Public Facilities	6.0	Y
8_B_D_3	Carnegie Library	1 Library Lane	Department of Public Facilities	0.6	Y
School Buildings					
9_B_14	Granby Junior Senior High School	385 East State Street	Department of Public Facilities	30.0	Y
9_B_13	East Meadow School	393 East State Street	Department of Public Facilities	22.2	Y
3_E_5	West Street Elementary School	14 West Street	Department of Public Facilities	11.9	Y
Fire and Safety					
9_C_8	Aldrich Field / Public Safety Complex	527-259 East State Street	Department of Public Facilities	11.5	Y
Parks and Open Space					
Cemetery					
3_C_3	West Cemetery	Kellogg Street	Cemetery Commission	15.7	Y
10_B_A_40	Batchelor Street Cemetery	Batchelor Street	Cemetery Commission	0.7	N
Active Recreation and Open Space					
6_B_8	Brown-Ellison Park	Carver Street	DPW/Department of Public Facilities	12.2	Y
8_B_4	Dufresne Park	32 Kendall Street	DPW/Department of Public Facilities	200.0	Y
14_B_6	Forge Pond	School Street	Board of Selectmen/Public Administrator	146.5	N
14_B_8-_1	Forge Pond	School Street	Board of Selectmen/Public Administrator	1.2	N
14_B_17	Forge Pond	School Street	Board of Selectmen/Public Administrator	6.7	N
14_B_6-_1	Forge Pond	School Street	Board of Selectmen/Public Administrator	0.5	N
1_D_6-_3	Aldrich Lake	Trout Lily Lane	Board of Selectmen/Public Administrator	1.8	N
1_D_6	Aldrich Lake	Trout Lily Lane	Board of Selectmen/Public Administrator	0.5	N
1_D_4	Bachelor Brook	Porter Street	Board of Selectmen/Public Administrator	4.6	N
Designated Open Space					
1_A_2	Cooley Field	Burnett Street	Board of Selectmen/Public Administrator	30.8	N
1_B_1	Cooley Field	Burnett Street	Board of Selectmen/Public Administrator	33.0	N
12_B_4	Ed Trompke "Peeper Pond"	Harris Street	Board of Selectmen/Public Administrator	9.8	N
12_A_1-_1	Mt Holyoke Range	Harris Street	Board of Selectmen/Public Administrator	15.6	N
12_B_4-_2	Mt Holyoke Range	Harris Street	Board of Selectmen/Public Administrator	28.2	N
12_B_4-_3	Mt Holyoke Range	Harris Street	Board of Selectmen/Public Administrator	13.4	N
10_C_18	Mt Holyoke Range	Batchelor Street	Board of Selectmen/Public Administrator	10.0	N
16_B_21	Turkey Hill Conservation Area	Turkey Hill	Board of Selectmen/Public Administrator	47.8	N
17_A_20	Turkey Hill Conservation Area	Turkey Hill	Board of Selectmen/Public Administrator	12.0	N

Appendix B Inventory of Municipal Facilities

Parcel I.D.	Name	Address	Responsible Board/ Commission/Department	Size (acres)	Building (Y/N)
13_A_35	Marie Quirk Conservation Area	Harris Street	Board of Selectmen/Public Administrator	15.0	N
13_B_1	Marie Quirk Conservation Area	Harris Street	Board of Selectmen/Public Administrator	13.8	N
12_A_28	Marie Quirk Conservation Area	Harris Street	Board of Selectmen/Public Administrator	15.2	N
13_A_3	Marie Quirk Conservation Area	Hilliards Knob	Board of Selectmen/Public Administrator	8.0	N
3_D_A_10	Ed Trompke Conservation Area	Karen Drive	Board of Selectmen/Public Administrator	5.9	N
3_D_A_9	Ed Trompke Conservation Area	1 Karen Drive	Board of Selectmen/Public Administrator	0.5	N
Undeveloped Land					
3_C_8	Community leach field	West Street	DPW	15.8	N
1_C_A_31	Undeveloped Land	Aldrich Street	Board of Selectmen/Public Administrator	0.7	N
2_B_5-_2	Undeveloped Land	Amherst Street	Board of Selectmen/Public Administrator	8.9	N
2_B_7	Undeveloped Land	Amherst Street	Board of Selectmen/Public Administrator	4.8	N
13_B_6-_2	Undeveloped Land	Batchelor Street	Board of Selectmen/Public Administrator	1.1	N
9_A_14	Undeveloped Land	Batchelor Street	Board of Selectmen/Public Administrator	13.4	N
9_A_15	Undeveloped Land	Batchelor Street	Board of Selectmen/Public Administrator	47.8	N
16_B_8-_13	Undeveloped Land	Carver Street	Board of Selectmen/Public Administrator	13.7	N
8_B_D_4	Undeveloped Land	Center Street	Board of Selectmen/Public Administrator	0.8	N
6_B_13	Undeveloped Land	Chicopee Street	Board of Selectmen/Public Administrator	20.0	N
6_B_14	Undeveloped Land	Chicopee Street	Board of Selectmen/Public Administrator	15.3	N
6_B_15	Undeveloped Land	Chicopee Street	Board of Selectmen/Public Administrator	25.4	N
5_D_B_2	Undeveloped Land	East Street	Board of Selectmen/Public Administrator	0.3	N
9_B_12	Undeveloped Land	East State Street	Board of Selectmen/Public Administrator	14.4	N
14_B_A_12-_1	Undeveloped Land	MacDonald Avenue	Board of Selectmen/Public Administrator	0.1	N
4_A_17	Undeveloped Land	Miller Street	Board of Selectmen/Public Administrator	0.1	N
5_A_13	Undeveloped Land	Miller Street	Board of Selectmen/Public Administrator	1.5	N
5_C_B_10	Undeveloped Land	New Ludlow Road	Board of Selectmen/Public Administrator	0.3	N
5_C_B_16	Undeveloped Land	New Ludlow Road	Board of Selectmen/Public Administrator	0.1	N
2_C_2	Undeveloped Land	Porter Street	Board of Selectmen/Public Administrator	12.3	N
3_E_6	Undeveloped Land	Porter Street	Board of Selectmen/Public Administrator	1.5	N
9_A_13	Undeveloped Land	Porter Street	Board of Selectmen/Public Administrator	5.6	N
3_F_C_34	Undeveloped Land	Smith Avenue	Board of Selectmen/Public Administrator	9.9	N
8_A_A_14	Undeveloped Land	State Street	Board of Selectmen/Public Administrator	0.1	N
7_A_6-1_3	Undeveloped Land	Taylor Street	Board of Selectmen/Public Administrator	2.1	N
7_A_6-_4	Undeveloped Land	Taylor Street	Board of Selectmen/Public Administrator	13.2	N
8_A_A_11	Undeveloped Land	West Street	Board of Selectmen/Public Administrator	0.1	N
4_A_21	Undeveloped Land	West State Street	Board of Selectmen/Public Administrator	21.7	N
5_C_3	Undeveloped Land	152 New Ludlow Road	Board of Selectmen/Public Administrator	1.2	N

Note:

This inventory is up to date as of December 2017.

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APPENDIX C



Photo 1: Storage area in the rear of the Highway Department building.



Photo 2: Rear parking lot with dumpsters and wood chip pile north of the Highway Department building, looking toward a community septic system.



Photo 3: Diesel fueling station behind the Highway Department building, adjacent to the Granby Animal Control.



Photo 4: Rear parking lot and maintenance building of the Highway Department.



Photo 5: Resident sand storage shelter adjacent to the Highway Department.



Figure 6: Catch basin at entrance to Highway Department, looking toward a shared septic system



Photo 7: Dumpsters located on the west side of Granby Junior Senior High School.



Photo 8: Storm drain located in the field behind the school, east of the tennis courts.



Photo 9: Maintenance shed located west of the Junior Senior High School building



Photo 10: Paved area between maintenance shed and the Junior Senior High School building with gate to protect public drinking supply



Photo 10: Parking lot located between the Junior Senior High School and the East Meadow School.



Photo 11: Southern facing view of the Junior Senior High School building from the school yard. A chemical holding tank is located next to the building, adjacent to the transformers (circled).



Photo 12: Ongoing construction for East Meadow School Addition. Orange stormwater infiltration units are stockpiled for installation under parking area.



Photo 13: Catch basin and poorly grassed area adjacent to new parking area and Junior Senior High School.



Photo 14: Library parking lot. Note shallow bedrock outcrops in the parking lot median.



Photo 15: Fenced in dumpster located east of the library.



Photo 16: Rip-rap drainage channel to detention basin at the library.



Photo 17: Gravel drainage area adjacent to the library.



Photo 18: Detention basin north of the library.



Photo 19: Detention basin and drinking water well (circled) in the rear of the library.



Photo 20: Front entrance of the Granby Public Safety Complex.



Photo 21: Storm drain located in the rear parking lot of Public Safety Complex.



Photo 22: Oil tank and double wall tank generator in the rear of the Public Safety Complex.



Photo 23: Dumpsters on concrete pad in the rear of the Public Safety Complex, looking toward mounded wastewater system.



Photo 24: Detention basin in front of the Public Safety Complex.



Photo 25: Detention basin in front of the Public Safety Complex.



Photo 26: Parking lot located on the west side of Dufresne Park.



Photo 27: Dog park with waste signage and waste bin located on the west side of Dufresne Park.



Photo 28: Dufresne Pavilion and dumpster located on the east side of Dufresne Park.



Photo 29: Equestrian Arena located on the west side of Dufresne park



Photo 30: Front entrance to the Carnegie "Little" Library building.



Photo 31: Storage building on the left and Friends of the Granby Library Pavilion on the right, located south of the Carnegie Library.



Photo 32: Parking lot in front of the Council on Aging and Town Offices.



Photo 33: Stony Brook wetland area located east of the Council on Aging.



Photo 34: Stormwater detention basin with trees and vegetation located east of the Council on Aging.



Photo 35: Four trash/recycling bins in front of the Council on Aging building.



Photo 36: Storm drain located in front of the Council on Aging building.



Figure 37: Document storage behind the Council on Aging building.



Photo 38: West Cemetery with stockpiled dirt visible in the background.



Photo 39: West Cemetery maintenance building.



Photo 40: Batchelor Street Cemetery.



Photo 41: Looking east at Forge Pond put-in area. There is no formal parking area associated with the Forge Pond area.



Photo 42: Small abandoned building located north of Forge Pond.



Photo 43: Brown-Ellison Park parking lot.



Photo 44: Ball fields located east of the parking lot.

