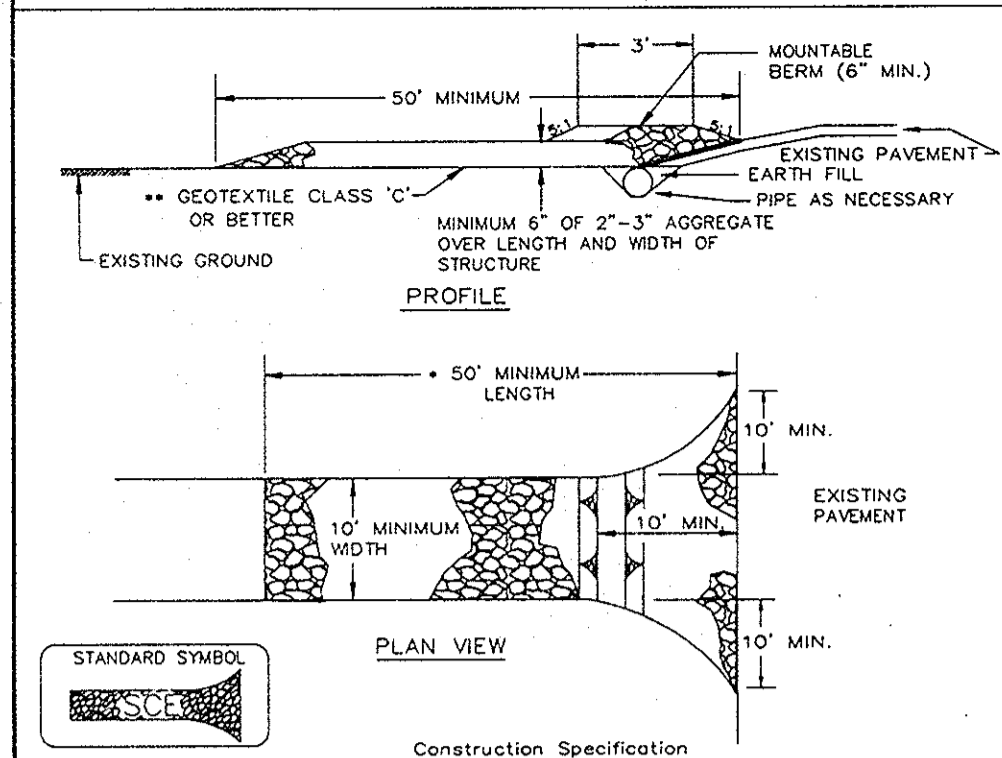


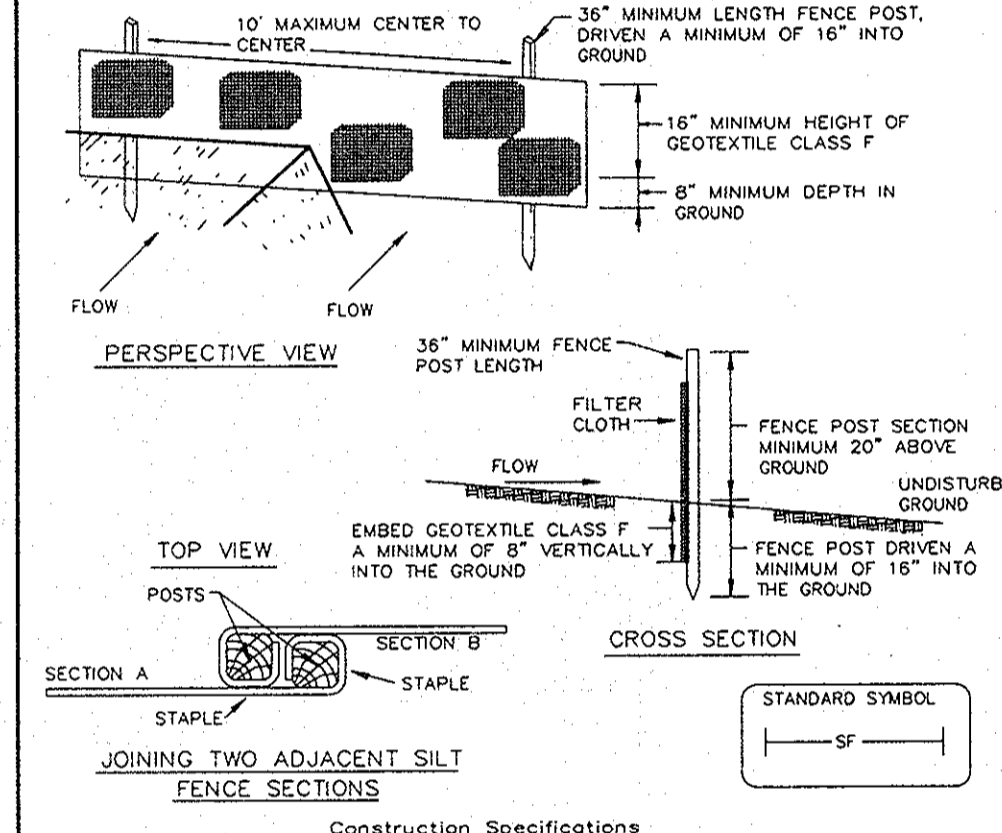
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- Construction Specifications**
- Length - minimum of 50' (+30' for single residence lot).
 - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
 - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
 - Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
 - Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipes have to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipes should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
 - Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE PAGE 1 MARYLAND DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



