



One & Two Family Residential Construction Sediment & Erosion Control Guidelines

As you may or may not be aware, the EPA with the help of MoDNR has instituted a Stormwater Pollution Prevention Program entitled: National Pollution Discharge Elimination System (NPDES). Within this NPDES program is information outlining the Municipal Separate Storm Sewer System (MS4) program. This document contains requirements that: any municipality, county or other form of government that has a population of 10,000 or more has a “Duty to Comply”.

The City of Nixa, as a regulated small MS4 has been given this Duty to Comply. Among other things, the City of Nixa is required to: “develop, implement, and enforce a Stormwater Management Plan (SWMP). This plan is designed to reduce the discharge of pollutants from the City of Nixa’s regulated small MS4 to the maximum extent practicable. Furthermore, the intent of this SWMP is to protect water quality, and to satisfy the appropriate requirements of the Missouri Clean Water Law”.

This handout contains guide lines and procedures sufficient for typical One & Two Family construction. It is not intended to address all circumstances that may occur during construction. The goal of this handout is to educate home builders so they can eliminate or reduce the amount of sediment that leaves their construction sites.

Since our streets and storm drain systems convey stormwater to lakes and rivers, it is important that we keep these sediments and pollutants off City streets and out of the City's storm sewer system.

Best Management Practices:

Otherwise known as BMP's. These include but are not limited to: temporary vehicle tracking pads, silt fence material, silt soxx material, seeding, erosion control blankets, construction phasing, grass buffer strip or any other device or procedure that helps reduce erosion and sediment loss.

Installation Sequencing:

The following is the order in which most BMP's are to be utilized:

- 1. Grass Buffer Strips** – Ensure that the existing grass buffer strip along the curb lines are not disturbed. If grass is already established, and a buffer strip of 10 feet wide can be left in place, we would ask you to do so.
- 2. Inlet Protection** – Ensure that all storm drain inlets that receive stormwater runoff from your project are properly protected.
- 3. Perimeter Control** – Devices such as silt fence, wattles or silt soxx material must be properly installed on all areas where runoff can potentially leave your site.
- 4. Track Out** – All debris that is tracked off site onto the city street is to be removed at the end of each work day.
- 5. Grading/Excavating** – All BMP's should be installed prior to any grading or excavation. Dewatering for any trenching or excavation must be done in such a manner as to not deposit sediment downstream. Wattles, silt soxx material, sedimentation basins or some other means of removing sediment from dewatering must be used prior to discharging water off site. Discharge water should be clear.
- 6. Stockpiles** – Perimeter control should be installed around all stock piles.
- 7. Backfill and rough grading** – Care should be taken to avoid disturbing the grass buffer strips.
- 8. Maintenance** – All BMP's should be maintained so the devices are functioning properly. All sediment should be removed from the streets, gutters and inlets at the end of each work day and after each rain event in which sedimentation occurs.
- 9. Final Grading** – All BMP's should be left in place until the site has adequate vegetation established (70% vegetative coverage on 100% of the project).
- 10. Seeding or Sodding** – Should be done as soon as practicable.

Permit Holders Responsibility:

- 1.** If a lot is part of a subdivision, the NPDES permit holder (the original developer) for that development must comply with said permit regulations and Stormwater Pollution Prevention Plan (SWPPP) for the life of the project (until such time the permit can be terminated). If a development is sold in its entirety to another entity or if another entity purchases enough lots to add up to 1 acre, then the Sediment & Erosion Control responsibility for the lots purchased falls on the purchasing entity.
- 2.** Ensure that adequate BMP's are in place and functioning until the project is complete (last lot is built out).
- 3.** Provide periodic inspection of BMP's at least once a week and after a significant rainfall event.
- 4.** Maintain all BMP's in working order. Remove accumulated sediment from inlet protection, perimeter control and other BMP devices as needed.

Maintenance requirements:

- 1.** Maintain the grass buffer behind the curb at all times.
- 2.** All perimeter controls that are: collapsed, torn down, or ineffective, are to be replaced or repaired as needed.
- 3.** Remove accumulated sediment from perimeter control BMP's when sediment reaches 1/3 the height of the device.
- 4.** Remove accumulated sediment from inlet protection when it accumulates.

Inspections – City:

The City of Nixa Building Inspectors will conduct erosion and sediment control inspections in conjunction with routine building inspections to ensure that the appropriate erosion and sediment control measures are in place and properly secured. The first inspection will occur during footing inspection. It is expected that: the grass buffer strip is maintained (if applicable), inlet protection and perimeter control be installed, stockpiles protected, and vehicle tracking pads installed (if practicable). BMP's that are not installed or are installed improperly will result in a failed footing inspection. At all subsequent inspections, the BMP's will be subject to inspection to make sure they are working properly. If at any time during construction, sediment deposits are found off the construction site, a stop work order may be issued until the deposit(s) are removed and the proper BMP's have been established. Upon final completion of the project the entire site must be properly stabilized. This can be done through sodding or seed and straw on the entire site. Only when vegetation is adequately established (70% vegetative cover on 100% of the project) may the sediment control devices be removed.

