



3rd Edition

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Of Special Interest:

- Contractors Earn Kudos for Protecting THE RIVER
- Employing "Stormwater Smart" Practices
- 19 Minimum Standards

Remember . . .



Pollutants that leave YOUR site via the storm drainage system travel directly, and WITHOUT treatment, to the nearest stream, creek, or the Roanoke River!

IT'S JUST DIRT

A Newsletter for Contractors

MAY 2019

Clear as Mud

Roanoke County has many streams, including the Roanoke River, and most of them are impaired due to high volumes of sediment. This means they no longer provide their full recreational and environmental benefits. Because of this impairment, these waters have been put on a "pollution diet" and assigned a **sediment pollution limit** by the Virginia Department of Environmental Quality (DEQ) by way of a Total Maximum Daily Load (TMDL). This numeric limit is designed to assure that these impaired waters do not get any worse.



Stream impacts usually result when sediment-laden stormwater runoff leaves an active construction site

Given that many construction activities involve "putting the shovel in the dirt" and disturbing soil, contractors are in a unique position to not only cause increased sediment loadings to nearby waterways but also to help minimize them. This may sound counterintuitive, but by employing the principles and practices of Virginia's Erosion and Sediment Control Program, you can minimize the amount of erosion that occurs on your site, which thereby limits how much sediment leaves your site. There are some very basic but effective strategies to "keep your dirt on your project." These include, but are not limited to:

- *Construct all erosion and sediment controls in accordance with the approved plan*
- *Maintain the erosion and sediment controls per the standards and specifications in Chapter 3 of the [Virginia Erosion and Sediment Control Handbook](#)*
- *Cover up bare soils as soon as possible to minimize erosion from raindrop impact*
- *Keep existing vegetation in place as long as possible, as it is FREE erosion control*

These simple practices will help you reduce erosion and keep sediment on your site, which will, in turn, reduce the amount of sediment pollution that enters nearby waterways. **THE RESULT:** Your favorite fishing hole will be a little less muddy, a little more clear! ■

Stormwater Clean Award Winners

Through its Contractor Appreciation Program, Roanoke County's Department of Community Development continues to recognize land-disturbing contractors who conduct exemplary work within the County in protecting its natural water resources. The recognized contractors do great work in "keeping their dirt on their project," despite the difficulties presented by the area's steep slopes and highly erodible soils. To date, a variety of projects have been nominated for the prestigious "Stormwater Clean Award." Each one has received a Stormwater Clean Award banner, like the one shown below. For an awarded project, a banner is placed on the site at the time of selection, and it remains in place until the project is complete.



Patricia Hale, inspector for Roanoke County, presented the Stormwater Clean Award to the Property Catalyst Group and Bowman Excavating, Inc. for their conscientious work on Parkside Storage facility

The most recent recipients, Property Catalyst Group and Bowman Excavating, Inc., showed care for the community and environment through their conscientious development of the Parkside Storage facility at 7544 Plantation Road. Both firms were proactive throughout construction in maintaining erosion and sediment controls and stormwater management measures that were necessary for a successful project and for protecting downstream waterways from sediment-laden stormwater runoff.

An example of their first-class work is shown here, highlighting their effective use of erosion control matting and slope interrupters in a stormwater detention facility.



Effective use of erosion control matting and slope interrupters at Parkside Storage

Since the inception of the program, there have been six recipient projects, one of which is still under construction:

 STORMWATER CLEAN AWARD		
Building Consultants, LLC Single Family Residence 1600 Bottom Creek Lane Bent Mountain, VA	David Frank Homes Single Family Residence 4211 Alleghany Drive Salem, VA	Price Buildings, Inc. and Hubbard Excavating Christ the King Presbyterian Church 2335 Electric Road Roanoke, VA
Charles Perry Partners, Inc. LewisGale Emergency Center Corner of Ogden and Electric Roads Roanoke, VA	Dominion Builders Single Family Residence 6726 Waterstone Drive Roanoke, VA	Property Catalyst Group and Bowman Excavating, Inc. Parkside Storage 7544 Plantation Road Roanoke, VA

Understanding MS-2: Hauling Dirt Offsite

Pursuant to Minimum Standard 2 (MS-2) of the Virginia Erosion and Sediment Control Regulations (VESCR), temporary protection and permanent stabilization of all soil stockpiles on site **as well as borrow areas and soil intentionally transported from the project site** is required. As the applicant, it is your responsibility to provide stabilization for the material that is taken off-site.

SCENARIO Suppose you have excess dirt on your project for which you need a disposal site. A nearby property owner offers to let you deposit the dirt on their land, so you opt to deliver dirt from your project to the private property. At this point, you become the responsible party for providing erosion controls on that private property and for applying permanent stabilization measures to the transported soil. Yes, MS-2 says YOU, not the property owner, become responsible for the stabilization of the off-site material.

Just what does it mean to provide permanent stabilization? It could mean adding pavement or stone, but if you use vegetation, then Minimum Standard 3 (MS-3) of the VESCR requires that **permanent vegetation shall not be considered established until a ground cover is achieved that is uniform in height, mature enough to survive, and thick enough to prevent erosion**. Again, it is your responsibility, as the permit holder, to provide for temporary erosion controls and adequate stabilization of soil that is intentionally taken from your site and for any borrow areas from where you have obtained material.

