The site is relatively sloping with with some moderate brush and trees. The entire site drains into the alley.

Adjacent Areas: This site is bordered by Rorer Avenue on the north, City of Roanoke, Fire Station No. 3 on the east, a private property on the west and an alley on the south.

No offsite borrow or fill sites are expected to be associated with this project.

Soils:
Soils information is based on an inspection of sheet number 7 of the soil survey of Roanoke County and the cities of Roanoke and Salem, Virginia, issued in 1997 and has soils information is based on an inspection of sheet number 7 of the soil survey of Roanoke County and the cities of Roanoke and Salem, Virginia, issued in 1997 and has soils information is based on an inspection of sheet number 7 of the soil survey of Roanoke County and the cities of Roanoke and Salem, Virginia, issued in 1997 and has soils information is based on an inspection of sheet number 7 of the soil survey of Roanoke County and the cities of Roanoke and Salem, Virginia, issued in 1997 and has not been field verified. The majority of the onsite soils fall into the Urban land (53) category where 80 percent of the surface is covered by asphalt, concrete, buildings, or other impervious surfaces. They are generally rectangular or irregular in shape and slopes ranges from 0 to 2 percent. Included in mapping are areas of undisturbed soils and Udorthents.

There are no specific critical areas for concern with this project. However, the contractor shall take scpecial care to establish permanent stabilization on all steep slopes.

General Standards:

All erosion and sediment control practices and procedures shall be in accordance with the latest edition of the Virginia Erosion and Sediment Control Handbook,

Erosion and Sediment Control Measures:

Standard and Specification 3.02 — Construction Entrance (CE) A temporary construction entrance shall be installed where the construction access road leaves existing pavement. During wet weather conditions, drivers of construction vehicles will be required to wash their wheels before entering the street. When construction vehicles must enter disturbed areas, the tires of the vehicle shall be manually cleaned prior to leaving the site, if necessary.

Standard and Specification 3.05 - Silt Fence (SF)

Silt Fence shall be installed at the lower edge of disturbed areas as shown on the plan. Two types of silt fence are shown on the plans in accordance with VDOT standards. The taller fence is specified as silt fence, "SF". A shorter fence is specified as filter barrier, "FB".

Standard and Specification 3.32 — Permanent Seeding (PS)

Permanent Seeding shall be installed on all disturbed areas of the site not otherwise stabilized.

All erosion and sediment control measures shall be inspected bi—weekly and after every runoff producing rainfall. A log of dates and inspections shall be kept. Any deficiencies that are found shall be corrected immediately. Accumulated sediment at trapping measures shall be routinely removed.

All ditches, swales, and natural watercourses downstream of this project shall be field inspected during and after construction by the RLD to ensure compliance with DCR's MS-19. If erosion or scour is occurring the developer shall be responsible for all corrective measures.

Erosion and sediment control measures shall be maintained until after all disturbed areas have been permanently stabilized and then temporary measures properly removed.

Construction Sequence

- 1. Contractor's Certified Responsible Land Disturber shall be named at and attend the pre—construction meeting and provide a copy of his RLD Certificate thereat.
- 2. Install Construction Entrance, and silt fence as the first step in the construction process.
- 3. Areas to be cut and filled are to be cleared and graded in phases. This phasing will be done to minimize the length of time areas are subject to erosion. All perimeter erosion and sediment control measures shall be installed prior to beginning grading operations in the affected areas.
- 4. The infiltration pit shall not be installed until the site is stabilized so as to minimize silting of the pit.
- 5. Temporary erosion and sediment control measures shall be removed after those affected areas have been brought to final grade and permanently stabilized with improvements or established vegetation.

Contractor shall pay particular attention to the following MINIMUM STANDARDS:

MS-1: Though TS / PS labels are shown generically on the plans, the contractor shall seed all areas not indicated to be otherwise stabilized with permanent seed mixture within 7 days of reaching final grade or with temporary seed mixture any area yet to reach final grade but that is not proposed to be actively involved in the work within 30 days. These seed mixtures and application specifications are shown hereon. The contractor shall honor the clearing and grading limits shown on the plan.

MS-2: The contractor shall stabilize with TS and protect from erosion, with any applicable method, all stockpiles and any on-site or off-site borrow or spoil areas, as applicable. Approval of this plan does not cover off-site borrow or spoil areas. 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 for review and approval by the Plan

NOT APPLICABLE; no TS needed for this project.

