

# SOIL EROSION CONTROL NARRATIVE

## PROJECT DESCRIPTION

The purposed of this project is to provide demolition and grading operations for the construction of a bank and appropriate parking. The amount of land disturbance is estimated at 12,023 square feet (0.276 acres) which represents the entire site, located at the intersection of McClanahan Street & Crystal Springs Avenue in Roanoke, Virginia. The impervious improvements are being discharged to McClanahan Street. The erosion and sediment control measures shown here are designed in accordance with the Virginia Erosion and Sediment Control Handbook (VA ESCH).

For areas less than 1.0 acre, NO VPDES general permit for stormwater discharges from construction activities is required.

For areas greater than 1.0 acre, the VPDES general permit registration statement, permit application, application fee, and stormwater pollution prevention plan (SWPPP) are required.

The site will utilize a construction entrance and a right of way diversion off Crystal Spring Avenue. A Straw Bale Barrier will be utilized at the proposed McClanahan Street entrance with Silt Fence encompassing the entire site. Temporary and permanent seeding will be utilized in accordance to the required standards and specifications. Reference is directed to the "Grading & Erosion Sediment Control Plan" sheets.

## EXISTING CONDITIONS

The existing site is currently developed as a commercial building with multiple offices. The property currently has one drainage area which drains across the site from south to the north with slopes averaging 2%.

## ADJACENT PROPERTY

Adjacent properties are zoned CN and are developed. No impacts to adjacent properties are anticipated. See plan sheets for adjacent property owners and boundary description.

## OFF-SITE AREAS

The proposed development DOES NOT anticipate off-site waste areas; however, should the project require off-site waste areas or borrow areas, the location of these areas need to be submitted to the City of Roanoke and other local governing authorities where waste/borrow occurs. Erosion control plans or measures may be required for these off-site locations.

## SOILS

As identified by the U.S. Department of Agriculture, Soil Conservation Service, General Soil Map, the basic soil material is Urban shot tower Land.

## CRITICAL EROSION AREAS

Areas include:

All Silt Fence is to be placed as shown on plan to keep sediment off the adjacent properties and to be checked regularly. A construction entrance shall be installed at the proposed access road to keep sediment off the existing pavement. In addition to the construction entrance, A right of way diversion is to be placed across the construction entrance as an added measure to prevent sediment from leaving the site and a straw bale barrier will be placed at the other proposed entrance to prevent additional sediment from entering McClanahan Street.

## EROSION AND SEDIMENT CONTROL MEASURES

Unless otherwise stated all erosion and sediment control measures shall be constructed and maintained in accordance with minimum standards and specifications of the latest edition of the "Virginia Erosion and Sediment Control Handbook".

## STRUCTURAL PRACTICES

Listed and described below are various structural practices. Not all of the practices listed are used on this project. We have however included descriptions of all the practices because the Contractor, Engineer, or Approving Authority may chose to use a different method than what is shown on the plans to improve the control of erosion and sedimentation.

**Temporary Construction Entrance (3.02)** - A stone pad, located at points of vehicular ingress and egress on a construction site, to reduce the soil transported onto public roads and other paved areas.

A Temporary Construction Entrance has been included in this project and is shown on the drawings.

**Straw Bale Barrier (3.04)** - A temporary sediment barrier composed of straw bales placed across or at the toe of a slope to intercept and detain sediment and decrease flow velocities from drainage areas of limited size; applicable where sheet and rill erosion may be a problem. Maximum effective life is 3 months.

Straw bale barrier will be used on this project and is shown on the drawings.

**Silt Fence (3.05)** - A temporary sediment barrier constructed of posts, filter fabric and, in some cases, a wire support fence, placed across or at the toe of a slope or in a minor drainage way to intercept and detain sediment and decrease flow velocities from drainage areas of limited size; applicable where sheet and rill erosion or small concentrated flows may be a problem. Maximum effective life of 6 months.

Silt Fence will be used on this project and is shown on the drawings.

**Temporary Right-of-Way Diversion (3.11)** - A ridge of compacted soil of loose gravel constructed across a disturbed right-of-way or similar sloping area to shorten the flow length within the disturbed strip and divert the runoff to a stabilized outlet. Earthen diversions are applicable where there will be little or no construction traffic within the right-of-way, and gravel structures are applicable where vehicular traffic must be accommodated.