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APPENDIX D

APPENDIX D

TOWN OF GRANBY VEHICLE INVENTORY 2018

VEHICLE COUNT: 80

Item #	Department	Model Year	Manufacturer	Model	Plate #	Serial #/VIN	Cost	GW
1	Highway Department	2004	John Deere	Loader	--	DW624JZ593709	\$ 140,000	--
2	Highway Department	1979	--	Compressor	--	34P65-25572	\$ 9,000	--
3	Highway Department	1998	Tiger Boom	Mower	--	C433186	\$ 9,000	--
4	Highway Department	1998	John Deere	Tractor	--	LV53105232707	\$ 25,000	--
5	Highway Department	2010	Bobcat	Track Loader	--	A3PO12286	\$ 54,000	--
6	Highway Department	2003	Peterbilt	Dump	--	2NPNHD8X83M809723	\$ 80,000	--
7	Highway Department	2002	--	Sweeper	--	S9076-S	\$ 85,000	--
8	Highway Department	2001	John Deere	Backhoe	--	T0310SG901514	\$ 70,000	--
9	Highway Department	2001	John Deere	Grader	--	DW670CH581647	\$ 130,000	--
10	Highway Department	2001	Bowmag	Roller	--	4457	\$ 28,000	--
11	Highway Department	2012	Jacobson	R311	--	691702207	\$ 56,000	--
12	Highway Department	2006	Ford	550	--	1FDAF57PX6EB26822	\$ 45,000	--
13	Highway Department	1993	Chevrolet	1-Ton Dump	--	1GBHC34J1PE165264	\$ 45,000	--
14	Highway Department	1974	Ford	Vactor	--	W81CVT36773	\$ 100,000	--
15	Highway Department	2009	Peterbilt	Dump	--	2NPNHD8X83M809723	\$ 120,000	--
16	Highway Department	2001	Sterling	Dump/Sander	--	2FZAAKCS31AJ00131	\$ 135,000	--
17	Highway Department	2001	International	Dump	--	1HTGBAAR61H385050	\$ 80,000	--
18	Highway Department	2006	--	Clean Burn	--	--	\$ 13,000	--
19	Highway Department	2003	--	Evaporator	--	--	\$ 12,000	--
20	Highway Department	1990	Jacobson	--	--	705201880	\$ 50,000	--
21	Highway Department	1991	Jacobson	Frontline	--	89888078710	\$ 10,000	--
22	Highway Department	2006	--	Cold Planner	--	SA1075	\$ 12,000	--
23	Highway Department	1991	Dresser	540	--	352011U005565	\$ 140,000	--
24	Highway Department	1980	--	Salt Shed	--	--	\$ 90,000	--
25	Highway Department	2008	Ford	Crown Victoria	M68863	2FAFP71V28X146086	\$ 29,000	--
26	Highway Department	2011	Bobcat	Loader with Attachments	M85515	A3PO1228611302010	\$ 66,685	--
27	Highway Department	2012	Carmate	Traffic Trailer	M82893	5A3C612S2CL002150	\$ 5,000	2990
28	Highway Department	2013	Morebark	Chipper	M89034	4S8SZ1615DW025302	\$ 51,900	--
29	Highway Department	2013	Ford	F550 Dump Truck	M83567	1FDUF5HT6DEA80954	\$ 64,203	19000
30	Highway Department	2013	Peterbilt	Dump Truck	M83566	2NP3HN8X1DM207972	\$ 128,000	41900
31	Highway Department	2015	Chevrolet	Silerado	M92352	1GB3KYC84FF523720	\$ 53,951	13200
32	Highway Department	2015	Chevrolet	Silerado	M92089	1GC5KYC84FZ504295	\$ 45,978	--
33	Highway Department	2016	Peterbilt	Truck	M92093	2NP3HJ8X3GM319699	\$ 139,598	43660
34	Highway Department	2016	Chevrolet	Silerado	M94230	1GC3KYC87GZ157151	\$ 46,198	11400
35	Council on Aging	2008	Ford	Econoline Van	LV53002	1FTNS24W08DA26497	\$ 34,105	--
36	Council on Aging	2016	Ford	Transit	--	NMOGS9F72G1265071	\$ 24,020	5280
37	DPW	1974	Ford	Vacuum	M73951	W81CVT36773	\$ 12,000	--
38	DPW	1979	Davy	Compressor	M63638	34P6525572	\$ 1	--
39	DPW	1993	Chevrolet	Dump Truck	M82939	1GBHC34J1PE165264	\$ 15,000	--
40	DPW	1997	John Deere	Tractor	M29716	LV0755D180504	\$ 16,921	--
41	DPW	1999	John Deere	Tractor	M62445	LV53105232707	\$ 32,000	--
42	DPW	2001	John Deere	Backhoe	M67186	T0310SG901514	\$ 70,146	--
43	DPW	2001	Utility	Trailer	M67196	4YUUF16141T004202	\$ 1	--
44	DPW	2001	Sterling	Dump Truck	M73935	2FZAAKCS31AJ00161	\$ 45,000	--
45	DPW	2001	International	Dump Truck	M77892	1HTGBAAR61H385050	\$ 50,956	--
46	DPW	2001	John Deere	Grader	M67094	DW670CH581647	\$ 133,000	--
47	DPW	2002	Homemade	Trailer	M68676	(M68676)	\$ 2,000	--
48	DPW	2003	Peterbilt	Dump Truck	M73947	2NPNHD8X83M809723	\$ 53,000	--
49	DPW	2004	John Deere	Loader	M68696	DW624JZ593709	\$ 133,000	--
50	DPW	2005	Econoline	Trailer	M72817	42ETPDR4151000572	\$ 8,000	--
51	DPW	2005	K&K	Trailer	M7326	1K9BU08175T244055	\$ 2,000	--
52	DPW	2005	Sure Trac	Utility Trailer	M71546	5JWU142451004082	\$ 2,600	--
53	DPW	2005	John Deere	Backhoe Loader	OC840	FF2300X60372	\$ 200,000	--
54	DPW	2006	Ford	F550 Truck	M74248	1FDAF57PX6EB26800	\$ 40,000	--
55	DPW	2009	Peterbilt	Dump Truck	M77878	2NPRHN8X29M779618	\$ 116,364	--
56	DPW	2016	Owner	Contractor Plate	--	--	--	--
57	Fire	1994	Spartan	Fire Truck	MF1602	4S7DT9T07SC015078	\$ 198,649	--
58	Fire	1994	Chevrolet	Silerado	MF9730	1GBGK24F1RE181357	\$ 10,000	--
59	Fire	2004	Chevrolet	Tahoe	MF828	1GNEK13T04J277895	\$ 45,000	--
60	Fire	2004	Chevrolet	Silerado	MF4648	1GCHK34U04E270091	\$ 28,000	--
61	Fire	2005	Freightliner	Fire Truck	MF7251	1FVAC5CV75HU28192	\$ 86,000	--
62	Fire	2007	Smeal	Fire Truck	MF1603	4S7HT2D947C056111	\$ 265,000	--
63	Fire	2011	International	Water Master	MF9526	1HTGSSJT8BJ392173	\$ 287,000	66000
64	Fire	2014	Chevrolet	Tahoe	MFA937	1GNSK2E06ER174947	\$ 30,000	--
65	Fire	2016	Ford	F550 4x4 Ambulance	MPB262	1FDUF5HT1GEB06669	\$ 248,990	18000
66	Police	1986	Chevrolet	Pickup	MP1186	1G8ED18J5GF103963	\$ 15,000	--
67	Police	2012	Ford	Explorer	294SS9	1FMHK8B83CGA21706	\$ 28,115	--
68	Police	2012	Ford	Taurus	238SP7	1FAHP2HWOCG140036	\$ 28,000	--
69	Police	2013	Ford	Explorer	MP928H	1FM5K8AR8DGA89059	\$ 32,085	--
70	Police	2013	Ford	Taurus	MP867J	1FAHP2M82DG157767	\$ 28,000	--
71	Police	2015	Ford	Explorer	MP957G	1FM5K8AR9FGA88571	\$ 36,000	6300
72	Police	2016	Ford	Explorer	MP868J	1FM5K8AR9GGA08400	\$ 37,177	6108
73	Police	2016	Ford	Explorer	MP944H	1FM5K8AR1HGA37536	\$ 39,701	6342
74	Police	2017	Ford	Explorer	MP867J	1FM5K8AR1HGE30601	\$ 40,460	6342
75	Public	2016	Load Rite	Trailer	M94882	5A4FXLL12G2010980	\$ 2,299	2999
76	School	1997	Ford	Club Wagon	34112	1FBHE31L6VHB95243	\$ 23,665	--
77	School	2005	Ford	F250	M71536	1FTNF21515ED16818	\$ 25,000	--
78	School	2017	Ford	Transit	M98521	NMOGE9F7XH1302410	\$ 28,625	--
79	Selectman	2018	Chevrolet	Volt	M99621	1G1RC6S51JU114781	\$ 30,253	4444
80	Town	2008	Ford	F350 Super Duty	M80932	1FTWF33548EC52091	\$ 39,813	--

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APPENDIX E

STANDARD OPERATING PROCEDURE | *Building Maintenance*



TARGETED POLLUTANTS

Sediments
Chemicals

RESPONSIBLE DEPARTMENTS

Department of Public Facilities
Highway Department

When conducted outdoors, the preparation of surfaces for painting and the final application of paints and finishes represent potential sources of stormwater pollution. Grit from sanding and overspray from painting and finishing are two common contaminants resulting from painting operations. Painting in areas which are not covered or contained adequately may result in the introduction of grit, overspray, and chemicals to the stormwater system.

Handling and use of paints and finishes by improperly trained personnel increases the potential for spills and incorrect use. Contamination of stormwater can also occur during storage, when the paints are not being directly handled. Leaks and spills from faulty containers can migrate to the engineered storm drain system or receiving waters if not promptly controlled.

Pollution Prevention Approach

To prevent or reduce the potential for stormwater pollution from painting the following preventative maintenance procedures are recommended:

- All preparation and application activities should take place in an area that has been covered and contained to the greatest feasible extent. Simple brush-based painting needs less containment than spray painting and sand blasting, which must adhere to air pollution control and OSHA enclosure requirements.
- Ground cloths or drop cloths should be used at each painting site to collect debris and spills. Runoff control devices can be used around catch basins to prevent spilled paint from entering the storm drain system. **In case a spill or leak does occur, storage areas and any vehicles transporting paints should be equipped with a spill response kit.**
- During precipitation events, painting materials should be stored either indoors or under cover to avoid contact with stormwater.
- Permanent storage can be in cabinets or in other high, dry locations and in accordance with the manufacturer's instructions. Cabinets and storage area floors should be watertight, impervious, and provide spill containment. Many of the guidelines for the storage of pesticides and fertilizers can be applied to paints and finishes as well.

STANDARD OPERATING PROCEDURE **Catch Basin Inspection, Cleaning, and Maintenance**



TARGETED POLLUTANTS

Sediment
Nutrients
Trash
Metals
Oil and Grease
Organics
Low Dissolved Oxygen
Bacteria

RESPONSIBLE DEPARTMENTS

Highway Department

ATTACHED MASSDEP REUSE & DISPOSAL OF STREET SWEEPINGS SOURCE:

<http://www.mass.gov/eea/agencies/massdep/recycle/regulations/management-of-catch-basin-cleanings.htm>

Catch basins help minimize flooding and protect water quality by removing trash, sediment, decaying debris, and other solids from stormwater runoff. Catch basin cleaning reduces foul odors, prevents clogs in the storm drain system, and reduces the loading of suspended solids, nutrients, and bacteria to receiving waters.

Suggested Standard Operating Procedures

Implement applicable suggested Standard Operating Procedures to reduce the influx of pollutants to the stormwater drainage system to the maximum extent practicable.

- Target cleaning for early spring.
- Clean manually or with equipment (i.e., clamshell or vactor truck).
- Properly dewatering and dispose of catch basin material or store until contractor picks up cleanings (see "Management of Catch Basin Cleanings").
- Repair damaged catch basins including frames and grates.
- Install hoods if catch basins do not have them.
- Inform employees that catch basins are part of the stormwater drainage system and not the sanitary sewer system.
- The Highway Department should maintain an inventory of cleaning activities. Information should at a minimum include amount of cleanings removed and areas with heavily filled basins.
- Facilities should maintain a log of cleaning activities on their parking lots. Information should include date of cleaning activities, staff/contractor that performs activities, number of basins cleaned, illicit connection/odor issues, repair issues, or heavily filled catch basins.
- Report any illicit (illegal) discharges to the Board of Health. Report oil spills immediately to the Fire Department and Board of Health.

Required Inspection & Cleaning Frequency

- Prioritize inspection and maintenance for catch basins located near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment). Clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.
- Establish a schedule with a goal that the frequency of routine cleaning will ensure that no catch basin at any time will be more than 50 percent full.
- Inspections should be incorporated during routine cleaning, as part of reconstruction contracts, and through requests made by residents or other Town departments.
- For facilities and activities within watersheds impaired by solids (such as turbidity in Stony Brook) and metals prioritize inspection and maintenance for catch basins. Clean catch basins more frequently if inspection and maintenance activities indicate excessive sediment or debris loading

Reporting

- Report any repair or maintenance problems to the Highway Superintendent. Repair problems may include frame and grate replacement.
- Keep a log of catch basins cleaned or inspected.
- Document Town's plan for optimizing catch basin cleaning, inspection plans, or its schedule for gathering information to develop the optimization plan in the SWMP and the first annual report. Documentation is required to include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4.
- Report in each annual report the total number of catch basins, number inspected, number cleaned, and the total volume or mass of material removed from all catch basins.
- If a catch basin sump is more than 50 percent full (i.e. a catch basin sump is more than 50 percent full if the contents within the sump exceed one half ($\frac{1}{2}$) the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin) during two (2) consecutive routine inspections/cleaning events, the Town must document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practicable, abate contributing sources. Granby is required by EPA to describe any actions taken in its annual report.

Management of Catch Basin Cleanings

MassDEP has developed guidance on requirements and standards of catch basin cleanings. This policy is attached as part of this SOP.



The Official Website of the Executive Office of Energy and Environmental Affairs

Energy and Environmental Affairs

Management of Catch Basin Cleanings

Catch basin cleanings - solid materials such as leaves, sand and twigs removed from storm water collection systems during cleaning operations - are typically classified as a solid waste by the Department of Environmental Protection (MassDEP). Catch basin cleanings must be handled and disposed in accordance with the agency's applicable regulations, policies and guidance.

Handling & Disposal

Except as explained below, catch basin cleanings from storm water-only drainage systems may be disposed at any landfill that is permitted by MassDEP to accept solid waste.

MassDEP does not routinely require storm water only catch basin cleanings to be tested before disposal, unless there is evidence that they have been contaminated by a spill or some other means. Contaminated catch basin cleanings must be evaluated in accordance with the Hazardous Waste Regulations, 310 CMR 30.000, and handled as Hazardous Waste if appropriate.

Systems that collect storm water run-off into sanitary sewers are called "combined sewers." MassDEP may require cleanings from combined sewer catch basins to be tested before disposal.

Landfill Restrictions

The MassDEP [310 CMR 19.000: Solid Waste Management Facility Regulations](#) (specifically see Section 19.130(7)) prohibit Massachusetts landfills from accepting materials that contain free draining liquids. When there is no free water in a truck used to transport catch basin cleanings, the agency will generally be satisfied that the material is sufficiently dry. Otherwise, the material will need to undergo a Paint Filter Liquids Test.

One way to remove liquids is to use a hydraulic lift truck during catch basin cleaning operations so that the material can be decanted at the site. After material from several catch basins along the same system is loaded, the truck may be elevated so that any free draining liquid is allowed to flow back into the drainage structure.

MassDEP may approve catch basin cleanings for use as grading and shaping material at landfills undergoing closure (see the agency's Revised Guidelines for Determining Closure Activities at Inactive Unlined Landfill Sites for additional information). Catch basin cleanings may be used as daily cover or grading material at active landfills only with specific MassDEP approval of the proposed use.

Consult with the Solid Waste Section Chief in the appropriate MassDEP Regional Office for information about applying for an approval and/or a Beneficial Use Determination (see Section 19.060 of the [310 CMR 19.000: Solid Waste Management Facility Regulations](#)) for other uses, including non-landfill uses.

STANDARD OPERATING PROCEDURE *Fuel and Oil Handling Procedures*



TARGETED POLLUTANTS

Metals
Oil and Grease
Hydrocarbons

RESPONSIBLE DEPARTMENTS

Highway Department
Department of Public Facilities

Spills, leaks, and overfilling can occur during handling of fuels and petroleum-based materials, even in small volumes, representing a potential source of stormwater pollution. This Standard Operating Procedure addresses a variety of ways by which fuels and petroleum-based materials can be delivered, as well as steps to be taken when petroleum products (such as waste oil) are loaded onto vehicles for offsite disposal or recycling. Delivery, unloading, and loading of waste oils are hereafter referred to as “handling”.

