

As a homebuilder, you are responsible for reducing the amount of soil erosion and subsequent sedimentation from your lot. Although disturbed areas less than one acre are not regulated by the North Dakota Department of Health by themselves; they are part of a larger common plan of development that is regulated.

This fact sheet provides some general guidelines that may be used for sites that involve construction activity that disturbs less than one acre of soil.

You have probably already noticed some sediment and erosion control devices being used throughout other areas of the development where construction activity is taking place. Because each site is different, some lots may require additional controls or alternative controls. Check with the developer and local officials to make sure all storm water requirements are addressed.

Sediment and erosion control devices are only specified to handle a two-year, 24-hour rain event. A two-year, 24-hour event in North Dakota ranges from 1.9 inches of rain in the west to 2.3 inches of rain in the east over a 24-hour period. This is a little less than 9 hundredths of an inch of rain per hour.

### Perimeter Controls

Perimeter controls are utilized to capture sediment before it leaves the construction site. These types of controls include vegetative buffers, silt fences and sediment logs.

Vegetative buffers consist of a minimum 25 foot wide strip of 4 to 12 inch high dense grass. The 25 feet is adequate for 125 feet of disturbed area upslope from the strip. For every 5 feet of additional disturbed area, 1 foot should be added to the buffer strip. The buffer can be used on slopes up to 5 percent and must be located on the contour of the slope.

Silt fence and sediment logs are two examples of controls used to capture sediment from disturbed areas located upslope. Controls of this type capture sediment by reducing the flow of the runoff and causing water to pond behind them. The ponded water allows for increased settling time for the sediment in the runoff.

A rule of thumb that may be used in deciding a minimum amount of silt fence used is: 1 linear foot of silt fence for every 100 square feet of upslope disturbed area.

### Sediment Traps

Sediment traps are small storm water detention areas that allow sediment to settle out of runoff. Traps are usually located next to inlet structures including manholes and inlets located in yards.

The size of the sediment trap around an inlet should be 2 feet deep and excavated 10 feet away from the inlet, around the entire inlet.

Another type of trap that can be used is called a cut-back curb. Cut-back curbs are small traps used to pond water behind the curb and gutter system. The cut should be made 3 to 4 feet wide and 3 to 4 inches deep. The excavation of the cut may be offset a maximum distance of 5 feet from the curb. When a driveway access is encountered and no driveway has been constructed, securely install a plank of wood (2x4, 4x4) in order to continue the curb. Cut-back curbs may not be allowed in all municipalities. Contact local officials before using them.

### Inlet Protection

The purpose of inlet protection devices is to reduce the amount of runoff flow into the storm sewer inlet. The device causes runoff to pond and allows for more time for sediment particles to settle out.

Inlet protection devices are the last line of control for capturing sediment and must be used along with an appropriate perimeter control and/or sediment trap.

Caution should be used when choosing and installing an inlet protection device so as not to cause property damage due to flooding. The device should be installed so storm water can bypass the device if too much runoff is received.



### Stabilized Site Access

A stabilized construction site access is used to reduce the amount of sediment tracked from a site onto the street by vehicles or equipment. Vehicles and equipment must never be allowed to enter or exit the site from any other place, especially when wet soil conditions are present.

### Roof Drains

All roof drains should be provided with sufficient splash pads and/or downspout extensions to prevent erosion from roof runoff. Local regulations may not allow you to discharge roof runoff directly to storm sewers. Do not connect any roof drain directly to any storm sewer without contacting local officials first.

### Temporary Cover

Temporary cover is used to reduce erosion and should be applied immediately to:

- Areas where construction activity has ceased and is not planned to resume within 21 days.
- Areas with a continuous slope within 200 feet of any surface water.
- Temporary stockpiles such as topsoil and clay. Clean aggregate, demolished concrete and sand stockpiles are exempt.

The cover may be obtained by planting fast-growing plants like rye, oats or winter wheat, or it may be obtained by spreading straw, wood chips, wood fiber blankets, or erosion netting over the area.

### **Permanent Cover**

Permanent cover is any type of cover that will not likely be disturbed again by construction activities. Permanent cover may be gravel, asphalt or concrete areas, or the application of seed, sod or mulch to an area.

Permanent cover should be applied to all completed areas that will not be disturbed or have additional construction activities performed in the area. While construction activity is occurring, parking areas, staging areas and areas immediately surrounding the building site should not be permanently seeded.

An area that has been permanently seeded should be blocked off if nearby construction activity is occurring to allow the cover to grow.

### **Stockpiled Material**

Stockpiled material consists of gravel, sand, excavated soil, topsoil or any other similar material. These piles should never be placed in any storm water conveyance system (e.g., curb and gutter, drainage ditch) overnight or over the weekend, and should never be allowed to sit in a conveyance system if inclement weather is approaching.

An appropriate erosion control device should be in place between any stockpile and any storm water conveyance system. Only a minimal amount of stockpiled material should be placed directly against any device and in no case shall it be more than 1/6 the height of the exposed height of the device.

### **Waste Disposal**

All construction debris must be placed in an appropriate container to prevent the debris from being carried away from the site by wind or water. All debris should be properly disposed of at an appropriate facility.

All liquid or soluble materials (e.g. oil and paint) should be properly stored to prevent spills, leaks or discharges. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with applicable regulations.

### **Concrete Wash Water**

Concrete wash water must never be discharged or allowed to drain into any waters of the state, storm sewer systems or adjacent properties. Wash water disposal must be limited to a defined area of the site or to an area designated by the developer for cement washout. The area must be sufficient to contain the wash water and residual cement.

### **Inspections and Housekeeping**

Inspection of all sediment and erosion control devices and measures should take place every 14 calendar days and within 24 hours after any storm event greater than 1/2 inch of rain per 24 hour period. When any device or measure in need of maintenance

or repair is found, the maintenance or repair should be completed following good housekeeping guidelines.

Good housekeeping should be practiced at all times. Housekeeping includes cleaning and maintaining all erosion and sediment control devices, cleaning sediment off streets, and picking up all debris that has been deposited off site by wind or water.



Sediment control devices, such as silt fence, should be cleaned out once the amount of accumulated sediment has reached 1/3 of the exposed height of the device. If the device is not functioning properly, it should be repaired or replaced. Any removal of sediment, or repair or replacement of any device, should be done within 24 hours of discovery or as soon as field conditions allow access.

Sediment traps or basins should be cleaned out once the amount of accumulated sediment has reduced the storage volume of the trap or basin by 1/2. Drainage and removal of sediment must be done within 72 hours of discovery or as soon as field conditions allow access.

Soil or sediment that has been deposited or tracked onto any street should be removed within 48 hours. Removal may need to be done sooner if specified by local authorities or if there is a public safety hazard or nuisance. Some municipalities require tracked sediment be removed by the end of the day.

### **Removal of Sediment and Erosion Controls**

If any construction activity leads to the accidental removal of a sediment and erosion control device, the device must be replaced immediately. If any construction activity must be done where a device is already in place, the device may be removed but must be replaced once the activity has ceased.

Sediment and erosion control devices must be used and maintained until 70 percent of pre-existing vegetative coverage has been achieved on all pervious surface areas, such as lawns, that are located upslope from the device.