

St. Bonifacius

**MUNICIPAL OPERATIONS
BEST MANAGEMENT
PRACTICES**



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MUNICIPAL OPERATIONS BEST MANAGEMENT PRACTICES

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The Municipal Operation Best Management Practices focuses activities on ensuring that municipal facilities and operations are managed in ways that will minimize contamination to stormwater discharges emanating from these facilities. Facilities may include, but are not limited to, municipally owned or operated buildings, campuses, parks, public works facilities, road right-of-way and infrastructure. Various operation and maintenance activities addressed may include, but are not limited to: street maintenance; road salt storage and application; vehicle and fleet maintenance; stormwater system maintenance; solid waste management; park and open space maintenance; and pesticide and fertilizer applications.

1. Waste Disposal and Storage

Improper storage and handling of waste materials can allow a number of pollutants including oils and greases, toxic and chemical compounds (including nutrients), bacteria, metals, and other wastes to enter waterways through stormwater run-off and non-stormwater discharges. Proper handling, along with recycling and waste reduction will reduce the potential for polluting waterways, groundwater, and recharge points.

- Ensure that all waste areas and dumpsters are covered and are not leaking.
- Place waste receptacles indoors or under a roof overhang whenever possible.
- Keep all container lids closed at all times unless adding or removing material.
- Liquid wastes should be kept out of the dumpster and the lid kept closed to keep storm water out.
- Waste oil, antifreeze, spent solvents, and other liquids from vehicle maintenance activities should be recycled.
- Spent batteries should be disposed of as hazardous waste or returned for reclamation and reuse.
- Arrange for waste to be picked up regularly and disposed of at approved disposal facilities. If the amount of generated waste exceeds the capacity of waste containers, obtain more containers or increase frequency of pickups.
- Protect or block storm drain inlets, open manholes, and roadside ditches during utility activities with rock socks, wattles or covers. Always check that these BMP's are in place before starting work on a construction site.
- Arrange for waste to be picked up regularly and disposed of at approved disposal facilities. If the amount of generated waste exceeds the capacity of waste containers, obtain more containers or increase frequency of pickups.
- Do not wash out waste containers or dumpsters outdoors. Return dumpsters to the owners for cleaning at the owner's facility. If municipally owned containers must be washed, do so at a sink or floor drain so that wastewater goes to the sanitary sewer.
- Only wash concrete mixing and pouring equipment in designated concrete washout areas at each job site. Never wash into a storm drain inlet.

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2. Management of Stockpiles

Stockpile Management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, paving materials such as portland cement concrete rubble, reclaimed asphalt pavement (RAP), hot mixed-cold laid bituminous mixes, limestone rock asphalt, pre-coated aggregates, and various patching mixes.

Protection of stockpiles is a year-round requirement. To properly manage stockpiles:

- Locates stockpiles away from concentrated flows of stormwater, drainage courses, and inlets.
- Protects all stockpiles from stormwater run-on using temporary perimeter sediment barriers such as berms, dikes, fiber rolls, silt fences, sandbag, gravel bags, or straw bale barriers.
- Manages stockpiles of contaminated soil as follows:
 - o Cover stockpiles with plastic sheeting or tarps.
 - o Install berms around stockpiles to prevent runoff from leaving the area.
 - o Does not stockpile in or near storm drains or watercourses.
- Place bagged materials on pallets and under cover.
- While activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season to verify continued BMP implementation
- Repair and/or replace perimeter controls and covers as needed to keep them functioning properly.

Non-active stockpiles of the identified materials are protected further as follows:

- During the rainy season, soil stockpiles should be covered or protected with soil stabilization measures and a temporary perimeter sediment barrier at all times.
- During the non-rainy season, soil stockpiles should be covered or protected with a temporary perimeter sediment barrier prior to the onset of precipitation.

3. Vehicle Fueling, Washing and Maintenance

Activities associated with fueling and cleaning of municipal vehicles and equipment can easily contribute pollutants to stormwater discharges or directly discharge to the municipal separate storm sewer (MS4). Spills and leaks that occur during vehicle and equipment fueling can contribute hydrocarbons, oils, grease, metals, and other toxic chemicals to stormwater run-off or discharge directly into storm sewers or receiving waters. Pollutants from washing and maintaining vehicles can vary from engine oil to chemicals within detergents such as phosphates. Properly designed and constructed fueling and wash areas will reduce the potential for contaminated discharges.

