

SOP 17: Hazardous Materials Storage and Handling

Introduction

A hazardous material is any biological, chemical, or physical material with properties that make it dangerous or potentially harmful to human health or the environment. Hazardous materials can be released to the environment in a variety of ways. When hazardous materials come into contact with rain or snow, the pollutants are washed into the storm sewer system and to surface waterbodies and/or groundwater. Hazardous materials associated with municipal facilities and their operations include, but are not limited to, oil, gasoline, antifreeze, fertilizers, pesticides, and de-icing agents and additives.

Municipally owned or managed facilities where hazardous materials are commonly stored and handled include:

- Equipment storage and maintenance yards (DPW yard)
- Hazardous waste handling and transfer facilities (DPW yard)
- Composting facilities (DPW yard)
- Materials storage yards (DPW yard)
- Municipal buildings and facilities (e.g., schools, libraries, police and fire departments, town offices, municipal pools, and parking garages)
- Public works yards (DPW yard)
- Vehicle storage and maintenance yards (DPW Yard)

Minimizing or eliminating contact of hazardous materials with stormwater can significantly reduce pollution of receiving waters. Proper hazardous material handling and storage also contributes to employee health, an organized workplace, and efficient operations. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees to help prevent stormwater pollution resulting from the handling and storage of hazardous materials. If services are contracted, this SOP should be provided to the contractor. The contract should also specify that the contractor is responsible for compliance with all applicable laws.

The Town of Boxford undertakes various activities in regard to handling and storing hazardous materials.

Any activities related to the handling and storing of hazardous material is done at the DPW yard at the recycling center. Gasoline is reserved to the re-fueling station (underground tank) which provides fuel to the municipally owned vehicles. Oil is purchased and stored in limited (as needed) quantities in 1-2 gallon containers which are stored undercover in the DPW Garage. Similarly, Anti-freeze is stored in containers within the DPW Garage, undercover. Fertilizers, are purchased shortly before use and are stored on a pallet as shipped/delivered within the DPW Garage, until use. Pesticides and Herbicides are not permitted within town. De-icing agents (calcium chloride and liquid magnesium chloride) is stored at the DPW facility until use. The liquid de-icing agents are stored in a series of 5 tanks of various sizes adjacent to the DPW Garage. Other deicing agents are delivered to the DPW yard and immediately loaded undercover within the "salt shed". The town also holds an annual Household Hazardous Waste Day, every October for the previous 30+ years.



Procedures

The Town of Boxford will implement the following procedures for handling and storing hazardous materials to reduce the discharge of pollutants to the MS4:

Handling, Loading, and Unloading

- Avoid loading/unloading materials in the rain and/or provide cover.
- Retrace areas where materials have been transferred to identify spills. If spills are found, immediately clean them up. Follow procedures in SOP 4: Spill Response and Cleanup.
- Time delivery and handling of materials during favorable weather conditions whenever possible (e.g., avoid receiving loads of sand during windy weather).
- Inspect containers for material compatibility and structural integrity prior to loading/unloading any raw or waste materials.
- Use dry cleanup methods (e.g., squeegee and dust pan, sweeping, and absorbents as last step) rather than hosing down surfaces.

Material Storage

- Confine material storage indoors whenever possible. Plug or disconnect floor drains that lead to the stormwater system.
- Confine outdoor material storage to designated areas that are covered, on impervious surfaces, away from high traffic areas, and outside of drainage pathways.
- Store containers on pallets or equivalent structures to facilitate leak inspection and to prevent contact with wet floors that can cause corrosion. This technique also reduces incidences of container damage by insects and rodents.
- Store materials and waste in materially compatible containment units.
- Keep hazardous materials in their original containers.
- If materials are not in their original containers, clearly label all storage containers with the name of the chemical, the expiration date, and handling instructions.
- Maintain an inventory of all raw and waste materials to identify leakage. Order new materials only when needed.
- Provide secondary containment for storage tanks and drums with sufficient volume to store 110 percent of the volume of the material.
- Provide sufficient aisle space to allow for routine inspections and access for spill cleanup.
- Inspect storage areas for spills or leaks and containment units for corrosion or other failures.

Waste Treatment, Disposal, and Cleanup

- Adopt a regular schedule for the pick-up and disposal of waste materials.
- Recycle leftover materials whenever possible.
- Substitute nonhazardous or less-hazardous materials for hazardous materials whenever possible.
- Protect empty containers from exposure to stormwater and dispose of them regularly to avoid contamination from container residues.



Employee Training

- Employees who handle and use hazardous materials are trained annually on these procedures.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Related Standard Operating Procedures

1. SOP 4: Spill Response and Cleanup