- Construction Specifications**
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard I or U section weighing not less than 1.00 pound per linear foot.
 - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
- | | | |
|----------------------|--|----------------|
| Tensile Strength | 50 lbs/in. (min.) | Test: MSMT 509 |
| Tensile Modulus | 20 lbs/in. (min.) | Test: MSMT 509 |
| Flow Rate | 0.3 gal/ft ² /minute (max.) | Test: MSMT 322 |
| Filtering Efficiency | 75% (min.) | Test: MSMT 322 |
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 - Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE PAGE 1 MARYLAND DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose
To provide a suitable soil medium for vegetative growth. Site of concern how low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains materials toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be determined by the depth of the topsoil layer in the existing soil as published by USDA-SSS in cooperation with Maryland Agricultural Experimentation Station.
- Topsoil Specifications - Soil to be used as topsoil must be the following:
 - Topsoil shall be a loam, sandy loam, clay loam, all loam, sandy clay loam, heavy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. However, topsoil shall not be a mixture of underlying leached subsoil and soil cut less than 25 by volume of clods, stones, slag, coarse fragments, roots, stumps, trash, or other materials larger than 1" in diameter.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, milkweed, or others as specified.
- Where subsoil is either highly acidic or composed of heavy clay, ground limestone shall be applied at the rate of 4-8 tons/acre (200-400 pounds per 1000 square feet) prior to the placement of topsoil. Limes shall be distributed uniformly over designated areas and worked into the soil in conjunction with these operations as described in the following procedures.

- For sites having disturbed areas under 5 acres:**
- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetation Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres:**
- On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be applied to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having suitable soil content greater than 500 parts per million shall not be used.
 - No acid or acid soil shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit formation of peaty-tannic materials.

Note: Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.

- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetation Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

SEQUENCE OF CONSTRUCTION

PHASE 1

- OBTAIN A GRADING PERMIT AND BUILDING PERMIT.
- BEGIN IMPROVEMENT WITHIN EXISTING SCHOOL NEEDS TO PREVENT ANY DELAY IN SCHOOL ACTIVITIES.
- INSTALL STABILIZED CONSTRUCTION ENTRANCES AND SILT FENCE. (2 DAYS)
- ROUGH GRADE FOR BUILDING CONSTRUCTION AND INSTALL STORM DRAIN AND SEWER LINES. (5 DAYS)
- EXPAND INFILTRATION TRENCH PER DETAIL AND PLAN. (1 WEEK)
- COMPLETE BUILDING CONSTRUCTION, REFURBISH PLAY AREAS AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (3 MONTHS)

PHASE 2

- INSTALL STABILIZED CONSTRUCTION ENTRANCES AND SILT FENCE AND CONSTRUCTION FENCE. (2 DAYS)
- REMOVE PORTABLE CLASSROOMS AND ROUGH GRADE FOR BUILDING CONSTRUCTION.
- BEGIN BUILDING CONSTRUCTION.
- COMPLETE BUILDING CONSTRUCTION AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (3 MONTHS)
- UPON APPROVAL OF HOWARD COUNTY D.I.L.P. SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (1 DAY)

References: Outline Specifications, Soil Preparation and Seeding, MD-VI, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute. Revised 1972.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.