For all manners of fuel and oil handling described below, a member of the facility’s Pollution Prevention Team (or another knowledgeable person familiar with the facility) shall be present during handling procedures. This person shall ensure that the following are observed:

- There is no smoking while fuel handling is in process or underway.
- Sources of flame are kept away while fuel handling is being completed. This includes smoking, lighting matches, carrying any flame, or carrying a lighted cigar, pipe, or cigarette.
- The delivery vehicle’s hand brake is set and wheels are chocked while the activity is being completed.
- Catch basins and drain manholes are adequately protected.
- No tools are to be used that could damage fuel or oil containers or the delivery vehicle.
- No flammable liquid shall be unloaded from any motor vehicle while the engine is operating, unless the engine of the motor vehicle is required to be used for the operation of a pump.
- Local traffic does not interfere with fuel transfer operations.
- The attending persons should watch for any leaks or spills. Any small leaks or spills should be immediately stopped, and spilled materials absorbed and disposed of properly. In the event of a large spill or one that discharges to surface waters or an engineered storm drain system, the facility representative shall activate the facility’s Stormwater Pollution Prevention Plan (SWPPP) and report the incident as specified within.

Delivery by Bulk Tanker Truck

Procedures for the delivery of bulk fuel shall include the following:

- The truck driver shall check in with the facility upon arrival.
- The facility representative shall ensure that the appropriate spill cleanup and response equipment and personal protective equipment are readily available and easily accessible. Refer to SOP 4, “Spill Response and Cleanup Procedures”, for examples of spill cleanup and response materials.
- The facility representative shall check to ensure that the amount of delivery does not exceed the available capacity of the tank.
 - A level gauge can be used to verify the level in the tank.
 - If a level gauge is not functioning or is not present on the tank, the tank should be stick tested prior to filling.
- The truck driver and the facility representative shall both remain with the vehicle during the delivery process.

- The truck driver and the facility representative shall inspect all visible lines, connections, and valves for leaks.
- When delivery is complete and the hoses are removed, buckets should be placed underneath connection points to catch drippings.
- The delivery vehicle shall be inspected prior to departure to ensure that the hose is disconnected from the tank.
- The facility representative shall inspect the fuel tank to verify that no leaks have occurred, or that any leaked or spilled material has been cleaned and disposed of properly.
- The facility representative shall gauge tank levels to ensure that the proper amount of fuel is delivered, and collect a receipt from the truck driver.

Delivery of Drummed Materials

Drummed materials may include motor oil, hydraulic fluid, transmission fluid, or waste oil from another facility (as approved). Procedures for the delivery of drummed materials shall include the following:

- The truck driver shall check in with the facility upon arrival.
- The facility representative shall ensure that the appropriate spill cleanup and response equipment and personal protective equipment are readily available and easily accessible. Refer to SOP 4, "Spill Response and Cleanup Procedures", for examples of spill cleanup and response materials.
- The facility representative shall closely examine the shipment for damaged drums.
 - If damaged drums are found, they shall be closely inspected for leaks or punctures.
 - Breached drums should be removed to a dry, well-ventilated area and the contents transferred to other suitable containers.
 - Drums shall be disposed of in accordance with all applicable regulations.
- Drummed materials shall not be unloaded outdoors during wet weather events.
- The truck driver and the facility representative shall both remain with the vehicle during the delivery process.
- Drums shall be handled and unloaded carefully to prevent damage.
- Upon completion of unloading, the facility representative shall inspect the unloading point and the drums to verify that no leaks have occurred, that any leaked or spilled material has been cleaned up and disposed of properly, and that the unloaded drums are not leaking.
- The facility representative shall check to ensure that the proper amount of fuel is delivered, and collect a receipt from the truck driver.

Removal of Waste Oil from the Facility

When waste oil or similar oil products need to be removed from the premises, only haulers certified to transport waste oil should be utilized. Procedures for the draining of bulk oil tanks shall include the following:

- The disposal truck driver shall check in with the facility upon arrival.
- The facility representative shall ensure that the appropriate spill cleanup and response equipment and personal protective equipment are readily available and easily accessible. Refer to SOP 4, "Spill Response and Cleanup Procedures", for examples of spill cleanup and response materials.
- The facility representative shall verify that the volume of waste oil in the tank does not exceed the available capacity of the disposal hauler's vehicle.
- The truck driver and the facility representative shall both remain with the vehicle during the tank draining process.
- When draining is complete and the hoses are removed, buckets should be placed underneath connection points to catch drippings.
- The disposal hauler vehicle shall be inspected prior to departure to ensure that the hose is disconnected from the tank.
- The facility representative shall inspect the loading point and the tank to verify that no leaks have occurred, or that any leaked or spilled material has been cleaned up and disposed of properly.
- The facility representative shall collect a receipt from the truck driver.

STANDARD OPERATING PROCEDURE | *Lawn, Grounds, and Landscaping Maintenance*



TARGETED POLLUTANTS

Sediments
Nutrients
Trash
Metals
Bacteria
Oil and Grease
Organics
Low Dissolved Oxygen

RESPONSIBLE DEPARTMENTS

Highway Department
Cemetery Commission
Department of Public Facilities

Nutrient loads generated by suburban lawns as well as municipal properties can be significant, and recent research has shown that lawns produce more surface runoff than previously thought. Grass clippings and leaf litter contribute nutrients to local waters. Dumping lawn and yard waste directly into streams or the drainage system is prohibited.

Landscaping activities, such as mowing, fertilizing, and pesticide application, has the potential to contribute to local stormwater pollution. When lawn mowers, weed whackers, and other landscaping equipment with small engines are used at municipal parks, gasoline and oil are generally also transported to the park to fuel these pieces of equipment. There is an inherent risk of spilling fuel when equipment is being fueled. Poorly maintained equipment may also leak liquids during use.

Grassed areas and parks are often attractive locations for Canada geese and other birds and waterfowl to congregate. Waterfowl droppings are not only a nuisance for park visitors and children playing on athletic fields, but also contribute nutrient and bacteria pollution to surface waters.

Prevent lawn debris from entering surface and groundwater supplies by washing and cleaning with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater drainage system.

Suggested Standard Operating Procedures

Landscaping Activities

- Use mulch or other erosion control measures on exposed soils.
- Check irrigation schedules and avoid watering during already wet weather.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the stormwater drainage system.
- Use hand or mechanical weeding where practical.
- Reduce mowing frequency and employ mowing techniques to maintain a healthy lawn and minimize chemical use – no more than 1 inch of lawn should be removed from each mowing (grasses kept at 2.5 to 3 inches high are more heat-resistant than close-cropped grass).
- Keep mower blades sharp and leave clippings in place after mowing. If lawn clippings are collected, dispose of them properly.
- Water plants in the early morning or late at night.
- Consider use of alternative landscaping materials (e.g., drought-resistant plantings).
- Use yard waste as mulch and topsoil, or compost.
- Sweep up yard debris instead of hosing down.
- Do not leave yard waste in the street or sweep it into storm drains or streams.
- Sweep paved areas regularly to collect loose particles

STANDARD OPERATING PROCEDURE | *Lawn, Grounds, and Landscaping Maintenance*

Equipment and Gasoline/Oil Management

- To prevent contamination of stormwater by gasoline and oil during maintenance activities at municipal parks, all equipment and containers should be regularly maintained and inspected to ensure that no leaks are present. Handling of gasoline and oil, including filling fuel tanks, should be conducted on impervious surfaces with proper containment of the surrounding area in the event of a spill or a leak. Please refer to the SOP for Fuel and Oil Handling, for more detailed procedures.
- Equip vehicles transporting landscaping equipment, pesticides, fertilizer, or paint with a spill response kit in case a spill or leak of any of the aforementioned materials does occur. More detailed information on spill kits can be found in the SOP for Spill Response and Cleanup.

Waterfowl Management

- Install signs in locations of higher waterfowl density prohibiting feeding the waterfowl and wild animals. Feeding water fowl discourages their natural behavior and may cause dependency on handouts from park visitors. This can lead to overpopulation in parks and other open spaces. When left on their own, waterfowl will find new areas where food sources are more plentiful.
- Regularly maintain areas of waterfowl congregation to prevent pollution due to droppings and feathers.
- Regularly maintain waterways and entrances to the drainage system which may accumulate waterfowl droppings.
- Consider employing physical methods for discouraging waterfowl from residing at parks and open spaces (e.g. reducing watering and fertilizer use, planting foul tasting grasses, eliminating nesting structures, installing predatory decoys, and employing trained dogs to herd and intimidate waterfowl).

Inspection Procedures

- Look for erosion and poor vegetation cover. Address promptly, especially when these areas are within 50 feet of a surface water or storm drain.
- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring.
- Minimize excess watering and repair leaks in the irrigation system as soon as they are observed.
- Inspect and remove accumulated debris from grounds.
- Routinely monitor lawns to identify problems during their early stages.
- Identify nutrient/water needs of plants.
- Inspect for problems by testing soils.

**TARGETED POLLUTANTS**

Oil and Grease

RESPONSIBLE DEPARTMENTSHighway Department
Department of Public Facilities

Oil/water separators (OWS), also known as gas/oil separators, are structural devices intended to provide pretreatment of floor drain water from industrial and garage facilities. An OWS allows oils (and substances lighter than water) to be intercepted and be removed for disposal before entering the sanitary sewer system. Substances heavier than water settle into sludge at the bottom of the unit. The remaining water passes through the unit into the sanitary sewer system.

OWS units are generally required where petroleum-based products, wastes containing petroleum, or oily and/or flammable materials are used, produced, or stored. OWS units should not be used to manage stormwater or flow from vehicle washing facilities. High flow rates through an OWS will reduce the structure's ability to separate materials. Detergents and solvents can emulsify oil and grease, allowing the particles to enter the sewer, so these should not be disposed of in drains entering the OWS.

General Oil/Water Separator Maintenance

- Each OWS at a facility may receive different materials in different quantities, so the cleanout schedule may not be the same for every OWS at a facility.
- Employees performing inspections of an OWS must be properly trained and be familiar with the maintenance of that specific structure, since function can vary based on design. Third-party firms may be utilized to perform quarterly inspections.
- Do not drain petroleum, oil, or lubricants directly to an OWS. The structures are designed to manage these materials at low and medium concentrations in sanitary sewage, not as slug loads.
- Do not drain antifreeze, degreasers, detergents, fuels, alcohols, solvents, coolant, or paint to the OWS.
- Separator compartment covers should be tightly sealed to ensure floor drainage only enters the first compartment of the OWS.
- Drains should be kept free of debris and sediment to the maximum extent practicable.
- Spill cleanup materials should be maintained in the area served by the OWS.

Oil/Water Separator Inspection Procedures

Daily inspection of an OWS should include a visual examination of the area served by the OWS for evidence of spills or leaks.

Weekly inspections of an OWS should include the following:

- Visually examine the area served by the OWS for evidence of spills or leaks.
- Inspect the point of discharge (i.e., sewer manhole) for evidence of petroleum bypassing the OWS.
- Inspect drains for any signs of unauthorized substances entering the OWS.
- Identify which areas should be or are bermed to contain spills/leaks.
- Examine the OWS for signs of leaks or any malfunction.

Quarterly inspections of an OWS should include the following:

- Complete tasks noted as appropriate for daily and weekly inspection.
- Complete the Quarterly OWS Inspection Checklist, attached, during the inspection.
- Take the following measurements to benchmark function of the OWS:
 - A. Distance from rim of access cover to bottom of structure
 - B. Distance from rim of access cover to top of sludge layer
 - C. Depth of sludge layer ($C = A - B$)
 - D. Distance from rim of access cover to the oil/water interface
 - E. Distance from rim of access cover to the top of the liquid surface
 - F. Depth of oil layer ($F = D - E$)

Cleaning Procedures

Cleaning of the OWS is required when there has been a spill to the OWS that exceeds ten gallons of oil, one gallon of detergent or solvent, or any material prohibited by the Board of Health. Cleaning is also required when the levels of accumulated sludge and/or oil meet the manufacturer's recommended levels for cleaning. This will vary based on the manufacturer of the OWS. If the manufacturer's recommendations are unknown, the following guidelines are appropriate for determining when to clean:

- When sludge accumulates to 25% of the wetted height of the separator compartment, or
- When oil accumulates to 5% of the wetted height of the separator compartment, or
- When 75% of the retention capacity of the OWS is filled.

Cleaning should be performed a minimum of once per year. When cleaning is required, it shall be performed by licensed OWS maintenance companies. Materials removed from the OWS must be disposed of in accordance with Massachusetts Hazardous Waste Regulations, 310 CMR 30.00.

Documentation of Cleaning and Service

The operator of the premises where the OWS is located shall maintain a log describing the date and type of all inspections, service and maintenance performed in connection with the OWS. Documentation shall include the identity of the inspector (or the identity of the person or entity that performed the service and/or maintenance). Records shall also document the amount of residue removed from the OWS each time it was cleaned, and how removed materials were disposed. This documentation shall be maintained for a minimum of six years.



Oil/Water Separator Inspection Checklist

Facility: _____

OWS Location: _____

Inspected By: _____

Date: _____

Visual Inspection	Are there any signs of spills or leaks in the general area?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	<i>Is there any evidence of petroleum bypassing the OWS?</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	<i>Are there any unauthorized substances entering the OWS?</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	<i>Does the OWS exhibit any signs of leaks or malfunctions?</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>

If you answered "Yes" to any of the above questions, further inspection, repair, and/or cleaning may be necessary.

