

EROSION CONTROL NARRATIVE

PROJECT DESCRIPTION
THIS LINEAR DEVELOPMENT PROJECT IS LOCATED WITHIN THE CITY OF ROANOKE AND CONSISTS OF INSTALLING NEW STORM DRAIN TO HELP IMPROVE THE DRAINAGE ISSUES IN THIS AREA. THIS PROPOSED PROJECT SHALL DISTURB A TOTAL AREA OF APPROXIMATELY 0.2 ACRES OUTSIDE THE EXISTING PAYMENT LIMITS AND THEREFORE HAS LESS THAN 1.0 ACRE OF DISTURBANCE TO EACH INLET.

EXISTING SITE CONDITIONS
THE SITE IS LOCATED ALONG MORAN STREET AND HILLVIEW AVENUE FROM BLANTON AVENUE TO VENTNOR ROAD. THE MAJORITY OF THE PROJECT AREA LAYS ALONG THE PREVIOUSLY MENTIONED RIGHT-OF-WAYS AND HAS DRAINAGE GENERALLY FROM WEST TO EAST.

ADJACENT AREAS
THE MAJORITY OF THIS PROJECT IS LOCATED IN RESIDENTIAL SINGLE-FAMILY ZONING (R-7 & R-12) WITH A SMALL PORTION OF THE PROJECT BEING IN RESIDENTIAL MIXED DENSITY ZONING (RM-1).

OFFSITE AREAS
NO OFFSITE FILL OR BORROW AREAS ARE COVERED BY THIS PLAN. ANY SUCH AREA WILL REQUIRE SEPARATE EROSION CONTROL PLAN.

SOILS
SOILS INFORMATION IS BASED ON AN INSPECTION OF THE USDA SOIL SURVEY OF ROANOKE COUNTY AND HAS NOT BEEN FIELD VERIFIED. A SOILS MAP IS ATTACHED WHICH SHOWS THE LOCATION OF VARIOUS SOILS WITHIN THE CONSTRUCTION AREA. THE FOLLOWING SYMBOLS CORRESPOND WITH SOIL TYPES ON THE MAP.

SYMBOL	SOIL TYPE
26D	HAYESVILLE FINE SANDY LOAM, 15 - 25% SLOPES
27C	HAYESVILLE-URBAN LAND COMPLEX, 2 - 15% SLOPES

HAYESVILLE FINE SANDY LOAM SOIL PROPERTIES:
COMPOSITION: 0 TO 8 INCHES, FINE SANDY LOAM; 8 TO 51 INCHES, CLAY; 51 TO 62 INCHES SANDY CLAY LOAM.
PERMEABILITY: WELL DRAINED
AVAILABLE WATER CAPACITY: HIGH
DEPTH TO BEDROCK: MORE THAN 80 INCHES
DEPTH TO WATER TABLE: MORE THAN 80 INCHES

HAYESVILLE-URBAN LAND COMPLEX PROPERTIES:
COMPOSITION: 0 TO 8 INCHES, FINE SANDY LOAM; 8 TO 51 INCHES, CLAY; 51 TO 62 INCHES SANDY CLAY LOAM.
PERMEABILITY: WELL DRAINED
AVAILABLE WATER CAPACITY: HIGH
DEPTH TO BEDROCK: MORE THAN 80 INCHES
DEPTH TO WATER TABLE: MORE THAN 80 INCHES

CRITICAL AREAS
THE CONTRACTOR SHALL TAKE SPECIAL CARE TO INSURE THAT SEDIMENT IS NOT ALLOWED TO FLOW INTO EITHER THE NEW STORM DRAIN OR THE EXISTING DOWNSTREAM RECEIVING CHANNELS. ENSURE THAT ALL ESC MEASURES ARE STABILIZED AND FUNCTIONING TO MINIMIZE THE POTENTIAL FOR ANY SEDIMENT LEAVING THE SITE.

MINIMUM STANDARDS
REFER TO DEQ MINIMUM STANDARDS.

EROSION AND SEDIMENT CONTROL MEASURES

SILT FENCE (3.05) - SILT FENCE WILL BE INSTALLED AT THE LOWER ENDS OF THE PROJECT SITE TO INTERCEPT SEDIMENT LADEN RUN-OFF PRIOR TO EXITING THE SITE.

INLET PROTECTION (3.07) - INLET PROTECTION WILL BE INSTALLED AT EACH STORM DRAIN INLET TO MINIMIZE THE AMOUNT OF SEDIMENT LADEN RUNOFF FROM ENTERING THE STORM DRAIN SYSTEM.