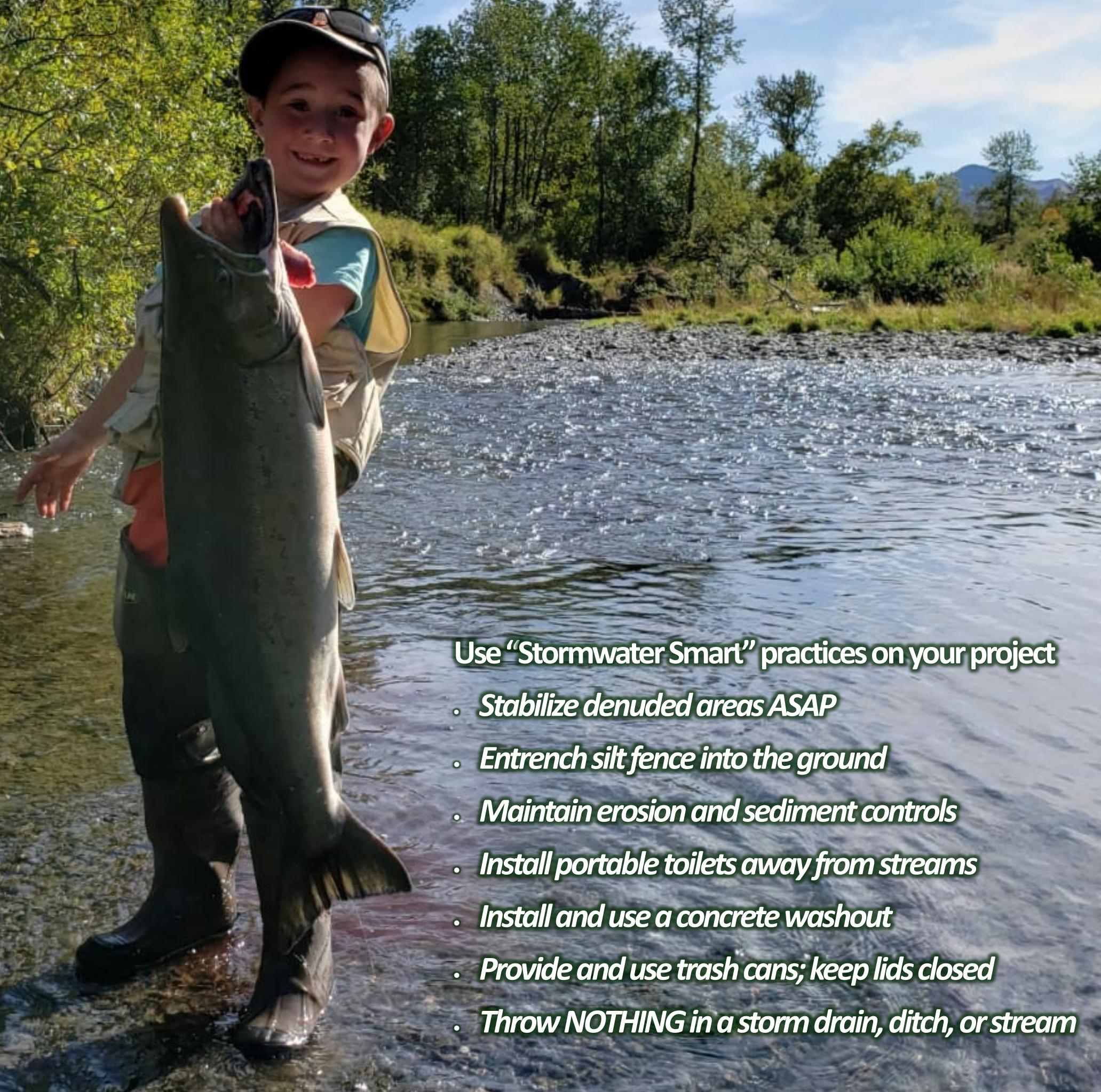


PERMIT REQUIREMENTS

Along with stabilization requirements, you must ensure that any site to which you haul dirt is similarly permitted to match your site's permit. For example, if your project has permit coverage under Virginia's Stormwater Management Program (i.e., a VSMP permit), then you must take any dirt you haul off of your project to a VSMP-permitted site **OR** adjust your permit coverage to include the amount of off-site land disturbance. In the event that your project only has an ESC permit, but the land disturbance at the off-site location increases **the total disturbance** to over an acre, then you must get a VSMP permit for the entire activity (i.e., for the on- and off-site locations) or obtain an ESC permit for the off-site location **if** the amount of land disturbance at the off-site location is 2,500 square feet or more. ■

Clean Stormwater:

Happy Kids, Healthy Fish



Use “Stormwater Smart” practices on your project

- *Stabilize denuded areas ASAP*
- *Entrench silt fence into the ground*
- *Maintain erosion and sediment controls*
- *Install portable toilets away from streams*
- *Install and use a concrete washout*
- *Provide and use trash cans; keep lids closed*
- *Throw **NOTHING** in a storm drain, ditch, or stream*

Minimum Standards: A Quick Look

The Virginia Erosion and Sediment Control (VESC) Regulations specify that regulated land-disturbing activities undertaken on private and public lands in the Commonwealth of Virginia must meet nineteen Minimum Standards for compliance, pursuant to Section 9VAC25-840-40 of the VESC Regulations. *In Roanoke County, residential and commercial projects that disturb 2,500 square feet or more of land must adhere to these requirements.* Compliance starts with an approved ESC plan (or an agreement-in-lieu of a plan) that incorporates the applicable minimum standards.