Measurements	A	Distance from rim of access cover to bottom of structure	
	B	Distance from rim of access cover to top of sludge layer	
	$C = A - B$	Depth of sludge layer	
	D	Distance from rim of access cover to the oil/water interface	
	E	Distance from rim of access cover to the top of the liquid surface	
	$F = D - E$	Depth of oil layer	

If the values for "C" and/or "F" are greater than those in the manufacturer's recommendations, the OWS must be cleaned by a licensed OWS maintenance company.

STANDARD OPERATING PROCEDURE *Pesticides, Herbicides, Fertilizer Use Storage and Disposal*



TARGETED POLLUTANTS

Sediments
Nutrients
Trash
Metals
Bacteria
Oil and Grease
Organics
Low Dissolved Oxygen

RESPONSIBLE DEPARTMENTS

Highway Department
Cemetery Commission
Department of Public Facilities

Unwanted materials may enter the stormwater system during regular applications of fertilizers, herbicides and pesticides to the property. If fertilizers and pesticides are not used in accordance with relevant regulations and instructions, or if they are not applied by properly trained personnel, these chemical treatments can enter stormwater in large quantities. Runoff containing these materials can contribute pollutants that contaminate drinking water supplies and are toxic to both human and aquatic organisms. Granby does not use pesticides, herbicides, or fertilizers on a regular basis, but information for all three are provided below.

Suggested Standard Operating Procedures

Use

- Follow manufacturers' recommendations and label directions.
- Do not apply any chemicals (insecticide, herbicide, or fertilizer) directly to surface waters, unless the application is approved and permitted by the MassDEP under an Integrated Pest Management (IPM) program.
- Check irrigation schedules so pesticides, herbicides, and fertilizers will not be washed away and non-stormwater discharge is minimized.
- Do not apply insecticides within 100 feet of surface waters such as lakes, ponds, wetlands, and streams.
- Use less-toxic pesticides that will do the job whenever possible and use the minimum amount needed. Avoid use of copper-based pesticides if possible.
- Do not use products if rain is expected or during high winds.
- Do not mix or prepare pesticides for application near storm drains.
- Calibrate fertilizer distributors to avoid excessive application.
- Work fertilizers into the soil rather than dumping or broadcasting them onto the surface.

Storage

- Storage of pesticides, herbicides, and fertilizers should be indoors to prevent exposure to rainfall. Store off the floor, in dry, closed containers.
- Provide secondary containment for pesticides.
- Clean up spills immediately. Do not hose down the area to a storm drain.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Implement other storage requirements for pesticide products with guidance from the Massachusetts Department of Agricultural Resources.

Disposal

- Dispose of empty containers according to the instructions on the container label.
- Use up the products. Rinse containers, and use rinse water as a product.
- Dispose of unused pesticide as hazardous waste.

STANDARD OPERATING PROCEDURE

Petroleum and Hazardous Materials Use Storage and Disposal



TARGETED POLLUTANTS

Sediment
Nutrients
Trash
Metals
Oil & Grease
Organics
Low Dissolved Oxygen

RESPONSIBLE DEPARTMENTS

Highway Department
Cemetery Commission
Department of Public Facilities

It is important to properly store petroleum products and hazardous materials to prevent them from contaminating stormwater runoff. Hazardous materials include:

- Cleaning agents: solvents, drain cleaners, and bleach
- Vehicle maintenance fluids: motor oil, gasoline, antifreeze, degreasers, and radiator flush
- Water treatment chemicals
- Paints

Improper storage and handling of these materials can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff and/or cause concerns to health and safety.

Pollution Prevention Approach

Proper management reduces the likelihood of accidental spills or releases of hazardous materials into storm drains or during storm events. In addition, health and safety conditions at the facility will improve.

The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, re-use, and recycling; and preventing runoff and runoff.

Implement applicable suggested Standard Operating Procedures to reduce the influx of pollutants to the stormwater drainage system to the maximum extent practicable.

Suggested Standard Operating Procedures

Loading/Unloading

- All facilities should have proper procedures in place for loading and/or unloading hazardous materials received, especially areas located near catch basins.
- Do not conduct loading and unloading of exposed hazards during wet weather, whenever possible.
- If feasible, load and unload all materials and equipment in covered areas such as building overhangs at loading docks.
- Load/unload only at designated loading areas.
- Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections.

Material Inventory

- Identify all hazardous and non-hazardous substances by reviewing purchase orders and conducting a walk-through of facility.
- Compile Safety Data Sheets (SDS) for all chemicals. These should be readily accessible to all facility employees.

STANDARD OPERATING PROCEDURES *Petroleum and Hazardous Materials Use Storage and Disposal*

- Label all containers of significant materials that include cleaners, fuels, and other hazards.
- Identify handling, storage, and disposal requirements of all chemicals.
- Use environmentally friendly or non-hazardous substitutes when appropriate that include but not limited to H₂Orange₂, Orange Thunder, and Simple Green®.
- Keep hazardous materials and waste off the ground.
- All drums and containers should be in good condition and properly labeled.
- Loose materials including any gravel piles should be covered or placed in shelter.

Storage

- When possible, store indoors.
- Storage of reactive, ignitable, or flammable liquids must comply with the Massachusetts Fire Prevention Regulations for the Storage of Flammable and Combustible Materials (527 CMR 14.03).
- Place containers in a designated area that is paved, free of cracks and gaps, and impervious in order to contain leaks and spills. The area should also be covered.
- Provide secondary containment for hazardous materials and waste placed outdoors.
- Keep containers away from high traffic areas.
- Cover all containers and drums or place under shelter, if stored outdoors.
- Chemicals should be kept in original labeled containers.
- Containers should not be overfilled.
- Store containers on pallets.
- Properly stack containers and drums.
- Storage areas should be enclosed.
- Minimize storage onsite
- Containers should not be glass.
- Segregate reactive/incompatible materials (such as chlorine and ammonia).
- Place drip pans under container spouts.
- Install overfill protection on storage tanks/drums.
- Lock storage areas and provide warning signs.

Waste Oil Storage

When not stored properly, waste oil can be a potential source of petroleum in stormwater. Waste oil containers can leak, and spills can occur while during transportation activities. When possible, steps should be taken to recycle waste oil or reduce the amount generated.

- All waste oil containers should be properly labeled and stored with secondary containment. Containers should be regularly inspected for rust, leaks, or other signs of deterioration. Defective containers should be promptly removed and replaced. A spill response kit should be located wherever waste oil is stored. Facility personnel should know where the spill kit is located and be familiar with the procedures outlined in SOP Spill Response and Cleanup Procedures. Used oil filters should also be properly disposed.
- Care should be taken when transferring used oil to and from storage containers. For additional information see SOP Fuel and Oil Handling Procedures.
- Waste oil should be stored indoors or under a covered structure to prevent exposure to precipitation. Floor drain in waste oil storage areas should drain to an oil/water separator rather than the storm drain system. See SOP Oil/Water Separator Maintenance for further information.

STANDARD OPERATING PROCEDURES

Petroleum and Hazardous Materials Use Storage and Disposal

Waste Collection, Handling, and Disposal

- Keep waste collection areas clean before contractor picks up.
- Inspect solid waste containers for structural damage or leaks regularly. Repair or replace damaged containers as necessary.
- Secure solid waste containers; containers must be closed tightly when not in use.
- Place waste containers under cover if possible.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc. may not be disposed of in solid waste containers.
- Never dump wastes containing detergents to a storm drain system. All wastes containing detergents shall be directed to a sanitary sewer system for treatment at a wastewater treatment plant.
- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.

Inspection Procedures

- Check loading and unloading equipment regularly for leaks, including valves, pumps, flanges and connections.
- Look for dust or fumes during loading or unloading operations.
- Inspect storage areas regularly for leaks or spills.
- Conduct routine inspections and check for external corrosion of material containers.
- Check for structural failure, spills and overfills due to operator error, failure of piping system.
- Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.
- Visually inspect new tank or container installations for loose fittings, poor welding, and improper or poorly fitted gaskets.
- Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- Replace containers that are leaking, corroded, or otherwise deteriorating with ones in good condition. If the liquid chemicals are corrosive, containers made of compatible materials must be used instead of metal drums.
- Label new or secondary containers with the product name and hazards.
- Conduct physical on-site verification of sealed floor drains.
- If floor drains are not sealed, verify drains are connected to a holding tank, if floor drains are not connected to a holding tank, a facility is required to either:
 - Connect to the municipal sanitary sewer system;
 - Connect to a holding tank; or
 - Seal the floor drains with caps or plugs in accordance with 248 CMR 10.07, provided that, an application for sealing of floor drains that includes a WS-1 form from the Department of Environmental Protection Waste Minimization Program Procedures (MassDEP Form WS-1) is filed and approved by the Plumbing Inspector before commencing any work. A copy of the form indicating the Inspector's approval must be returned to the MassDEP by the applicant, as indicated on the document.
- Regular inspection and cleaning of oil/water separators or other pretreatment holding tanks by qualified contractor or facility personnel.
- Regular inspection of material storage areas (inside and outside) to verify items are not exposed to precipitation and are covered or in enclosed areas.
- Inspect stormwater discharge locations and onsite stormwater drainage infrastructure (e.g., catch basins) regularly for contaminants, soil staining, and plugged discharge lines.

STANDARD OPERATING PROCEDURES *Petroleum and Hazardous Materials Use Storage and Disposal*

Maintenance Procedures

- Train employees routinely and when new products enter the facility on proper use, storage, disposal, and safety concerns. SDS should be reviewed and readily accessible in central facility location.
- Repair or replace any leaking/defective containers, and replace labels as necessary.
- Maintain caps and/or covers on containers.
- Maintain aisle space for inspection of products/wastes.
- Routinely clean work spaces.
- Properly collect/dispose of waste.
- Routinely maintain and inspect vehicles and equipment.
- Spill Prevention Control and Countermeasure Plan (SPCC) Plan must be prepared and kept on file at facilities that store over 1,320 aggregate, where a spill could reach water. When determining the total quantity of oil stored onsite, include all aboveground containers with a capacity of 55-gallons. Add up all the tanks and drums, any tanks on portable equipment, hydraulic reserves, and oil-filled electrical transformers. The USEPA enforces the Oil SPCC Plan through the Code of Federal Regulations (C.F.R.) Title 40 C.F.R. Part 112—Oil Pollution Prevention.

DRAFT

STANDARD OPERATING PROCEDURE | *Pet Waste*



TARGETED POLLUTANTS

Nutrients
Organics
Low Dissolved Oxygen
Pathogens/Bacteria

RESPONSIBLE DEPARTMENTS

Highway Department

Pet droppings can be significant contributor of pollution in lakes and pond watersheds where there are high populations of dogs. It has been estimated that for a small watershed (up to 20 square miles), 2 to 3 days of droppings from a population of 100 dogs contribute enough bacteria, nitrogen, and phosphorus to temporarily close it to swimming.

Pollution Prevention Approach

Provide pet awareness and education programs with the following elements:

- Encouraging residents to clean up after their pets and to properly dispose of such wastes that may be deposited in their yards, streets, and parks.
- If pet waste is a problem, post signs in local parks describing the problem and urging cleanup and proper disposal of pet wastes or target residential areas for public education brochures.

Suggested Standard Operating Procedures

- Put waste in trash.
- Restrict dog access to areas of parks where swales, steep slopes, and streams are.
- Provide vegetated buffers of prescribed widths between dog parks and waterways, swales, storm drain inlets, gullies, and steep slopes.
- Add and maintain pooper scooper stations with free sanitary "pick-up" bags and proper receptacles to Town-owned parks and playgrounds that have pet waste problems.
- Continue to incorporate public outreach elements like signage and informational brochures into and around parks, as necessary.

Inspection Procedures

- Routinely inspect common dog walking areas for pet waste.

Maintenance Procedures

- Remove and properly dispose of pet waste.
- Restock Mutt Mitt stations frequently.
- Pick up trash frequently and maintain adequate trash receptacles.

STANDARD OPERATING PROCEDURE *Spill Prevention, Response and Cleanup Procedures*



TARGETED POLLUTANTS

Nutrients
Metals
Oil and Grease
Hydrocarbons
Organics

RESPONSIBLE DEPARTMENTS

Highway Department
Department of Public Facilities

Municipalities are responsible for any contaminant spill or release that occurs on property they own or operate. Particular areas of concern include any facilities that use or store chemicals, fuel oil, or hazardous waste, including schools, garages, DPW yards, and landfills.

It is important to have proper spill response and cleanup procedures in place in the event of a spill to mitigate the effects of a contaminant release and prevent contaminants from mixing with stormwater runoff. A spill prevention and response plan can be effective at reducing the risk of surface and groundwater contamination, but only with proper personnel training, the availability of cleanup supplies, and when management ensures procedures are followed.

Pollution Prevention Approach

- Create a well-thought-out spill prevention and response plan, and implement in the event of a spill.
- Facilities that store 1,320 gallons or more of oil (used and new oil, heating oil, engine oil, lube oil, hydraulic oil, and/or transmission fluid) total must develop and keep near oil storage areas an Oil Spill Prevention, Control, and Countermeasure (SPCC) Plan, as regulated under the EPA.
- Post a response checklist in any hazardous waste storage area with contact information (including emergency phone numbers) and spill containment procedures.
- Train personnel on spill prevention and response.
- Regularly update plan, checklists, and contact information.
- Regularly inspect spill potential areas.