Construction BMP's:

The following items are examples of the types of BMP's that should be on every site. Additional BMP's may be required depending on the site, its topography, location, layout, etc.

Grass Buffer Strip, Right-of-way Vegetation:

If the lot has established turf grass, it is requested that during construction this 10' grass strip behind the curb be left undisturbed during the excavation for the house. This grass buffer strip is the road right-of-way area directly behind the curb to the beginning of the property line. This right-of-way grass buffer strip vegetation helps to prevent sediment from being discharged into the streets and storm sewer system. If this area has not been seeded or if work is required in the right-of-way, then additional BMP's may be required to prevent sediment from leaving the property.

Perimeter Control:

Perimeter control is required on all downstream areas of the site where runoff can potentially leave the site. Items that can be used for perimeter control include but are not limited to: silt fence material, silt soxx material, seeded soil berm, or straw bales.

Silt Fence is the most common type of perimeter control used. To be effective the silt fence must be installed correctly. To achieve this, the bottom of the fence must be installed in a 6-inch-deep trench and anchored with dirt spoils from trenching.

Silt Soxx material (also known as fiber rolls, fiber logs, sediment logs or wattles) are typically made of straw, wood fiber and even rock, bound by a net to form the shape of a tube or log. They are typically 6 to 12 inches in diameter and vary in length. These can also be laid continuous as perimeter protection. The logs are held in place by staking. They are easy to install and work great for providing perimeter control next to sidewalks, as inlet or curb and gutter.

Inlet Protection:

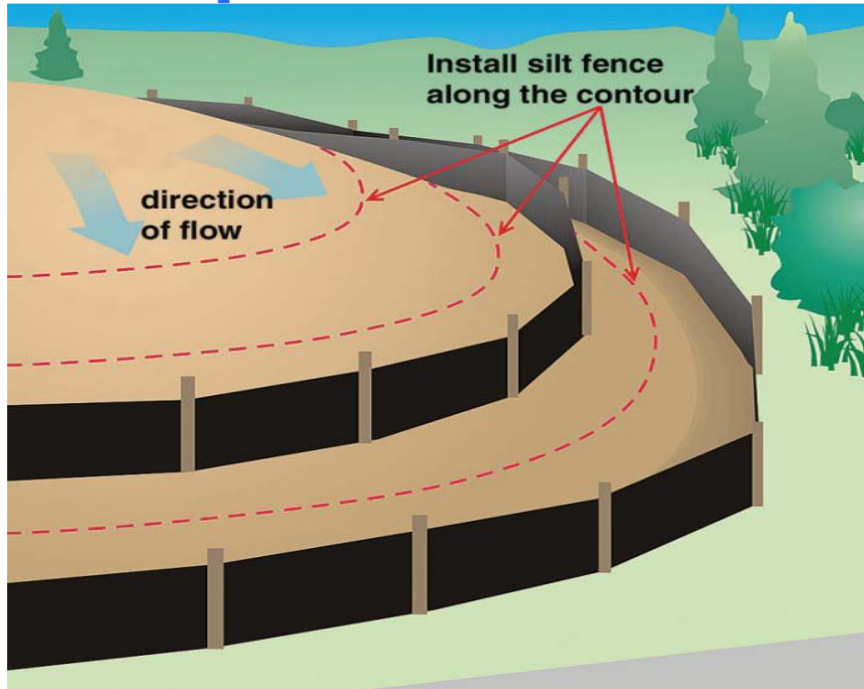
Inlet protection is required on all storm sewer inlets (curb inlet and area inlets) located downstream of any construction site where stormwater runoff may occur. The inlet protection must be installed prior to disturbing the ground, and only removed when vegetation on the lot is adequately established.

Miscellaneous Items:

