CURB & GUTTER LEGEND:
Std. 7" Comb. Curb & Gutter
Rev. 7" Comb. Curb & Gutter
Std. 6" Comb. Curb & Gutter
Rev. 6" Comb. Curb & Gutter

℄ CURVE DATA, PC 9+14.85 to PT 11+66.78
R = 450.00'
Δ = 37°03'50"
L = 291.83'
T = 149.31'
CHD = N19°25'51"W 286.56'

HOWARD COUNTY, MARYLAND
SECTION 1

Ex. House

Note: Ex. driveway to be removed and relocated as shown.
Provide driveway apron. See Ho. Co. Std. R-6.01.

CEDAR WOOD DRIVE

FOR CONTINUATION SEE PREVIOUSLY APPROVED RD. CONSTR. PLANS F-84-156.

Note: Transition conc. channel to meet 9" orifice.

Note: Warp Paving Sta. 13+28.88 to 16+04.36 (No Crown).

OPEN SPACE A-35

OPEN SPACE A-36

THE HOWARD RESEARCH & DEVELOPMENT CORP. 401/184

STWM, S.D. Sewer & Utility Easement

Concrete Spillway - See Detail Sht. 4

STUDY PT. #1

STUDY PT. #2

Sidewalk Ramp

Pipe 437.95

Pipe 436.49

Pipe 435.22

Pipe 437.42

Pipe 438.98

Pipe 436.33

Pipe 433.60

Pipe 433.36

Pipe 433.55

Pipe 433.55

Pipe 433.55

Reviewed for HOWARD SCD
Name
and meets Technical Requirements
11-15-84
Signature Date
U.S. Soil Conservation Service

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

Robert W. Zichu 11/16/84
Approved Date

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

Signature of Developer/Builder 9/18/84
Date

ENGINEER'S CERTIFICATE

I hereby 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.

G. Nelson Clark 9-21-84
Date

STATE OF MARYLAND G. NELSON CLARK NO. 7139 REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Engineering 11-20-84
Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

Chief, Division of Land Development & Zoning Administration 11-16-84
Date

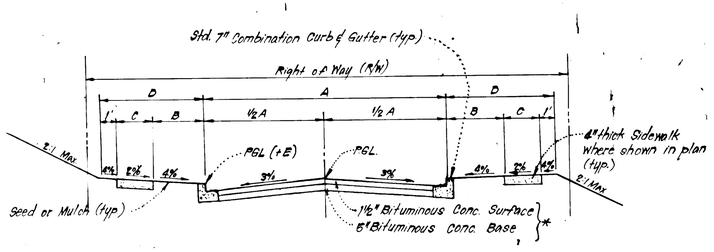
CFS CLARK • FINEFROCK & SACKETT
ENGINEERS • PLANNERS • SURVEYORS
11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400

DESIGNED JLS	ROAD CONSTRUCTION PLANS TERRIER COURT & WIDENING ALONG HILLTOP LANE	SCALE As SHOWN
DRAWN KIW	CEDAR ACRES	DRAWING 2 OF 6
CHECKED JLS	SECTION THREE 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 83.114
DATE 9-28-84	FOR: BRANTLY DEVELOPMENT CORP. 5501 Twin Knolls Rd. Columbia, Md. 21045	FILE NO. 83.114.D

#86

7-17-80 AS-BUILT

F-85-55



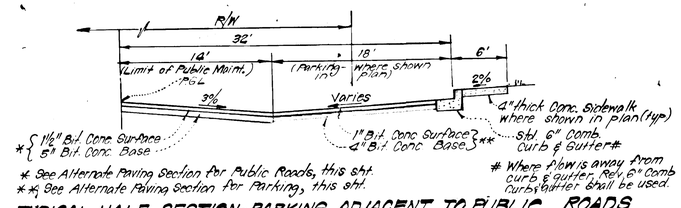
* For Alternate Paving Section - See det. this sht.

TYPICAL PAVING SECTION - PUBLIC ROADS

NO SCALE

	STREET NAME & STATION	TYPE OF TRAFFIC	A	B	C	D	R/W	ZONING	DESIGN SPEED	E
*	TERRIER CT. 11+81.85 to 12+61.91	CUL DE-SAC	24'	-	-	9'	50'	RSC.	30mph	1:14
	CEDAR WOOD DR. 9+14.95 to 10+44.78	CUL DE-SAC	28'	4'	4'	9'	50'	RSC	30mph	1:14

* Modified Comb. Curb & Gutter to be used on Terrier Ct.

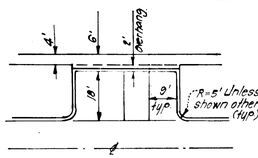


* See Alternate Paving Section for Public Roads, this sht.
** See Alternate Paving Section for Parking, this sht.
# Where plan is away from curb & gutter, Rev. 6" Comb Curb & Gutter shall be used.