Spill Prevention and Response Plan

For facilities that do not already have an Oil SPCC Plan, the plan should include a:

- Description of the facilities, the address, activities and materials involved.
- Identification of key spill response personnel and hospital contacts.
- Identification of the potential spill areas or operations prone to spills/leaks.
- Identification of which areas should be or are bermed to contain spills/leaks.
- Facility map identifying the key locations of areas, activities, materials, structural BMPs, etc.
- Material handling procedures and safety measures for each kind of waste.
- Spill response procedures including:
 - Assessment of the site and potential impacts
 - Containment of the material
 - Notification of the proper personnel and evacuation procedures
 - Clean up of the site

STANDARD OPERATING PROCEDURE | *Spill Prevention and Response*

- Disposal of the waste material
- Proper record keeping procedures
- Plan to protect all storm drains in the event of a spill.
- Descriptions of spill response equipment, including safety and cleanup equipment.

Standard Operating Procedures

Spill/Leak Prevention

- If possible, move material handling indoors, under cover, or away from storm drains or sensitive water bodies.
- Properly label all containers so that the contents are easily identifiable.
- Berm storage areas so that if a spill or leak occurs, the material is contained.
- Cover outside storage areas either with a permanent structure or with a seasonal one such as a tarp so that rain will not come into contact with the materials.
- Check containers (and any containment sumps) often for leaks and spills. Replace containers that are leaking, corroded, or otherwise deteriorating with containers in good condition. Collect all spilled liquids and properly dispose of them.
- Store, contain, and transfer liquid materials in such a manner that if the container is ruptured or the contents spilled, they will not discharge, flow, or be washed into the storm drainage system, surface waters, or groundwater.
- Place drip pans or absorbent materials beneath all mounted taps and at all potential drip and spill locations during the filling and unloading of containers. Any collected liquids or soiled absorbent materials should be reused/recycled or properly disposed of.
- For Town programs that involve material transport, only transport the minimum amount of material needed for the daily activities and transfer materials between containers at a municipal yard where leaks and spills are easier to control.
- If paved, sweep and clean storage areas monthly. Do not use water to hose down the area unless all of the water will be collected and disposed of properly (e.g., in an oil/water separator).
- Install a spill control device (such as a tee section) in any catch basins that collect runoff from any storage areas if the materials stored are oil, gas, or other materials that separate from and float on water. This will allow for easier cleanup if a spill occurs.
- If necessary, protect catch basins while conducting field activities so that if a spill occurs the material will be contained.
- Keep ample supplies of spill cleanup materials including Speedi Dry and absorbent boom pads onsite.

Spill Clean Up

- Non-hazardous spills:
 - Use absorbent materials for general cleanup of liquids.
 - Use brooms, shovels, or street sweepers for the general cleanup of dry materials.
 - If water is used, it must be collected and properly disposed of. The wash water cannot be allowed to enter the storm drain.
 - Dispose of any waste materials properly, according to regulations.
 - Clean or dispose of any equipment used to clean up the spill properly.
- For hazardous or very large spills, contact the **Fire Department**. A private cleanup contractor may be needed to be contacted to assess the situation and conduct the cleanup and disposal of the materials. The used cleanup materials, including rags, are also hazardous and must be disposed of as hazardous waste.

STANDARD OPERATING PROCEDURE | *Spill Prevention and Response*

Reporting

- Report any spills immediately to the Facility Supervisor.
- Report spills in accordance with applicable reporting laws. Spills that pose an immediate threat to human health or the environment must be reported immediately to the Town's Health Department and the Fire Department.
- Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour).
- A spill of 10 gallons or more of oil requires you to call MassDEP immediately at 888-304-1133. Uncontrolled oil can threaten water resources, waterfowl, and contaminate soils and water supplies. There is a specific "reportable quantity" for other hazardous materials. When in doubt, call MassDEP.
- After the spill has been contained and cleaned up, a detailed report about the incident should be generated and kept on file. The incident may also be used in briefing staff about proper procedures.

Inspection Procedures

- Inspect secondary containment systems and oil/water separators periodically to identify any operational problems.
- Inspect containers for leaks, areas near storm receiver inlets and outlets, and floor drains for indications of spills.

Maintenance Procedures

- Pump out oil/water separators as needed.
- Protect drains with oil absorbent materials.
- Clean out receivers on regular schedule.
- Remove spilled salt from salt loading areas, including the Town's salt storage shed.

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STANDARD OPERATING PROCEDURE | *Spill Prevention and Response*

Notification and Response Procedures

Internal Notification and Response

If a spill is discovered, **immediately** notify the Safety Officer and the Facility Supervisor.

Safety Officer

Name: _____
Work Phone: _____
Emergency Phone: _____

Facility Supervisor

Name: _____
Work Phone: _____
Emergency Phone: _____

If needed, contractors should be notified for additional assistance.

Clean Harbors

42 Longwater Drive
P.O. Box 9149
Norwell, MA 02061
24-hour emergency response: 800-645-8265

Tighe & Bond (License Site Professionals)

53 Southampton Rd
Westfield, MA
413-562-1600

Federal and State Notification

Agency	Phone Number	When to Call
MassDEP 24-hour Spill Hotline	888-304-1133	- A release of any quantity of oil into water - Within 2 hours of a release of 10 gallons or more of oil on land
EPA Region 1	888-372-7341	- Release of more than 1,000 gallons of oil into a river/stream or if it is the second spill of any quantity of oil into a river/stream within 1 year
National Response Center (24 hours)	800-424-8802	- A release of any quantity of oil into water

Trigger volumes for other chemical spills vary. Contact MassDEP or a Licensed Site Professional for specific guidance on reporting thresholds and requirements for other chemicals.

MassDEP Northeast Regional Office

978-694-3200

Licensed Site Professionals Association (Wakefield, MA)

781-876-8915

For more information, contact:

	Phone Number
Hazardous Waste Compliance Assistance Line	(617) 292-5898
Household Hazardous Products Hotline	(800) 343-3420
Massachusetts Department of Fire Services	(978) 567-3100 or (413) 587-3181

STANDARD OPERATING PROCEDURE | *Spill Prevention and Response*

Local Notification

The following local agencies should be called to provide emergency assistance, if required:

	Phone Number	Emergency Phone Number
Granby Fire Department	413-467-9696	911
Granby Police Department	413-467-7911	911
Granby Highway Department	413-467-7575	
Granby Health Department	413-467-7174	
Holyoke Medical Center	413-534-2500	

Local Emergency Room

Holyoke Medical Center
575 Beech Street
Holyoke, MA 01040

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STANDARD OPERATING PROCEDURE *Sweeping Streets and Town-owned Parking Lots*



TARGETED POLLUTANTS

Sediments
Nutrients
Trash
Metals
Bacteria
Oil and Grease
Organics
Low Dissolved Oxygen

RESPONSIBLE DEPARTMENTS

Highway Department

MASSDEP REUSE & DISPOSAL OF STREET SWEEPINGS SOURCE:

<http://www.mass.gov/eea/docs/dep/recycle/laws/stsweep.pdf>

Suggested Standard Operating Procedures

- Adhere to the Town's cleaning schedule.
- Town/facility parking lots should be checked regularly by Facility personnel and swept in the spring. If needed, increase sweeping frequency if excessive sediment accumulates.
- Any visible sediment should be swept up (including sand/salt mixtures and granular material).
- Control the number of points where vehicles leave the Facilities to allow sweeping to be focused on certain areas in parking lots.
- Sweep up the smallest particles feasible.
- Sweep in pattern to keep spilled material from being pushed into catch basins.
- Adjust broom frequently to maximize efficiency of sweeping operations.
- After sweeping is finished, make sure sweepings are properly stored and disposed of.
- Do not use kick brooms or sweeper attachments that tend to spread dirt.
- When unloading sweeper, make sure there is no dust or sediment release.
- For Town-owned sweepers, inspect sweepers to check for any necessary repairs or regular maintenance.

Required Inspection and Frequency of Sweeping

The Town must establish and implement procedures for sweeping and/or cleaning all streets (with the exception of rural uncurbed roads with no catch basins or high speed limited access highways) and Town-owned parking lots at a minimum of twice per year, once in the spring and once in the fall to address the MS4 permit, including the Long Island Sound TMDL.

More frequent sweeping of targeted areas determined by the Town on the basis of pollutant and load reduction potential, based on inspections, pollutant loads, catch basin cleanings or inspection results, land use, water quality limited or TMDL waters or other relevant factors should be completed:

- For facilities and activities within watersheds impaired by solids (e.g., Turbidity), such as Stony Brook, and metals, increase street sweeping frequency of all municipally-owned streets and parking lots to a schedule determined by the Town to target areas with potential for high pollutant loads. This may include, but is not limited to, increased street sweeping frequency in commercial areas and high density residential areas, or drainage areas with a large amount of impervious area. The goal is to reduce the discharge of these pollutants in stormwater runoff.

For rural uncurbed roadways with no catch basins and limited access highways, either sweep twice per year in the spring and fall or in accordance with a more frequent sweeping program, or develop and implement an inspection, documentation, and targeted sweeping plan.

Reporting

- Maintain a log or schedule of sweeping activities on roadways and at municipal facilities, conducted. Information should include the date of sweeping activities, staff/contractor that performs activities, sweeping method (mechanical vs vacuum), and any comments such as amount of sweepings removed and heavily sedimented roadways. By recording heavily sedimented areas, prioritizations can be made to sweep these areas or clean catch basins more frequently. Any maps of areas swept should be kept on file.
- Reporting in the annual MS4 report the number of miles cleaned or the volume or mass of material removed.

Reuse and Disposal of Street Sweepings

MassDEP has developed guidance on requirements, standards, and approvals for handling, reuse and disposal of street sweepings. This policy (#BWP-94-092) is attached as part of this SOP.

DRAFT



Policy #BWP-94-092: Reuse & Disposal of Street Sweepings

This Policy provides guidance on Massachusetts Department of Environmental Protection requirements, standards, and approvals for handling, reuse and disposal of street sweepings.

By Carl F. Dierker,
Assistant Commissioner
Bureau of Waste Prevention
[Signature on Original]

1. Policy Statement & Scope

This Policy explains Department of Environmental Protection (MassDEP) requirements for managing street sweepings. Street sweepings are solid waste subject to the Massachusetts solid waste regulations. The options for managing street sweepings are as follows.

1. Use the street sweepings in accordance with the preapproved uses described in Section 4 of this policy.
2. Use the street sweepings for a beneficial use after obtaining prior approval from MassDEP under the provisions of the solid waste regulations, 310 CMR 19.060, Beneficial Use of Solid Wastes.
3. Dispose of street sweepings at a permitted solid waste landfill.

The provisions and requirements for managing street sweepings under these options are the subject of this policy.

2. Applicability

This policy applies to the reuse or disposal of street sweepings that are generated in the ordinary and customary maintenance of roadways. The policy does not apply to catch basin cleanings or street sweepings mixed with catch basin cleanings or other wastes. The policy does not apply to the material generated as the result of the clean up of an oil or hazardous material spill.

Street sweepings are not exempt from the Hazardous Waste Regulations, 310 CMR 30.000, and must be handled as hazardous waste when they exhibit any of the characteristics of a hazardous waste. If there is no evidence of unusual contamination, MassDEP does not require street sweepings to be routinely tested, but, as is the case with any waste, the generator has the ultimate responsibility for determining whether the waste is a hazardous waste.

3. Definitions

Department or means the Massachusetts Department of Environmental Protection (MassDEP).

- *Public Way* means the strip of land over and under a publicly owned, paved road or highway and includes the publicly owned land adjacent to the road or highway.
- *Street Sweepings* means materials consisting primarily of sand and soil generated during the routine cleaning of roadways but may also contain some leaves and other miscellaneous solid wastes collected during street sweeping. *Street sweepings* does not mean the material generated during the clean up of a spill or material from other structures associated with a roadway such as catch basins.
- *Urban center roads* means local roads in central commercial and retail business districts and industrial and manufacturing areas.

4. Pre-Approved Uses, Restrictions & Conditions

This policy allows street sweepings to be used in several applications. No approval from MassDEP is required when the restrictions and conditions identified in this policy are adhered to. However, sweepings shall not be used unless prior approval is obtained from the owner of the location where the sweepings are to be used.

4.1. Use at Landfills

Street sweepings may be used for daily cover at lined or unlined permitted solid waste landfills and need no prior MassDEP approval if the sweepings satisfy the requirements for daily cover material specified at 310 CMR 19.130(15).

4.2. Use as Fill in Public Ways

Street sweepings shall be used for fill in public ways without prior approval from MassDEP only when the following restrictions and conditions are observed:

- The sweepings have not been collected from Urban Center Roads (see definition);
- The sweepings are used under the road surface or as fill along the side of the road within the public way;
- The sweepings are not used in residential areas;
- The sweepings are kept above the level of the groundwater;
- The sweepings are not used in designated "No Salt Areas";
- The following definitions have been taken verbatim from the solid waste regulations and are repeated here for clarity in understanding this policy.
- The sweepings are not used within the 100 foot buffer zone of a wetland or within wetland resource areas including bordering vegetative wetlands and riverfront areas;
- The sweepings are not used within 500 feet of a ground or surface drinking water supply.

4.3. Use As an Additive to Restricted Use Compost

Street sweepings shall be used as an additive to compost without prior approval from MassDEP only when the following restrictions and conditions are observed:

- The sweepings have not been collected from Urban Center Roads (see definition);
- The compost is used only in public ways;
- The compost is not used in residential areas;
- The compost is kept above the level of the groundwater;
- The compost is not used in designated "No Salt Areas";
- The compost is not used within the 100 foot buffer zone of a wetland or within wetland resource areas including bordering vegetative wetlands and riverfront areas;
- The compost is not used within 500 feet of a ground or surface drinking water supply.

