Through design of the project and until a construction contract has been awarded, the professional engineer who stamped the Civil plan sheets shall be designated the Responsible Land Disturber. Upon award of the Construction Contract, the Contractor shall have in his employ a Responsible Land Disturber, who is certified by the Department of Conservation and Recreation, and then assume this responsibility. The name of this person is to be designated in writing by the Contractor to the State and local ESC plan approving authorities, the A/E, and the Owner along with copies of their certification prior to any land disturbance. The Responsible Land Disturber for this project shall be in charge of and is responsible for carrying out the land-disturbing activities on this project. The certified Responsible Land Disturber may change at any time during the life of this project, as long as the State and local ESC plan approving authorities are notified in advance and in writing. Hereinafter RLS shall be interpreted as the Responsible Land Disturber Relative to the SWPP Plan the RLD shall be the "Operator".

STORM WATER POLLUTION PREVENTION PLAN & REGISTRATION STATEMENT

This narrative also incorporates requirements related to the VPDES General Permit for Storm Water Discharges from Construction Sites. The basic SWPP Plan is included in the Contract Documents but may require revision and maintenance by the permittee per permit requirements as construction progresses. Should any conflict exist between this document and the Permit, the Permit shall take precedence.

RLD (as the contractor) shall file a Registration Statement as the Permit Holder with the Virginia Department of Conservation and Recreation at least two (2) days prior to commencement of any land disturbing activity. Contractor shall pay all associated fees. Obtain Registration Statement from DCR Regional Office or online.

PROJECT DESCRIPTION

The purpose of this project is to construct a fleet service center for County of Roanoke vehicles. This project will include construction of the building, parking lots and drives, and a new commercial entrance off of Hollins Road.

A total of 7.25 acres will be disturbed as a part of this project.

EXISTING SITE CONDITIONS

The site is currently two residential properties, zoned for industrial use (12). All areas of the project site have been previously developed or graded. Generally, the site drains from north to south. A dry ditch runs approximately through the middle of the site. The site is divided into several drainage areas as shown on the attached Drainage Divide sketches and existing site runoff has been analyzed in the Drainage Calculations. Slopes throughout the site range widely, from 1% to 50%. All areas of the project are outside of the 100 Year Flood Plain. Dense brush and low quality shrubs and trees are along the dry ditch and on the steeper slopes of the site.

ADJACENT PROPERTY

The site is bordered to the North by an industrial facility, to the West by Hollins Road, and on the South by Carlos Drive. The site is bordered on the East by Norfolk and Southern Railroad right-of-way.

OFF-SITE AREAS

Offsite areas will be needed to waste soils, rock, and land clearing debris. Prior to land disturbance at any off-site area, submit to Roanoke County Department of Community

Development a copy of plans, land disturbing permit, and/or agreement in lieu approved by the appropriate Federal, State, or local authorities.

Should some material be wasted off-site to a site owned by others or the Contractor, it is the Contractor's responsibility to assure that said source has a current, approved Erosion Control Plan in accordance with the ESC Handbook and Regulations.

Should the borrow, excavation waste or spoil areas proposed not have a current approved ESC Plan, an ESC Plan shall be submitted and approved by the Department of Conservation and Recreation and local authorities prior to any land disturbances in accordance with the requirements of the Erosion Control notes in these plans and Virginia State

A Subsurface Exploration and Geotechnical Analysis report dated November 2007 has been performed by Froehling & Robertson, Inc. A copy of the report has been included as a part of the project documents.

According to geologic references the site is underlain by Upper Cambrian-aged rocks of the Conococheague Formation and/or Quaternary-aged alluvium deposits. Generally, this formation is composed of interbedded sandstone layers with thick-bedded limestone and dolomite. Often, these rocks weather to form a highly variable bedrock surface consisting of troughs and pinnacles that may greatly fluctuate in elevation within short lateral distances. This formation is likely to develop sinkholes. Construction activities can cause sinkholes to develop rapidly or to collapse suddenly. The development of sinkholes is not easily determined or accurately predicted.

Fill materials exist on portions of the site from a depth of three feet (3') to a depth of eight feet (8'). The fill material is generally described as a medium stiff Clay to a coarse sandy

The residual soils encountered on the site are medium to stiff Clays, fine to course Sands, and Partially Weathered Rock. Topsoil depths range from three to six inches. Auger refusal was encountered depths from two and a half feet (2.5') to twenty-three feet (23') below the ground surface.

