

Erosion Control Narrative

PROJECT DESCRIPTION

The purpose of the project is the construction of a building addition to the Boys & Girls Club of Roanoke Valley, Inc. building with associated parking. The entire disturbed area is approximately 0.17 acres.

EXISTING CONDITIONS

The existing project site consists of 1.616 acres of land situated on the eastern side of 9th Street. The area consists of an established neighborhood graded such that a vast majority of the stormwater runoff drains into existing roadside or parking area curb inlets. The existing ground cover varies from weeds along the steep slopes to maintained grasses with shrubs and trees. The slopes on the property range from 6-30 % on a majority of the parcel.

ADJACENT PROPERTY

9th Street (60' R/W) bounds the property on the west side while Morningside Park bounds the property along the east. A parcel owned by Norfolk Southern Railway Company bounds the property to the south, while the north is bounded by a parcel owned by the Boys & Girls Club of Roanoke Valley, Inc.

OFFSITE AREAS

No offsite areas are affected by the grading on this project. Excess waste material shall be transported to an approved site as selected by the contractor. Any additional plans regarding the distribution and wasting of excess material shall be provided by the contractor.

SOILS

The soils that will be disturbed by development construction primarily consist of silty clays. The majority of the soils possess moderate to high erosion potential and are compatible with the anticipated vegetative cover to be established. Additional soils information may be obtained from USDA SCS.

STRUCTURAL PRACTICES

1. TEMPORARY CONSTRUCTION ENTRANCE - 3.02

A gravel temporary construction entrance shall be installed as indicated on plans.

2. SILT FENCE - 3.05

Silt fence shall be installed along the perimeter of the proposed addition disturbance to minimize sediment transport from the site.

3. STORM DRAIN INLET PROTECTION - 3.07

Gravel storm drain inlet protection will be installed on all existing curb inlets and drop inlets as shown on plan.

VEGETATIVE PRACTICES

1. TEMPORARY SEEDING - 3.31

All denuded areas, which are not to be fine graded within 30 days, shall be seeded with fast germinating temporary vegetation immediately following grading.

2. PERMANENT SEEDING - 3.32

All final-graded areas where permanent cover is desired or rough-graded areas that will not be brought to final grade for a year or more shall be seeded with perennial vegetation within seven days. High maintenance areas (low level grassed areas) will be limed and fertilized regularly and mowed frequently similar to home lawns. Low maintenance areas will be mowed infrequently or not at all, and lime and fertilized only periodically. These areas will not be subjected to intense use, nor required to have a uniform appearance.

3. MULCHING - 3.35

Mulch (straw or fiber) will be used on relatively flat areas and will be applied as the second step in the seeding operation at a rate of 2 tons per acre.

4. Blankets and Matting - 3.36

Soil stabilization blankets shall be applied to the swale along the back of the retaining wall. These blankets shall be installed in accordance with the manufacturer's recommendations. Blankets shall be North American Green SC150 or equal.

MANAGEMENT STRATEGIES

1. Construction will be sequenced so that grading operations can begin and end as quickly as possible. The grading for the site improvements will be accomplished as indicated on the grading plan.

2. Erosion control and 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 following grading.

4. The job superintendent shall be responsible for the installation and maintenance of all erosion & sediment control practices.

5. After achieving adequate stabilization, the temporary E&S controls will be cleaned out or converted to permanent stormwater management control structures.

CRITICAL AREAS

Critical erosion areas include the cut slopes on the back side of retaining wall. These areas shall be closely monitored to insure the seeding techniques and soil stabilization blankets are effective in establishing a permanent stabilized vegetative surface.

PERMANANT STABILIZATION

The site will be seeded with ordinary seeding techniques or hydro-seeding, using a mixture of annual rye and fescue grasses. All permanent seeding is to be covered with mulch to minimize the adverse effects of wind and rain on the seedbed. Seeding is to be done immediately upon completion of grading to minimize vulnerability to erosion. All internal grassed areas (slopes less than 3:1) visible from the public road(s) will be treated as high maintenance areas, which will require frequent fertilization and mowing. The remaining slopes and other non-visible areas will be treated as low maintenance areas, which will not require frequent lime, fertilizer, or mowing.

