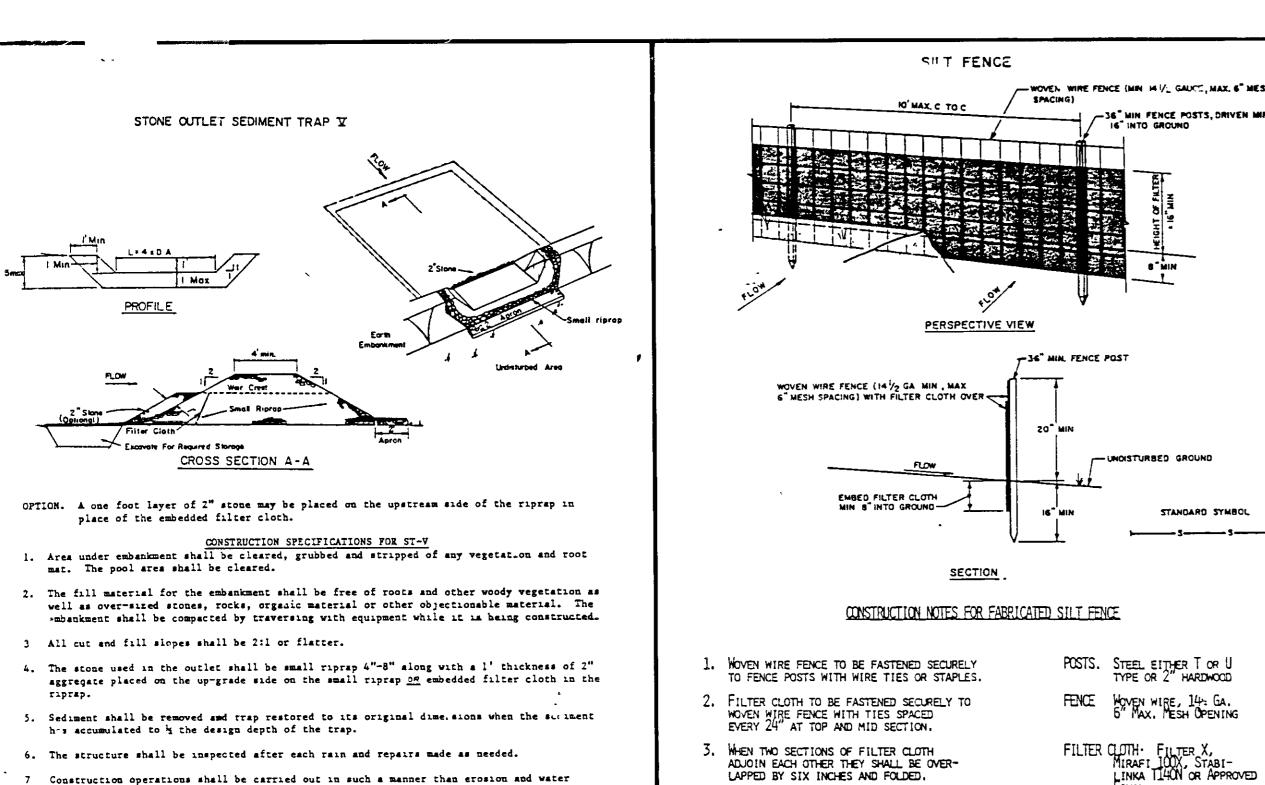


Construction Specifications Lining Material The construction of all infiltration basins should comply with the Establishing dense vegetation on the basin side slopes and floor is criteria set forth in the Maryand SCS Standards and Specifications 378-Ponds recommended. A dense vegetative stand will not only prevent erosion and dated July, 1981 or subsequent revisions and the additional criteria provided sloughing, but will also provide a natural means of maintaining relatively high infiltration rates. Erosion protection of inflow points to the basin shall also be provided. Removal of accumulated sediment is a problem only at the 410 Ex. SMH basin floor. Little maintenance is normally required to maintain the EXIST infiltration capacity of slope areas. The sequence of various phases of basin construction shall be coordinated \SMH\_ GROUND with the overall project construction schedule. A program should schedule Selection of suitable vegetative materials for the side slope and all 6"CO other areas to be stabilized with vegetation and application of required Excavation fertilizer and mulches shall be done in accordance with the Maryland Standards PR. ADDITION TO CHAPEL AND OFFICE BUILDING Initial basin excavation should be carried to within 1 foot of the final and Specifications for Soil Erosion and Sediment Control. Local Extension 6"CO elevation of the basin floor. Final excavation to the finished grade should be 405 Agencies should also be consulted. deferred until all disturbed areas on the watershed have been stabilized or INV. 407.00 protected. The final phase excavation should remove all accumulated sediment. Relatively light tracked equipment is recommended for this operation to avoid INV. 405.18compaction of the basin floor. After the final grading is completed, the basin floor should be deeply tilled by means of rotary tillers or disc harrows to INV. 403.36 provide a well-aerated, highly porous surface texture. 400 400 400 INV. 400.34 PROP GRADE RIPRAP d50=4" dmax 6", OVER FILTER CLOTH -395 395 EXIST. GROUND @ DAM & WATER SURFACE @ -EX. GROUND CREST ELEV. 391.50 DESIGN DISCHARGE OF 16 CF5 = 392.20-TOP OF DAM ELEV. 392,50 \$ 391.72=100 yR 10yR-39151 8" PVC B" PVC 8" PVC INV. 392.71 @ 2.26% 2.26% 394.00 2 3.36% 390 390 ₹390.36=2yR. INV. 389.80-BOTTOM OF DAM ELEV. 389.00 -385 385 85 95.83% 380 380 8"5 @ 5.71% INV. 380.27-SANITARY SEWER PROFILE DAM & PROFILE INFILTRATION BASIN NEW SCHOOL ROOF LEADER PROFILE SCALE: HORZ. 1"=40" SCALE: HORZ. 1"=40" VERT. 1"=4" VĒRT. 1"=4" SCALE: HORZ. 1"=40" VERT. 1"=4" ADD ADDITION TO CHAPEL AND OFFICE BUILDING REVISIONS PER HO.CO. COMMENTS 405 REVISION 4 PROVED: FOR PUBLIC WATER AND SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS - EXIST. GROUND HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS PROP. GRADE -PROP. GRADE 11/22/89 EXIST. 