The potential for erosion is high. Shrink/swell potential is medium to low. Measurable subsurface water was not encountered in any of the test borings. CRITICAL EROSION AREAS

The critical erosion areas on this project site will be mostly due to steep slopes. All slopes 3H:1V or greater shall be matted in accordance with Virginia ESC Handbook section 3.36 with VDOT Standard EC-2 or equivalent.

Additional critical crosion areas are the drainage ditches adjacent to the surplus parking lot. The drainage ditches shall receive VDOT EC-3 matting (Type A or B, as indicated on the grading plans).

EROSION AND SEDIMENT CONTROL MEASURES

Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed and maintained in accordance with the minimum standards and specifications to the Virginia Erosion and Sediment Control Handbook, latest edition. References to VDOT refer to the Virginia Department of Transportation "Road and Bridge

Standards and Specifications," latest edition. STRUCTURAL PRACTICES

Temporary Construction Entrance (CE) - Std. & Spec. 3.02

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.

Construction Road Stabilization (CRS) - Std. & Spec. 3.03

All construction roads/travel lanes on the site shall be stabilized with gravel immediately after rough grading. Construction traffic shall be limited to access roads and areas to be graded. Traffic is prohibited from entering drainage swales or streams unless absolutely necessary.

3. Silt Feace (SF) - Std. & Spec. 3.05

A temporary sediment barrier, consisting of a filter fabric stretched across and attached to support posts and entrenched, will be installed as indicated on the plans. This

Storm Drain Inlet Protection (IP) - Std. & Spec. 3.07

Protect inlets of storm sewers from crosion and sedimentation during construction. Culvert Inlet Protection (CIP) - Std. & Spec. 3.08

Protect inlets of storm sewers from erosion and sedimentation during construction. Outlet Protection (OP) - VDOT Std. EC-1, Type A

EC-1 Type A riprap is to be placed at the outlet of all culverts as indicated on the plans.

Fill Diversion (FD) - Std. & Spec. 3.10

A channel, with a supporting ridge of soil on the lower side, constructed along the top of an active earth fill. This shall be maintained at the top of slope through progressive lifts to protect the slope face below.

8. <u>Diversion (DV) - Std. & Spec. 3.12</u>

A channel constructed across a slope with a supporting ridge on the lower side draining in the direction indicated.

9. Check Dams (CD) - Std. & Spec. 3.20

Small temporary stone dams constructed across a swale or drainage ditch to reduce the velocity of concentrated flows and trap sediment by temporarily ponding the runoff.

Sediment Basin (>3 Ac Disturbed) (SB) - Std. & Spec. 3.14

An impoundment with a controlled stormwater release structure designed to detain sediment-laden runoff from disturbed areas in "wet" and "dry" storage long enough for the majority of sediments to settle out. See details for exact size and location of sediment basin structures. 11. Temporary Slope Drain (TSD) - Std. & Spec. 3.15 flexible conduit extending from the top to the bottom of a cut or fill slope to temporarily conduct concentrated storm water safely down the slope face without causing

STABILIZATION & VEGETATIVE PRACTICE

1. Topsoiling (TO) - Std. & Spec. 3.30 Topsoil shall be stripped from all areas to be graded and stockpiled for later use and protected from erosion. Stockpile locations shall be approved by the Architect. See

2. Temporary Seeding (TS) - Std. & Spec. 3.31

Mulching (MU) - Std. & Spec. 3.35

The temporary diversion dikes, topsoil stockpiles and all areas to be rough graded, but not finish graded during the initial phase of construction, shall be seeded with fast germinating, temporary vegetation immediately following grading.

TOPSOILING, SEEDING, PLANTING notes on plans.

Jute mesh or other degradable channel lining material shall be used to aid in establishing grass on slopes and in drainage ditches as indicated on the plans. It shall also be applied elsewhere in roadside ditches during construction if deemed necessary by the Design Engineer.

Soil Stabilization Blankets & Matting (B/M) - Std. & Spec. 3.36

VDOT Std. EC-2 or EC-3 shall be used to aid in establishing grass on slopes (EC-2) or in drainage ditches (EC-3) as indicated on the plans.

Tree Preservation & Protection (TP) - Std & Spec. 3.38

Insure the survival of desirable trees during construction, as indicated on the plans.