STORMWATER RUNOFF CONSIDERATIONS

The disturbed area is 0.17 acres. All of the runoff from the site drains to existing curb and gutter and into existing curb inlets that convey the runoff to an existing storm sewer along 9th Street. The peak runoff conditions were analyzed for both predevelopment and post development conditions. Due to the minimal increase in impervious area and very similar times of concentration, the net increase in peak runoff for the 2, 10, 25, and 100 year storms was less than 0.5 cfs. As a result, stormwater management is not required for these improvements.

CALCULATIONS

Please refer to the hydrology and runoff calculations enclosed.

GENERAL EROSION CONTROL NOTES

ES-1 UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-2 THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3 ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4 A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5 PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6 THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7 ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8 DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9 THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

ES-10 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.

ES-11 ANY ALTERATIONS TO THE APPROVED EROSION SEDIMENT CONTROL PLAN WILL REQUIRE A NEW SET OF ESC PLANS STAMPED BY THE CONSULTING ENGINEER. PLAN SHEETS CAN BE 8.5" x 11" IF THE INFORMATION IS LEGIBLE AND WITH THE SCOPE OF THE EXISTING APPROVED PLAN.

STD. DESIGN.	DESCRIPTION	INDICATOR	PLAN SYMBOL	STD. DESIGN.	DESCRIPTION	INDICATOR	PLAN SYMBOL
3.02	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	CE		3.32	PERMANENT SEEDING	PS	
3.07	INLET PROTECTION	IP		3.35	MULCHING	MU	
3.05	SILT FENCE	SF		3.36	BLANKETS/MATTING	B/M	
3.31	TEMPORARY SEEDING	TS					

PLANTING DATES	SPECIES	RATE (LBS./ACRE)
SEPT.1-FEB.15	50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM) AND CEREAL (WINTER) RYE (SECALE CEREALE)	50-100
FEB.16-APR.30	ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM)	60-100
MAY1-AUG.31	GERMAN MILLET (SETARIA ITALICA)	50

REF: 1992 VESC HANDBOOK, TABLE 3.31-B

**(TS) ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS**

TYPE A

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

140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE

FERTILIZER: 5-20-10 @ 25 LB / 1000 SF  
38-0-0 @ 7 LB / 1000 SF

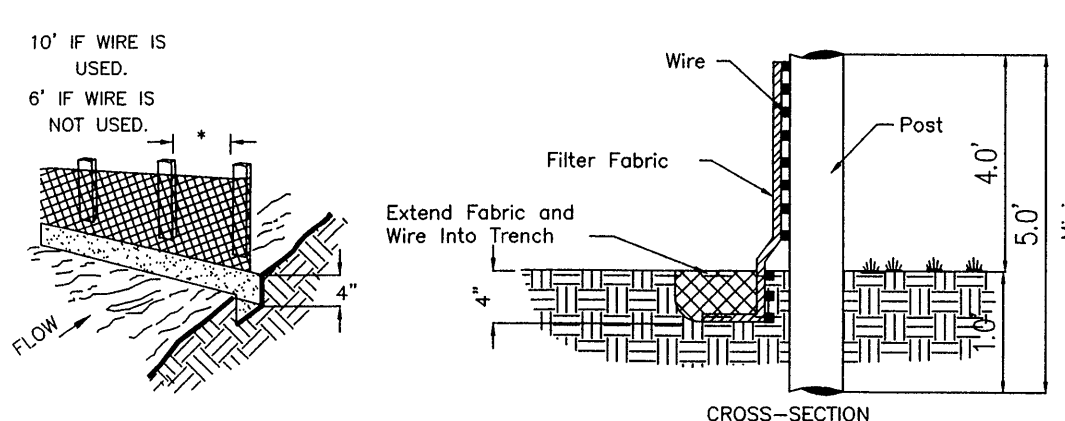
MULCH: IF REQUIRED, SHALL BE USED OVER ALL SEEDED AREAS AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 1.75 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