Seeding Preparation - Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments - Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.)

Seeding - For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual ryegrass (1/2 lb. per 1000 sq.ft.). For the period May 1 thru July 31, seed with 90 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru February 28, protect site by one of the following 2 tons per acre of well-anchored straw and seed as soon as possible in the spring, or use sod.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of untreated small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on hot areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seeding Preparation - Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments - In lieu of soil test recommendations, use one of the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 urea-form fertilizer (8 lbs. per 1000 sq.ft.)
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- 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
- Use sod.
- Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

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Maintenance - Inspect all seeded areas and make needed reseed, replacements and reseedings.

SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections and Permits prior to the start of any construction (313-1855).
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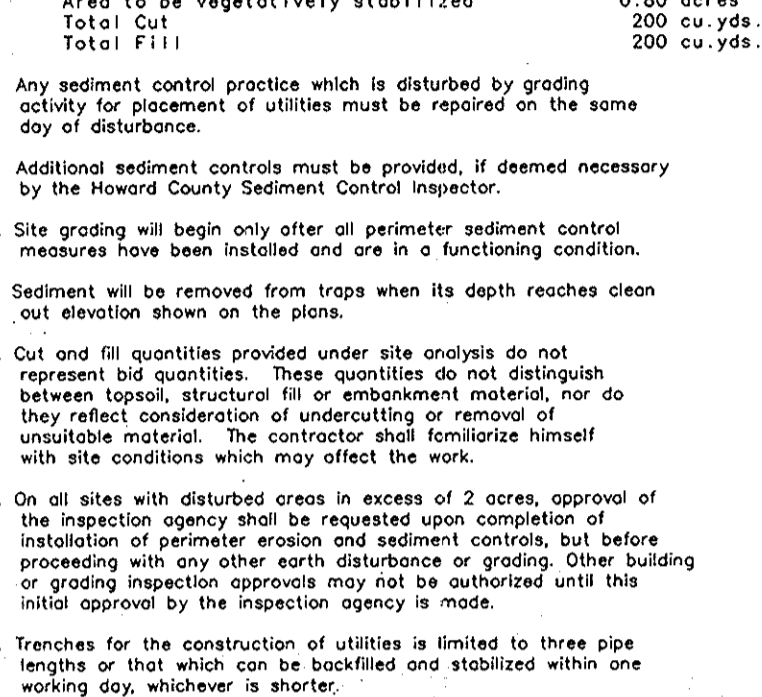
Site Analysis:

Total Area of Site	11.67 acres
Area Disturbed	1.00 acres
Area to be roofed or paved	0.20 acres
Area to be vegetatively stabilized	0.80 acres
Total Cut	200 cu. yds.
Total Fill	200 cu. yds.

- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
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INFILTRATION TRENCH DETAIL

NO SCALE



SEQUENCE OF CONSTRUCTION

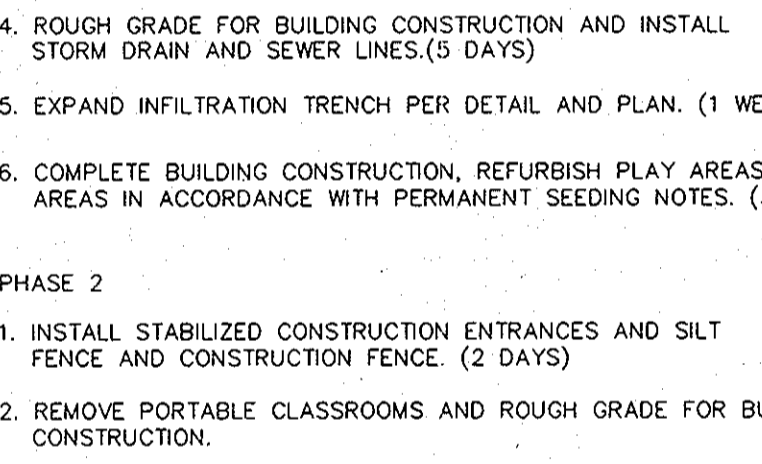
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CLEANOUT DETAIL