PERMANENT STABILIZATION

All exposed soil surfaces shall be seeded for permanent vegetative cover immediately following earthwork (within 7 days following finish grading).

The RLD shall amend the SWPP Plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters and which has not otherwise been addressed in the plan or if the plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in the permit, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges from construction activities.

Also amend to identify any new contractor that will implement a measure of the plan. The RLD shall be responsible for the installation and maintenance of all erosion and sediment control practices maintaining them in good and effective operating condition.

The RLD shall notify the Architect/Engineer when the local governing official has inspected and approved all in-place erosion and sediment control devices, required by local ordinances to be in place prior to land disturbance

Construction shall be sequenced so that the duration of grading operations is as brief as possible.

Maintenance of inlet and outlet protection shall be given high priority.

6. Temporary seeding or other stabilization shall follow within 7 days after grading, or installation if a temporary measure.

Areas which are not to be disturbed shall be clearly marked by flags, signs, etc.

No solid materials, including building materials, garbage, and debris shall be discharged to surface waters of the State, except as authorized by a Section 404 permit.

Where construction vehicle access routes intersect paved public roads, provisions shall be made to minimize dust and the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a public road surface, the road shall be cleaned thoroughly at the end of each day. Sediment shall be removed by shoveling or sweeping. Cleared sediment shall be returned to the point of likely origin or other suitable location. The general of dust shall be minimized. Bulk clearing of accumulated sediment shall not include flushing the area with water. Street washing shall be allowed only after sediment has been so removed.

10. Ensure and demonstrate compliance with applicable State and/or local waster disposal, sanitary sewer or septic system regulations.

 All sediment removed from sediment trapping measures or cleaning operations shall be appropriately wasted so as not to become a dust or sediment problem elsewhere. POTENTIAL POLLUTION SOURCES & STORED MATERIALS

The RLD shall prepare a list of all potential sources of pollution and all construction and waste materials expected to be stored on-site and update as appropriate. Examples would be vehicle fueling area, fuel delivery vehicle, fertilizer, chemicals, temp. sanitary waste facilities, etc. For each listed item list its location and describe necessary controls to reduce pollutants from these materials including storage practices to minimize exposure to storm water as well as spill prevention and response, schedule of implementation and maintenance necessary for effectiveness. Keep latest copy on the job site at all times and with the SWPPP package.

MAINTENANCE

In general, all erosion and sediment control measures shall be checked weekly and after each significant rainfall. The following items shall be checked in particular:

Inlet protection shall be checked regularly for sediment cleanout. Remove sediment prior to it reaching ½ the design depth of the trap.

Channel linings shall be checked regularly for undermining or deterioration. Stabilize immediately if not to spec.

Silt fences shall be checked regularly for structural/functional integrity. Remove any sediment deposits - do not allow buildup.

All seeded areas shall be checked regularly to see that a good stand is maintained. Areas should be fertilized and reseeded as needed

5. Temporary sediment basin shall be checked regularly for sediment build-up. Remove sediment buildup prior to it reaching the cleanout level. 6. Detention basin and sediment forebay shall be checked regularly for sediment build-up. Remove any sediment deposits - do not allow buildup.

INSPECTIONS The RLD shall inspect disturbed areas of the construction site and areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site. The inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm event of 1/2 inch or greater.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. ESC measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment

Based on the results of the inspection, the site description identified in the plan and pollution prevention measures shall be revised as appropriate, within seven (7) calendar days following the inspection. Such modifications shall provide for timely implementation of any changes to the plan within seven (7) calendar days following the inspection and before next anticipated storm event, if practical.

<u>REPORTING</u>

A report summarizing the scope of the inspection, names and qualifications of personnel making the inspection, the date of the inspection, major observations relating to the implementation of the storm water pollution prevention plan and actions taken as a result of the inspection shall be made and retained as part of the SWPP Plan. Where no incidents of non-compliance are reported, report shall certify that facility is in compliance with SWPP Plan and permit; keep reports with this narrative. The report shall be certified in accordance with the permit.

