EROSION & SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION ⚠

The purpose of this project is to construct multi-family residential housing development. The development will have associated streets, parking, utilities and stormwater management. The total acreage to be disturbed is approximately 4.189 acres.

EXISTING SITE CONDITIONS

The proposed site is located in the City of Roanoke, Virginia near Forest Park Elementary School. The existing site is mostly wooded with terrain sloping at 1 to 15%.

ADJACENT AREAS

The site is adjacent to Melrose Avenue to the north, Forest Park Blvd to the east, and 29th Street to the west. All adjacent areas are residential or commercial in nature.

SOILS ⚠

Soils found at this site are common to the area. None of these soils have high erosion tendencies. Soil type is Chiswell-Litz complex, shaly, silty loam.

CRITICAL EROSION AREAS

The potential critical erosion areas are:
1. Steep roadside ditch slopes along proposed roads.
2. The outlet of all culverts.

EROSION AND SEDIMENT CONTROL MEASURES

Unless otherwise indicated, all vegetative and structural erosion and sediment control practices shall be constructed and maintained according to minimum standards and specifications of the handbook. The minimum standards of the VESCR shall be adhered to unless otherwise waived or approved by a variance.

STRUCTURAL PRACTICES

1. Temporary Construction Entrance (Section 3.02)
   One temporary construction entrance will be installed. Vehicles will be washed to limit tracking onto public roads. Should tracking occur the road will be immediately cleaned. Temporary straw bale barriers will be placed and entrenched and anchored as indicated on the site plan.
2. Straw Bale Barrier (Section 3.04)
3. Silt Fence (Section 3.05)
   Temporary silt fences will be installed as indicated on the site plan.
4. *Outlet Protection* (Section 3.18)
   Outlet protection will be placed at all discharge points from controlled flow to open flow. All outlet protection will be permanently designed and installed.
5. Surface Roughening (Section 3.29)
   Surface roughening will be employed on all slopes exceeding 2:1.
6. Temporary Seeding (Section 3.31)
   Temporary seeding will be placed on all disturbed areas that will not be brought to final grade within one year or less. Temporary seeding will aid in the reduction of dust and sediment. Temporary seeding will be Annual Ryegrass (100 #/ac), *Feb 16 – April 30, German Millet* (60 #/ac), May 1 – Aug. 31.
7. Permanent Seeding (Section 3.32)
   After final grading permanent seeding will be employed to reduce erosion and sediment yield.

   Seeding Specifications:

   Permanent seeding will be Kentucky Bluegrass, blended to contain 4 or more varieties, with no one variety exceeding 30%. The seeding will be applied at 140 lb. per acre. On slopes 2:1 or greater a mixture of Crown Vetch (50%), Perennial Ryegrass (40%), and Redtop (10%) will be used.

   All seeding, with required associated practices, *will be in accordance with all applicable sections* of the Virginia Erosion and Sediment Control
8. Dust Control (Section 3.39)
   If arid conditions prevail dust control practices will be employed as required.
9. Construction Road Stabilization (Section 3.03)
   All roads and parking areas on the site shall be stabilized with gravel immediately after grading. Traffic is prohibited from entering drainage swales or streams unless absolutely necessary.
10. Temporary Sediment Basin (Section 3.14)
11. Riprap (Section 3.19)
    Riprap shall be placed at the outlet of all pipes in accordance with VDOT standard EC-2 as indicated on the plans. Riprap along the ditches shall be VDOT Class 1 riprap installed over a six inch filter consisting of #57 stone.

MANAGEMENT

1. Construction should be sequenced so that grading operations can begin and end as quickly as possible.
2. Erosion and Sediment control devices shall be installed as *the first step of construction.*
3. Areas which are not to be disturbed shall be clearly marked by flags, signs, etc.
4. The grading contractor shall be responsible for the installation and maintenance of all erosion and sediment control practices. Inspections are to be made periodically and after every significant rainfall.
5. After achieving adequate stabilization, the temporary E&S controls will be cleaned up and removed, and the sediment basins will be cleaned out and converted to permanent stormwater management basins.

