EROSION & SEDIMENT CONTROL

A Guide for Single Family Dwellings in the City of Harrisonburg

EROSION AND SEDIMENT CONTROL

This guide has been developed as a quick reference for contractors working in the City of Harrisonburg to assist in getting erosion control measures installed correctly and maintained as needed throughout the project. This guide is not all inclusive, but should get you started in the right direction. For more information, please check out the following "Resource List".

RESOURCE LIST

City of Harrisonburg
- Design and Construction Standards Manual
  - http://www.harrisonburgva.gov/index.php?id=design_manual
- Erosion and Sedimentation Control Ordinance
  - http://www.harrisonburgva.gov/index.php?id=620

DCR - Department of Conservation and Recreation
- Virginia Erosion and Sediment Control Law, Regulations, and Certifacation Regulations
  - http://www.dcr.virginia.gov/soil_and_water/documents/eslawrgs.pdf
- Virginia Erosion and Sediment Control Handbook
  - http://www.dcr.virginia.gov/soil_and_water/e_and_s-ftp.shtml

EPA - Environmental Protection Agency
- Best Managment Practices Menu
  - http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm
- Stormwater Construction
  - http://cfpub2.epa.gov/npdes/stormwater/const.cfm
- SWPPP Guide
  - http://cfpub.epa.gov/npdes/stormwater/swppp.cfm

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Minimum Standard 4: Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.

The Agreement in Leiu of an Erosion and Sediment Control Plan is a contract between the City of Harrisonburg and land owner that specifies conservation measures that must be implemented in the construction of a single-family residence.

This Agreement allows a land-disturbance to take place without submitting a formal site plan for review, but construction practices must sill meet all federal, state and local requirements.

The landowner is ultimately responsible for all land-disturbing activities on a project.

CONSTRUCTION ENTRANCE

A construction entrance is a stone pad with a filter fabric underliner located at points of vehicular ingress and egress on a construction site in order to reduce the amount of sediment transported onto roads.

Construction entrances shall be maintained in a condition which will prevent tracking or flow of mud and/or sediment onto roadways. This may require periodic top dressing with additional stone or the washing and reworking of existing stone as conditions demand. All materials spilled, dropped, washed, or tracked onto roadways or into storm drains must be removed immediately. The use of water trucks or other wash/spray equipment to remove materials which has made its way onto roadways will NOT be permitted under any circumstances.

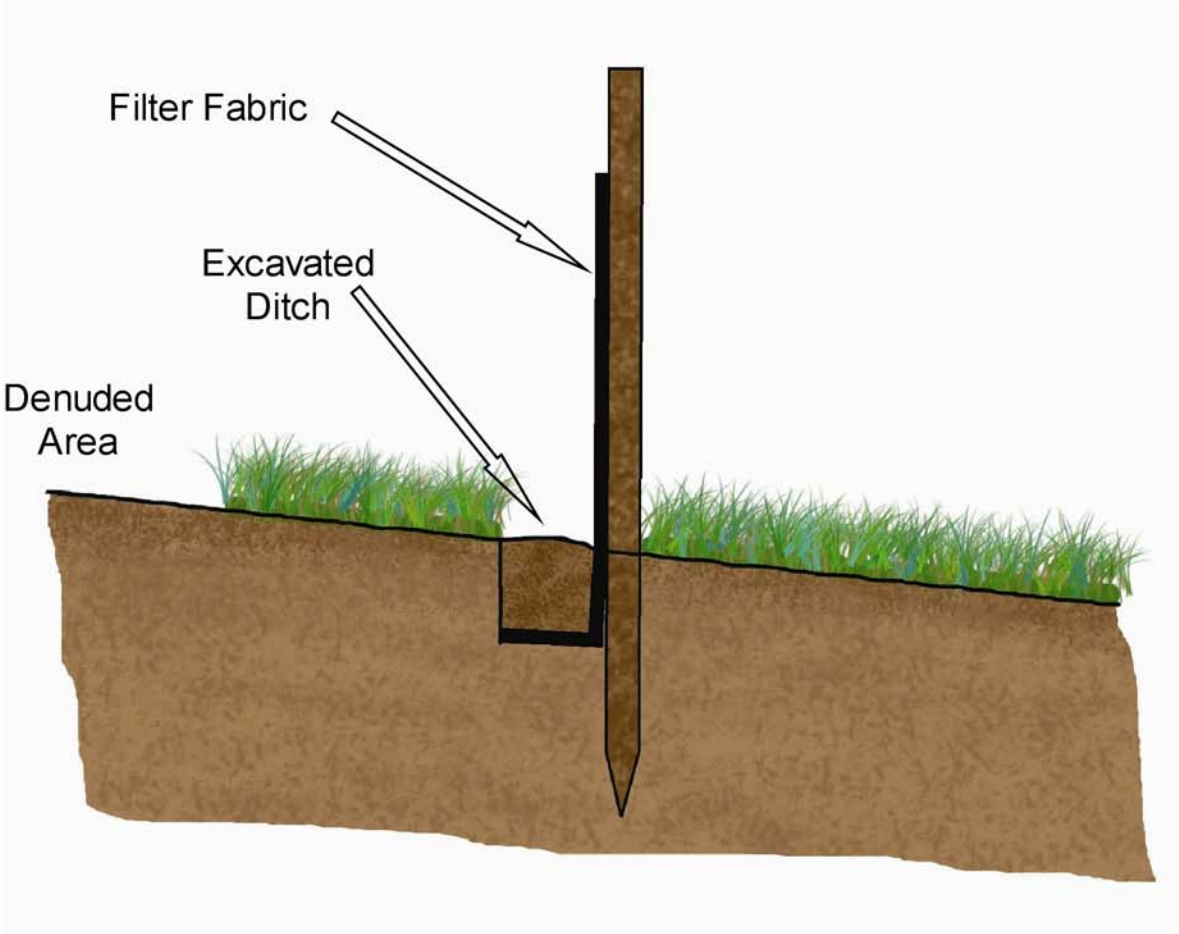
Minimum Standard 17: Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly 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. Street washing shall be allowed only after sediment is removed in this manner. The provision shall apply to individual development lots as well as to larger land-disturbing activities.