6"CO-400 400 400 GROUND-PROP 400 GRADE -GROUND -6"CO -6"CO INV. 8"PVC INV. 396.62-0+50 395 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWER SYSTEMS 398.00 4' MIN. OWARD COUNTY HEALTH DEPARTMENT 395 1+00 C4 MIN 395 396.20 -2" COPRER WATER 3+00 0+50 TUBING INV. 394.0-394.40 390 INV. 393.4) 2+50\_\_\_ \_1+00\_\_\_\_ 2"WATER-INV. 392.82 INV.392.82 1+52 EL.394.30 -INV. 392.56 FH, 6"×4" RED. 48' INV.391.72 390 B"PVC 12/4/89 4"V, 4"x2" RED. G"V, G"xG" TEE 390 @8.24% 385 385 RIPRAP 8"PVC 10"PVC@ 1.20% 10"PVC @ 1.20% d50 = 4", OVER @ 1.20% FILTER CLOTH CHURCH OF THE RESURRECTION 385 @ 1 20% PAULSKIRK DRIVE & NORTH CHATHAM ROAD ELLICOTT CITY, MARYLAND 21043 TEL. (301) 461-9111 PROJECT: SCHOOL AND CHAPEL/OFFICE BUILDING ADDITION 00 CHURCH OF THE RESURRECTION AS-BUILT SWM WATER MAIN PROFILE NEW CHAPEL/OFFICE ROOF LEADER PROFILE PROFILES SCALE: HORZ. 1"=50" SCALE: HORZ. 1"=40" VERT. 1'=5' 2ND ELECTION DISTRICT HOWARD COUNTY, MD. VERT. 1"=4" TAX MAP NO. 24 PARCEL 456, 1117 8 980 ENGINEERS: WHITNEY, BAILEY, COX & MAGNANI Maintenance CONSULTING ENGINEERS TAVISION or Inspection Schedule Side Slope Maintenance COMMUNITY PLANNING 1850 YORK ROAD Grass bottoms on infiltration basins seldom need replacement since grass TIMONIUM, MD. 21093 Drainage systems must be inspected on a routine basis to ensure that they & LAND DEVELOPMEN serves as a good filter material. This is particularly true of Kentucky 31 (a) Purpose. To promote a dense turf with extensive root growth, are functioning properly. Inspections can be on a semiannual basis but should (301) 252-6060 Tall Fescue, which is extremely hardy and can withstand several days of thereby enhancing infiltration through the slope surface and prevent weeds from gradually taking over the slope areas. always be conducted following major storms. submergence. If silty water is allowed to trickle through the turf, most of HOWARD COUNTY. DESIGNED: A.R. the suspended material is strained out within a few yards of surface travel.
Well established turf on a basin floor will grow up through sediment deposits, MARYLAND DRAWN: (b) Frequency. Grasses of the fescue family are recommended for G.G. forming a porous turf and preventing the formation of an impermeable layer. seeding primarily due to their adaptability to dry sandy soils, drought 7-17-89 Sediment Control Effect on Vegetated Basins Grass filtration would work well with long, narrow, shoulder-type (swales, ditches, etc.) depressions where highway runoff flows down a grassy slope CHECKED: P.D. resistance, hardiness, and ability to withstand brief inundations. The use of fescues will also permit long intervals between mowings. This is important due Cleanout frequency of infiltration basins will depend on whether they are to the relatively steep slopes which make mowing difficult. Mowing twice a DATE: between the roadway and the basin. Kentucky 31 Tall Fescue demands very little 10/13/88 vegetated or nonvegetated and will be a function of their storage capacity, year, once in June and again in September, is generally satisfactory. attention and looks attractive when trimmed. Grass planted on basin side recharge characteristics, volume of inflow, and sediment load. Infiltration AS SHOWN SCALE: Refertilization with 10-6-4 ratio fertilizer at a rate of 500 lb per scre (11 slopes will also prevent erosion. basins should be inspected at least once a year. Sedimentation basins and 1b per 1000 sq ft) may be required the second year after seeding. DRAWING NO: SHEET 12 OF 13 traps may require more frequent inspection and cleanout. C-12 DATE 5DP-89-76