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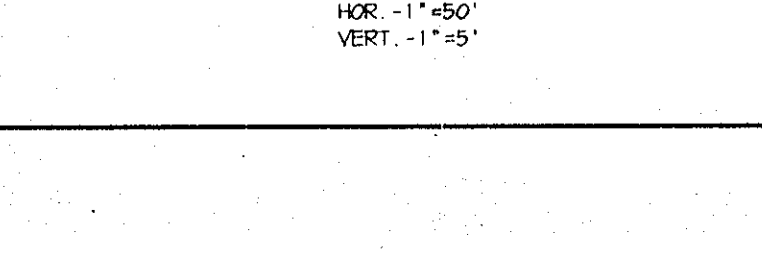
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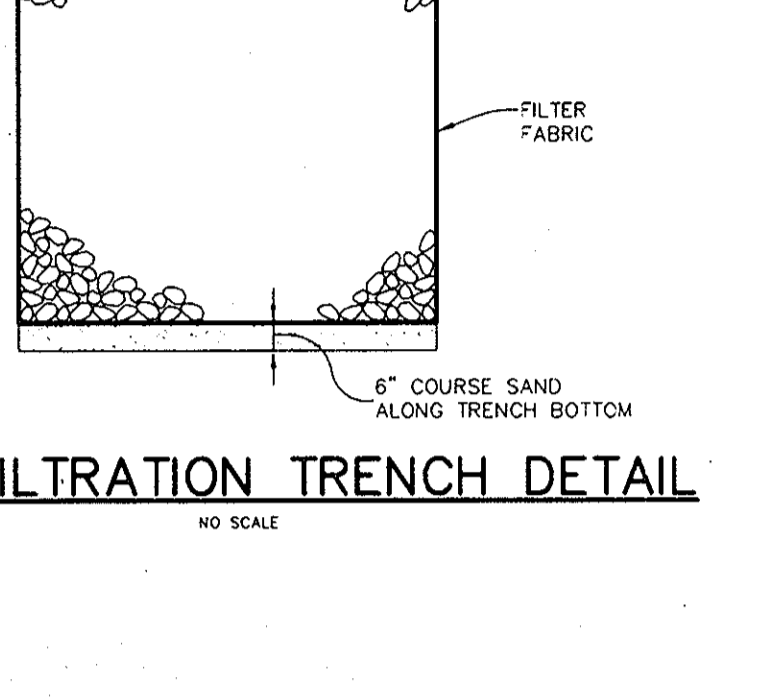
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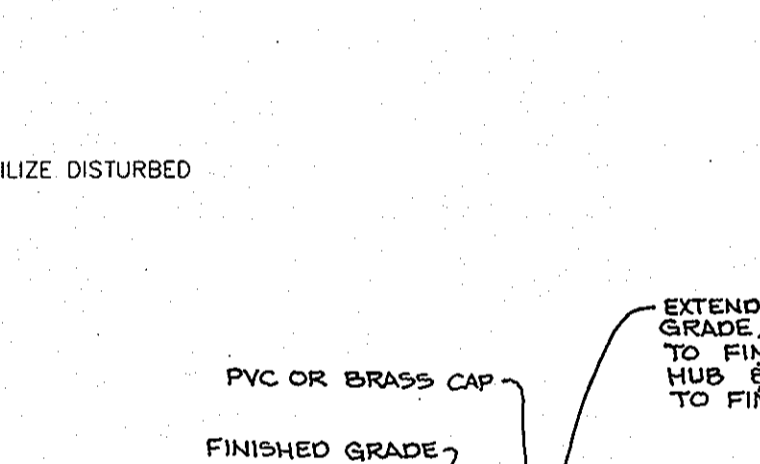
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- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, (b) 14 days as to other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs placed around the perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL, for permanent seedings. (Sec. 51), and (Sec. 54), temporary seedings (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