MS-3: Where TS/PS are not applicable provide other means of stabilization (CRS, etc.) within 7 days of reaching final grade or within 30 days where the area is yet to reach final grade but is not proposed to be actively involved in the work.

MS-4: All soil erosion and sediment control measures shall be placed in advance of the work they are intended to protect.

MS-5: Earthen controls and structures shall be stabilized immediately upon installation.

NOT APPLICABLE; no earthen controls or structures are proposed on this project.

MS-6: Where a sediment trap (<3 acres of drainage) or sediment basin (>3 acres of drainage) are indicated calculations shown are based on outlined drainage areas. Contractor shall honor indicated drainage divides and conform to volumes, details, etc. provided on plans.

NOT APPLICABLE; no sediment traps or basins are proposed for this project.

MS-7: Care has been taken in design to minimize drainage over slopes and provide a suitable protective stabilization method. Contractor shall protect slope areas during and after construction from concentrated runoff and the erosion effects of wind and rain. Stabilize as soon as practical to minimize erosion.

NOT APPLICABLE: no drainage are proposed over slopes.

MS-8: Where concentrated runoff has been routed down slopes care has been taken to design an adequate channel or drain. Contractor shall install these measures along with their stabilization as soon as practical to protect slope.

NOT APPLICABLE; no channels or drains are proposed over slopes.

MS-9: NOT APPLICABLE: seepage through slopes is not anticipated to be encountered on this project.

MS-10: Inlet or culvert inlet protection is proposed for the inlets of all storm sewers or culverts on-site. RLD shall insure proper installation and assure adequate sizing based on drainage area of each inlet.

NOT APPLICABLE; no culverts or storm sewer are proposed in this project and no culvert or storm sewer inlets are adjacent to the project.

MS-11: RLD shall verify that adequate channel linings and proper outlet protection is in place prior to operation of storm sewer system.

NOT APPLICABLE; no no storm sewer system proposed.

COE are in hand prior to commencing such work.

MS-12: When working in and around a live watercourse, the contractor shall take great care to minimize impact on the stream. Assure that proper permits from DEQ /

Live watercourse protection and permits are NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-13: Where more than 2 trips in 6 months are expected across a live watercourse obtain the necessary permit and install a temporary stream crossing.

Stream crossing is NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-14: Other federal, state, and local regulations must be met when working in live watercourses.

Regulations pertaining to live watercourses are NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-15: The bed and banks of disturbed watercourses must be stabilized immediately.

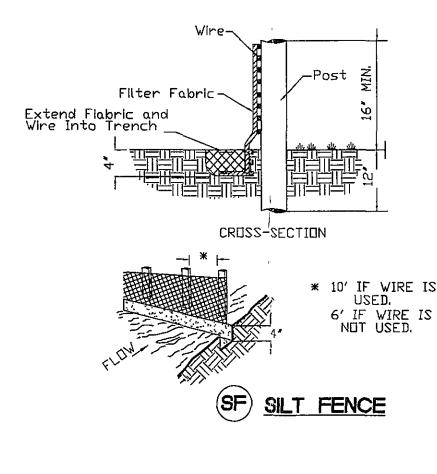
Live watercourse bed and bank stabilization are NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

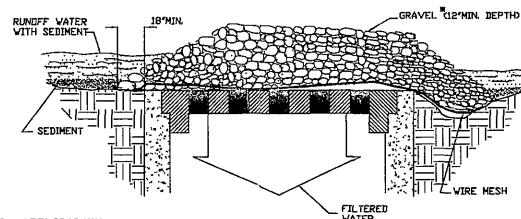
MS-16: Regarding utility installations, no more than 500 LF of trench may be open at a given time. Excavated material shall be placed on uphill side of trench. Effluent of any dewatering system used must be filtered. Trenches shall be proper backfilled and compacted per detail and specs. Completed installation shall be re-stabilized

MS-17: The contractor shall provide adequate means of cleaning mud from trucks and / or other equipment prior to entering public streets. It is the contractor's responsibility to insure that the streets are in a clean, mud and dust free condition at all times.

MS-18: See Maintenance under ESC Narrative for removal of temporary measure.

MS-19: Increases in stormwater volume, velocity, and peak runoff have been addressed in the plan per calculations submitted for review. Responsible Land Disturber shall pay particular attention to off-site areas contributing runoff to the site and off-site locations receiving runoff from this project. All ditches, swales, and natural watercourses downstream of this project shall be field inspected during and after construction by the RLD to ensure compliance with DCR's MS-19. If erosion or scour is occurring the developer shall be responsible for all corrective measures.