# STONE OUTLET SEDIMENT TRAP EARTH DIKE - STABILIZATION AS REQUIRED ON STEEP SLOPES EXCAVATE TO PROVIDE REQUIRED FLOW WIDTH AT FLOW DEPTH GRADE LINE-DIKE A DIKE B CROSS SECTION (5 oc. or less) (5-10 ac.) HTONE WIGTH POSITIVE DRAINAGE -GRADE SUFFICIENT TO DRAIN 4-FLOW DEPTH CUT OR FILL SLOPE -STANDARD SYMBOL A-2 B-3 [→ --/→ --- | CONSTRUCTION SPECIFICATIONS ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.

8 The structure shall be removed and the area stabilized when the drainage area has been

properly stabilized.

TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING B' CONSTRUCTION TRAFFIC. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.

EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. PUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT

BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT STABILIZATION SHALL BE. (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED

AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER

		FLOW CHANNEL STABILIZATION	
TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSION, SOD, 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD, 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN
A C	ne 2 mai mar	OR DECISE OF CONCOUNT CONTAINS OF	7N 4 14VED AT 1545T 7

A. Stone to be 2 inch stone, or recycled concrete equivalent, in a layer at least 3 inches in thickness and be pressed into the soil with construction equipment.

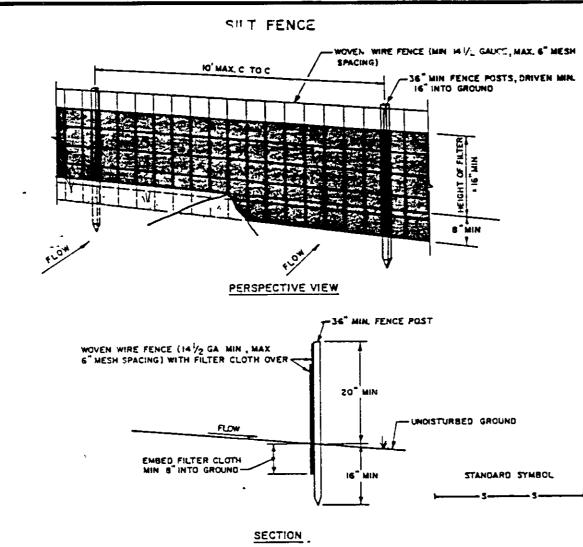
B. RIF-RAF TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO

THE SOIL.

C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

EARTH DIKE



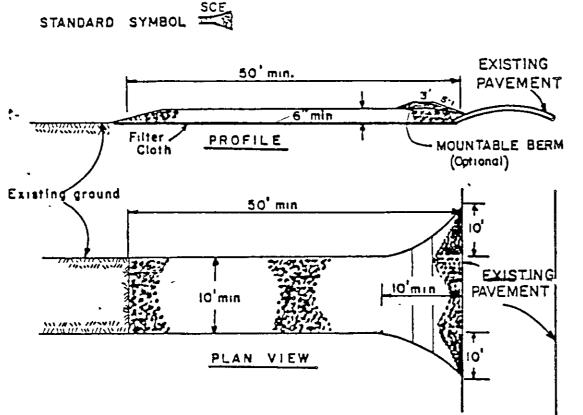
POSTS. STEEL EITHER T OR U
TYPE OR 2" HARDWOOD

4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

# SILT FENCE

PREFABRICATED UNIT GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

#### STABILIZED CONSTRUCTION ENTRANCE not to scale



# CONSTRUCTION SPECIFICATIONS

- 1. Stone Size Use 2ª stone, or reclaimed or recycled concrete equivalent. 2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
- 3. Thickness Not less than six (6) inches.
- 4. Width Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
- 5. Filter Cloth Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot. 6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractic 1,
- a mountable berm with 5:1 slopes will be permitted. 7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must
- be removed immediately. 8. Washing - Wheels shall be cleaned to remove sediment prior to entranc. onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping
- 9. Periodic inspection and needed maintenance shall be provided after each rain.