The ideal location for washing vehicles is at a commercial vehicle wash. Commercial vehicle

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washes have the ability to recycle their water on-site as well as to contain water so it will not enter the storm drain. If no commercial vehicle washes are available, then vehicles should be washed indoors (that will drain to sanitary sewers) or on grass/pervious surfaces.

General Fueling Practices

- Place drip pans or absorbent pads under direct fueling location if fueling will occur over a permeable surface.
- Do not "top off" fuel tanks.
- Do not place used spill response materials in adjacent trash receptacles. Dispose in a proper manner.
- Do not leave active fueling operations unattended.

General Washing Practices

- Keep equipment clean; do not allow a buildup of oil/grease.
- Place spill clean-up materials in readily available locations by the wash area (clearly mark location of spill clean-up materials).
- Clean up spills or any wash water that may improperly discharge and contaminate.
- Consider using phosphate-free detergents.
- The optimal location for a wash area is indoors where connection to the sanitary sewer is more easily achieved and exposure to rain events is eliminated.
- Do not store solvents or degreasers in the wash area.

General Maintenance Practices

- Keep all wash areas neat and orderly.
- Perform monthly inspections and clean and maintain any sumps or oil/water separators installed at the wash area.
- Inspect and maintain washing equipment, especially the hoses, wands and nozzles. Make sure they deliver the proper rate of water and shut-off automatically when not in use.
- For wash areas that are plumbed to a sanitary sewer, clean the sewer inlet at least weekly.
- Inspect all fueling equipment and fuel islands at least daily for leaks, drips, corrosion, wear or damage. Repair or replace all faulty equipment promptly.

4. Routine Street and Parking Lot Sweeping

Regular street and parking lot sweeping (using sweeper trucks/equipment) removes debris, such as dust and pollutants, which typically end up in streams after being washed into catch basins. Sweeping should be performed at least twice a year on all roads and preferably more in areas of concern, including near streams, land use (industrial areas vs. residential) or heavily trafficked areas.

- Operate all sweepers according to the manufacturer's recommended procedures.

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- Develop a street sweeping schedule including prioritized roads, secondary roads and frequency of sweeping.
- Schedule sweeping...
 - In areas where storm drain plugging or high pollutant loadings occur.
 - Immediately following special events like street fairs, art shows and parades.
 - Immediately after street repair projects that involve saw cutting, chip sealing or other operations that might have left wastes or debris on road surfaces.
 - After leaf collection in the fall.
 - After salt/sand application in the winter.
 - During new construction projects involving temporary storage of construction materials like dirt, sand and road base along the roadway.
 - Immediately following median grass cutting operations.
- Make sure brushes and water spray hoses are functional before leaving the shop.
- Clean out solid debris and store in an impervious area or in a temporary disposal area such as a truck or dumpster.
- Scrape out left over debris from the hopper after the last dump of the day. Dispose of waste in trash or dumpster temporary storage area.
- Always wash sweepers in a wash area or wash bay that drains to a sanitary sewer.
- Avoid conducting sweeping operations during rainstorms.

5. Emergency Response

Spill prevention and response is one of the most important Good Housekeeping Practices for municipal operations. In the course of daily activities, municipal employees handle, transport, load, and use products that can be harmful to our waterways if they enter storm drains.

Hazmat crews need to be notified when spills are hazardous or potentially hazardous to human health.

Call 911 if a spill or leak threatens to escape the facility boundaries or enter any surface water body and contact the Minnesota Department of Public Safety Duty Officer at 1-800-422-0798 (toll free) or 651-649-5451 (Metro area), if the source is a spill or leak as defined in Minnesota Statute § 115.061.

Clean-up Procedures

Spilled chemicals should be effectively and quickly contained and cleaned up. Employees should clean up spills themselves **only if properly trained and protected**. Employees who are not trained in spill cleanup procedures should report the spill, warn other employees, and leave the area.

The Response Procedures, Section 7, in the Illicit Discharge Detection and Elimination Program should be followed.

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6. Cleaning of Maintenance Equipment, Building Exteriors and Dumpsters

Municipal vehicle washing can generate dry weather runoff contaminated with detergents, oils, grease, and heavy metals. Equipment and building washing BMPs can eliminate contaminated wash water discharges to the storm sewer system.

Proper equipment maintenance includes:

- Maintain equipment regularly: Check for leaks or stains, and fix leaks immediately.
- Capture leaks and rips during maintenance activities with a drip pan.
- If equipment is stored outside, provide a tarp or roof to protect the equipment from rainfall.