SOIL CONDITIONING: INCORPORATION OF LIME AND FERTILIZER, SELECTION OF CERTIFIED SEED, MULCHING, MAINTENANCE OF NEW SEEDINGS, AND RESEEDING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE VIRGINIA SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED BY THE INSPECTOR.

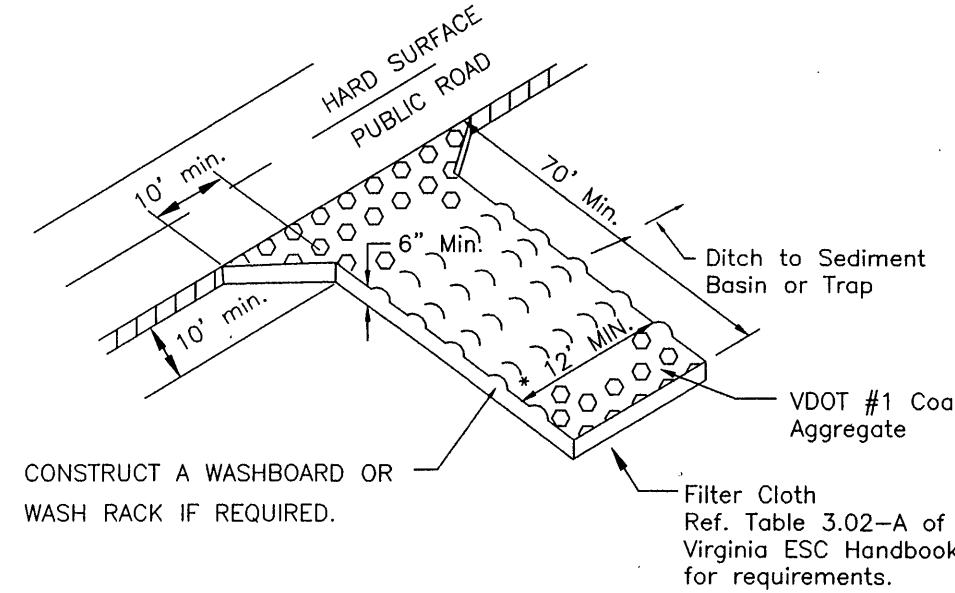
SEED APPLICATION: APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE, SEEDBED. MAXIMUM SEEDING DEPTH SHALL BE 1/4 INCH.

TOTAL DISTURBED AREA = 0.17 AC. = 7405 SQ. FT.

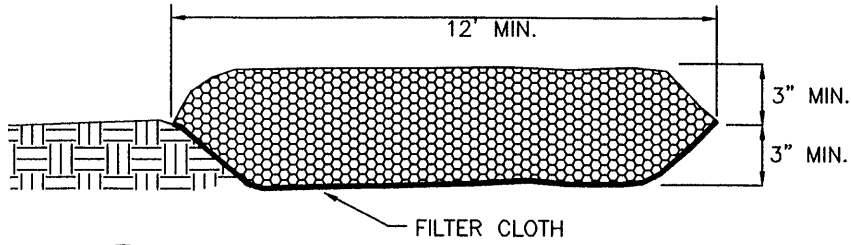
**(PS) PERMANENT SEEDING MIXTURE**



**(SF) CONSTRUCTION OF A SILT FENCE**



\* MUST EXTEND FULL WIDTH OF INGRESS & EGRESS OPERATION.