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 AND WIRE MESH DROP INLET SEDIMENT FILTER

GENERAL ESC 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 VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS, LATEST EDITION. THE EROSION CONTROL KEY SYMBOLS SHOWN ON THE PLANS ARE FROM THE VIRGINIA UNIFORM CODING SYSTEM FOR ESC PRACTICES.

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

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED IN ADVANCE OF THE WORK THEY ARE INTENDED TO PROTECT. THIS INCLUDES CLEARING. IN NO CASE DURING CONSTRUCTION SHALL 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.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND NARRATIVE, AS WELL AS A COPY OF THE LAND DISTURBING PERMIT, SHALL BE MAINTAINED ON THE SITE AT ALL TIMES. THE EROSION AND SEDIMENT CONTROL ADMINISTRATOR WILL DELIVER THESE MATERIALS AT THE ONSITE PRECONSTRUCTION

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 FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6: THE APPROVING AUTHORITY MAY ADD TO, DELETE, CHANGE, OR OTHERWISE MODIFY CERTAIN ESC MEASURES WHERE FIFLD CONDITIONS ARE ENCOUNTERED THAT WARRANT SUCH MODIFICATIONS. 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 THE LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATION, 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.

EROSION-SILTATION CONTROL

COST ESTIMATE

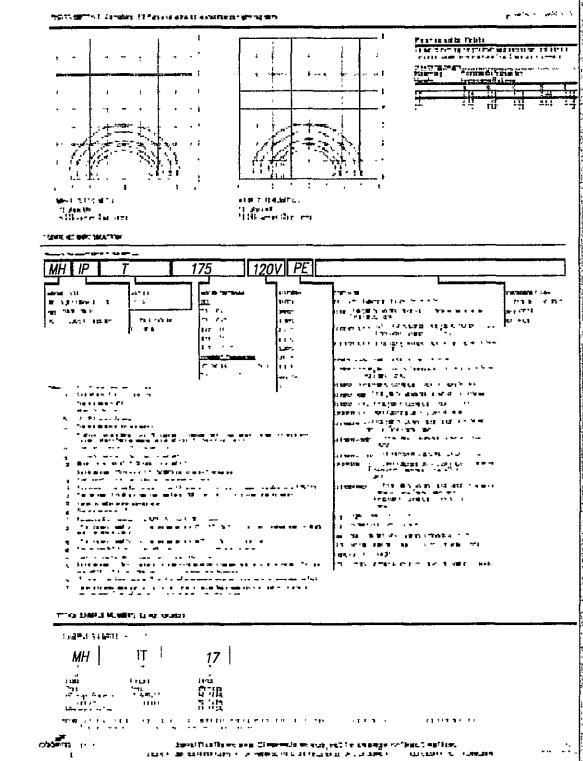
ALL COSTS GIVEN ARE COMPLETE IN PLACE DESCRIPTION UNIT UNIT COST TOTAL COST QUANTITY CONSTRUCTION EΑ 1.500.00 ENTRANCE SILT FENCE LF 1000 SF PERMANENT SEEDING 80.00 3,200.00 INLET PROTECTION 100.00

SUB-TOTAL

10% CONTINGENCY

TOTAL PROJECT COST

FAGEAR PATE THE HTVELS BUT BANK OF STATEMENTS IN 1819 DE 11120 HANG THE TOWN OF THE STATEMENT OF THE STATEME 5 PC (特别基本) 数 的基础等点。 Ci., Option Wieduter The motioning including white Heisgri MS record indicated that the Light is a complete the character of Gines in the Chara (1997年の)の日本 20年17年出版 まった。 trattic pa edutae in politica. Per stand M. IV. Preparation Till Mouremy (Reference of the American State of the American Stat ान हुआहे त्राटन प्रस्ट व मेर जा वर्ग पुन्न के ज्ञानिक मेरे का स्थ व्यवस्थान वृद्ध शरकरायान्यमः गणः र क्रि. ५ इत् । वृद्धान्य र अवः भूगाः a 。同性的 - pungbilan - panen ko---on - zpr ia mia ipilaadi, saa katif a 40° (i iby . iisid ja ad adid - 27° - 48° 4° . Hant 4 am remt. ment tet Beeit Gittert Burge bief " Leappe gaan gares an our extend out at each tipe of the life organic field \$1. If then to 一致自動物 中で アウンドリアングラス・19年 IMPACT Sprag wassatas de Sprag wassatas TRAFEZOID impac i mir = =reprived repailing manal de co JE-1 3 ement *Northern D 5 7 "DECEMBER TREUNISTAL BATS BELL STREET ALIME BOWN MARKET CITY THE STATE OF COMMERCE OF THE STATE OF TH THE BOY DATA DEMONSTRUCK BROWN I MANY AND BY 15. 臭ゅっり せっけつ P (1941) 1 Community of the Control of the Cont NE SHEDI BORINAD 기~~ = - = 이 골약 느낌? Betwoed Monte or (Classic) (F. B. Les Carlosse (D. Bruken (Frida) C. P. -> 1 17 136 E. af 1 11 902 *** SHIPPIN S DATA 1/E+3(19)-11-14-11-(9) Specifications and 3 members publicative plangs without not be