Proper infrastructure cleaning includes:

- Perform the activity during dry periods.
- Use non-toxic chemicals for maintenance and minimize or eliminate the use of solvents.

Building Repair, Remodeling, and Construction

- Do not dump any toxic substance or liquid waste on the pavement, the 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.

Proper dumpster cleaning includes:

- Do not wash out dumpsters outdoors or in a parking lot.
- Dumpsters should be washed in a wash bay or over a floor drain that goes to the sanitary sewer or return dumpsters to the waste disposal contractor for cleaning at the contractor's facility.
- Route leaks and other wastewaters from dumpsters to the sanitary sewer system.
- Keeping spill clean-up materials easy to access.

7. Use, Storage and Disposal of Significant Materials

The storage, use and disposal of hazardous materials and chemicals require consideration of a number of environmental health and safety factors. These include inventory control, as well as the proper use and disposal of containers and equipment.

Proper BMPs for chemicals and hazardous materials:

- Keep lids on all containers and store under cover.
- Properly close all containers when not in use.
- Use secondary containment for hazardous materials and protect from rain. Store hazardous materials in an area where spills will not reach storm drains.
- Label all hazardous materials according to hazardous waste regulations.

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- All hazardous materials should be properly labeled and remain labeled. The purchase date should be placed on the label.
- In general, storage areas should not be hot or humid.

Proper BMPs for flammable materials:

- Flammable materials should be stored in ventilated storage cabinets or approved safety cans. Lids of safety containers should be kept closed, as well as doors of storage cabinets.
- Make sure an adequate spill kit with sufficient equipment and supplies is located near storage areas where spills are possible. Clean up any spills, leaks or discharges immediately.
- Flammable and combustible materials must be isolated from ignition sources.
- Proper fire suppression equipment should be installed or available in storage or use areas.

General BMPs for significant materials:

- Do not combine wastes when storing them - this increases safety, recycling and disposal options and reduces disposal costs.
- Never mix waste oil with fuel, antifreeze or chlorinated solvents.
- Use secondary containment on all bulk fluids stored in amounts in excess of 55 gallons and wastes to prevent accidental discharge. Secondary containment includes, but is not limited to, berming around storage areas and use of absorbents.
- Keep storage areas clean and dry. Conduct regular inspections of storage areas to detect leaks and spills.
- Store new or used batteries securely to avoid breakage and acid spills during earthquakes. When stored outdoors, batteries shall be covered with plastic tarp to protect them from rain.
- Recycle old batteries.
- Wood products treated with chromated copper arsenate, ammoniacal copper zinc arsenate, creosote, or pentachlorophenol should be covered with tarps.

8. Landscaping, Park and Lawn Maintenance

Landscaping and lawn care practices have a significant impact on stormwater runoff.

Conventional lawn care practices often include watering too frequently, over-fertilizing, and the use pesticides/herbicides to rid lawns of unwanted pests and nuisance or invasive plants. Excess nutrients and pesticides wash away during rain events or when lawns are over-watered. The stormwater management approach to lawn care uses a variety of techniques to reduce pollution in stormwater runoff from lawns.

General practices include:

- Perform mowing at optimal times, which does not include prior to significant forecasted rain events.
- Protect lakes, ponds, wetlands, and/or lagoons adjacent to landscape maintenance activities.

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- Mulch-mow grasses whenever possible.
- Dispose of organic wastes by composting whenever possible. When composting is not possible, dispose of organic wastes in an approved disposal facility. Do not wash down or dispose of lawn clippings, leaves, tree trimmings, or other landscape waste in or near a storm drain, drainage ditch, or open body of water.
- Use mulch or other erosion control methods to prevent erosion of exposed soils and flowerbeds.
- Do not leave grass clippings or trimming residue on impervious areas.
- Use mechanical methods for vegetation removal where possible.
- Avoid loosening soil when removing weeds or vegetation.
- Collect and dispose lawn trimmings, clippings, vegetation, etc.
- Reduce or prevent exposed soil areas.
- Only irrigate as much water as needed. Never water at rates that exceed the infiltration rate of the soil.

9. Road Maintenance

Existing roads and bridges require periodic maintenance. These maintenance activities often generate stormwater pollutants such as heavy metals, sediments, solvents, oils, and fuels.