SILT FENCE

Silt fence is a temporary sediment barrier and when correctly installed can intercept and detain small amounts of sediment from leaving construction sites.

- Prepare trench where silt fence is to be installed, approximately 4" x 4".
- Bottom 8" of fabric should be put in trench.
- Height of fence should be a minimum of 16".
- Stakes should be no more than 6' apart and on the downslope side of silt fence.
- Backfill and compact excavated soil.

When complete, there should be no daylight below silt fence, and if pulled on the silt fence should not come out of the ground.



SILT FENCE: MAINTENANCE

1) Silt fences shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
2) Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting.
3) Should the fabric on a silt fence decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promply.
4) Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.
5) Any sediment deposits remaining in place after the silt fence is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

Silt fence shall be installed before land disturbance commences.

Silt fence shall be entrenched, backfilled and compacted.

No gaps in silt fence.

No “daylight” should be noticed.

Sediment shall be removed from fabric.

Damaged fabric shall be repaired or replaced immediately.

VEGETATION ESTABLISHMENT

Several steps can be taken to help ensure adequate stabilization of vegetation:

Topsoiling: Topsoil is rich in organic matter which will provide a suitable growth medium for vegetation. It should be free of debris, trash, stumps, rocks, roots and noxious weeds.

- Organic matter content should not be less than 1.5% by weight.
- pH range should be between 6.0 and 7.5 (add lime if less than 6)
- Soluble salts should not exceed 500 ppm.
- Before dumping topsoil, area should be loosened by discing or scarifying to a depth of 2 inches to ensure bonding of topsoil and subsoil.
- Topsoil should be spread at a compacted depth of 2 to 4 inches.

Permanent Seeding: Used to establish a perennial vegetative cover on disturbed areas. Make sure the seed mix used is recommended for the time of year and for the type of use the area will be subject to. Seed should also be spread uniformly with a seeder and at a depth of 1/4 to 1/2 inch. This type of seeding should be used on earthen sediment control measures that will be needed for more than 6 months.

Temporary Seeding: Used when disturbed areas will be denuded for more than 7 days and will remain dormant for longer than 30 days. Make sure the seed mix used is recommended for the time of year. Seed should also be spread uniformly with a seeder and at a depth of 1/4 to 1/2 inch. This type of seeding can be used on earthen sediment control measures that will be in use less than 6 months.

Mulching: The application of plant residues or other suitable materials to the soil surface will prevent erosion and seed from being washed away by protecting the soil surface from raindrop impact and reducing the velocity of overland flow. Mulch will also foster growth of vegetation by increasing available moisture and providing insulation against extreme heat and cold.

Straw or hay is most commonly used for mulching. Both can be windblown and therefor must also be anchored or tacked down. This type of mulching should also be applied at least 2 inches thick. Basically, if you can still see soil, you haven't applied enough to protect the soil and seed.

Minimum Standard 3: A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.


Day 1


Day 13


Day 25

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