Temporary Right-of-Way Diversions will be used on this project as shown on the drawings.

**Temporary Seeding (3.31)** - Establishment of temporary vegetative cover on disturbed areas that will not be brought to final grade for periods of 30 days to one year by seeding with appropriate rapidly-growing plants.

Temporary Seeding will most likely not be necessary due to the timing of the project. Should a delay occur, Temporary Seeding will be used as necessary.

**Permanent Seeding (3.32)** - Establishment of perennial vegetative cover by planting seed on rough-graded areas that will not be brought to final grade for a year or more or where permanent, long-lived vegetative cover is needed on fine-graded areas.

Permanent Seeding will be used on all finished areas outside of the parking and driveway areas.

## PERMANENT STABILIZATION

All disturbed areas shall receive permanent stabilization accordance with the "Virginia Erosion and Sediment Control Handbook", STD and Spec. 3.32 as soon as those areas are brought to final grade. For permanent seeding mixture see the Erosion and Sediment Control detail sheet.

## STORMWATER RUNOFF CONSIDERATIONS

Due to the existing conditions of the site and the proposed development, the peak runoff for the site has been decreased. Runoff from the site is still being collected and discharged to McClanahan Street as shown. Since peak runoff for the site has decreased, stormwater management compliance has been met.

## CALCULATIONS

For detailed calculations, see submittal package.

## EROSION AND SEDIMENT CONTROL MEASURES:

PROVIDE THE FOLLOWING:

- CE CONSTRUCTION ENTRANCE MEETING VA ESCH STD. & SPEC. 3.02
- STB STRAW BALE BARRIER VA ESCH STD. & SPEC. 3.04
- SF SILT FENCE MEETING VA ESCH STD. & SPEC. 3.05
- RWD RIGHT OF WAY DIVERSION MEETING VA ESCH STD. & SPEC. 3.11
- TS TEMPORARY SEEDING MEETING VA ESCH STD. & SPEC. 3.31
- PS PERMANENT SEEDING MEETING VA ESCH STD. & SPEC. 3.32

## BOND COST ESTIMATE

ITEM - E & S	UNITS	UNIT COST	QUANTITY	TOTAL
SILT FENCE	FT	\$ 4.00	425	\$ 1700.00
STRAW BALE BARRIER	LS	\$ 100.00	1	\$ 100.00
CONSTRUCTION ENTRANCE	EA	\$ 1,500.00	1	\$ 1500.00
PERMANENT SEEDING	ACRE	\$ 2,000.00	0.05	\$ 100.00
RIGHT OF WAY DIVERSION	LF	\$ 5.00	50	\$ 250.00
SUBTOTAL				\$ 3650.00
10% CONTINGENCY				\$ 365.00
TOTAL				\$ 4015.00

## GENERAL EROSION & SEDIMENT CONTROL NOTES

- ALL SOIL EROSION & SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLAN SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
- THE APPROVING AUTHORITY MAY ADD TO, DELETE, RELOCATE, CHANGE, OR OTHERWISE MODIFY CERTAIN EROSION AND SEDIMENT CONTROL MEASURES WHERE FIELD CONDITIONS ARE ENCOUNTERED THAT WARRANT SUCH MODIFICATIONS.
- ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLAN SHALL BE PLACED IN ADVANCE OF THE WORK BEING PERFORMED, AS FAR AS PRACTICAL.
- IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN PROVIDED.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADEQUATELY PROTECTED AGAINST EROSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT PROPERTY AT THE END OF EACH DAY'S WORK.
- FOR THE EROSION CONTROL KEY SYMBOLS SHOWN ON THE PLANS, REFER TO THE VIRGINIA UNIFORM CODING SYSTEM FOR EROSION AND SEDIMENT CONTROL PRACTICES CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
- REFERENCE IS DIRECTED TO "EROSION & SEDIMENT CONTROL PLAN" FOR SITE DEPICTING EROSION AND SEDIMENT CONTROL MEASURES.
- ALL TEMPORARY EROSION & SEDIMENT MEASURES SHALL BE REMOVED WITHIN 30 DAYS OF FINAL STABILIZATION.
- ALL TRAPPED SEDIMENT AND DISTURBED SOIL AREAS RESULTING FROM DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED.