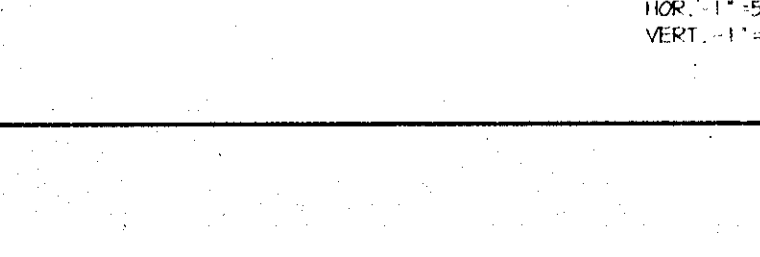
Site Analysis:

Total Area of Site	11.67 acres
Area Disturbed	1.00 acres
Area to be roofed or paved	0.20 acres
Area to be vegetatively stabilized	0.80 acres
Total Cut	200 cu. yds.
Total Fill	200 cu. yds.

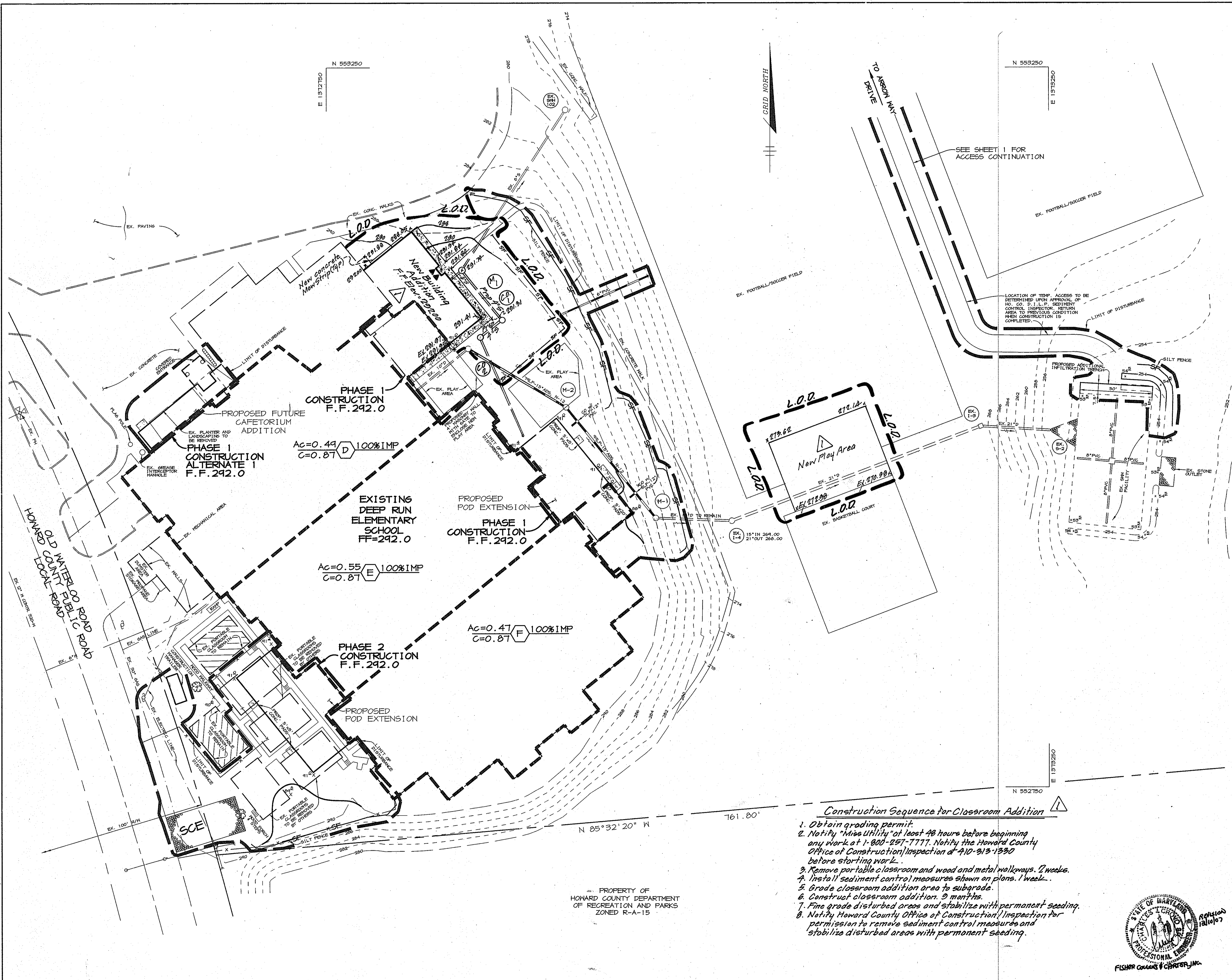
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- Site grading will begin only after all perimeter sediment control measures have been installed and are in a functioning condition.
- Sediment will be removed from traps when its depth reaches clean out elevation shown on the plans.
- Cut and fill quantities provided under site analysis do not represent bid quantities. These quantities do not distinguish between topsoil, structural fill or embankment material, nor do they reflect consideration of undercutting or removal of unusable material. The contractor shall familiarize himself with site conditions which may affect the work.
- Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.