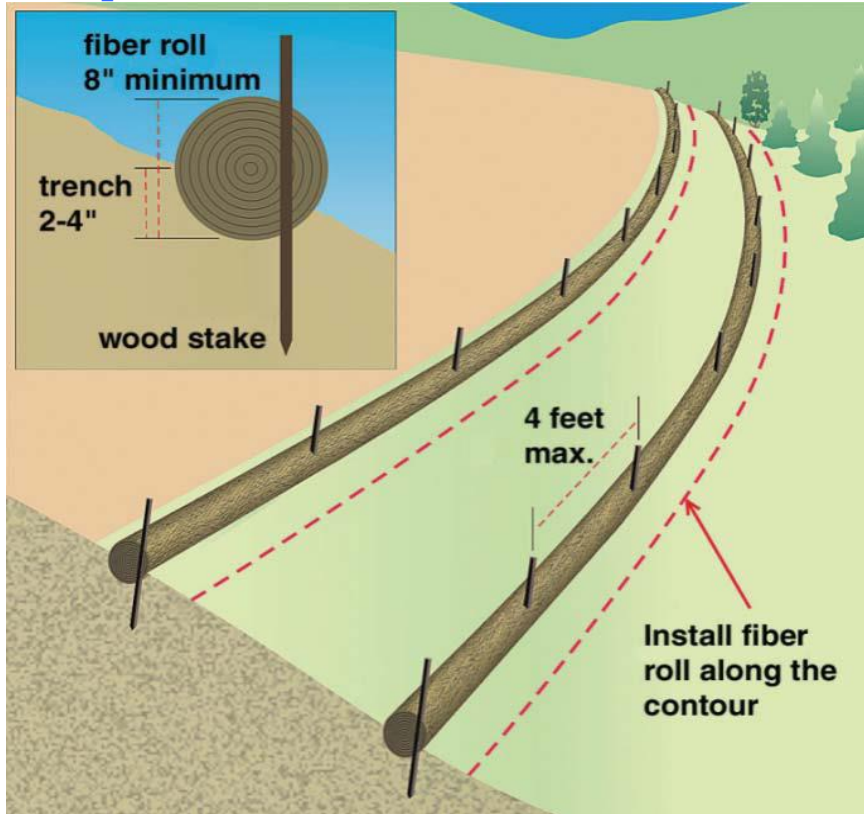
Other pollution control items that need to be addressed during construction include: site waste control, concrete washout, and dewatering. During construction, all construction waste on site should be put in an approved container with a lid. Care should be taken to prevent debris and garbage from being blown off site. Hazardous materials such as gas, oils, paints and solvents should be stored in proper containers and indoors to prevent leaks and should be disposed of properly. A concrete washout area should be constructed in a manner & location so as to not discharge off site. Washing concrete out into the street or into stormwater inlets is considered an illegal discharge. All water from dewatering practices must be clear before it is discharged off site. If the water is turbid or sediment laden it must be treated with appropriate BMP's before discharging offsite. This may include using a de-watering filter bag, dewatering into a sedimentation basin or through a series of filter logs to filter out the sediment. Sediment laden water that is discharged off site is considered an illegal discharge.

For more information concerning the City of Nixa's Sediment & Erosion Control Ordinance or the MS4 program; contact the City of Nixa Building Regulations Department at (417) 725-5850, or the City of Nixa Public Works Department at (417) 725-2353, or online www.nixa.com.

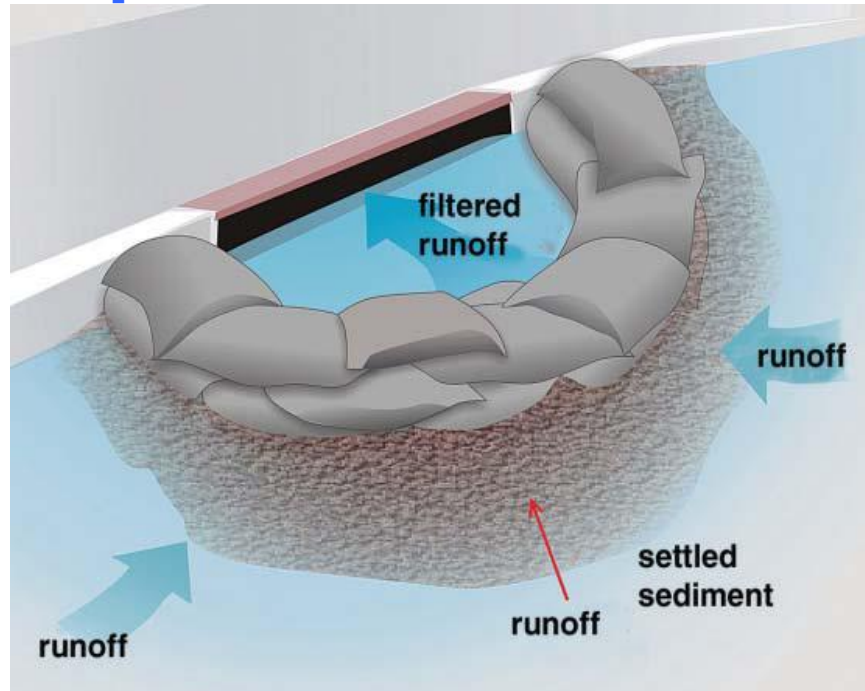
Proper Silt Fence Installation



Proper Silt Sox or Fiber Roll Installation



Proper Curb Inlet Protection Installation



Proper Area Inlet Protection Installation

