

THIS SOIL IS GENTLY SLOPING, VERY DEEP, AND WELL DRAINED. IT IS ON UPLAND FOOT SLOPES AND COLLUVIAL FANS AND BENCHES. INDIVIDUAL AREAS ARE LONG AND WINDING OR SLIGHTLY

DARK GRAYISH BROWN LOAM, THE SUBSURFACE LAYER IS 2 TO 11 INCHES - BROWNISH YELLOW LOAM. THE SUBSOIL IS FROM 11 TO 15 INCHES - STRONG BROWN COBBLY CLAY LOAM THAT HAS Brownish yellow mottles, from 15 to 28 inches - Yellow Red Cobbly Clay that has RED MOTTLES, FROM 28 TO 49 INCHES - YELLOWISH RED VERY COBBLY CLAY THAT HAS RED MOTTLES, FROM 49 TO 62 INCHES - MOTTLED STRONG BROWN, RED, DARK RED, AND WHITE

THE SOIL HAS MEDIUM EROSION POTENTIAL AND MODERATE PERMEABILITY. THE SHRINK—SWELL

IT IS CRITICAL THAT THE EROSION AND SEDIMENT CONTROL MEASURES BE MAINTAINED TO Prevent any sediment from leaving the site with particular attention to the ditch

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.

MINIMUM STANDARDS: SEE DCR'S MINIMUM STANDARDS [1 THRU 19] AND ROANOKE COUNTY MINIMUM STANDARDS [E1 thru E9] Listed on the roanore county esc detail sheet.

CONSTRUCTION SEQUENCE CONTRACTOR'S CERTIFIED RESPONSIBLE LAND DISTURBER SHALL BE NAMED AND PROVIDE A COPY OF HIS RLD CERTIFICATE TO ROANOKE COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT AT LEAST TWO DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING, RLD SHALL ALSO ATTEND PRE-CON MEETING.

CONTRACTOR SHALL APPLY FOR DCR LAND DISTURBANCE PERMIT AT LEAST TWO (2) DAYS PRIOR TO LAND DISTURBANCE AND PROVIDE ROANOKE COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT COPY OF SAID PERMIT WITHIN FIVE (5) DAYS OF ISSUANCE. THE OVERALL CONSTRUCTION SEQUENCE IS DESCRIBED IN APPROVED PLANS ENTITLED "Oppidan retail center." Site specific measures and sequenceing shall be COORDINATED WITH THOSE PLANS. INSTALL STORM DRAIN, WATER LINE, AND SANITARY SEWER SYSTEMS AS GRADING ALLOWS.

CONSTRUCTION. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER THOSE AFECTED AREAS ARE BROUGHT TO FINAL GRADE AND PERMANENTLY STABILIZED WITH IMPROVEMENTS OR ESTABLISHED VEGETATION; SUBJECT TO ROANOKE

INSTALL INLET PROTECTION AND OUTLET PROTECTION ALONG WITH STORM DRAIN

GENERAL EROSION AND SEDIMENT CONTROL NOTES, ROANOKE COUNTY, 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 ONSITE

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

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 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-&: DURING DEWATERING OPERATION, WATER WILL BE PUMPED INTO AN APPROVED FILTERING

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. AN INSPECTION REPORT MUST BE FILED WITH THE ROANOKE COUNTY EROSION AND SEDIMENT CONTROL ADMINISTRATOR ONCE EVERY TWO WEEKS, BEGINNING WITH COMMENCEMENT OF THE LAND DISTURBING ACTIVITY, AND WITHIN 48 HOURS OF ANY RUNOFF-PRODUCING RAINFALL EVENT. FAILURE TO SUBMIT A REPORT WILL BE GROUNDS FOR IMMEDIATE REVOCATION OF THE LAND DISTURBING PERMIT. REPORTS MUST BE POSTMARKED WITHIN 24 HOURS OF THE DEADLINE. A STANDARD INSPECTION REPORT FORM WILL BE SUPPLIED, WHICH SHOULD BE COPIED AS NECESSARY. THIS PROVISION IN NO WAY WAIVES THE RIGHT OF ROANOKE COUNTY PERSONNEL TO CONDUCT SITE INSPECTIONS, NOR DOES IT DENY THE RIGHT OF THE PERMITTEE(S) TO ACCOMPANY THE INSPECTOR (S).

THIS PROJECT DOES RESULT IN AN INCREASE OF RUNOFF. HOWEVER, STORM WATER MANAGEMENT FACILITIES PROPOSED WITH THE APPROVED PLANS FOR "OPPIDAN RETAIL CENTER" SUBMITTED UNDER SEPERATE COVER ARE INTENDED TO SERVE THE "TRACTOR SUPPLY STORE" DEVELOPMENT. NO NEW Stormwater management facilities are proposed with this plan set.