# STABILIZED CONSTRACTION ENTRANCE

#### PERMANENT SEEDING NOTES

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

Seedbed 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 schedule: 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/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 ureaform fertilizer (9 lbs/1000 sq ft).
- 2) Acceptable Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 los per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding Harrow or disc into upper three inches of soil.

Seeding - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue For the period May 1 thre July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass During the period of October 16 thru February . 28, protect site by Option (1) 2 tors per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/ acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching - Apply 1½ to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain \* straw immediately after seeding Anchor mulch immediately after application using rulen anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas On slopes 8 feet of higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring

Matinenance - Inspect all seeded areas and make needed repairs, replacements and reseedings.

#### TEMPORARY SEEDING NOTES

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

Seedbed 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/1000 sq ft)

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2½ bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 t'.ru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching. Apply 11 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

### SEDIMENT CONTROL NOTES

- 1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction (992-2437)
- 2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 3) Following initial soil disturbance or redisturbance, 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 all other disturbed or graded areas on the project site.
- 4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1. Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) sod (Sec. 54), temporary seeding (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
- 6) Al' 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
- \* 7) Site Analysis. 25 26 Acres Total Area of Site II 66 Acres Area Disturbed 110 Acres Area to be roofed or paved Area to be vegetatively stabilized 500 Cu. Yds. 4700 Cu. Yds. Total Cut Total Fill NOT KNOWN Office waste/borrow area location
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of distur-
- Additional sediment centrols must be provided, if deemed necessary by the Howard County DPW sediment control inspector
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- 11) On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made
- \* The information shown for Howard County only and not to be used for bidding purposes by the contractor

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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ONSITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT"

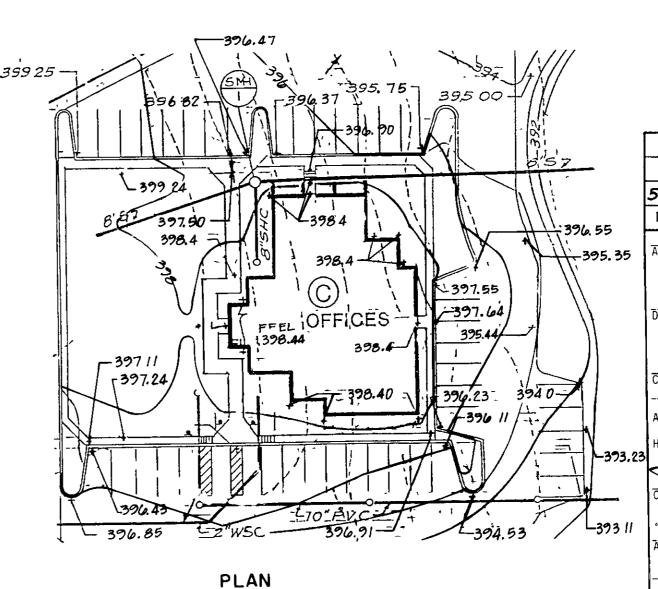
REV BRIAN M RAFFERT

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 COUNTY SOIL CONSERVATION DISTRICT "

S.C D. AND MEETS TECHNICAL REQUIREMENTS.

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



BASE BID FOR BUILDING

REVISED PER HO CO COMMENTS REVISION DATE. NO PPROVED FOR PUBLIC WATER AND SEWERAGE. STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 11/22/89 NATE APPROVED FOR PUBLIC WATER AND PUBLIC SEWER SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT 11/29/89 12/6/89 14/1/19 DEVELOPMENT CHURCH OF THE RESURRECTION PAULSKIRK DRIVE & NORTH CHATHAM ROAD ELLICOTT CITY, MARYLAND 21043 TEL. (301) 461-9111 PROJECT: SCHOOL AND CHAPEL / OFFICE BUILDING CHURCH OF THE RESURRECTION SEDIMENT CONTROL DETAILS HOWARD COUNTY, MD 2ND ELECTION DISTRICT PARCEL 456, 1117 & 990 TAX MAP NO 24 ENGINEERS WHITNEY, BAILEY, COX & MAGNANI CONSULTING ENGINEERS

1850 YORK ROAD TIMONIUM, MD. 21093 (301) 252-6060 DESIGNED: | A R ~ € Mi GSB DRAWN: PD CHECKED: DATE-

7-17-69

10/13/88 NOT TO SCALE SCALE: DRAWING NO: SHEET 13 OF 13 C-13

50P-89-76