Compliance continues with the on-site implementation of the minimum standards by the permitted land-disturbing contractor throughout the duration of the project.

An abbreviated version of these nineteen minimum standards is provided below. For the full, official version of Virginia's Erosion and Sediment Control Regulations, see 9VAC25-840-40.

Minimum Standard	Minimum Standard - Description
MS-1	Permanent or temporary soil stabilization shall be applied to denuded areas within 7 days after final grade is reached on any portion of the site and on denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.
MS-2	Soil stockpiles & borrow areas must be properly stabilized or protected with seeding or sediment trapping measures; this includes offsite borrow areas and soil that is intentionally transported from the project site. [Ensure to have proper permits for off-site locations] Per MS-1, stockpiles that are dormant > 14 days should be temporarily seeded.]
MS-3	A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation must be uniform in height, mature enough to survive, and thick enough to prevent erosion.
MS-4	Sediment basins, sediment traps, perimeter dikes, sediment barriers, and other measures intended to trap sediment must be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
MS-5	Stabilization measures shall be applied to earthen structures (such as dams, dikes, traps, basins, and diversions) immediately after installation.
MS-6	Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area that they serve. Traps serve less than 3 acres; basins serve 3 or more acres.
MS-7	Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes found to be excessively eroding within 1 year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.
MS-8	Concentrated runoff shall not flow down a cut or fill slope unless contained within an adequate temporary or permanent channel, flume, or slope drain structure.
MS-9	Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

Minimum Standards (con't.)

Minimum Standard	Minimum Standard Description
MS-10	All storm sewer inlets made operable during construction shall be protected so that sediment-laden water cannot enter the stormwater conveyance [drainage] system without first being filtered or otherwise treated to remove sediment.
MS-11	Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and the receiving channel.
MS-12	When working in a live watercourse, precautions must be taken to minimize encroachment, control sediment transport, and stabilize the work area to the greatest extent possible during construction. Non-erodible material shall be used for the construction of causeways and cofferdams; earthen fill may be used if armored by non-erodible cover materials.
MS-13	When construction vehicles must cross a live watercourse more than twice in any six-month period, a temporary vehicular stream crossing using non-erodible material must be provided.
MS-14	All applicable federal, state, and local regulations pertaining to working in or crossing live watercourses shall be met. [Evidence of necessary permits must be submitted to the County.]
MS-15	The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.
MS-16	Utility trenches must be properly stabilized. No more than 500 ft. open at any time, excavation material must be placed on the upslope side of the trench, water removed from the excavation must be properly filtered, backfill must be compacted, and proper safety measures must be used.
MS-17	Soil and mud must be kept off public roadways at intersections with site access roads. Tracked sediment must be swept at least once at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. [NOTE: Stone construction entrances must be in place with proper dimensions, proper stone and fabric, and maintained in adequate condition.]
MS-18	All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed.
MS-19	Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion, and damage due to increases in volume, velocity, and peak flow rate of stormwater runoff.

For an official, unedited version of the

19 Minimum Standards, see:

9VAC25-840-40 of the

Virginia Erosion and Sediment Control Regulations



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This publication is a public service message brought to you by Roanoke County, Department of Community Development. As regulated by federal and state laws, the County's Stormwater Management Program must include public information strategies to encourage the prevention of stormwater pollution. For more brochures or information on ways to prevent stormwater pollution, please contact the County's Department of Community Development, Division of Stormwater Management, at 540-772-2065.

Silt Fence for Sediment Control

Did you know that silt fence is probably the most over-used sediment control product in the industry? It is often drawn on a site plan with little regard to its placement; designers think of it as an easy technique to provide for sediment control on a project. However, **where it is placed, how it is installed, and the application for which it is being used** are critical for it to be an effective sediment control measure. Here is the “quick and dirty” information you need to make sure you don’t waste your time and money when installing silt fence:



Placement: Install silt fence below disturbed areas that are expected to experience sheet or rill erosion; silt fence should be used to filter sheet flow, not concentrated flow. On slopes, place it in parallel rows along the contour.



Installation: Bury the toe of the silt fence into the soil in a 6" deep x 6" wide trench; place soil on top of the trench and compact it to prevent sediment from escaping beneath the silt fence. Install stakes on the opposite side of the flow.



Application: Use silt fence for drainage areas less than or equal to 1/4-acre per 100 feet of silt fence length; the maximum slope length behind the silt fence is 100 feet; the maximum gradient behind the silt fence is 50% (2:1).