5. Other Uses

Any use not pre-approved in the preceding section requires prior MassDEP approval under the Beneficial Use provisions of the *Solid Waste Management Facility Regulations* at 310 CMR 19.060. A "Beneficial Use Determination" or BUD can be made only after the submission of an application characterizing the waste and describing the proposed beneficial use.

6. Disposal

While the beneficial use of street sweepings is strongly encouraged, MassDEP does not prohibit the disposal of street sweepings. Street sweepings may be disposed in either lined or unlined permitted solid waste landfills without prior approval from the Department.

7. Handling

7.1. Collection of Street Sweepings

Although MassDEP does not regulate the collection of street sweepings, collection practices should be compatible with intended uses. For example, sweepings from Urban Center Roads are not approved for the uses allowed for sweepings from other areas. Keeping sweepings from Urban Center Roads separate from sweepings from other areas will make the full benefits of this policy available.

This policy does not cover sweepings known to be contaminated by spills, and such sweepings should be collected separately and kept segregated. Depending on the contamination and circumstances, the handling of contaminated sweepings may be governed by the Massachusetts Contingency Plan, [310 CMR 40](#), the Massachusetts Hazardous Waste Regulations, 310 CMR 30, the Massachusetts Site Assignment Regulations for Solid Waste Facilities, 310 CMR 16 or the Massachusetts Solid Waste Management Facility Regulations, 310 CMR 19.

7.2. Storage

Street sweepings shall be temporarily stored prior to use, only when the following conditions are satisfied:

- Storage must be at the site where the sweepings are generated (in the public way) or at a location, such as a DPW yard, that is under the control of the governmental entity which is doing the sweeping or has contracted for the sweeping;
- The sweepings shall be protected from wind and rain to the extent necessary to prevent dust, erosion and off-site migration;
- The sweepings shall not be stored within the 100 foot buffer zone of a wetland or within wetland resource areas including bordering vegetative wetlands and riverfront areas;
- The sweepings shall not be stored within 500 feet of a ground or surface drinking water supply;
- Storage shall incorporate good management practice and result in no public nuisance;

Storage must be temporary. Street sweepings shall be used within one year of collection unless the MassDEP Regional Office in the region where the sweepings are stored grants a written extension. An extension may be granted when it is demonstrated that all storage conditions will continue to be satisfied and the stored sweepings will be put to a specific identified use prior to the expiration of the extension period.

7.3. Preparation Prior to Use

Solid waste, such as paper, auto parts and other trash, shall be removed from the sweepings prior to use. Leaves, twigs and other organic matter should also be removed when good engineering practice indicates this is necessary to produce a material that is suitable for the intended use.

8. Background

MassDEP has consistently classified street sweepings as solid waste subject to Massachusetts General Law Chapter 111, Section 150A and the Massachusetts Solid Waste Regulations (*Site Assignment Regulations for Solid Waste Facilities*, 310 CMR 16.00 and *Solid Waste Management Facility Regulations*, 310 CMR 19.000). There has been confusion among some in the regulated community about this classification.

Prior to the development of this policy, the options for handling street sweepings were limited to:

1. Disposal at a permitted solid waste landfill,
2. Use as cover at a permitted solid waste landfill or

3. Use in accordance with a Beneficial Use Determination (BUD). BUD decisions are made on a case-by-case basis and require the submittal of a formal application to MassDEP containing data showing the chemical composition of the street sweepings.

The simplest of these options was either to use the sweepings for landfill cover or to dispose of the sweepings at the local landfill. As many local landfills close, these options become less available to many communities. However, transporting sweepings to a distant landfill involves increased transportation costs and possibly payment of tipping fees.

To clarify the requirements and to provide simpler and less expensive alternatives for handling street sweepings, the Department undertook the development of this policy. Because useful studies of the chemical composition of street sweepings could not be found in the literature, MassDEP solicited the help of municipalities and state agencies in conducting a study of the composition of street sweepings from various types of areas. The results showed that sweepings from all areas, except Urban Center Roads, were similar with the main constituents of concern being total petroleum hydrocarbons (TPH) and polynuclear aromatic hydrocarbons (PAHs). Very limited data from Urban Center Roads indicated that sweepings from these areas may be more contaminated than sweepings from other areas.

The test results indicate that sweepings may contain levels of contamination that are unsuitable for unrestricted use. However, except for sweepings from Urban Center Roads, the levels of contamination were consistent and low enough to allow the use of sweepings in restricted applications without requiring testing or pre-approval as long as certain conditions were met. Sweepings from urban areas were excluded from some pre-approved uses. This situation could change when more data are available from Urban Center Roads.

This policy makes it possible for municipalities, state agencies and other governmental entities to handle street sweepings in an environmentally sound manner with a minimum of paperwork and expense.

9. Additional Information

For additional copies of this policy, permit application forms or other MassDEP documents, call any MassDEP Regional Office and ask for the Service Center or visit <http://www.mass.gov/dep>. The permit application numbers for Beneficial Use Determinations are BWP SW 39, 40, 41 and 42.

Copies of all Massachusetts regulations, including the solid waste regulations, may be purchased from the State House Bookstore, 617-727-2834. The solid waste regulations are:

310 CMR 16.000, *Site Assignment Regulations for Solid Waste Facilities*

310 CMR 19.000, *Solid Waste Management Facility Regulations*

Questions about the Provisions of the Policy

If you have technical questions about the policy, please call any MassDEP office and ask to speak with a staff member about the provisions of the policy.

STANDARD OPERATING PROCEDURE | *Trash/Solid Waste Management*



TARGETED POLLUTANTS

Sediment
Nutrients
Trash
Metals
Oil & Grease
Organics
Low Dissolved Oxygen

RESPONSIBLE DEPARTMENTS

Highway Department
Department of Public Facilities

Materials management entails the selection of the individual product, the correct use and storage of the product, and the proper disposal of associated waste(s). It is important to be responsible with common chemicals and solvents including paints, cleaners, and automotive products to reduce contamination to stormwater runoff.

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff.

Pollution Prevention Approach

Implement applicable suggested Standard Operating Procedures to reduce the influx of pollutants to the stormwater drainage system to the maximum extent practicable.

Suggested Standard Operating Procedures

- Use environmentally friendly or non-hazardous substitutes when appropriate that include but are not limited to H₂O, Orange 2, Orange Thunder, and Simple Green®.
- Loose materials including any gravel piles should be covered or placed in shelter.

Solid Waste

Solid waste may be classified as both hazardous and non-hazardous waste consisting of agricultural, construction and demolition, dead animal, industrial, municipal, and tire waste.

- All staff shall be properly trained in correct solid waste management practices, including waste disposal and spill prevention and response. All employees shall also be knowledgeable of the potential hazards associated with solid waste handling and storage.
- Each waste storage location shall be properly labeled and all significant sources of pollution shall be kept in a secure, covered and contained area.
- Trash storage bins, dumpsters, and disposal areas should be clean and free of debris, especially those located near catch basins.
- Dumpsters should be maintained in good condition and securely closed at all times other than during normal hours of operation.
- Clean up equipment and materials.
- Schedule waste collection to prevent the containers from overfilling.
- Dispose of waste within local, state, and federal laws.
- Debris piled including sweepings, construction, and wood debris should be inspected weekly before removed off site.

Waste Collection, Handling, and Disposal

- Keep waste collection areas clean between contractor picks up.
- Inspect solid waste containers for structural damage or leaks regularly. Repair or replace damaged containers as necessary.

STANDARD OPERATING PROCEDURES | *Trash/Solid Waste Management*

- Secure solid waste containers; containers must be closed tightly when not in use.
- Place waste containers under cover if possible.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc. may not be disposed of in solid waste containers.
- Never dump wastes containing detergents to a storm drain system. All wastes containing detergents shall be directed to a sanitary sewer system for treatment at a wastewater treatment plant.
- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.

Inspection Procedures

- Physical on-site verification of sealed floor drains.
- If floor drains are not sealed, verify drains are connected to a tight tank. In accordance with the Massachusetts Plumbing Code: 248 C.M.R. 10.09 (1)(b), if floor drains are not connected to the municipal sewer system or a holding tank, a facility is required to either:
 - Connect to the municipal sanitary sewer system;
 - Connect to a holding tank; or
 - Seal the floor drains with caps or plugs in accordance with 248 CMR 10.07, provided that, an application for sealing of floor drains that includes a WS-1 form from the Department of Environmental Protection Waste Minimization Program Procedures (MassDEP Form WS-1) is filed and approved by the Plumbing Inspector before commencing any work. A copy of the form indicating the Inspector's approval must be returned to the MassDEP by the applicant, as indicated on the document.
- Regular inspection and cleaning of oil/water separators or other pretreatment holding tanks by qualified contractor or facility personnel.
- Regular inspection of material storage areas (inside and outside) to verify items are not exposed to precipitation and are covered or in enclosed areas.
- Inspect stormwater discharge locations and onsite stormwater drainage infrastructure (e.g., catch basins) regularly for contaminants, soil staining, and plugged discharge lines.

Maintenance Procedures

- Train employees routinely and when new products enter the facility on proper use, storage, disposal, and safety concerns. SDS should be reviewed and readily accessible in central facility location.
- Repair or replace any leaking/defective containers, and replace labels as necessary.
- Maintain caps and/or covers on containers.
- Maintain aisle space for inspection of products/wastes.
- Routinely clean work spaces.
- Properly collect/dispose of waste.
- Routinely maintain and inspect vehicles and equipment.
- Spill Prevention Control and Countermeasure Plan (SPCC) Plan must be prepared and kept on file at facilities that store over 1,320 aggregate, where a spill could reach water. When determining the total quantity of oil stored onsite, include all aboveground containers with a capacity of 55-gallons. Add up all the tanks and drums, any tanks on portable equipment, hydraulic reserves, and oil-filled electrical transformers. The USEPA enforces the Oil SPCC Plan through the Code of Federal Regulations (C.F.R.) Title 40 C.F.R. Part 112—Oil Pollution Prevention.



TARGETED POLLUTANTS

Sediments
Nutrients
Trash
Metals
Oil and Grease
Organics

RESPONSIBLE DEPARTMENTS

Highway Department
Cemetery Commission
Department of Public Facilities

Vehicle repair and service (e.g., parts cleaning and fueling), replacement of fluids (e.g., oil change), and outdoor equipment storage and parking (dripping engines) can impact water quality if stormwater runoff from areas with these activities occurring become polluted by a variety of contaminants.

Pollution Prevention Approach

Properly store and discard vehicle fluids including oil, transmission fluid, antifreeze, and lubricants to prevent surface and groundwater contamination from spills or improper disposal.

Implement applicable suggested Standard Operating Procedures to reduce the influx of pollutants to the stormwater drainage system to the maximum extent practicable.

Suggested Standard Operating Procedures

General

- If possible, take vehicles to a commercial car wash.
- Store fluids in labeled, plastic or metal container with a lid away from drains and catch basins.
- Place flammables in a fire safe cabinet.
- Place drip pans under leaking vehicles, valves, spigots, and pumps.
- Routinely check for leaking vehicles.
- Conduct vehicle maintenance in covered facility, away from storm drains.

Fueling

- Ensure that all fueling activities are not conducted near storm drains and dry wells or that procedures are in place to control any spills.
- Fuel storage tanks should be placed on impervious surfaces with no cracks or gaps; secondary containment is recommended.
- Provide barriers such as posts, guard rails, or bollards where tanks are exposed, to prevent collision damage with vehicles.
- Post signs at the fuel dispenser or fuel island warning vehicle owners/operators against "topping off" of vehicle fuel tanks.
- Label drains within the facility boundary, by paint/stencil (or equivalent), to indicate whether they flow to an oil/water separator or directly to the storm drain.

Vehicle Maintenance

- Provide a designated area for vehicle maintenance on an impervious surface.
- Keep equipment clean; do not allow excessive build-up of oil and grease.
- If possible, perform all vehicle fluid removal or changing inside or under cover:
 - Keep a drip pan under the vehicle while you unclip hoses, unscrew filters, or remove other parts.

STANDARD OPERATING PROCEDURE

Vehicle and Equipment Storage and Maintenance

- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave drip pans or other open containers lying around.
- Keep drip pans or containers under vehicles or equipment that might drip during repairs.
- Do not change motor oil or perform equipment maintenance in non-appropriate areas.
- If temporary work is being conducted outside: Use a tarp, ground cloth, or drip pans beneath the vehicle or equipment to capture all spills and drips.
- If equipment (e.g., radiators, axles) is to be stored outdoors, oil and other fluids should be drained first. This is also applicable to vehicles being stored and not used on a regular basis.

Vehicle Maintenance

- Recycle or properly dispose of fluids.
- Dump full pans into 55-gallon drums.
- Dispose of debris including oil filters, oil cans, rags, and clean-up supplies.
- Do not dump vehicle fluids down storm drains.
- Interior floor drains should discharge to holding tanks or be sealed.

Used Oil

- Recycle used oil.
- Do not mix wastes with used oil.

Inspection Procedures

- Identify locations of floor drains and catch basins and know where they discharge to. Floor drains should be connected to a holding tank and catch basins should be connected to the stormwater drainage system. This is best conveyed with a facility map.
- Regularly inspect vehicles and equipment for leaks and repair immediately.
- Inspect fuel storage tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- Inspect fueling areas, catch basin inserts, containment areas, and drip pans on a regular schedule.

Maintenance Procedures

- If it is paved, sweep the maintenance area on a regular basis to collect loose particles. Wipe up spills with rags and other absorbent material immediately. Do not hose down the area to a storm drain.
- Clean oil/water separators, sumps, and on-site treatment/recycling units according to manufacturer's recommendations that include cleaning intervals, methods, and supplies.
- Keep ample supplies of spill cleanup materials onsite. Clean up spills immediately.
- Properly train employees on fueling and handling oil and waste oil.