## EROSION AND SEDIMENT CONTROL REGULATIONS

### MINIMUM STANDARDS:

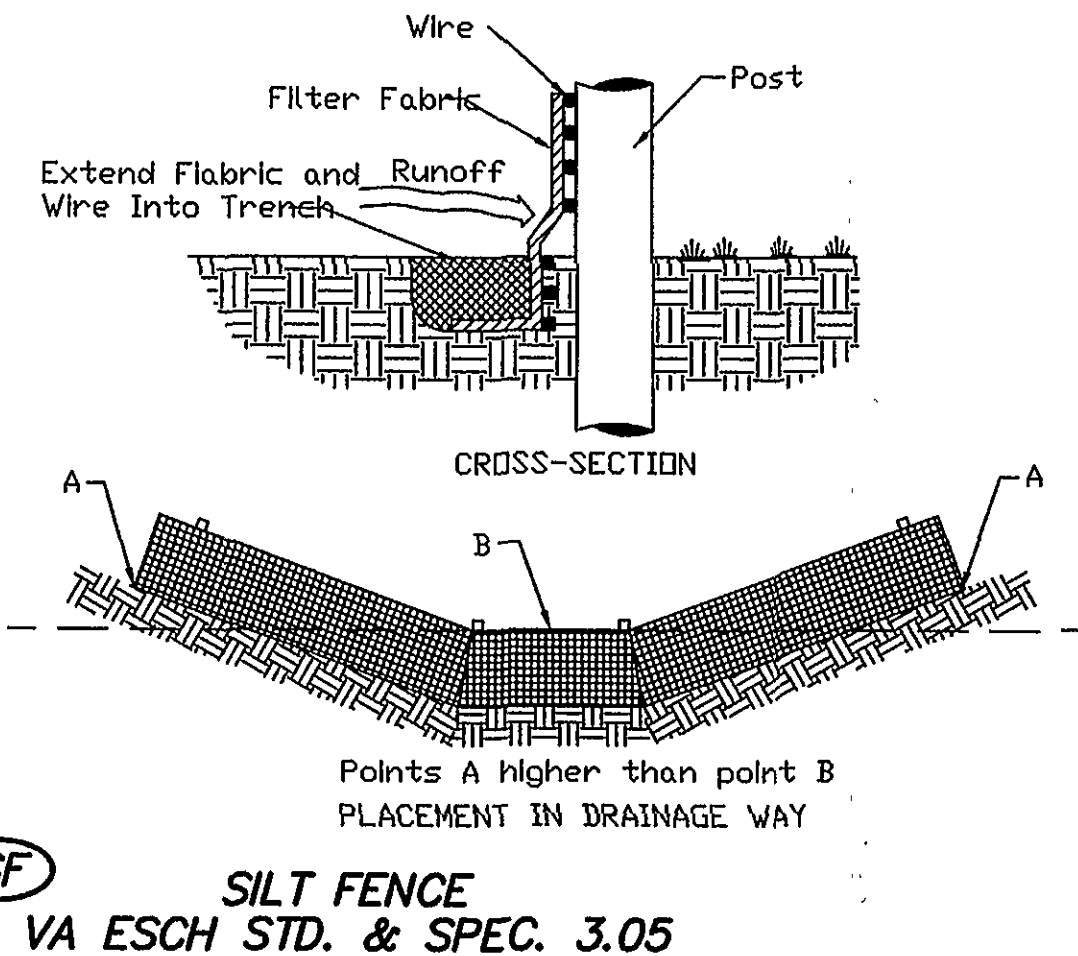
MS-1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN THIRTY (30) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.