TYPICAL HALF SECTION - PARKING ADJACENT TO PUBLIC ROADS

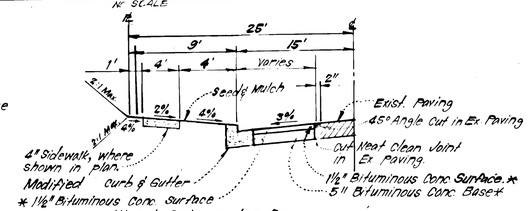
CEDAR WOOD DRIVE - STA 10+44.78 to 17+17.74

NO SCALE



TYPICAL PARKING

No SCALE



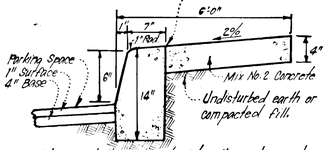
* See Alternate Paving section for ZONING RSA

TYPICAL HALF SECTION - HILLTOPLANE

STA. 11+32.00 to STA 6+07.04

NO SCALE

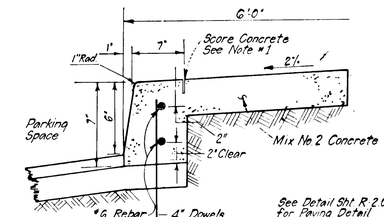
Notes:
1. Longitudinal Joint between sidewalk & curb shall be continuous and to a depth of ¼ the thickness of the sidewalk or 1" (at Individual Joints shall run from back edge of sidewalk continuous to the bottom face of curb to a depth of ¼ the sidewalk thickness or 1" and spaced 5' apart.
2. Provide ½" expansion joints at 15' Intervals in Individual Joints to full cross-section.



Note: Monolithic curb and sidewalk can be used as an alternate to reverse 6" curb & gutter where curb is adjacent to sidewalk.

MONOLITHIC CURB & SIDEWALK - PRIVATE PARKING AREA

No SCALE



ALTERNATE SECTION

NO SCALE

STRUCTURE SCHEDULE Δ

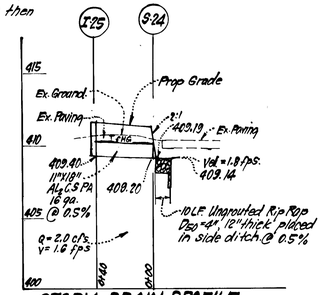
	No.	TYPE	INV. IN	INV. OUT	TOP ELEVATION UPPER	TOP ELEVATION LOWER	REMARKS	LOCATION
*	I-30	A-10 Inlet w/ Deflectors	-	416.00	422.45	421.45	Ho. Co. Std. SD 4.02 W=2'-6"	@ Inlet Sta. 13+30.07 C.W.D. 14' Rt.
	I-29	A-10 Inlet	414.00	412.50	419.76	418.76	" " SD 4.02 W=2'-6"	See Plan
	S-28	C-End wall	405.50	405.50	-		" " SD 5.21 Dia=15"	" "
	I-27	Special	404.50	404.30	408.00	409.15	See det. Sht. 4	" "
#	S-26	Metal End Section	403.86	403.80	-	-	Ho. Co. Std. SD 5.61 Dia=27"	" "
*	I-25	A-8 Inlet w/ Deflectors	-	409.40	411.88	411.56	" " SD 4.01 W=3'-6"	@ Inlet Sta. 0+58 Hilltop La. 15' Rt.
	S-24	Metal End Section	409.20	409.19	-	-	" " SD 5.63 11"x18"	@ End Section Sta. 3+00 C. La. 35.5 Rt.

Δ All Inverts to be fully developed.
* See Ho. Co. Std. SD 4.03 for Inlet Deflectors.
# Note: If Aluminum pipe is substituted for Al₂ CSP then end section to be made of same material as pipe.

PIPE SCHEDULE

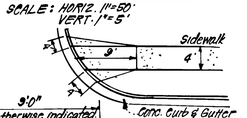
	SIZE	TYPE	LENGTH
	15"	RCP CL II	78 LF
	15"	RCP CL IV	73 LF
*	27"	Al₂ CSP 14 ga.	28 LF
*	11"x18"	Al₂ CSPA 16 ga.	40 LF

* 2⅔"x ½" Corrugations.