Runoff within the project site will be captured and treated via a series of structural and non-structural measures. Runoff rates from the project area will meet Roanoke County requirements: the 10-Year Post-Development rate will not exceed the 2-Year Pre-Development rate; the 25-year Post-Development rate will not exceed the 10-Year Pre-Development rate. Stormwater Quality leaving the site will exceed Roanoke County and State of Virginia Standards. The following measures will work together to reduce runoff rates and improve quality:

Grassed Swales. A large portion of parking runoff will be intersepted by grassed swales that will slow runoff, capture sediments and encourage filtration and infiltration. Underground Detention. Underground pipes have been oversized to reduce runoff velocities. An outlet structure has been designed to maximize pipe storage during all storms. This system will work to reduce peak runoff values and increase the effectiveness of downstream quality measures. Bio-Retention Area. A bio-retention area has been sized to treat the first 1,0" of runoff for quality. The area will also provide adequate ponding to fully filter storms less than a 2-year

frequency storm and reduce runoff rates during large storms to Roanoke County's required rates. The berm surround the bio-retention area has been designed to allow 1.0 of freeboard

UNDERGROUND UTILITY INSTALLATION

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 open 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 Re-establishment of disturbed area shall be accomplished in accordance with the ESC Handbook and contract documents Applicable safety regulations shall be complied with.

PROHIBITION OF NON-STORM WATER DISCHARGES

The following non-storm water discharges are allowed: discharges from fire fighting activities; fire hydrant flushing; waters used to wash vehicles where detergents are not used; water used to control dust; potable water sources including waterline flushing; hydrostatic testing; routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated compressor condensate; uncontaminated ground water or spring water; and foundation or footing drains where flows are not contaminated with process materials such as

Except for allowed discharges listed above, sources of non-storm water that are combined with storm water discharges from the construction site must be identified on the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the nonstorm water components.

CONTRACTORS

Identify for each measure identified in the plan, the Contractor/subcontractor that will implement the measure. All contractors identified above must sign the following certification statement. All certifications must be included in the SWPP Plan.

"I certify under penalty of law that I understand the terms and conditions of this Virginia Pollutant Discharge Elimination System (VPDES) general permit that authorizes the storm water discharges from the construction activity identified as part of this certification."

Name & title of signatory (Responsible Corporate Official, General Partner, or Sole Proprietor) Name, address & phone of contracting firm

Address of other identifying description of the site Date certification made

DISPLAY & STATUS OF PLAN

Plan with a copy of the permit must be maintained on-site and kept available for DEQ inspectors at all times form the date of commencement of construction to the date of final stabilization. Note that this narrative and RLD's log of inspection reports and all certifications are part of the plan (keep

The Plan with all attachments, reports, etc. shall be retained by the contractor for at least three (3) years from the date that the site is finally stabilized.

Record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when

Perimeter controls shall be installed after clearing and grubbing necessary for installation of the measure, but before the clearing and grubbing for the remaining portions of the site. The perimeter controls shall be actively maintained until final stabilization of those portions of the site upward of the perimeter control. Temporary perimeter controls may be removed after final stabilization.

Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven (7) days after the construction activities have temporarily or permanently ceased, unless construction activity will resume within twenty-one (21) days after ceasing. Permanent seeding shall be done within 30 days if construction has permanently ceased.

Whenever water sceps from a slope face, adequate subsurface interception (french drain) shall be provided discharging to the nearest suitable stabilized All temporary ESC 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 administrator. Trapped sediment and other disturbed soil areas resulting from the disposition of temporary

NOTICE OF TERMINATION

When the site has been finally stabilized and all the storm water discharges from construction activities that are authorized by the permit are eliminated, the permit holder must submit a Notice of Termination that is certified in accordance with permit. The terms and conditions of the permit shall remain in effect until a completed Notice of Termination is submitted to DCR.

MINIMUM STANDARDS COMPLIANCE

MS-1: TS & PS have been required on the plans and notes. MS-2: All onsite soil stockpiles shall be stabilized per note on plans. Any offsite borrow or fill areas shall require a separate crosion and sediment control

MS-3: Permanent vegetative cover is required on all denuded areas per notes on plans. MS-4: The plans require that all sediment trapping measures be installed as a first step at the start of construction. MS-5: All areas are required to receive permanent stabilization immediately after final grade is established. MS-6: Proposed sediment basin/future bio-retention area is sized upon the total area draining to it. MS-7: Cut and fill slope stabilization is required in the plans. No new slopes exceed 2H:1V. MS-8: Concentrated runoff is contained within ditches, culverts, and storm sewer and shall not flow down cut or fill slopes. MS-9: Seepage control is required if encountered during construction. MS-10: Inlet protection on storm sewer inlets has been indicated on the drawings.

