

Construction Site Storm Water Pollution Prevention Best Management Practices (BMPs)



I. PURPOSE

Storm water runoff is collected in the Town's storm water drainage system and is released – untreated – into the local waterways. Pollutants that are discharged onto the ground are transported into the storm water system by rain and surface runoff. These contaminants eventually end up in our local waterways and degrade our drinking water supply. The Best Management Practices that follow are designed to reduce the discharge of contaminants into the Town's storm water drainage system. These BMPs serve as storm water management guidance to developers who are permitted to operate within the Town of Fairview. This document identifies BMPs for storm water pollution prevention at active construction sites. The BMPs are briefly highlighted in this document as a reference point for developers. More detailed explanations of the BMPs can be found at the EPA's storm water construction website - <http://cfpub.epa.gov/npdes/stormwater/const.cfm>.

II. BEST MANAGEMENT PRACTICES

A. DIVERTING STORM WATER RUNOFF

Concentrated or sheet runoff flow to a disturbed area greatly increases the amount of erosion of the disturbed area and the amount of sediment carried in runoff from the disturbed area. Diverting the runoff around the disturbed area generally is an effective best management practice when the disturbed area cannot be stabilized immediately.

Diversions may be temporary or permanent BMPs and include the following:

- Dikes and swales
- Down spout extender
- Pipe slope drain
- Paved flume
- Level spreader



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B. MANAGING OVERLAND FLOW

Overland flow refers to runoff flowing as a “sheet” over the land and not concentrated in runoff channels. Generally, areas with overland flow are small in size. Best management practices usually are placed on sideslope locations.

Temporary best management practices include:

- Filter fabric fences
- Hay bale fence
- Brush berm

Permanent best management practices include:

- Seeding with mulching
- Vegetative sediment filter strip
- Sodding



C. TRAPPING SEDIMENT IN CHANNELIZED FLOW

Channelized flow refers to runoff flowing through depressions, swales or channels. This section contains BMPs to control or trap sediment carried in channelized flow. The practices vary by drainage area as follows:

For drainage areas of less than 2 acres:

- Diversion dikes and swales
- Reinforced filter fabric barrier
- Sandbag barrier
- Bagged Gravel Barrier

For drainage areas of less than 5 acres:

- Sediment traps

For drainage areas of 10 or more acres:

- Sediment basin



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D. ESTABLISHING PERMANENT DRAINAGEWAYS

Site modifications change local drainage patterns, resulting in increased runoff in existing or new drainageways. This occurs during and after construction. Planned permanent drainageways, whether existing or new, require careful design to provide proper conveyance without causing erosion and to improve water quality during and after construction. This practice applies to channels, including ditches, swales and diversions, constructed as part of a development to transport surface runoff.

Drainageway practices include:

- Vegetated channels:
 - Sodding
 - Grassed waterway
 - Reinforced grassed waterway

- Lined Channels:
 - Riprap
 - Lined waterways



E. INLET PROTECTION

Because the best management practices to minimize the movement of pollutants from the site can never be 100% effective, **there remains a need to prevent pollutants from entering inlets, catch basins, culverts and other conveyance structures to prevent pollutants from reaching receiving waters.** All storm sewer inlets that are made operable during construction should be protected so that storm water runoff will not enter without first being filtered or otherwise treated to remove sediment. **It is critical that storm sewer inlets not be completely blocked. Blocking an inlet can cause streets to flood, sediment to build up and become a hazard, and public safety may be impaired.**

Best management practices include:

- Inlet protection barriers
- Drop inlet insert basket
- Storm inlet sediment trap



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F. TRAPPING SEDIMENT DURING SITE DEWATERING

Pumping of suspended or resuspended sediment can cause substantial amounts of pollutants to leave a construction site and enter lakes, streams, and wetlands.

Water pumped from the site should be treated by one of the following:

- Dewatering settling basins
- Portable Sediment tank
- Sediment sump pit
- Dewatering bag



G. TRACKING PREVENTION

Sediment reaching streets generally has a clear path of conveyance to lakes, streams, and wetlands. Control of this source of pollutants is approached in two ways. First, best management practices are identified to minimize the amount of sediment being tracked onto streets. Second, cleanup of the sediment that reaches the street is required.

Required elements:

- Each site should have graveled roads, access drives, and parking areas
- Sediment should be removed from vehicles before they exit the construction site
- Any sediment reaching a road should be removed by street cleaning (not flushing) before the end of each workday
- If the site is one acre or less and construction of stabilized access road is not feasible, use of street cleaning is acceptable



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H. GENERAL SOURCE CONTROLS

General source controls include management techniques for minimizing nonpoint source pollution related to erosion and nonerosion sources on construction sites. These controls should be implemented in order to reduce the availability of construction-related pollutants which can contaminate runoff water and, where runoff contamination cannot be avoided, to retain pollutants and polluted water on the site insofar as possible.

Specific elements for construction site housekeeping and good management are highlighted below:

- Erosion and Sedimentation Control Plan
- Topsoiling
- Protection of Trees
- Dust Control
 - Mulch
 - Temporary vegetative cover
 - Spray-on adhesives on mineral soils
 - Tillage to roughen surface and bring clods to the surface
 - Irrigation by water sprinkling
 - Barriers using solid board fences, snow fences burlap fences, crate walls, hay bales, or similar materials
- Designated Equipment Maintenance and Repair Areas
- Hazardous Waste Collection and Disposal Plan
- Designated Equipment/Vehicle Washing Areas
- Construction/Hazardous Material Storage Areas
- HAZMAT Spill Cleanup plan
- Designated Demolition Areas
- Sanitary Facilities
- Pesticide Storage and Use Plan
- Temporary Vehicle and Equipment Fueling Area