MS-2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

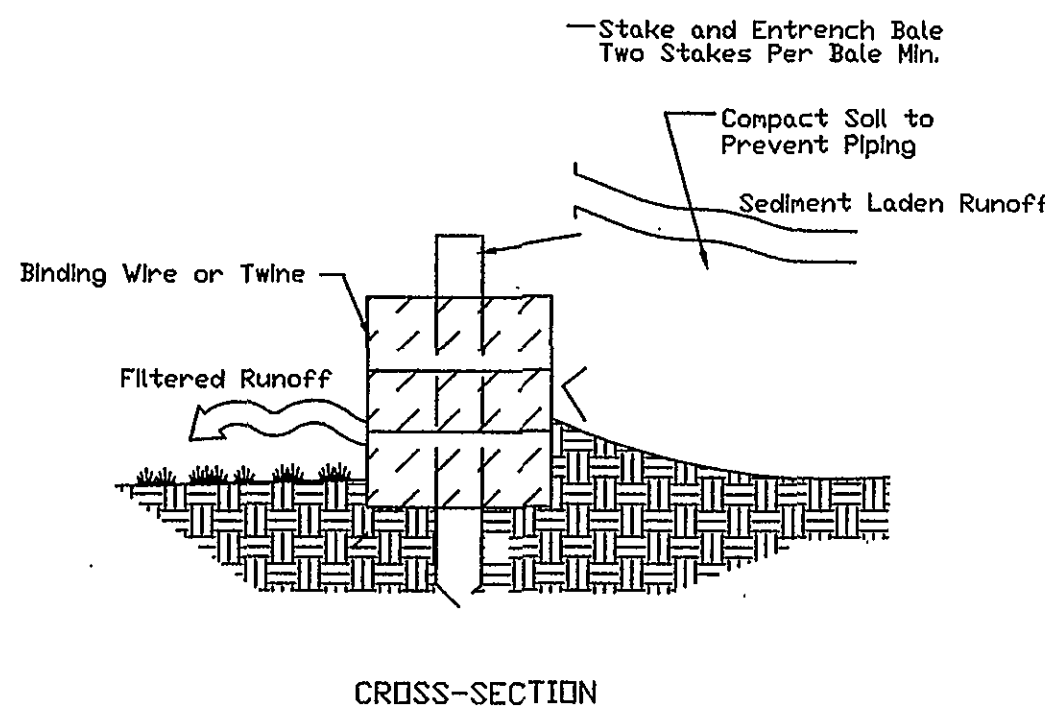
MS-3. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.

MS-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.

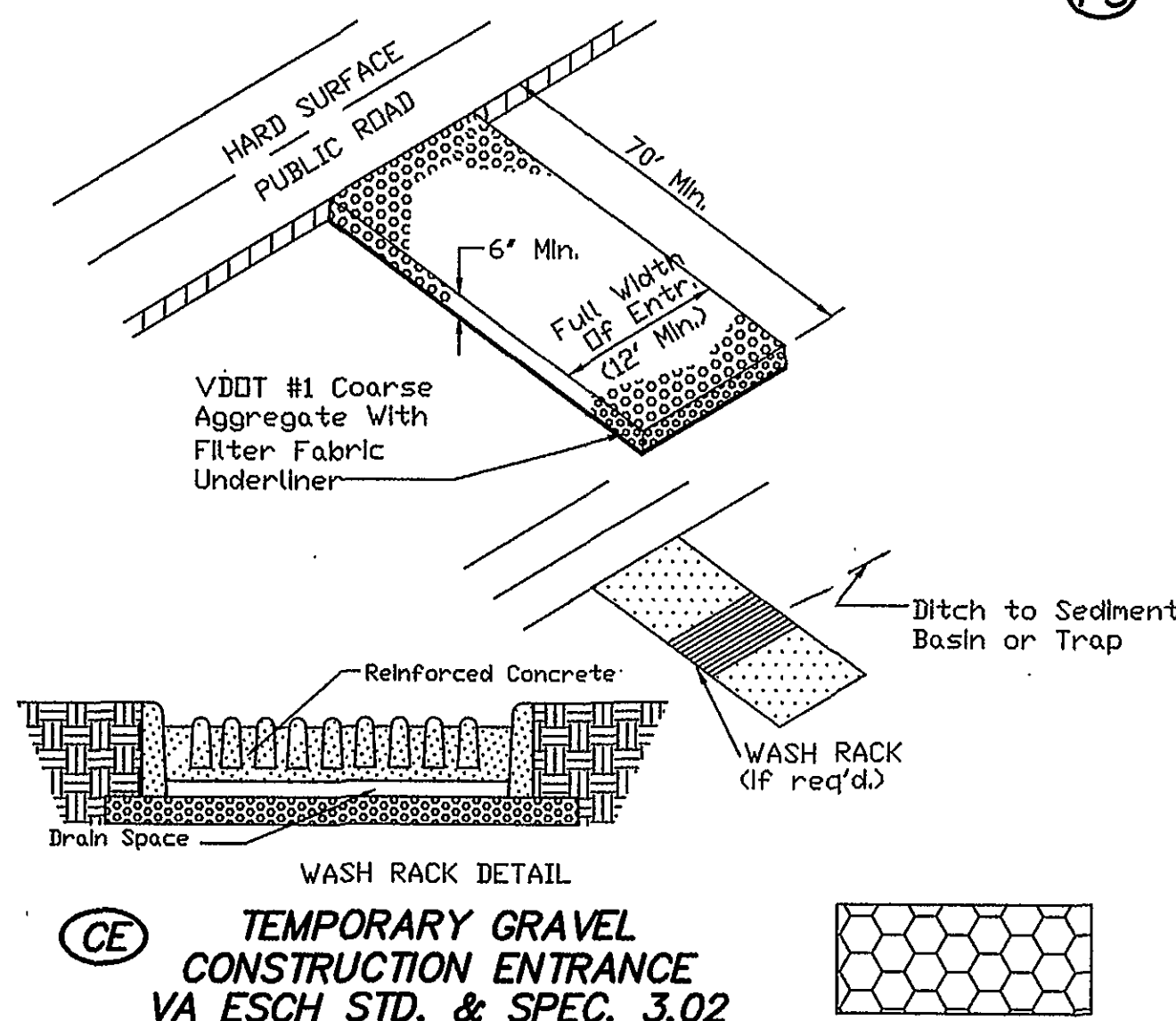
MS-5. STABILIZATION MEASURE SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.



