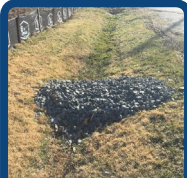




Velocity Controls

MN Stormwater Design



Check Dams

- ☐ Spaced so that the elevation of the toe of the upslope check dam is equal to the elevation of the crest of the downslope check dam.
- ☐ Inspect for repairs until final stabilization is achieved.
- ☐ Sediment should be removed when it reaches one-half of the original dam height.

AfterWildfireMN.org



Rock Chutes & Flumes

- ☐ Placed at release point where runoff enters a ditch, stream, or lake.
- ☐ Inspect in the spring to ensure it is level. Correct movement caused by freeze-thaw and add more rock if needed.
- ☐ Check the approved plans and specifications to ensure the right size of rock is placed.



Outlet Protection

- ☐ Consider protection at all pipe and culvert outlets.
- ☐ If scour erosion is occurring, consider additional stabilization methods.
- ☐ Vegetation surrounding or within should be well established with no bare spots.

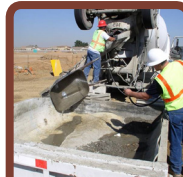
Forester Network



Diversion Structure

- ☐ Use around the perimeter of sites to prevent run-on and off-site flows over disturbed ground.
- ☐ Any damage to a vegetated or other lining should be repaired, remove and properly dispose of all debris to provide adequate flow conveyance.

Good Housekeeping



Concrete Washout

- ☐ Washout should be contained and waste regularly removed and properly disposed of. It can't be discharged to surface water and affect waters of the state.
- ☐ Care should be taken to prevent soil contamination by using lined systems, roll offs, or chute washouts.



Construction Debris & Dust Control

- ☐ Contain, cover, and remove debris from the site.
- ☐ Protect from wind, plug drainage ports.
- ☐ Washout containers should be staked down and located away from storm sewers.
- ☐ Use water or environmentally friendly dust suppressants for dust control.



Spill Prevention

- ☐ Have a spill kit on site to minimize discharge of pollutants through chemical spill and leak response procedures.
- ☐ Use impervious surfaces for loading and unloading of chemicals and fuels.



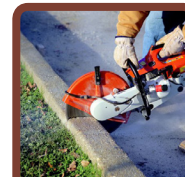
Paints & Other Hazardous Materials

- ☐ Discharges from washout of stucco or paint, and from release of oils, compounds, and other construction materials are prohibited.
- ☐ Fuels, oils, and other pollutants must be contained and disposed of properly.
- ☐ Minimize discharges from vehicle and wheel washing.



Other Waste Management

- ☐ Use secondary containment if chemicals are used on site to prevent leaks.
- ☐ Porta Potties should be staked.
- ☐ Waste should be located away from storm drains.



Wet Saw Cutting

- ☐ Use absorbent gels, or vacuum up and properly dispose of waste.
- ☐ Use inlet protection.
- ☐ Waste can't be discharged into surface water and affect waters of the state.

Soil Compaction & Topsoil Requirements



Soil Compaction

- ☐ Soil that is not compacted and has plenty of organic matter is best for turf growth.
- ☐ The Iowa Stormwater Management Manual outlines several methods to preserve and restore soil quality.



Topsoil & Compost

- ☐ Decompect subsurface soils as deep as possible using ripping and tillage equipment.
- ☐ Add topsoil and compost, till after addition to reduce compaction.

Construction Site Pollution Prevention

Best Management Practices

FIELD GUIDE



IowaStormwater.org

February 2018



Erosion Controls



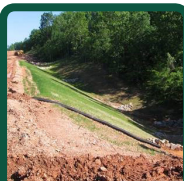
Mulching

- ☐ Straw mulch should be crimped and applied at 2 tons per acre. Wood mulch or compost should be applied to a uniform depth of 1-3 inches.
- ☐ Inspect for signs of thin or bare spots. Add mulch as required to maintain initial thickness.
- ☐ Eroded areas should be repaired and may require additional protection with an erosion mat.



