

# SC-41 Building and Grounds Maintenance

## Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers, and pesticides; suspended solids; heavy metals; abnormal pH; and oils and greases. Using the protocols in this fact sheet will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up 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 collection system.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and best management practice (BMP) implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

## General Pollution Prevention Protocols

- Switch to nontoxic chemicals for maintenance to the maximum extent possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.
- Encourage use of integrated pest management techniques for pest control.
- Encourage proper on-site recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Substitute Products

## Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	
Organics	

## Minimum BMPs Covered

 Good Housekeeping	✓
 Preventative Maintenance	
 Spill and Leak Prevention and Response	✓
 Material Handling & Waste Management	✓
 Erosion and Sediment Controls	
 Employee Training Program	✓
 Quality Assurance and Record Keeping	✓



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- Clean work areas at the end of each work shift using dry cleaning methods such as sweeping and vacuuming.



## **Good Housekeeping**

### ***Pressure Washing of Buildings, Rooftops, and Other Large Objects***

- In situations in which soaps or detergents are used and the surrounding area is paved, pressure washers must use a water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum, or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used and the surrounding area is paved, wash runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement.

### ***Landscaping Activities***

- Dispose of grass clippings, leaves, sticks, and other collected vegetation as garbage or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils. See also SC-40 Contaminated and Erodible Areas for more information.

### ***Building Repair, Remodeling, and Construction***

- Do not dump any toxic substance or liquid waste on the pavement or ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paintbrushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with nonwater-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner and turpentine) for recycling or proper disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. This is especially necessary on rainy days. The containment device(s)

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must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

- If you need to dewater an excavation site, you might need to filter the water before discharging to a catch basin or off-site. If discharging off-site, direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover during precipitation events and when not in use. A cover can include tarps or other temporary cover material.

## ***Mowing, Trimming, and Planting***

- Dispose of leaves, sticks, and other collected vegetation as garbage, by composting, or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- When soils are exposed, use mulch or other erosion control measures.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water: Do not put it in the storm drain; instead pour it over landscaped areas.
- Use hand weeding when practical.

## ***Fertilizer and Pesticide Management***

- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g., spray drift) of pesticides, including consideration of alternative application techniques.
- Apply pesticides only when wind speeds are low.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalks if fertilizer is spilled on these surfaces before applying irrigation water.

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## *Inspection*

- 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.



## **Spill and Leak Prevention and Response**

- Keep your spill prevention, control, and countermeasure (SPCC) plan up to date.
- Place a stockpile of spill cleanup materials such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where they are readily accessible.
- Have employees trained in spill containment and cleanup present during the loading/unloading of dangerous wastes, liquid chemicals, or other materials.
- Familiarize employees with the SPCC plan.
- Clean up spills immediately.



## **Material Handling and Waste Management**

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Do not over-apply fertilizers, herbicides, and other pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Over-application is expensive and environmentally harmful. Unless on steep slopes, till fertilizers into the soil rather than hydraulic application. Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried offsite by runoff. Do not apply these chemicals before predicted rainfall.
- Dispose of empty pesticide containers according to the instructions on the container label.
- Rinse containers and use the rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and county agricultural commissioner. Provide secondary containment for pesticides.
- Refer to Fact Sheet BG-30 for additional pest control best practices.



## **Employee Training Program**

- Educate and train employees on pesticide use and in pesticide application techniques to prevent pollution.

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- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the needs of individual staff members.



## Quality Assurance and Record Keeping

- Keep accurate logs that document maintenance activities performed and minimum BMP measures implemented.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and the method use to dispose of the waste.
- Establish procedures to complete logs and file them in the central office.

## Potential Capital Facility Costs and Operation & Maintenance Requirements Facilities

- Additional capital costs are not anticipated for building and grounds maintenance. Implementation of the minimum BMPs described above should be conducted as part of regular site operations.

## Maintenance

- Maintenance activities for the BMPs described above will be minimal, and no additional cost is anticipated.

## Supplemental Information Fire Sprinkler Line Flushing

Site fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water, although in some areas it could be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping, but it is subject to rusting and results in lower quality water. Initially, the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; that coating will contaminate the water from the first flush but not from subsequent flushes. Nitrates, polyphosphates, and other corrosion inhibitors, as well as fire suppressants and antifreeze might be added to the sprinkler water system. Water generally remains in the sprinkler system a long time (typically a year) and, between flushes, could accumulate iron, manganese, lead, copper, nickel, and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This might result in a significant biochemical oxygen demand problem, and the water often smells. Consequently dispose of fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to enter the storm drain or infiltration because of the potentially high levels of pollutants in fire sprinkler line water.

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## References and Resources

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