TEMPORARY SEEDING (3.31) - TEMPORARY SEEDING SHALL BE APPLIED TO TEMPORARY DIVERSION DIKES, TOPSOIL STOCKPILES, AND ALL AREAS TO BE ROUGH GRADED, BUT NOT FINISHED GRADED DURING THE INITIAL PHASE OF CONSTRUCTION. TEMPORARY SEEDING SHALL BE FAST GERMINATING, TEMPORARY VEGETATION AND INSTALLED IMMEDIATELY FOLLOWING GRADING, OR INSTALLATION IF A TEMPORARY MEASURE. SEE ALSO MINIMUM STANDARDS.

PERMANENT SEEDING (3.32) - PERMANENT SEEDING SHALL BE INSTALLED ON ALL DISTURBED AREAS OF THE SITE NOT OTHERWISE STABILIZED.

MULCHING (3.35) - ALL DISTURBED AREAS SHALL BE MULCHED AFTER SEEDING. STRAW MULCH SHALL BE APPLIED AT A RATE OF TWO TONS PER ACRE AND ANCHORED WITH 750 LBS PER ACRE OF FIBER MULCH OVER THE SEEDED AREA.

PERMANENT STABILIZATION
ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING WITHIN 7 DAYS OF REACHING FINAL GRADES. SEEDING SHALL BE DONE IN ACCORDANCE WITH DCR SPECIFICATION 3.32 (PERMANENT SEEDING), OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION AND WITH THE DETAILS SHOWN ON THIS PLAN. MULCH (STRAW OR FIBER) SHALL BE USED ON ALL SEEDED AREAS. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER, AND LIME SHALL BE APPLIED PRIOR TO MULCHING.

MAINTENANCE
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.

STORMWATER MANAGEMENT CONSIDERATION
THIS LINEAR DEVELOPMENT PROJECT IS EXEMPT FROM THE CITY'S STORMWATER MANAGEMENT ORDINANCE SINCE THE AMOUNT OF DISTURBANCE TO EACH INLET IS LESS THAN 1.0 ACRE.

NO.	TITLE	KEY	SYMBOL
3.05	SILT FENCE	SF	---X---X---
3.07	STORM DRAIN INLET PROTECTION	IP	---(S)---
3.31	TEMPORARY SEEDING	TS	---(T)---
3.32	PERMANENT SEEDING	PS	---(P)---
3.35	MULCHING	MU	---(M)---

CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO THE FOLLOWING MINIMUM STANDARDS:

- Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year. **APPLY SEEDING MIXTURES IN ACCORDANCE WITH SPECIFICATIONS 3.31 AND 3.32 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (YES) TO ALL AREAS THAT DO NOT HAVE A NON-ERODIBLE SURFACE AS SHOWN ON THE PLAN.**
- During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with 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. **N/A, NO STOCKPILES ARE PLANNED FOR THIS PROJECT.**
- 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. **SEE MINIMUM STANDARD 1.**
- 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 upstate land disturbance takes place. **INSTALL EROSION CONTROL MEASURES AS OUTLINED IN THE CONSTRUCTION SEQUENCE.**
- Stabilization measures shall be installed on earthen structures such as dams, dikes and diversions immediately after installation. **NO EARLIER STRUCTURES ARE PROPOSED WITH THIS PLAN.**
- Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.
 - The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.
 - Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.**NO SEDIMENT TRAPS OR BASINS ARE PROPOSED WITH THIS PLAN.**
- Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilization measures until the problem is corrected. **PROVIDE ANY AREAS THAT DO NOT HAVE AN ESTABLISHMENT OF A GOOD STAND OF GRASS AFTER INITIAL APPLICATION OF PERMANENT SEEDING. ADDITIONAL SLOPE STABILIZATION MEASURES ARE TO BE CONSIDERED AS CONDITIONS DICTATE.**
- Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure. **NO CONCENTRATED RUNOFF SHALL FLOW DOWN CUT OR FILL SLOPES AND SHALL BE INTERCEPTED AS NECESSARY.**
- Whenever water seeps from a slope face, adequate drainage or other protection shall be provided. **THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY UPON THE DISCOVERY OF ANY WATER SEEPS.**
- All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment. **INLET PROTECTION SHALL BE INSTALLED AS STORM DRAIN SYSTEM IS INSTALLED.**
- Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary inlet protection shall be installed in both the conveyance channel and receiving channel. **NO NEW CHANNELS ARE PROPOSED WHICH WILL REQUIRE OUTLET PROTECTION.**
- When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of cofferdams and cofferdams. Earthen fill may be used for these structures if covered by nonerodible cover materials. **NO LIVE WATERCOURSES ARE TO BE DISTURBED BY THESE PLANS BUT PRECAUTIONS SHALL BE TAKEN TO MINIMIZE SEDIMENT TRANSPORT TO DOWNSTREAM LIVE WATERCOURSES.**
- When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided. **NOT APPLICABLE. NO LIVE WATERCOURSES WILL BE CROSSED WITH THESE PLANS.**
- All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met. **ALL REGULATIONS PERTAINING TO WORK IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.**
- The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed. **NO WATERCOURSE DISTURBANCE IS PLANNED FOR THIS PROJECT.**
- Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
 - No more than 500 linear feet of trench may be opened at one time.
 - Excavated material shall be placed on the uphill side of trenches.
 - Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.
 - Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
 - Restabilization shall be accomplished in accordance with these regulations.
 - Applicable safety regulations shall be complied with.**UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS ABOVE.**
- 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 road by sweeping or transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities. **ADDITIONAL MEANS SHALL BE PROVIDED FOR THE CLEANING OF AND SEDIMENT FROM CONSTRUCTION VEHICLES PRIOR TO ENTERING PUBLIC STREETS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY MUD AND SEDIMENT TRANSPORTED FROM THIS SITE ONTO THE PUBLIC STREETS.**
- All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation. **EROSION & SEDIMENT CONTROL MEASURES SHALL NOT BE REMOVED WITHOUT ROANOKE CITY PERMISSION AND SHALL BE IN ACCORDANCE WITH ABOVE REQUIREMENTS.**
- Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rates of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria:
 - Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.
 - Adequacy of all channels and pipes shall be verified in the following manner:
 - The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or
 - Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overlap channel banks nor cause erosion of channel bed or banks; and
 - All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overlap its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and
 - Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.
 - If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
 - Improve the channel to a condition where a ten-year storm will not overlap the banks and a two-year storm will not cause erosion to the channel bed or banks; or
 - Improve the pipe or pipe system to a condition where the ten-year storm is contained within the apertures; or
 - Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or
 - Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the plan-approving authority to prevent downstream erosion.
 - The applicant shall provide evidence of permission to make the improvements.
 - All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development of the subject project.
 - If the applicant chooses an option that includes stormwater detention he shall obtain approval from the locality of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.
 - Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipater shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
 - All on-site channels must be verified to be adequate.
 - Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
 - In applying these stormwater runoff criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
 - All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.

THIS PROJECT IS A LINEAR DEVELOPMENT PROJECT AND IS THEREFORE EXEMPT FROM THE CITY OF ROANOKE'S STORMWATER MANAGEMENT ORDINANCE SINCE THE AMOUNT OF DISTURBANCE TO EACH INLET IS LESS THAN 1.0 ACRE, NO INCREASE IN PEAK FLOW DISCHARGE FROM 10-YEAR STORM EVENT IS EXPECTED SO THIS PROJECT IS NOT ANTICIPATED TO HAVE A NEGATIVE IMPACT DOWNSTREAM. ALSO, WE ARE UNAWARE OF ANY EXISTING DOWNSTREAM FLOODING ISSUES AT THIS TIME.

GENERAL EROSION AND SEDIMENT CONTROL NOTES, ROANOKE CITY, VIRGINIA

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.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE ON-SITE 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 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 ON-SITE PRECONSTRUCTION CONFERENCE.

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.

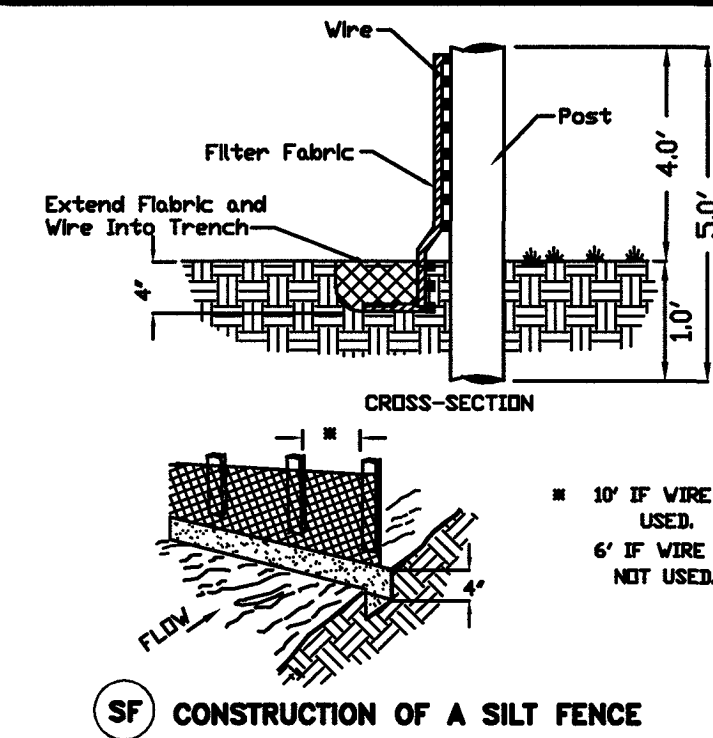
ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

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

ES-8: 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.