Temporary Rolled Erosion Control Blankets & Turf Reinforcement Mats

- ☐ Use on bare soils susceptible to erosion, such as on slopes and channels, and in locations where establishing vegetation may otherwise be difficult.
- ☐ Soil surface should be smooth. Inspect for signs of rill or gully erosion below the matting until vegetation is fully established.
- ☐ Repair eroded areas, tearing, tenting, or areas where product is no longer anchored firmly to the ground.



Temporary Slope Drain

- ☐ Flexible pipe/tube that runs from top to bottom of a disturbed slope.
- ☐ Inspect for leaking joints, pipe movement, erosion at inlet/outlet, and seepage through the berm at the inlet.



Hydro-Mulching

- ☐ Applied in 2 directions in a uniform manner to cover all exposed soil.
- ☐ Seed can be used along with hydromulch.



Temporary Seeding

- ☐ Newly seeded areas should be mulched and protected from vehicular and foot traffic.
- ☐ Inspect thickness of vegetation by a walk-through of the site. Drive-by vegetation inspections are not adequate.
- ☐ Bare spots, or eroded areas should be re-seeded immediately.



Permanent Vegetation

- ☐ 100% of the site has a 70% plant density.
- ☐ Inspect for bare spots, which should be re-seeded immediately.
- ☐ Alternative stabilization measures are required if seeding with field equipment or initiating vegetative stabilization is infeasible.

Reminders

- ☐ Ensure compliance by maintaining on a regular schedule.
- ☐ Stabilization of areas must, at a minimum, be **initiated immediately** whenever any clearing, grading, or excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on a portion of the site and will not resume for a **period exceeding 14 calendar days**.

Sediment Controls



Silt Fence

- ☐ Ends should be upturned, placed on contour, and bottom of edge of fabric buried.
- ☐ Maintenance is needed when accumulated sediment reaches approximately 1/2 of silt fence height.
- ☐ Repair tears and fabric post anchor and remove when area is stabilized and the project is complete.



Filter Sock & Wattles

- ☐ Should be staked in place, ends upturned and placed on the contour.
- ☐ Replace those that have been driven over and/or torn.
- ☐ Remove sediment when accumulated sediment reaches approximately 1/2 height of wattle or filter sock.



Inlet Protection

- ☐ Remove debris; may have to remove external devices seasonally to prevent street flooding and snow plow damage.
- ☐ Replace when necessary.



Temporary Sediment Basin

- ☐ Inspect embankment for rills, seepage, settlement or slumping, repair immediately by vegetating berms.
- ☐ Remove sediment when it accumulates to 1/2 of the wet storage volume.
- ☐ Inspect outlet for plugging.



Temporary Dewatering Basin

- ☐ Turbid water discharges are prohibited to storm sewers and streams unless managed by appropriate controls.
- ☐ Use an environmentally-safe flocculent.
- ☐ Periodically clean out roll-off and basin systems and properly dispose of waste.
- ☐ Utilize outlet structures that withdraw water from the surface when discharging from basins.



Stabilized Exit

- ☐ Remove any sediment tracked onto paved roadways.
- ☐ Replace rock when plugged with sediment
- ☐ Rock exit, engineering fabric and any accumulated sediment should be removed when project is completed.

GP No. 2 Requirement

- Minimize sediment discharges from the site; minimize the amount of soil exposed during construction; and minimize the disturbance of steep slopes.

Iowa DNR General Permit Information

<http://www.iowadnr.gov/Environmental-Protection/Water-Quality/NPDES-Wastewater-Permitting/NPDES-General-Permits>

GP No. 2 Requirements

- Provide and maintain natural buffers around waters of the state, direct stormwater to vegetated areas to maximize stormwater infiltration.
- Vegetative filter strips should be designed with no bare spots. Inspect to ensure runoff sheet flows into the filter area.