Here are some pollution prevention tips for road and bridge maintenance activities:

- Always sweep or vacuum dry material wastes during saw cutting, road stripe removal, or other activities that create dust/sediment.
- Locate and block adjacent storm drain inlets during maintenance work such as concrete curb and gutter work, resurfacing, paving, striping/marketing, or saw cutting.
- Use drip pans for paving machines and other equipment that may leak fluids.
- Do not apply road striping paint during windy, wet, or rainy conditions.
- If wet saws must be used:
 - Place drip pans under or watertight barriers around equipment when not in use.
 - Turn cooling water off when saw is off.
- Wash out mixers, delivery trucks, or other equipment in a designated concrete washout area only.
- Protect storm drains during use.

10. Right-of-Way Maintenance

Open and closed conveyance systems within City right-of-way will be maintained to function as designed and in a manner that will allow them to convey stormwater effectively. Periodic maintenance will include:

- Mowing
- Maintenance of vegetative cover
- Removal of debris

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- Removal of excessive sedimentation
- Repair/stabilization of channel erosion
- Removal of any obstructions that inhibits dewatering between storms

11. Application of Herbicides, Pesticides and Fertilizers

Fertilizers, herbicides, and pesticides possess a relatively high potential for contributing pollutants to stormwater runoff and non-stormwater discharges both through storage and application. Proper management of materials, effective training, and proper use of materials will reduce the potential of polluting receiving waterways.

BMPs that will be implemented to reduce pollutants from pesticides, herbicides, and fertilizers include the following:

- Personnel who participate in the application of pesticides, that contain a Restricted Use Pesticide (RUP), for the City will be trained and obtain non-commercial Certification as required by the Minnesota Department Agriculture.
- Fertilizers will be applied during the growing seasons- spring, summer, and fall.
- Employees will be trained to follow the material safety data sheet(s) (MSDS) of pesticides, including herbicides and insecticides, and fertilizers.
- All mixing and loading operations must occur on impervious surfaces.
- All state, federal, and local regulations are followed in the use of pesticides, herbicides, and fertilizers.
- Pesticides, herbicides, and fertilizers will not be applied during or directly prior to storm events.
- Employ application techniques that increase efficiency and allow the lowest effective application rates. Carefully calibrate application equipment and follow all label instructions.
- Only pesticides that are quickly absorbed into the soil or plants should be used.
- Whenever practicable, integrated pest management techniques will be implemented.
- Pesticides will not be sprayed when there is a high possibility of the spray drifting into non-target areas or onto non-target vegetation, insects or animals.
- To prevent possible backflow and contamination of a water supply, never submerge a water supply hose in a chemical tank or container.
- Pesticide application for mosquito control may not be applied without following the notification requirements as required by Minnesota Statute 18B.07.

12. Cold Weather Operations

Road salt or deicers should be stored in covered shelters with a door. Although road salt is spread liberally on roads for safety, it is important that we limit the amount of stored road salt that enters streams. Protecting stored road salt from the elements (wind or precipitation) saves money since very little is wasted and keeps unnecessary salt out of our streams.

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Road salt spreaders should be emptied completely when not in use or at the end of the snow season, especially if stored outdoors. Excess salt in spreaders can get washed out in rains.

General practices

- Regulate the application of deicing salts to prevent oversalting the pavement.
- Use trucks equipped with salt spreading calibration devices.
- Use alternative deicing materials, such as sand or salt substitutes, where sensitive ecosystems should be protected.
- Consider temperature when determining volume of salt to apply.
- Contain wash water from trucks used for salting and sanding in a holding tank for disposal or discharge into sanitary sewers.
- Prevent dumping of accumulated snow into surface waters or onto frozen water bodies.

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References

California Stormwater Quality Association BMP Handbook @ { HYPERLINK
"http://www.caasqa.org/bmp-handbooks/municipal-bmp-handbook" }

EPA Pollution Prevention/Good Housekeeping for Municipal Operators @
{ HYPERLINK "http://water.epa.gov/polwaste/npdes/swbmp/Pollution-Prevention-Good-
Housekeeping-for-Municipal-Operatators.cfm" }

LIMC Good Housekeeping Guidance and BMP Manual @
{ HYPERLINK "http://www.lancasterintermunicipalcommittee.org/programs_stormwater.php" }

Partners For A Clean Environment @ { HYPERLINK
"http://www.pacepartners.com/stormwater/municipal-operations/72-municipal-stormwater-
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