**(SF) SILT FENCE**  
VA ESCH STD. & SPEC. 3.05

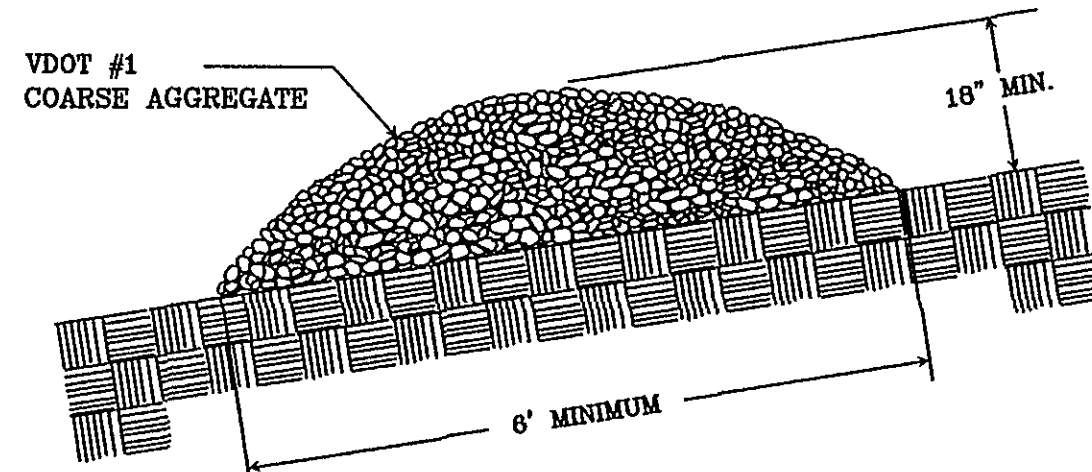


**(STB) STRAW BALE BARRIER**

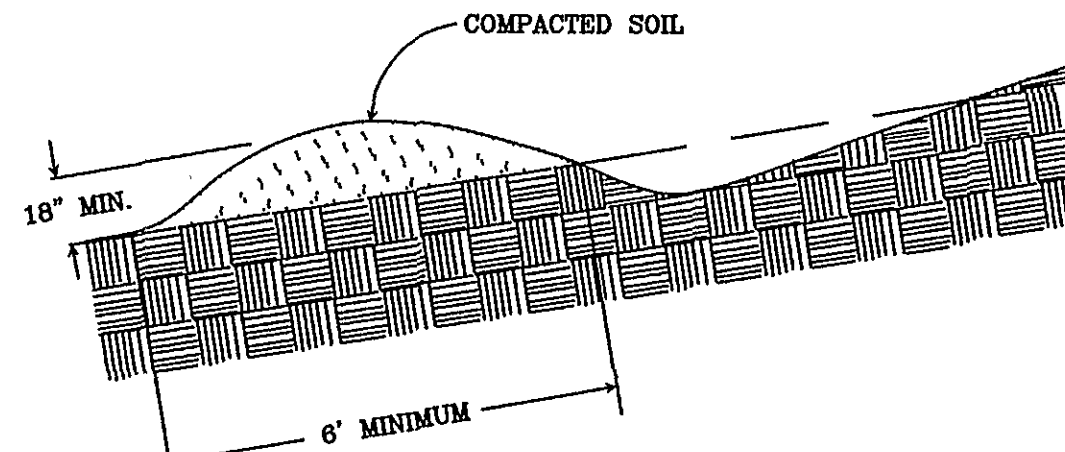


**(CE) TEMPORARY GRAVEL CONSTRUCTION ENTRANCE**  
VA ESCH STD. & SPEC. 3.02

## TEMPORARY RIGHT-OF-WAY DIVERSIONS



**TYPICAL GRAVEL STRUCTURE**



**TYPICAL EARTHEN STRUCTURE**

**(RWD) RIGHT OF WAY DIVERSION**

### TYPE A (SLOPES FLATTER THAN 3:1)

15 OCTOBER TO 1 FEBRUARY  
K-31 FESCUE @ 5 LB / 1000 SF  
BORZY WINTER RYE @ 1/2 LB / 1000 SF

1 FEBRUARY TO 1 JUNE  
K-31 FESCUE @ 5 LB / 1000 SF  
ANNUAL RYE @ 1/2 LB / 1000 SF

1 JUNE TO 1 SEPTEMBER  
K-31 FESCUE @ 5 LB / 1000 SF  
GERMAN MILLET @ 1/2 LB / 1000 SF

1 SEPTEMBER TO 15 OCTOBER  
K-31 FESCUE @ 5 LB / 1000 SF  
ANNUAL RYE @ 1/2 LB / 1000 SF

### TYPE B (SLOPES 3:1 OR STEEPER)

15 MARCH TO 1 MAY  
CROWN VETCH @ 1/2 LB / 1000 SF  
PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF  
RED TOP @ 1/8 LB / 1000 SF

15 AUGUST TO 1 OCTOBER  
CROWN VETCH @ 1/2 LB / 1000 SF  
PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF  
RED TOP @ 1/8 LB / 1000 SF

LIME: 140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE  
FERTILIZER: 5-20-10 @ 25 LB / 1000 SF  
38-0-0 @ 7 LB / 1000 SF  
MULCH SHALL BE USED OVER ALL SEEDED AREAS AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 3.35 OF THE VA ESCH.  