EROSION AND SEDIMENT CONTROL MEASURES:

<u> CONSTRUCTION ENTRANCE (3.02)</u> - A STONE CONSTRUCTION ENTRANCE WILL BE INSTALLED TO MINIMIZE THE AMOUNT OF MUD TRANSPORTED INTO EXISTING ROADS.

CONSTRUCTION ROAD STABILIZATION (3.03) — CONSTRUCTION ROAD STABILIZATION WILL BE TO MINIMIZE EROSION WITHIN THE TEMPORARY CONSTRUCTION ROAD.

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

OUTLET PROTECTION (3.18) - OUTLET PROTECTION WILL BE INSTALLED AT THE OUTLET ENDS OF ALL STORM DRAIN OR CULVERT OUTFALLS TO PREVENT SCOUR AND MINIMIZE THE POTENTIAL FOR DOWNSTREAM EROSION. NOTE ALL OUTLET PROTECTION STONE SHALL BE VDOT STD. CLASS I RIP RAP AND PLACED IN THE RECEIVING CHANNEL FOR THE LENGTH AS SHOWN ON THE PLAN.

TOPSOILING (3.30) — TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR FUTURE USE. TOPSOIL STOCKPILES SHALL BE PROTECTED BY SILT FENCE INSTALLED ALONG THE DOWNHILL SIDES AROUND THE STOCKPILE. TOPSOIL SHALL BE UNIFORMLY SPREAD OVER DISTURBED AREAS PRIOR TO PERMANENT SEEDING.

temporary seeding (3.31) — temporary seeding shall be applied to temporary diversion DÎKES. TOPSOIL STOCKPILÉS. 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.

<u>PERMANENT SEEDING (3.32)</u> — 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.

ALL DISTURBED AREAS SHALL BE INSPECTED IMMEDIATELY FOLLOWING ANY STORM 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.

THE OWNER'S INSPECTOR SHALL INSPECT STATE WATERS ADJACENT TO PERIMETER CONTROLS DURING EACH INSPECTION. MAINTENANCE MEASURES SHALL BE IMPLEMENTED IMMEDIATELY BASED ON INSPECTION RESULTS.

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.

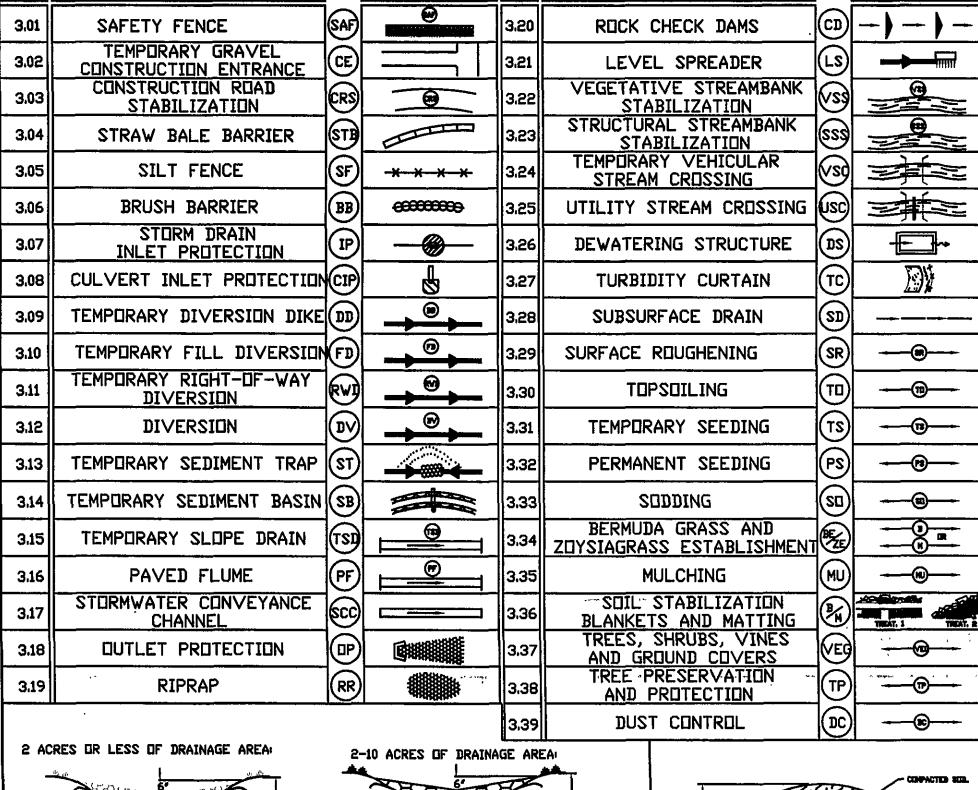
## ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND NARRATIVE, AS WELL 3.05 SPECIFIC APPLICATION This nethod of inlet protection is applicable at curb inlets where ponding in front of the structure is not likely to cause inconvenience or danage to adjacent structures and unprotected areas. # Gravel shall be VDOT coarse aggregate. This method of inlet protection is applicable where heavy flows are expected and where an overflow capability and ease of maintenance are desirable.