MS-11: Outlet protection is required for all pipe outlets and receiving channels. MS-12: Work within a live watercourse is not applicable. MS-13: Work within a live watercourse is not applicable. MS-14: Work within a live watercourse is not applicable. MS-15: Work within a live watercourse is not applicable.

measures shall be permanently stabilized to prevent further erosion and sedimentation.

MS-16: Erosion control for utility installations is required in the plans. All dewatering operations (including Sediment Basin dewatering) shall satisfy the equirements provided in these plans, Section 2374 of the Project Specifications, and the Virginia Erosion and Sediment Control Handbook (current edition). MS-17: A construction entrance is required for this project. MS-18: Criteria for removal of ESC measures is stipulated in the plans

a) All concentrated flow is discharged to adequate existing channels.) Downstream channel is adequate (flow exits the project in one direction). Post-Development Discharge rates will be less than current discharge rates. c) With the proposed stormwater management practices, all downstream channels will be adequate. Wet weather conditions during construction will be observed by the contractor and the design engineers.

d) All improvements are located on County of Roanoke property.
e) Hydrologic analyses are based on the existing watershed characteristics and ultimate development. All existing conditions are considered to be in hydrologically good condition. Conservative values have been used throughout.) Sediment basin/Bio-retention area will be maintained by the contractor prior to project completion. After project completion, all maintenance will be performed by County of Roanoke and their resident maintenance staff. See recommended maintenance schedule on this sheet.

 Subdivision development not applicable. Commercial or Industrial subdivision not applicable. Schedule of implementation and maintenance necessary for effectiveness. Keep latest copy on the job site at all times and with the SWPPP package.

Contractor's responsibility prior to occupancy; owner's responsibility after occupancy)

of leaves, etc.) and water in the early morning as needed.

f. Remove invasive weed species regularly.

g. Prune excess growth annually.

g) Flow leaving the site has been reduced and is directed to adequate channels.

Grassed Swales

1. Trim grass as needed during normal mowing operations.

2. Visually inspect swales monthly for sediment, particularly at check dams and inlets. Sweep or shovel sediment out of swales as

. Inspect basin and outlet structure monthly and after major rainfall events for debris and structural integrity. 2. Remove sediment and debris from basin and outlet structure as needed.

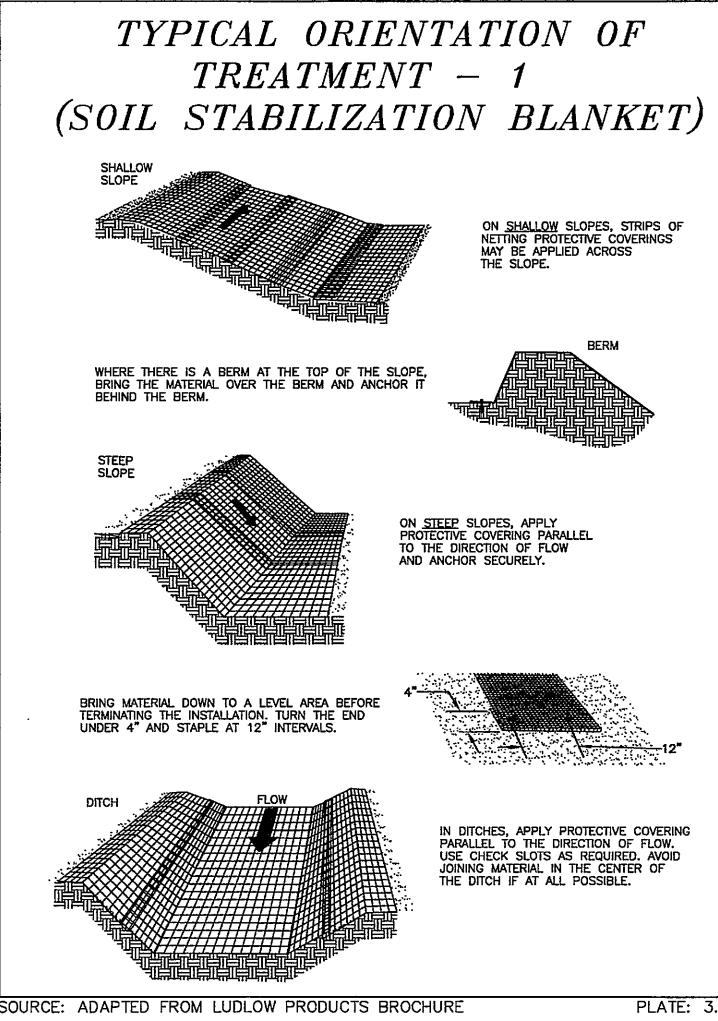
a. Visually inspect and repair any erosion monthly. Use additional stone to stabilize erosion at pipe outlet and along drainage path

b. Check the pH once a year. Apply lime if needed. a. Re-mulch any void areas by hand as needed. Do not compact bio-retention filters with machinery or vehicles. b. Add a fresh layer of mulch in the spring and fall.