INFILTRATION TRENCH DETAIL

NO SCALE



M:\2011\100282 & 282828\DWG\100282.DWG 15:00:00 05/12/97 100282.DWG 15:00:00 05/12/97 100282.DWG



BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Cathleen Conly Young 5/12/97
 DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

J. Farrell 5/12/97
 ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Jeff S. ... 6/2/97
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

James ... 6/13/97
 DIRECTOR DATE

Robert ... 6/14/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Richard ... 6/12/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

12-10-97 / Added building addition & play area.
 DATE NO. REVISION

OWNER / DEVELOPER
 BOARD OF EDUCATION OF HOWARD COUNTY
 10910 ROUTE 108
 ELLICOTT CITY, MD 21042

PROJECT
 DEEP RUN ELEMENTARY SCHOOL
 ADDITION/RENOVATION

AREA
 1st ELECTION DISTRICT
 F/O PARCEL 168
 HOWARD COUNTY, MD
 TAX MAP 37, BLOCK 20

TITLE
 GRADING AND SEDIMENT CONTROL PLAN

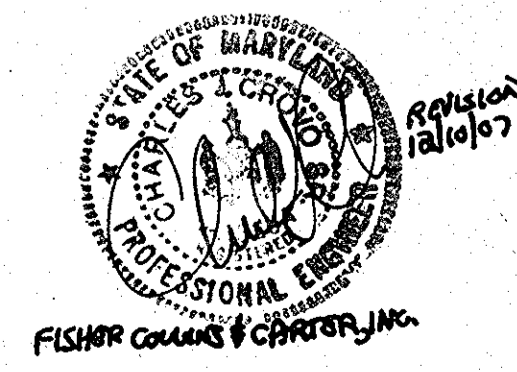
RIEMER MUEGGE & ASSOCIATES, INC.
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
 8818 Centre Park Drive, Columbia, Maryland 21045
 tel 410.997.8900 fax 410.997.9282

5.12.97
 DATE

DESIGNED BY : CJR
 DRAWN BY : RPP
 PROJECT NO : 96127
 SDP4.DWG
 DATE : MAY 12, 1997
 SCALE : 1"=30'
 DRAWING NO. 4 OF 4

J. Farrell
 JAYKANT PAREKH #19148

- Construction Sequence for Classroom Addition**
1. Obtain grading permit.
 2. Notify "Miss Utility" of least 48 hours before beginning any work at 1-800-257-7777. Notify the Howard County Office of Construction/Inspection at 410-313-1390 before starting work.
 3. Remove portable classroom and wood and metal walkways. 2 weeks.
 4. Install sediment control measures shown on plans. 1 week.
 5. Grade classroom addition area to subgrade.
 6. Construct classroom addition. 9 months.
 7. Fine grade disturbed areas and stabilize with permanent seeding.
 8. Notify Howard County Office of Construction/Inspection for permission to remove sediment control measures and stabilize disturbed areas with permanent seeding.



PROPERTY OF
 HOWARD COUNTY DEPARTMENT
 OF RECREATION AND PARKS
 ZONED R-A-15