NO.

TILE

CDCIVNSTREAM VIEW)

SPECIFIC APPLICATION



COOWNSTREAM VIEW

SEDIMENT FILTER

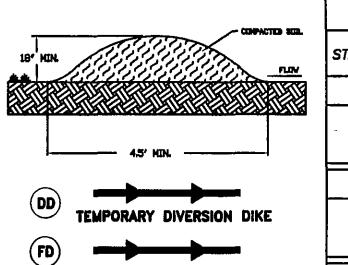
VIRE HESH

FILTERED WATER

(CD) ROCK CHECK DAM

8YMBOL

TILE



TEMPORARY FILL DIVERSION TEMPORARY RIGHT-OF-WAY DIVERSION

CRUSS-SECTION

(SF) CONSTRUCTION OF A SILT FENCE

Section A-A

(OP) OUTLET PROTECTION

Pipe Dutlet To Flat Area With No Defined Channel

m 10' IF VIRE IS

Section A-A

<u>Pipe Butlet</u> Jo /ell-Defined Channe

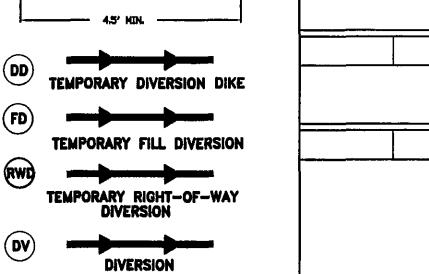
1. Apron Uning may be rip-rap, grouted rip-rap, or concrete. 2. La is the length of the rip-

rap apron as calculated using plates 1,36d and 1,36e, 3, d = 1,5 times the maximum

stone daneter, but not less

USED.

6' IF WIRE IS



SYMBOL

FOR AREAS LESS THAN 3.0 ACRES. FOR AREAS LARGER THAN 3.0 ACRES A SEDIMENT BASIN IS REQUIRED, SEE DETAIL THIS SHEET, TEMPORARY SEDIMENT TRAP DATA STORAGE (C.Y.) STRUCTURI AREA (ACRES) DESIGN

SEDMENT TRAF

67 Cu. YD./ACRI

67 CU, YD./ACR! (EXCAVATED)

₩ SEE PLATE 9.13-1

CLASS I RIP-RAP

FILTER CLOTH

-EXCAVATED AREA-

CDARSE AGGREGATE \*\*\*-

CROSS-SECTION

VARIABLE #

WW CHARSE AGGREGATE SHALL BE VDOT #3, #357 OR #5

-FILTER CLOTH

-Ditch to Sediment Basin or Trap VDDT #1 Coarse

Aggregate

Ref. Table 3.02-A of

for requirements.

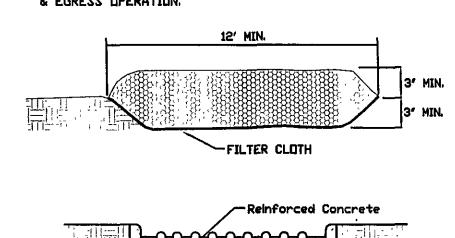
Virginia ESC Handbook

Filter Cloth

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

CONSTRUCT A WASHBOARD OR

WASH RACK IF REQUIRED.