c. Once every third spring, remove and replace old mulch. Plants a. Immediately after the completion of plant installation, water plants for fourteen consecutive days unless there is sufficient natural rainfall. Continue to regularly water plants during the first year of establishment. b. Remove tree stakes and support wires when trees have taken root. Stakes and wires must be removed within six months of

c. Visually inspect plants for disease or pests monthly. d. Twice a year, between March 15th to April 30th and between October 1st to November 30th, remove and replace all dead and diseased vegetation considered beyond treatment. e. During times of extended drought, look for physical features of stress (unrevived wilting, yellow, spotted or brown leaves, loss

4. General a. After rainstorms, inspect the garden and make sure that drainage paths are clear and that ponding water dissipates over four to six hours (the water may pond for longer periods during the winter and early spring).



ROCK CHECK DAM

2 ACRES OR LESS OF DRAINAGE AREA:

(DOWNSTREAM VIEW)

2-10 ACRES OF DRAINAGE AREA:

DOWNSTREAM VIEW)

BLOCK AND GRAVEL DROP INLET

SEDIMENT FILTER

SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE

CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING

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

HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW

AROUND THE STRUCTURE.

SOURCE: VA. DSWC

- FILTERED WATER

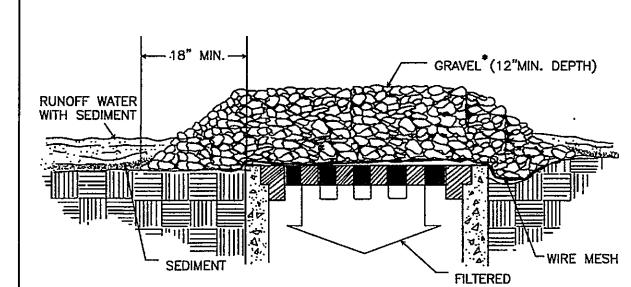
PLATE. 3.20-1

PLATE. 3.07-3 SOURCE: VA. DSWC

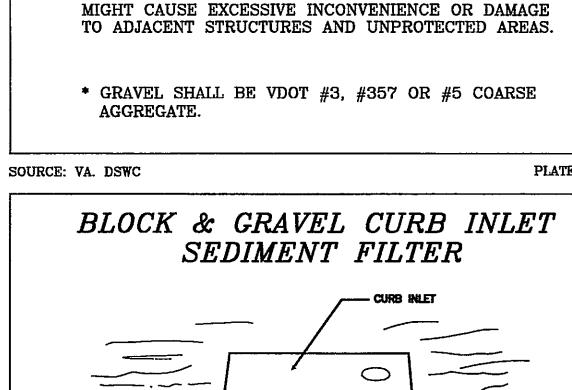
FILTER CLOTH

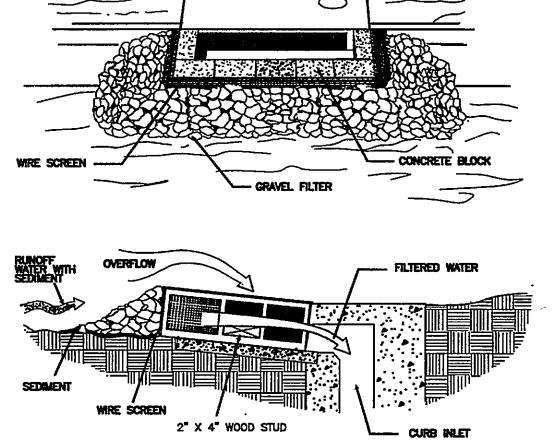
SOURCE: VA. DSWC

GRAVEL AND WIRE MESH DROP INLET SEDIMENT



SPECIFIC APPLICATION THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED BUT NOT WHERE PONDING AROUND THE STRUCTURE





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

UPSLOPE ALONG THE LINE OF STAKES. BACKFILL AND COMPACT THE EXCAVATED SOIL SHEET FLOW INSTALLATION POINTS A SHOULD BE HIGHER THAN POINT B. DRAINAGEWAY INSTALLATION (FRONT ELEVATION) SOURCE: Adapted from <u>Installation of Strew and Fabric Filter Barriers for Sediment Control</u>.VA. ISSU Sherwood and Wyani.