PERMANENT STABILIZATION

All areas disturbed by construction shall be stabilized with permanent seeding immediately following finish grading. Seeding shall be done with Kentucky 31 Tall Fescue according to Std. & Spec. 3.32, PERMANENT SEEDING, of the handbook. Erosion control blankets will be installed over fill slopes which have been brought to final grade and have been seeded to protect the slopes from rill and gully erosion and to allow seed to germinate properly. Mulch (straw or fiber) will be used on relatively flat areas. In all seeding operations, seed, fertilizer and lime will *be applied prior to mulching.*

MAINTENANCE OF DENTENTION FACILITIES

The applicant shall obtain approval from the locality of a plan for maintenance of the dentention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.

STORMWATER MANAGEMENT

Calculation of runoff before and after development indicates that there will be a net increase in peak runoff as a result of project development. Consequently, stormwater management basins have been designed to detain and release the runoff at the 2-year pre-developed rate. *(See attached calculations)*

MAINTENANCE

In general, all erosion and sediment control measures will be checked daily and after each significant rainfall. Any items not found in accordance with the Virginia Erosion and Sediment Control Handbook will be immediately replaced and/or repaired. The following items will be checked in particular:

1. The sediment basin will be cleaned out when the level of sediment buildup reaches the cleanout point indicated on the riser pipe.
2. The gravel outlets will be checked regularly for sediment buildup which will prevent drainage. If the gravel is clogged by *sediment, it shall be removed and cleaned or replaced.*
3. The silt fence barrier will be checked regularly for undermining or deterioration of the fabric. Sediment shall be removed when the level of sediment deposition reaches half way to the top of the barrier.
4. The seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and re-seeded as needed.

GENERAL

The erosion and sediment control measures shown on the construction plans are the minimum measures required. Due to construction phasing and other considerations all measures can not be shown. The owner, through his contractor, will employ whatever measures which may be required to assure that sediment laden runoff does not leave the site.

All materials and measures employed for erosion and sediment control will be in accordance with the Virginia Erosion and Sediment Control Handbook, latest edition.

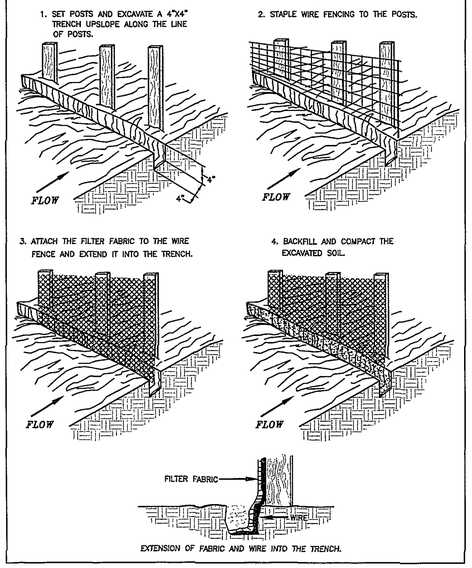
If, during construction, additional Erosion and Sediment Control measures are deemed necessary, they shall be installed as directed by the Owner, Engineer or County agent.

This project is to be constructed consistent with the most recent Virginia Erosion And Sediment Control Regulations.