TARGETED POLLUTANTS

Sediments
Nutrients
Trash
Metals
Oil and Grease
Organics

RESPONSIBLE DEPARTMENTS

Highway Department
Cemetery Commission
Department of Public Facilities

Wash water from vehicle and equipment cleaning activities performed outdoors or in areas where wash water flows onto the ground can contribute toxic hydrocarbons and other organic compounds, oils and greases, nutrients, phosphates, heavy metals, and suspended solids to stormwater runoff.

Pollution Prevention Approach

Implement applicable suggested Standard Operating Procedures to reduce the influx of pollutants to the stormwater drainage system to the maximum extent practicable.

Suggested Standard Operating Procedures

General

- If possible, take vehicles to a commercial car wash where wash water is properly treated and does not enter the storm drainage system.
- All vehicle washing must discharge to a sanitary sewer system or into a holding tank. Vehicle washing discharged to the drainage system is an illicit (illegal) discharge. Discharge into any Title 5 septic system is also prohibited.
- All vehicle washing from an area that discharges to floor drains must discharge to a gas, sand, and oil separator for pretreatment before discharging to the sanitary sewer system per Massachusetts Plumbing Code 248 C.M.R. 10.09 (1) (b).
- Mark the area clearly as a wash area.
- Post signs stating washing is allowed in wash area and that discharges to the storm drain are prohibited. Facility employees should know where catch basins are.
- Provide a trash container in wash area.
- Avoid detergents as much as possible. If detergents are necessary, use a biodegradable, phosphate free detergent such as Zep-O-Shine™.

Vehicle and Equipment Cleaning

- Consider washing vehicles and equipment inside the building if washing/cleaning must occur on-site.
- If washing must occur on-site and outdoors:
 - Use designated paved wash areas. Designated wash areas must be well marked with signs indicating where and how washing must be done. This area must be covered or bermed to collect the wash water and graded to direct the wash water to a gas, sand, and oil separator.
 - Cover the wash area when not in use to prevent contact with rain water.
 - If sewer system access is not available, wash vehicle on a grassed area with a biodegradable, phosphate free detergent such as Zep-O-Shine™.
- Use hoses with nozzles that automatically turn off when left unattended. Use high-pressure, low-volume sprays.

STANDARD OPERATING PROCEDURE

Vehicle and Equipment Washing

- Perform pressure cleaning and steam cleaning off-site to avoid generating runoff with high pollutant concentrations. If done on-site, no pressure cleaning and steam cleaning should be done in areas designated as protection areas for public water supply.

Disposal

- Filter and recycle wash water if possible.
- If discharging to a gas, sand, and oil separator, do not use detergents that disperse oil in wash water and make separators ineffective with oil passing to the sanitary sewer system. It is best to use high pressure water with no cleaning agent. If one is not recommended for discharges pretreated by an oil/water separator, use a non-emulsifying cleaner such as Landa L-215 or QOR-110 ("Quick Oil Release").

Inspection Procedures

- Inspect floor drain systems and holding tanks regularly.
- Identify the need for cleaning of catch basins and gas, sand, and oil separators or oil/water separators.

Maintenance Procedures

- Maintain a map of on-site storm drain locations to avoid discharges to the storm drainage system.
- Take precautions against excess use of and spillage of detergents.
- Clean vehicles only where wastes can be captured for proper disposal.

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**TARGETED POLLUTANTS**

Sediments
Nutrients
Trash
Metals
Bacteria
Oil and Grease
Organics
Low Dissolved Oxygen

RESPONSIBLE DEPARTMENTS

Highway Department

**MassDEP SNOW DISPOSAL
GUIDANCE SOURCE:**

<http://www.mass.gov/eea/agencies/massdep/water/regulations/snow-disposal-guidance.html>

Road Salt/Sand Application and Storage

Proper road salt and sand/salt applications and storage is necessary to prevent contamination to surface and ground water supplies. Salts are very soluble—once in contact with water there is no way to remove salt. The major reasons for keeping salt and sand/salt mixtures covered and controlling use are that they:

- Kill vegetation
- Corrode infrastructure
- Block storm drains and swales
- Increase sedimentation to streams and rivers
- Small quantities (5% road salt) contain phosphorus, nitrogen, copper, and cyanide

Best Management Practices*Proper Storage*

Granby has a covered storage facility on impervious surface for salt and sand/salt mixtures at the Highway Garage that is properly sited. Any new facilities should have the following key elements:

- Covered structure on impervious surface.
- Drainage should be diverted away from storage facility.
- Sand/salt handling should be done within storage facility.
- Should not be located in a water supply watershed or within 100 year floodplain.

Proper Disposal

Disposal of sand/salt mixtures should not be done in the following areas:

- Wetlands
- Any surface waters
- Well locations and public drinking supplies

Proper Removal

- Street sweeping in spring
- Catch basin cleaning completed as necessary.

Proper Use

- Establish a low salt area near any water bodies or residential areas served by private wells.
- When feasible, use higher percentage of sand in sand/salt mixture.
- Regulate the amount of road salt applied to prevent over-salting of motorways and increasing runoff concentrations.
- Vary the amount of salt applied to reflect site-specific characteristics, such as road width and design, traffic concentration, and proximity to surface waters.
- Provide calibration devices for spreaders in trucks to aid maintenance workers in the proper application of road salts.
- Use alternative materials, such as sand or gravel, in especially sensitive areas.

Inspection Procedures

- Inspect salt storage shed for leaks on a regular basis.

- Inspect salt application equipment including calibration equipment and spreaders.
- Inspect salt regularly for lumping or water contamination.
- Inspect surface areas for evidence of runoff – salt stains in ground near and around the salt storage shed, loading area, or downslope.
- Inspect for excessive amounts of salt on roads.

Maintenance Procedures

- Service trucks and calibrated spreaders regularly to ensure accurate, efficient distribution of salt.
- Educate and train operators on hazards of over-salting to roads and environment at the beginning of the snow season as part of meetings with supervisors and drivers.
- Repair salt storage shed leaks.

Snow Stockpiling and Removal

Proper snow management in terms of stockpiling and removal can prevent or minimize runoff and pollutant loading impacts. Snow piles can contain trash, nutrients, sediments, salt, sand, and vehicle pollutants (petroleum, antifreeze, and oil) that can directly be carried into surface waters during snowmelt.

Best Management Practices

During extreme conditions when snow stockpiling is necessary the following practices should be applied:

- Do not stockpile snow near or within direct drainage to surface waters.
- Do not stockpile snow in wooded areas, around trees, or in vegetated buffer zones due to sediment and salt damage to vegetation.
- Stockpile snow in pervious areas where it can slowly infiltrate.
- During plowing activities on pervious surfaces, blading (plow lowers blade below ground surface level and plows the upper layers of soil in addition to overlying snow) should be avoided to prevent erosion.

Inspection Procedures

- Check snow piles for debris that could be windblown.

Maintenance Procedures

- Contain sediments as snow melts. This includes sweeping roadways and parking lots or other impervious areas.
- During plowing activities, avoid blocking drainage structures including catch basins, swales, and channels.

MassDEP Snow Disposal Guidance

MassDEP has developed requirements, standards and approvals for winter deicing and snow removal. This guide is attached as part of this SOP.



GUIDE

Snow Disposal Guidance

This guide will help communities and businesses dispose of plowed snow without harming the environment. The guide includes a link to an interactive map to locate snow disposal sites.

Overview

The Massachusetts Department of Environmental Protection's Snow Disposal Guidance offers information on the proper steps to take when locating sites for the disposal of snow. Finding a place to dispose of collected snow poses a challenge to municipalities and businesses as they clear roads, parking lots, bridges, and sidewalks. Public safety is of the utmost importance. However, care must be taken to ensure that collected snow, which may be contaminated with road salt, sand, litter, and automotive pollutants such as oil, is disposed of in a manner that will minimize threats to nearby sensitive resource areas.

In order to avoid potential contamination to wetlands, water supplies, and waterbodies, MassDEP recommends that municipalities and businesses identify and map appropriate upland snow disposal locations. To assist municipalities and businesses in this planning effort, and to avoid use of snow disposal at sites which compromise wetlands resources or public water supplies, MassDEP has developed this snow disposal mapping tool:

<https://maps.env.state.ma.us/dep/arcgis/js/templates/PSF/>

If a community or business demonstrates that there is no remaining capacity at upland snow disposal locations, local conservation commissions are authorized to issue Emergency Certifications under the Massachusetts Wetlands Protection Act for snow disposal in certain wetland resource areas. In such cases, Emergency Certifications can only be issued at the request of a public agency or by order of a public agency for the protection of the health or safety of citizens, and are limited to those activities necessary to abate the emergency.

In the event of a regional or statewide severe weather event, MassDEP may also issue a broader Emergency Declaration under the Wetlands Protect Act which allows greater flexibility in snow disposal practices. Details of this approval process are found below.

KEY ORGANIZATIONS

MassDEP Regional Service Centers



Northeast (Wilmington): 978-694-3249

Southeast (Lakeville): 508-946-2714

Central (Worcester): 508-767-2722

Western (Springfield): 413-755-2214

Snow Disposal Guidance

Effective Date: December 21, 2015

Applicability: Applies to all federal, state, regional and local agencies, as well as to private businesses.

Supersedes: BRP Snow Disposal Guideline No. BRPG01-01 issued March 8, 2001, and all previous snow disposal guidance.

Approved by: Douglas Fine, Assistant Commissioner for Water

PURPOSE: To provide guidelines to all government agencies and private businesses regarding snow disposal site selection, site preparation and maintenance, and emergency snow disposal options that are protective of wetlands, drinking water, and water bodies, and are acceptable to the Massachusetts Department of Environmental Protection (MassDEP), Bureau of Water Resources.

APPLICABILITY: These Guidelines are issued by MassDEP's Bureau of Water Resources on behalf of all Bureau Programs (including Drinking Water Supply, Wetlands and Waterways, Wastewater Management, and Watershed Planning and Permitting). They apply to public agencies and private businesses disposing of snow in the Commonwealth of Massachusetts.

INTRODUCTION

Finding a place to dispose of collected snow poses a challenge to municipalities and businesses as they clear roads, parking lots, bridges, and sidewalks. While we are all aware of the threats to public safety caused by snow, collected snow that is contaminated with road salt, sand, litter, and automotive pollutants such as oil also threatens public health and the environment.

As snow melts, road salt, sand, litter, and other pollutants are transported into surface water or through the soil where they may eventually reach the groundwater. Road salt and other pollutants can contaminate water supplies and are toxic to aquatic life at certain levels. Sand washed into waterbodies can create sand bars or fill in wetlands and ponds, impacting aquatic life, causing flooding, and affecting our use of these resources.

There are several steps that communities can take to minimize the impacts of snow disposal on public health and the environment. These steps will help communities avoid the costs of a contaminated water supply, degraded waterbodies, and flooding. Everything we do on the land has the potential to impact our water resources. Given the authority of local government over the use of the land, municipal officials and staff have a critically important role to play in protecting our water resources.

The purpose of these guidelines is to help municipalities and businesses select, prepare, and maintain appropriate snow disposal sites before the snow begins to accumulate through the winter. Following these guidelines and obtaining the necessary approvals may also help municipalities in cases when seeking reimbursement for snow disposal costs from the Federal Emergency Management Agency is possible.

RECOMMENDED GUIDELINES

These snow disposal guidelines address: (1) site selection; (2) site preparation and maintenance; and (3) emergency snow disposal.

1. SITE SELECTION

The key to selecting effective snow disposal sites is to locate them adjacent to or on pervious surfaces in upland areas or upland locations on impervious surfaces that have functioning and maintained storm water management systems away from water resources and drinking water wells. At these locations, the snow meltwater can filter in to the soil, leaving behind sand and debris which can be removed in the springtime. The following areas should be avoided:

- Avoid importing snow from outside a Zone II or Interim Wellhead Protection Area (IWPA) of a public water supply well or within 75 feet of a private well, where road salt may contaminate water supplies. Only snow from within the Zone II or IWPA should be disposed of within this resource area so as not to increase the potential for pollution of water supplies.
- Avoid dumping of snow into any waterbody, including rivers, the ocean, reservoirs, ponds, or wetlands. In addition to water quality impacts and flooding, snow disposed of in open water can cause navigational hazards when it freezes into ice blocks.
- Avoid dumping snow on MassDEP-designated high and medium-yield aquifers where it may contaminate groundwater.
- Avoid dumping snow in sanitary landfills and gravel pits. Snow meltwater will create more contaminated leachate in landfills posing a greater risk to groundwater, and in gravel pits, there is little opportunity for pollutants to be filtered out of the meltwater because groundwater is close to the land surface.
- Avoid disposing of snow on top of storm drain catch basins or in stormwater drainage swales or ditches. Snow combined with sand and debris may block a storm drainage system, causing localized flooding. A high volume of sand, sediment, and litter released from melting snow also may be quickly transported through the system into surface water..

Recommended Site Selection Procedures

It is important that the municipal Department of Public Works or Highway Department, Conservation Commission, and Board of Health work together to select appropriate snow disposal sites. The following steps should be taken:

1. Estimate how much snow disposal capacity may be needed for the season so that an adequate number of disposal sites can be selected and prepared.
2. Identify sites that could potentially be used for snow disposal, such as municipal open space (e.g., parking lots or parks).
3. Sites located in upland locations that are not likely to impact sensitive environmental resources should be selected first..
4. If more storage space is still needed, prioritize the sites with the least environmental impact (using the site selection criteria, and local or MassGIS maps as a guide)..