WASH RACK DETAIL (IF REQUIRED)

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

## EROSION-SILTATION CONTROL COST ESTIMATE

ALL COSTS GIVEN ARE COMPLETE IN PLACE DESCRIPTION QUANTITY UNIT COST TOTAL COST CONSTRUCTION 2,000.00 \$ 2,000.00 Entrance" CONSTRUCTION ROAD 3.925 7,850.00 2.00 TABILIZATION 150.00 1,800.00 EA NLET PROTECTION 1,500.00 1,125.00 ACRE 0.75 PERMANENT SEEDING ACRE 1,000.00 1,125.00 TEMPORARY SEEDING -Length(ft) =
6 x Drainage Area (ac.) **\$** 1,000.00 50.00 **IULCHING** \$ 14,900.00 SUB-TOTAL 1,500.00 10% CONTINGENCY \$ 16,400.00 TOTAL PROJECT COST

GENERAL EROSION AND SEDIMENT CONTROL NOTE:

1. ALL SUIL EROSION & SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN STRICT ACCURDANCE WITH THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

2. THE APPROVING AUTHORITY MAY ADD TO, DELETE, RELOCATE, CHANGE, OR OTHERWISE MODIFY CERTAIN EROSION AND SEDIMENT CONTROL MEASURES WHERE FIELD CONDITIONS ARE ENCOUNTERED THAT VARRANT SUCH MODIFICATIONS.

3, 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

4. IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN

5, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADEQUATELY PROTECTED AGAINST ERUSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT PROPERTY AT THE END OF EACH DAY'S WORK.

6. 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, THESE SYMBOLS AND KEYS ARE TO BE UTILIZED ON ALL EROSION CONTROL PLANS SUBMITTED TO ROANDKE COUNTY.

## TEMPORARY SEEDING MIXTURE

PLANTING DATES (LBS./ACRE) SEPT. 1 — FEB. 15 RYEGRASS (LOLIUM MULTI-FLORUM)

(SECALE CEREALE)

ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM) FEB. 16 - APR. 30

MAY. 1 - AUG. 31 GERMAN MILLET (SETARIA ITALICA)

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.

## PERMANENT SEEDING MIXTURE

TYPE B (SLUPES 3:1 OR STEEPER) 15 OCTOBER TO 1 FEBRUARY K-31 FESCUE @ 5 LB / 1000 SF 15 MARCH TO 1 MAY CROWN VETCH @ 1/2 LB / 1000 SF PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF BURZY WINTER RYE @ 1/2 LB / 1000 RED TOP @ 1/8 LB / 1000 SF 1 FEBRUARY TO 1 JUNE K-31 FESCUE @ 5 LB / 1000 SF 15 AUGUST TO 1 DCTOBER CROWN VETCH @ 1/2 LB / 1000 SF ANNUAL RYE @ 1/2 LB / 1000 SF PERENNIAL RYEGRASS 2 1/2 LB / 1000 SF RED TOP @ 1/8 LB / 1000 SF

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

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

140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTINE FERTILIZER: 5-20-10 @ 25 LB / 1000 SF 38-0-0 @ 7 LB / 1000 SF

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

INCORPORATION OF LIME AND FERTILIZER, SELECTION OF CERTIFIED SEED, MULCHING, MAINTENANCE OF NEW SEEDLINGS, AND RESEDING SHALL BE IN ACCURDANCE WITH SPECIFICATIONS CONTAINED WITHIN HE VIRGINIA SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED

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.

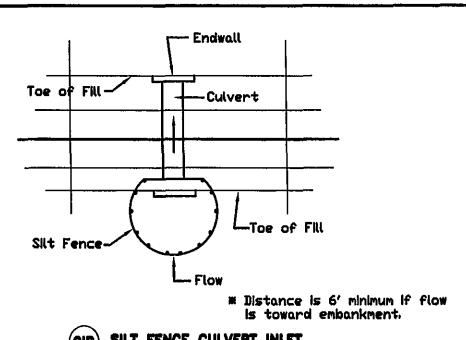
CDMM ND: 2007-273

TOTAL DISTURBED AREA = 3.4 AC.

SEDIMENT

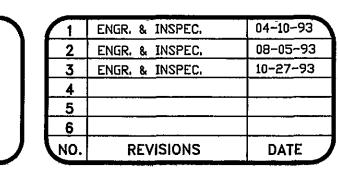
SPECIFIC APPLICATION This method of inlet protection is applicable where heavy concentrated flows are expected, but not where ponding around the structure might cause excessive inconvenience or damage to adjacent structures and unprotected areas. \* Gravel shall be VDIT #3, #357 or #5 coarse aggregate.

(IP) GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER



SILT FENCE CULVERT INLET

**DEPARTMENT** ENGINEERING AND INSPECTIONS



COUNTY ROANOKE

EXCAVATED DROP INLET SEDIMENT TRAP

LARGER PARTICLES VILL SETTLE

DATE: 11/02/93 SCALE: NO SCALE DRAWING BY: CLN,AF DESIGNED BY: G:\CAD\DETAILS\EROSION\EROSION) APPROVED BY: GWS,III

**EROSION & SEDIMENT CONTROL** STORMWATER MANAGEMENT DETAILS SHEE