COOPER LIGHTING - IP IMPACT TRAPEZOID LUMINAIRE DETAILS

TEMPORARY STABILIZATION

TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED, FOR LONGER THAN 30 DAYS, PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

TEMPORARY SEEDING MIXTURE

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

PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION WILL BE STABILIZED WITH PERMANENT SEEDING WITHIN 7 DAYS OR IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING WILL BE DONE ACCORDING TO STANDARD AND SPECIFICATION 3.32 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. PERMANENTLY SEEDED AREAS SHALL BE PROTECTED DURING ESTABLISHMENT WITH STRAW MULCH.

TYPE B (SLOPES 3:1 OR STEEPER)

CROWN VETCH @ 1/2 LB / 1000 SF

CROWN VETCH @ 1/2 LB / 1000 SF

PERENNIAL RYEGRÁSS @ 1/2 LB / 1000 SF

RED TOP @ 1/8 LB / 1000 SF

RED TOP @ 1/8 LB / 1000 SF

15 AUGUST TO 1 OCTOBER

15 MARCH TO 1 MAY

PERMANENT SEEDING MIXTURE

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

1.500.00

1,440,00

200.00

6,340.00

635.00

6,975.00

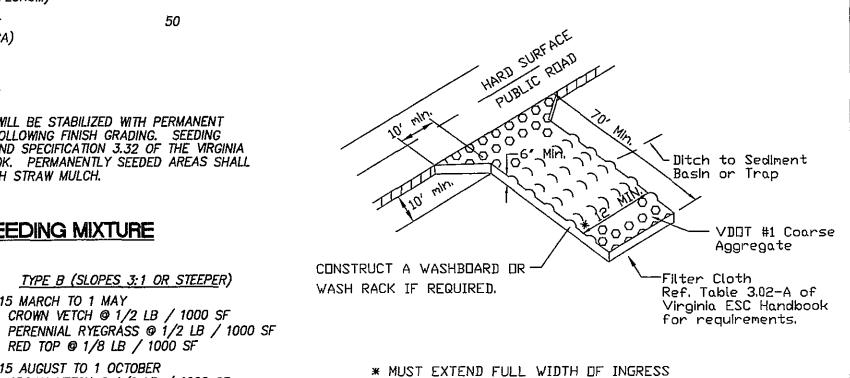
K-31 FESCUE @ 5 LB / 1000 SF ANNUAL RYE @ 1/2 LB / 1000 SF 140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE

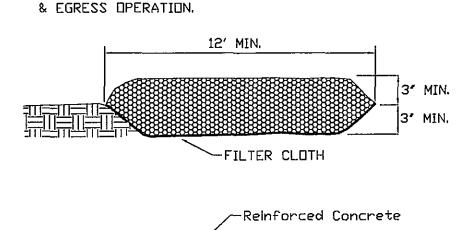
FERTILIZER: 5-20-10 @ 25 LB / 1000 SF

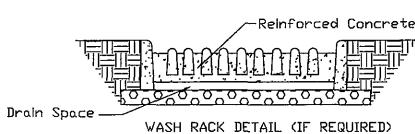
38-0-0 @ 7 LB / 1000 SF IF REQUIRED, SHALL BE USED OVER ALL SEEDED AREAS AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 1.75 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

SOIL CONDITIONING: INCORPORATION OF LIME AND FERTILIZER, SELECTION OF CERTIFIED SEED, MULCHING, MAINTENANCE OF NEW SEEDLINGS, 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.







TEMPORARY GRAVEL CONSTRUCTION ENTRANCE LUMSDEN ASSENGINEERS-SURV

S, P.C. NNERS

IONE: (540) 774-4411 FAX: (540) 772-9445 :@LUMSDENPC.COM

B. LEE

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September 18, 2006 SCALE: NONE

COMMISSION NO: SHEET 4 OF 4