**(CE) TEMPORARY GRAVEL CONSTRUCTION ENTRANCE**

EROSION-SEDIMENTATION CONTROL COST ESTIMATE

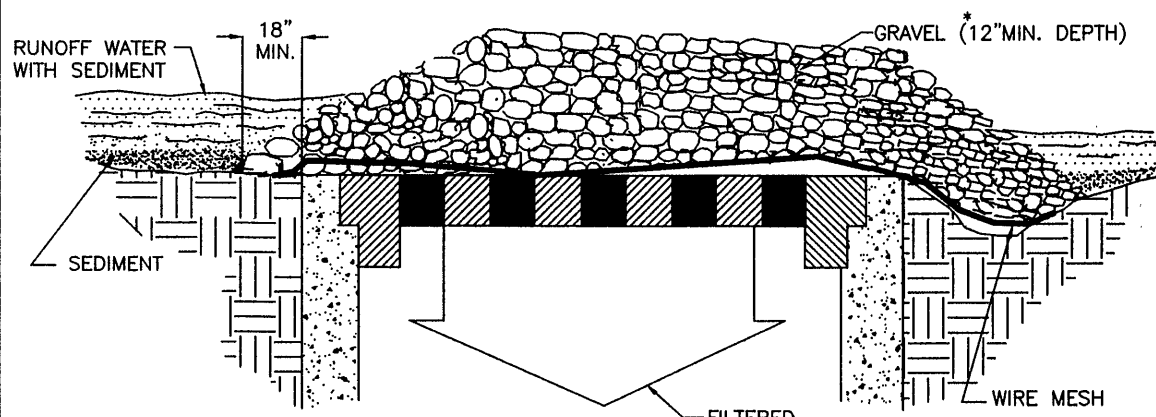
ALL COSTS GIVEN ARE COMPLETE IN PLACE

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CONSTRUCTION ENTRANCE	EA	1	\$ 1000	\$ 1000
SILT FENCE	LF	135	\$ 4	\$ 540
INLET PROTECTION	EA	4	\$ 250	\$ 1000
PERMANENT SEEDING	AC	.25	\$ 1200	\$ 300
BLANKETS & MATTING	LF	36	\$ 10	\$ 360
LINING UNDER RR	S.Y.			
RIP RAP	TON			