STONE CONSTRUCTION ENTRANCE

SIDE ELEVATION

· POSITIVE DRAINAGE

TRAPPING DEVICE

O SEDIMENT

12' MIN.

SECTION B-B

CONSTRUCTION OF A SILT FENCE

(WITHOUT WIRE SUPPORT)

SOURCE: ADAPTED from 1983 Maryland Standards for Soil erosion and Sediment Control, and Va. DSWC

1. SET THE STAKES.

EXISTING GROUND

∠ ∨DOT #1

* MUST EXTEND FULL WIDTH

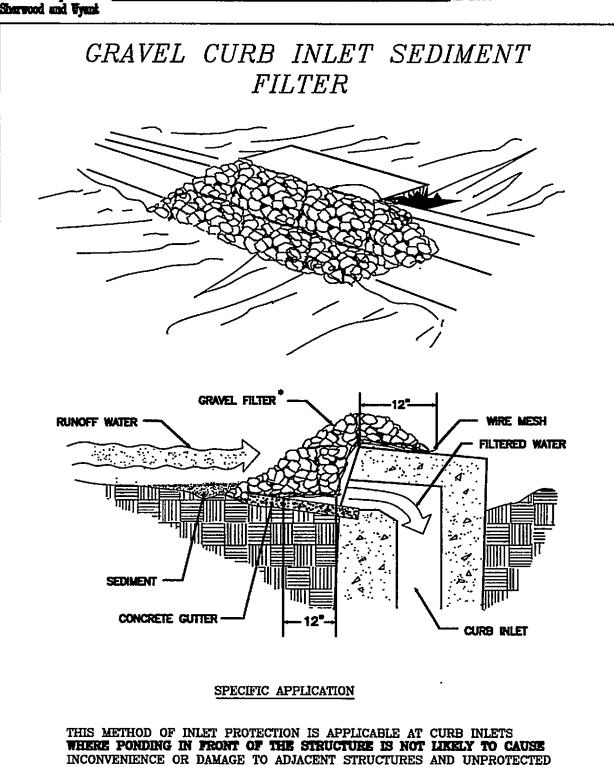
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REINFORCED CONCRE

F INGRESS AND EGRESS

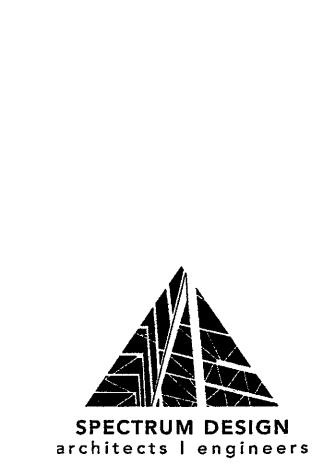
COURSE AGGREGATE

GRAVEL CURB INLET SEDIMENT



• GRAVEL SHALL HE VDOT #3, #357 OR 5 COARSE AGGREGATE.

PLATE 3.07-8 SOURCE: VA. DSWC



KEY PLAN

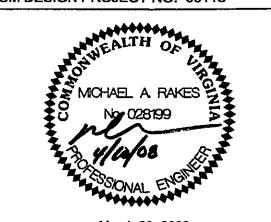
GENERAL NOTES

Plate 3.02-1

2. EXCAVATE A 4"X 4" TRENCH

FLEET SERVICE ROANOKE COUNTY 5253 Old Hollins Rd

SPECTRUM DESIGN PROJECT NO. 06118



DESIGN ARCHITECT PROJECT ARCHITECT PROJECT ENGINEER CHECKED BY

ESC NARRATIVE AND DETAILS

REVISIONS COUNTY COMMENTS 2 SHEET TITLE

04/10/2008

ROANOKE - MARION

0 CHURCH AVE SE, PLAZA SUITE 1 ROANOKE, VIRGINIA 24011 540.342.6001

Roanoke, VA 24019 IFB-0898