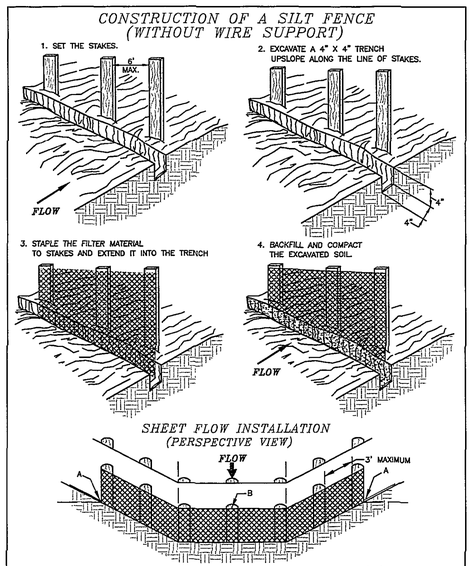
CONSTRUCTION SCHEDULE ⚠

1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
2. SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
3. TEMPORARY SEEDING OR OTHER STABILIZATION WILL FOLLOW IMMEDIATELY AFTER GRADING.
4. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.
5. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTAINANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
6. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E&S CONTROLS WILL BE CLEANED UP AND REMOVED, AND THE SEDIMENT BASINS WILL BE CLEANED OUT AND CONVERTED TO PERMANENT STORMWATER MANAGEMENT BASINS.

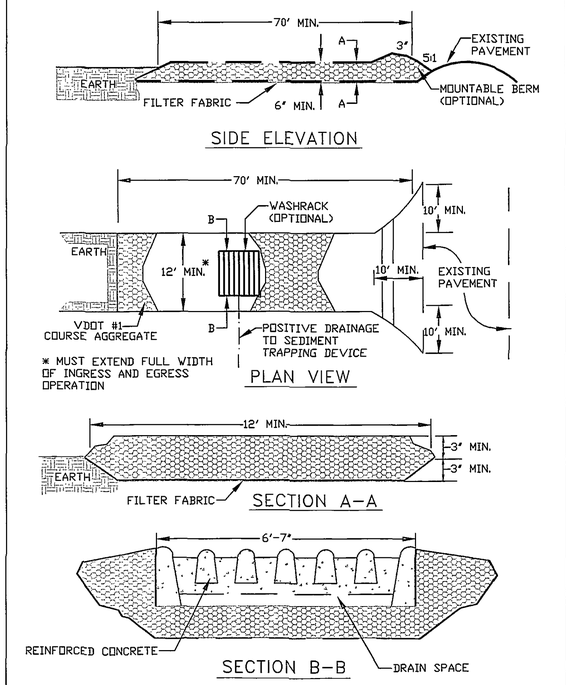
CONSTRUCTION OF A SILT FENCE (WITH WIRE SUPPORT)



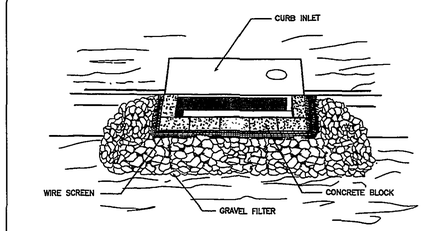
CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)



STONE CONSTRUCTION ENTRANCE



BLOCK & GRAVEL CURB INLET SEDIMENT FILTER



SPECIAL APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

⚠ E & S LEGEND

MU	MULCHING
TSD	TEMPORARY SLOPE DRAIN
DD	DIVERSION DIKE
CE	CONSTRUCTION ENTRANCE
IP	INLET PROTECTION
PS	PERMANENT SEEDING
SF	SILT FENCE
TS	TEMPORARY SEEDING
B/M	SOIL STABILIZATON BLANKETS AND MATTING
SB	SEDIMENT BASIN
CRS	CONSTRUCTION ROAD STABILIZATION

WVWA ID# 6M8QX2

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VILLAGE IN ROANOKE
GRADING PLAN
CITY OF ROANOKE, VIRGINIA

NO.	DATE	DESCRIPTION	BY
1	1-15-04	CITY COMMENTS	KER

EROSION AND SEDIMENT CONTROL STANDARD DETAILS

RICHARD C. WHITE
No. 020021
3-4-04
PROFESSIONAL ENGINEER

Designed By	KER
Drawn By	KER
Checked By	RCW
Approved By	RCW
Submitted By	RCW
Drawing	1389L_EROS.DWG
Date	11/22/02
Scale	NONE
Commission No.	1389L
Sheet	3 of 12

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