SUB-TOTAL \$ 3200.00

10% CONTINGENCY \$ 320.00

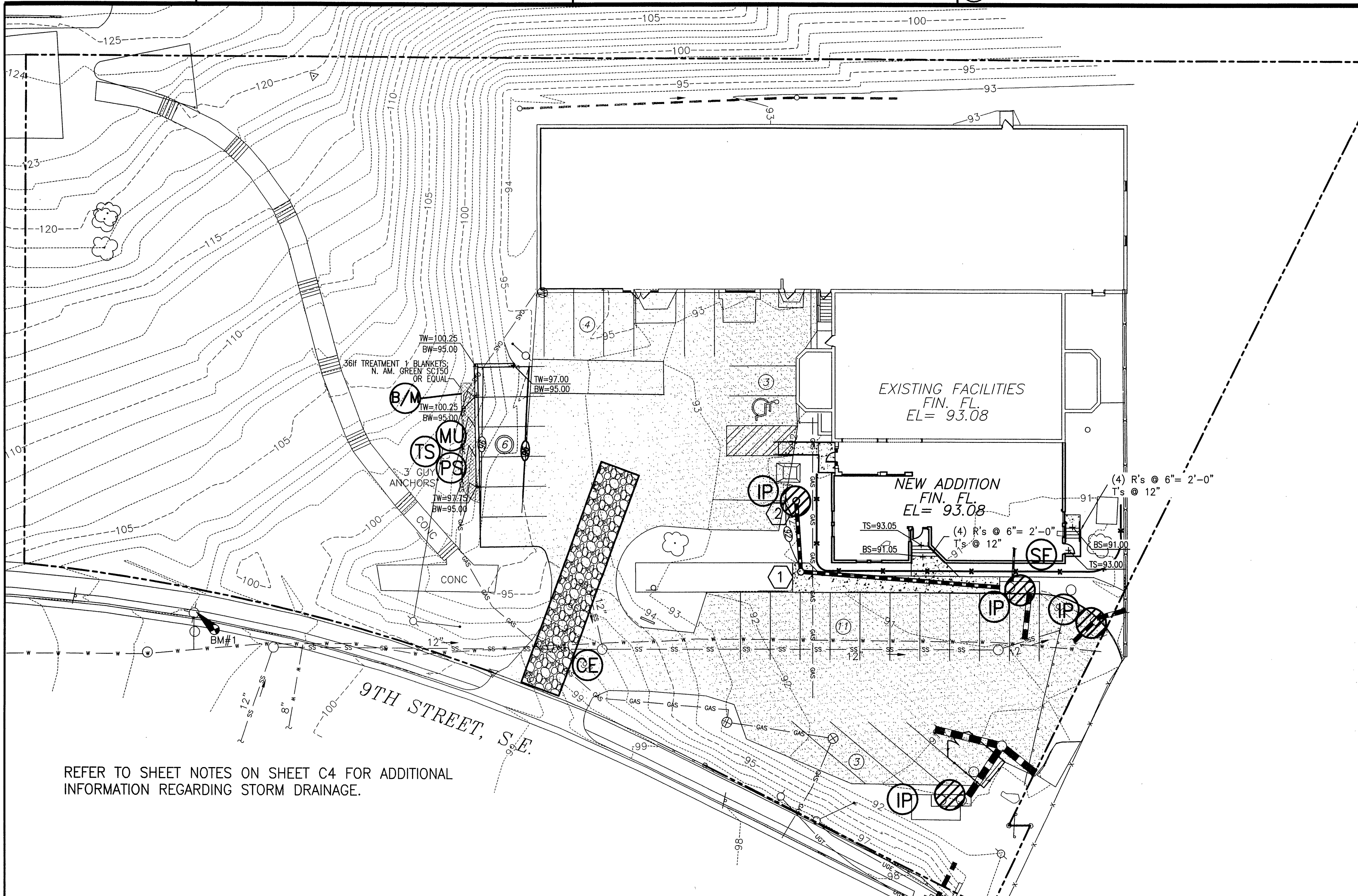
TOTAL PROJECT COST \$ 3520.00



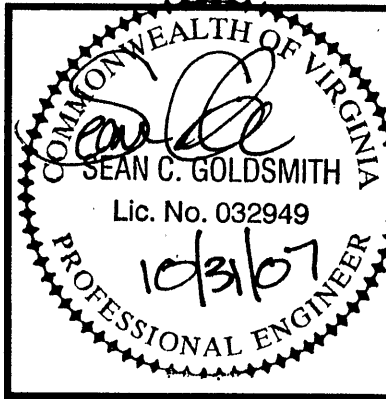
SPECIFIC APPLICATION  
This method of inlet protection is applicable where heavy concentrated flows are expected, but not where ponding around the structure might cause excessive inconvenience or damage to adjacent structures and unprotected areas.

\* Gravel shall be VDOT #3, #357 or #5 coarse aggregate.

**(IP) GRAVEL & WIRE MESH DROP INLET SEDIMENT FILTER**



REFER TO SHEET NOTES ON SHEET C4 FOR ADDITIONAL INFORMATION REGARDING STORM DRAINAGE.



Revisions By Date  
SCG - RkeCityCmnts 10/31/07

**PROVIDENCE**  
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GRADING AND EROSION CONTROL

ADDITIONS & IMPROVEMENTS  
BOYS & GIRLS CLUB OF ROANOKE VALLEY  
CITY OF ROANOKE, VIRGINIA

Scale: 1"=20'  
Date: 9/18/07  
Design By: SCG  
CAD By: SCG  
Checked By:  
Comm. No.: 07107

Sheet No.

**C3**