CONSTRUCTION SEQUENCE

- CONTRACTOR'S CERTIFIED RESPONSIBLE LAND DISTURBER SHALL BE NAMED AND A COPY OF HIS RLD CERTIFICATE PROVIDED TO THE CITY OF ROANOKE AT LEAST TWO DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. RLD SHALL ALSO ATTEND PRE-CON MEETING.
- THE CONSTRUCTION PROCESS SHOULD BE SEQUENCED AS MUCH AS POSSIBLE SO THAT EACH AREA IS SEEDING AND STABILIZED PRIOR TO BEGINNING GRADING OPERATIONS IN ANOTHER AREA.
- PERIMETER SILT FENCE SHALL BE INSTALLED PRIOR TO BEGINNING ANY LAND DISTURBANCE.
- BEGIN STORM DRAIN CONSTRUCTION STARTING DOWNSTREAM AT THE EXISTING STORM DRAINAGE SYSTEM AT STRUCTURE "EX" AND WORK UPSTREAM.
- PROVIDE INLET PROTECTION FOR EACH INLET AS THEY ARE INSTALLED.
- APPLY SOIL CONDITIONING, PERMANENT SEEDING MIXTURE, AND MULCH AS NEEDED SO THAT SITE IS STABILIZED WITH ESTABLISHED PERMANENT VEGETATION OR NON-ERODIBLE IMPROVEMENTS.
- TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED AFTER THOSE AFFECTED AREAS HAVE BEEN BROUGHT TO FINAL GRADE AND PERMANENTLY STABILIZED. REMOVAL OF ESC MEASURES MUST BE APPROVED BY CITY OF ROANOKE STAFF.



TS TEMPORARY SEEDING MIXTURE

PLANTING DATES	SPECIES
SEPT. 1 - FEB. 15	50/50 MIX OF ANNUAL RYEGRASS CLOLUM MULTI-FLORUM & CEREAL (WINTER) RYE (SECALE CEREALE)
FEB. 16 - APR. 30	ANNUAL RYEGRASS CLOLUM MULTI-FLORUM
MAY. 1 - AUG. 31	GERMAN MILLET (SETARIA ITALICA)

TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUED 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.

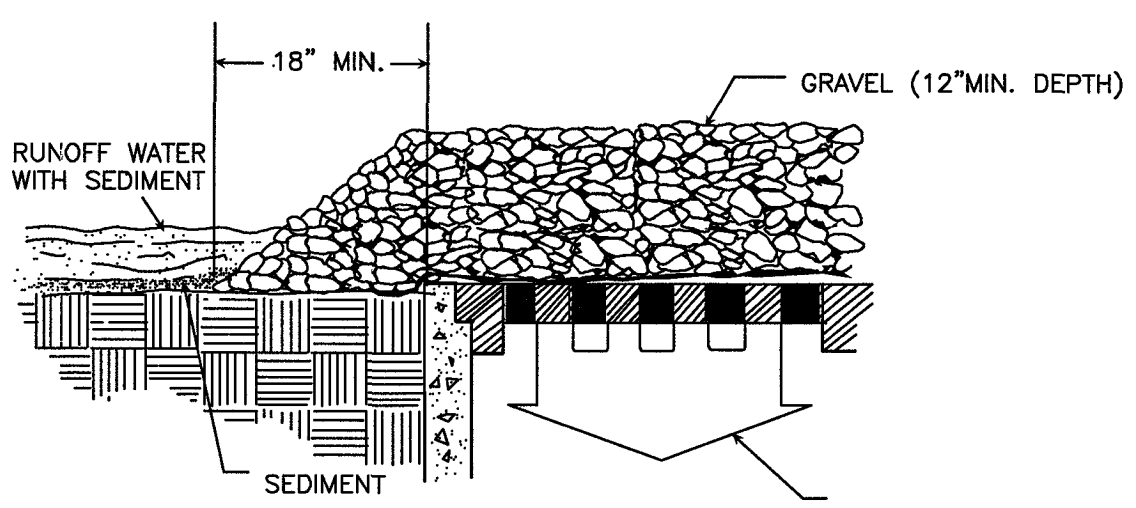
PS PERMANENT SEEDING MIXTURE

TYPE A	TYPE B (SLOPES 3:1 OR STEEPER)
15 OCTOBER TO 1 FEBRUARY K-31 FESCUE @ 5 LB / 1000 SF BORZY WINTER RYE @ 1/2 LB / 1000 SF	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
1 FEBRUARY TO 1 JUNE K-31 FESCUE @ 5 LB / 1000 SF ANNUAL RYE @ 1/2 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
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	
LIME 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 AND 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.