SOIL CONDITIONING INCORPORATION OF LIME AND FERTILIZER, SELECTION OF CERTIFIED SEED, MULCHING, MAINTENANCE OF NEW SEEDLINGS, AND RESEEDING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED WITHIN THE VA ESCH.  
ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED BY THE INSPECTOR.  
SEED APPLICATION APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE SEEDBED. MAX. SEEDING DEPTH SHALL BE 1/4 INCH.

**(PS) PERMANENT SEEDING MIXTURE**  
VA ESCH STD & SPEC 3.32

DESIGNED BY: **SRB**

DRAWN BY: **SLR**

CHECKED BY: **SRB**

SCALE: **N/A**

DATE: **October 3, 2007**

## REVISIONS:

Revision per Roanoke City comments  
November 15, 2007  
Revisions per Roanoke City comments  
December 19, 2007

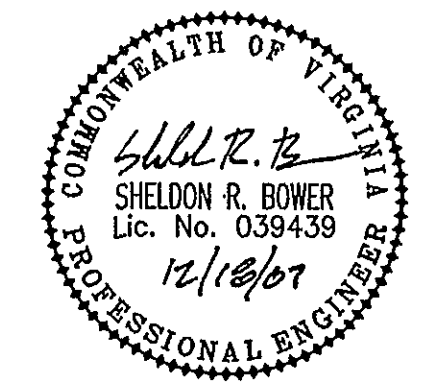
## SHEET TITLE:

**Erosion & Sediment Control Notes & Details**

**C05**  
05 OF 07  
PROJECT NUMBER:  
07-0280-01

**parker**  
DESIGN GROUP  
ENGINEERS • SURVEYORS • PLANNERS • LANDSCAPE ARCHITECTS  
816 Boulevard  
Salem, Virginia 24153  
Phone: 540-387-1153  
Fax: 540-389-5767  
www.parkerdg.com

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**Valley Bank - Crystal Springs**  
**Prepared for Rife & Wood Architects**  
Situate at 2101 Crystal Springs Avenue, S.W.  
Roanoke, VA