Snow Disposal Mapping Assistance

MassDEP has an online mapping tool to assist municipalities and businesses in identifying possible locations to potentially dispose of snow, should the need arise. The disposal locations depicted on these maps will also aid MassDEP and the Massachusetts Emergency Management Agency assist communities with snow disposal in the event of severe winter storm emergencies. The tool identifies wetland resource areas, public drinking water supplies and other sensitive locations where snow should not be disposed. The tool may be accessed through the Internet at the following web address:

<https://maps.env.state.ma.us/dep/arcgis/js/templates/PSF/>.

By clicking on the link for the OLIVER Online Data Viewer, communities can select your town and overlay different resource areas. The MassGIS site includes MassDEP orthophoto maps depicting local wetland resources, hard copies of which were mailed to each Conservation Commission in the past.

2. SITE PREPARATION AND MAINTENANCE

In addition to carefully selecting disposal sites before the winter begins, it is important to prepare and maintain these sites to maximize their effectiveness. The following maintenance measures should be undertaken for all snow disposal sites:

- A silt fence or equivalent barrier should be placed securely on the downgradient side of the snow disposal site.
- To filter pollutants out of the meltwater, wherever possible a 50-foot vegetative buffer strip should be maintained during the growth season between the disposal site and adjacent waterbodies.
- Debris should be cleared from the site prior to using the site for snow disposal.

- Debris should be cleared from the site and properly disposed of at the end of the snow season and no later than May 15.

3. SNOW DISPOSAL APPROVALS

Proper snow disposal may be undertaken through one of the following approval procedures:

1. Routine snow disposal – Minimal, if any, administrative review is required in these cases when upland and pervious snow disposal locations or upland locations on impervious surfaces that have functioning and maintained storm water management systems have been identified, mapped, and used for snow disposal following ordinary snowfalls. Use of upland and pervious snow disposal sites avoids wetland resource areas and allows snow meltwater to recharge groundwater and will help filter pollutants, sand, and other debris. This process will address the majority of snow removal efforts until a community exhausts all available upland snow disposal sites. The location and mapping of snow disposal sites will help facilitate each municipality's routine snow management efforts.
2. Emergency Certifications – If a community or business demonstrates that there is no remaining capacity at upland snow disposal locations, local conservation commissions are authorized to issue Emergency Certifications under the Massachusetts Wetlands Protection Act for snow disposal in buffer zones to wetlands, certain open water areas, and certain wetland resource areas, i.e. within flood plains. In such cases, Emergency Certifications can only be issued at the request of a public agency for the protection of the health or safety of citizens or by order of a public agency, and limited to those activities necessary to abate the emergency. Use the following guidelines in these emergency situations:
 - a. Dispose of snow in open water with adequate flow and mixing to prevent ice dams from forming.
 - b. Do not dispose of snow in salt marshes, vegetated wetlands, certified vernal pools, shellfish beds, mudflats, drinking water reservoirs and their tributaries, Zone IIs or IWPA's of public water supply wells, Outstanding Resource Waters, or Areas of Critical Environmental Concern.
 - c. Do not dispose of snow where trucks may cause shoreline damage or erosion.
 - d. Consult with the municipal Conservation Commission to ensure that snow disposal in open water complies with local ordinances and bylaws.
3. Emergency Declarations – In the event of a large-scale severe weather event, MassDEP may issue a broader Emergency Declaration under the Wetlands Protection Act which allows municipalities greater flexibility in snow disposal practices. Emergency Declarations typically

authorize greater snow disposal options while protecting especially sensitive resources such as public drinking water supplies, vernal pools, land containing shellfish, FEMA designated floodways, coastal dunes, and salt marsh. In the event of severe winter storm emergencies, the snow disposal site maps created by municipalities will assist MassDEP and the Massachusetts Emergency Management Agency in helping communities identify appropriate snow disposal locations.

If upland disposal sites have been exhausted, the Emergency Declaration issued by MassDEP allows for snow disposal near water bodies. A buffer of at least 50 feet, preferably vegetated, should still be maintained between the site and the waterbody in these situations. Furthermore, it is essential that the other guidelines for preparing and maintaining snow disposal sites be followed to minimize the threat to adjacent waterbodies.

Under extraordinary conditions, when all land-based snow disposal options are exhausted, the Emergency Declaration issued by MassDEP may allow disposal of snow in certain waterbodies under certain conditions. ***A municipality seeking to dispose of snow in a waterbody should take the following steps:***

- a. Call the emergency contact phone number - 1-888-304-1133 - and notify the MEMA bunker personnel of the municipality's intent.
- b. The MEMA bunker personnel will ask for some information about where the requested disposal will take place.
- c. The MEMA bunker personnel will confirm that the disposal is consistent with MassDEP's Emergency Declaration and these guidelines and is therefore approved.

During declared statewide snow emergency events, MassDEP's website will also highlight the emergency contact phone number (1-888-304-1133) for authorizations and inquiries. For further non-emergency information about this Guidance you may contact your MassDEP Regional Office Service Center:

Northeast Regional Office, Wilmington, 978-694-3249

Southeast Regional Office, Lakeville, 508-946-2714

Central Regional Office, Worcester, 508-767-2722

Western Regional Office, Springfield, 413-784-1100

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APPENDIX F

LOG FOR SIGNIFICANT SPILL, LEAK, OR OTHER RELEASE



Date of incident:	
Location of incident:	
Description of incident:	Spill or Leak:
	Type of Material:
	Quantity (approximate):
	Other Notes:
Circumstances leading to release:	Source:
	Other Notes:
Actions taken in response to release:	Amount of Material Recovered (approx.):
	Material still exposed to stormwater? (Yes/No)
	Other Notes:
Measures taken to prevent recurrence:	

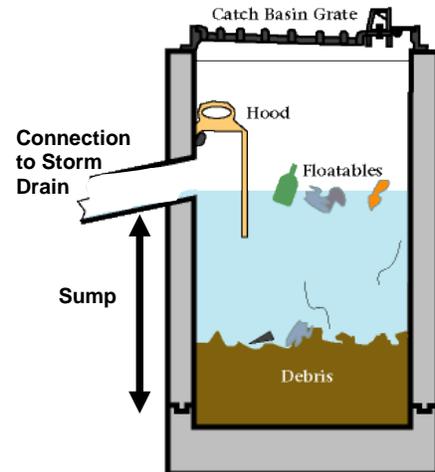
Catch Basin Cleaning Form Instructions

1. Fill out Columns for catch basins that exhibit illicit connection/odor and O&M issues (see Items 2 and 3 below).
2. For Column 2, indicate if any illicit (illegal) connection or odor is found in a catch basin during cleaning. Types of Illicit Connection/Odors include the following entries, bolded letters can be used as abbreviations on forms (if other, please describe):
 - O.** Oil Spill (Emergency Response – call DPW immediately)
 - S.** Sewage/Odor
 - L.** Laundry Discharge
 - P.** Pet Waste
 - Y.** Yard Waste
 - G.** Garbage
 - Other:** describe
3. For Column 3, indicate any catch basin repair or pipe cleaning issues. Types of issues include the following entries, bolded letters can be used as abbreviations on forms (if other, please describe):
 - Basin Full** (see Item 4 below)
 - Sump Full** (see Item 4 below)
 - L.** Leaching Basin
 - PF.** Pipes need flushing
 - F.** Frame & Grate needs to be replaced/reset
 - G.** Grate Missing
 - C.** Catch Basin Caving In (needs to be rebuilt/replaced)
 - P.** Pipes Cracked
 - Other:** describe
4. Basin Depth, Sump Depth & Sediment Level:

The basin depth is defined as the depth from the bottom of the catch basin to top of the catch basin.

The sump is defined as the depth from the bottom of the catch basin to the invert of the lowest pipe or opening into/out of the catch basin. The figure to the right shows where the sump is.

Sediment levels can be defined according to how much sediment is in the entire catch basin or in the sump.



5. Other Records

Keep all invoices, cleaning records, and other documentation from the catch basin cleaning contractor. Town should estimate the lbs. of debris removed on an annual basis.



Street & Parking Lot Sweeping Form

Date: _____

Streets OR Facility Lot	Municipal Staff	Sweeping Method (rotary brush or vac)	Comments (Sediment Amount Removed & Disposal Method)



Tracking No.: _____

Town Drainage Work Form

Personnel: _____ Date Work Performed: _____

1. Location:

Nearest House # & Street or Cross Streets: _____

2. Existing Structure New Structure

Type: _____

3. Catch Basin & Drain Manhole:

Frame & grate/cover reset

Frame & grate/cover replaced

Structure rebuilt/replaced

Full Partial

New Structure installed

Debris removed

Notes (include lbs removed): _____

Leaching Catch Basin

Other: _____

4. Outfall:

Removed Sediment/Debris Repaired Damaged Pipe

Other: _____

5. Drainage Pipe:

Flushed Repaired New Pipe Identify linear footage of work performed: _____

Other: _____

6. Illicit (Illegal) Discharge:

Oil Spill (Emergency Response) Sewage/Odor

Laundry Discharge Pet Waste Yard Waste Garbage

Other: _____

Action Taken (explain)

7. Comments: Please provide additional information concerning work such as disposal method for any debris.

QUARTERLY SITE INSPECTION FORM



General Information	
Date of Inspection:	Time of Inspection:
Name and Title of Inspector(s):	
Contact Information of Inspector:	
Signature of Inspector:	
Inspection Period? <i>Inspections shall be conducted at least once each calendar quarter. More frequent inspections may be required if significant activities are exposed to stormwater.</i>	
<input type="checkbox"/> 1 st Quarter (January through March)	<input type="checkbox"/> 2 nd Quarter (April through June)
<input type="checkbox"/> 3 rd Quarter (July through September)	<input type="checkbox"/> 4 th Quarter (October through December)
Weather Information	
Weather at time of this inspection?	
<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snow <input type="checkbox"/> High Winds	
<input type="checkbox"/> Other:	Temperature:
Discharge Information	
Have any previously unidentified discharges of pollutants from the site occurred since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, describe:	
Are there any discharges occurring at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, describe:	



QUARTERLY SITE INSPECTION FORM

Control Measures Needing Maintenance or Repairs

Structural Control Measure	Specific Inspection Notes	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
Oil/Water Separator	<p>Are there any signs of spills or leaks in the general area? <input type="checkbox"/>Yes <input type="checkbox"/>No</p> <p>Is there any evidence of petroleum bypassing the OWS? <input type="checkbox"/>Yes <input type="checkbox"/>No</p> <p>Are there any unauthorized substances entering the OWS? <input type="checkbox"/>Yes <input type="checkbox"/>No</p> <p>Does the OWS exhibit any signs of leaks or malfunctions? <input type="checkbox"/>Yes <input type="checkbox"/>No</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
Oil/Water Separator	<p>Are there any signs of spills or leaks in the general area? <input type="checkbox"/>Yes <input type="checkbox"/>No</p> <p>Is there any evidence of petroleum bypassing the OWS? <input type="checkbox"/>Yes <input type="checkbox"/>No</p> <p>Are there any unauthorized substances entering the OWS? <input type="checkbox"/>Yes <input type="checkbox"/>No</p> <p>Does the OWS exhibit any signs of leaks or malfunctions? <input type="checkbox"/>Yes <input type="checkbox"/>No</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	



QUARTERLY SITE INSPECTION FORM

Structural Control Measure	Specific Inspection Notes	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
Catch basins	Are any sumps more than 50% full (approx.) of material <input type="checkbox"/> Yes <input type="checkbox"/> No Are any hoods missing <input type="checkbox"/> Yes <input type="checkbox"/> No Are any of the follow present: <ul style="list-style-type: none"> • sewage odor <input type="checkbox"/>Yes <input type="checkbox"/>No • suds <input type="checkbox"/>Yes <input type="checkbox"/>No • pet waste baggies <input type="checkbox"/>Yes <input type="checkbox"/>No Any structural issues <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	

Areas of Industrial Materials or Activities Exposed to Stormwater

Area/Activity	Inspected?	Specific Inspection Notes	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes
Material loading/unloading and storage areas	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waste, debris on ground Dumpsters/area in good condition <input type="checkbox"/> Yes <input type="checkbox"/> No General cleanliness <input type="checkbox"/> Good <input type="checkbox"/> Bad	<input type="checkbox"/> Yes <input type="checkbox"/> No	



QUARTERLY SITE INSPECTION FORM

Area/Activity	Inspected?	Specific Inspection Notes	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes
Equipment operations and maintenance areas	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Fueling areas	<input type="checkbox"/> Yes <input type="checkbox"/> No	Spots, pools or other traces of diesel fuel on the ground <input type="checkbox"/> Yes <input type="checkbox"/> No Waste, debris, on ground <input type="checkbox"/> Yes <input type="checkbox"/> No General Cleanliness <input type="checkbox"/> Good <input type="checkbox"/> Bad Other comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Waste handling and disposal areas	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	



QUARTERLY SITE INSPECTION FORM

Area/Activity	Inspected?	Specific Inspection Notes	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes
Salt storage pile	<input type="checkbox"/> Yes <input type="checkbox"/> No	Large quantity of salt on ground outside shed <input type="checkbox"/> Yes <input type="checkbox"/> No General cleanliness <input type="checkbox"/> Good <input type="checkbox"/> Bad Other comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Overall Site Walkthrough

Any signs of spill or leaks Yes No
Any erosion problems Yes No
Any housekeeping problems Yes No

Comments:

Additional Control Measures

Describe any additional control measures needed to reduce potential for pollution or improve good housekeeping:

Other Notes

Use this space for any additional notes or observations from the inspection:



OPERATION & MAINTENANCE PLAN AMENDMENT LOG

Amend. No.	Description of Amendment	Date of Amendment	Prepared by (Name/Title)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

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