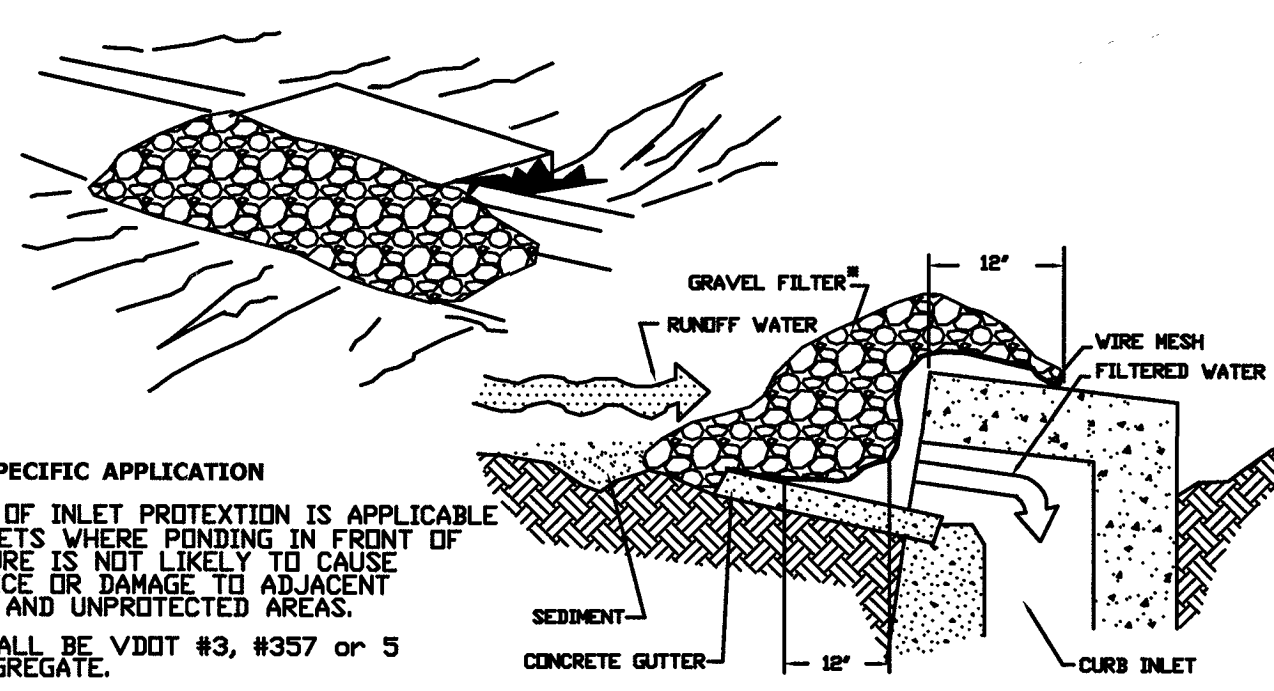
SEED APPLICATION
APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE, SEEDBED. MAXIMUM SEEDING DEPTH SHALL BE 1/4 INCH.

IP GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER



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.

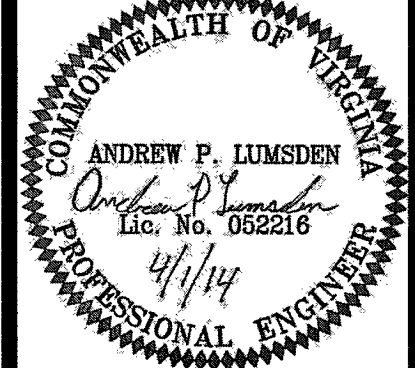


IP GRAVEL CURB INLET SEDIMENT FILTER

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EROSION AND SEDIMENT CONTROL NOTES & DETAILS

STORMWATER DRAINAGE IMPROVEMENTS
FOR
PHASE 2
MORAN STREET / BLANTON AVENUE, S.E.
PREPARED FOR
THE CITY OF ROANOKE, VIRGINIA

REVISIONS	DESCRIPTION	NO.	DATE
1			
2			
3			
4			
5			

DATE: April 1, 2014

SCALE: NONE

COMMISSION NO. 13-162

SHEET 7 OF 7