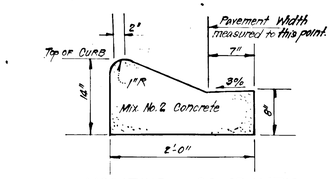
STORM DRAIN PROFILE

SCALE: HORIZ. 1"=50'
VERT. 1"=5'



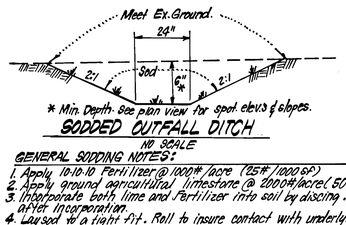
SIDEWALK RAMP DETAIL

NO SCALE



MODIFIED COMBINATION CURB & GUTTER

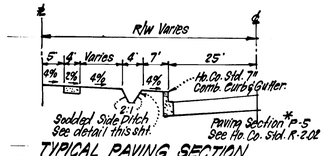
No SCALE



SODDED OUTFALL DITCH

NO SCALE

GENERAL SODDING NOTES:
1. Apply 10-10-10 Fertilizer @ 1000# /acre (25#/1000 SF)
2. Apply ground agricultural limestone @ 2000#/acre (50#/1000 SF)
3. Incorporate both lime and fertilizer into soil by discing. Firm up after incorporation.
4. Lay sod in a tight fit. Roll to insure contact with underlying soil. Water as necessary for 1st 2 weeks in summer, to ensure establishment.
5. All sod to be certified by the state of Maryland.
6. Sod to be pegged and stapled.

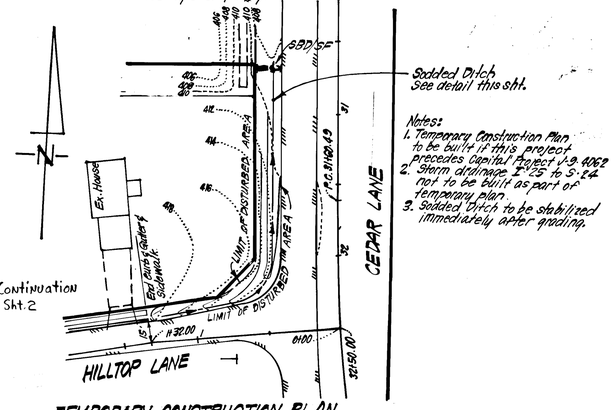


TYPICAL PAVING SECTION CEDAR LANE

STA. 30+67.04 to STA. 32+00

NO SCALE

* Note: See Capital Project J-3.4062 for cross slope of paving.



TEMPORARY CONSTRUCTION PLAN

SCALE: 1"=50'

Bituminous Conc. Surface	1½"
Bituminous Conc. Base	2½"
Prime	
8" Crusher Run Base (Placed in 2 Courses) or 6" Dense Graded Stabilized Aggregate Base Course	8" or 6"

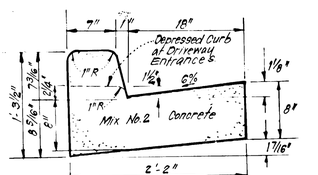
ALTERNATE PAVING SECTION FOR PUBLIC ROADS

No SCALE

Bituminous Conc. Surface	1"
Bituminous Conc. Base	2"
Prime	
5" Crusher Run Base Course or 4" Dense Graded Stabilized Aggregate Base Course.	5" or 4"

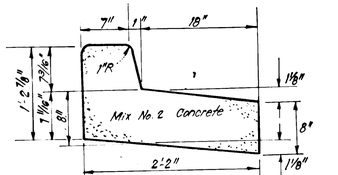
ALTERNATE PAVING SECTION FOR PARKING AREAS

No SCALE



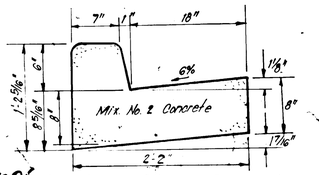
STANDARD 7" COMBINATION CURB & GUTTER

No SCALE



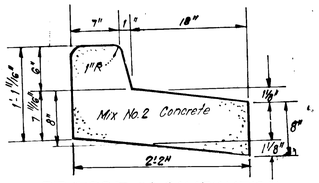
REVERSE 7" COMBINATION CURB & GUTTER

No SCALE



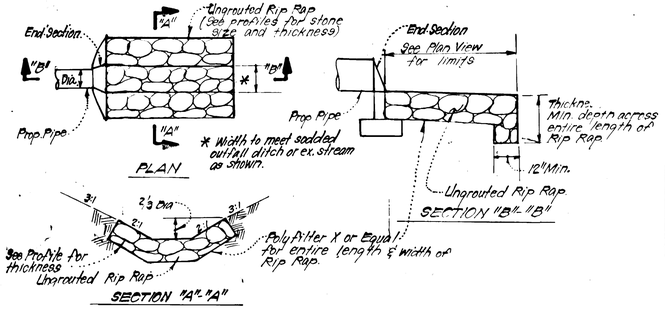
#86 STANDARD 6" COMBINATION CURB & GUTTER

NO SCALE



REVERSE 6" COMBINATION CURB & GUTTER

NO SCALE



UNGROUTED RIP RAP PAVING DETAILS

NO SCALE

No.	REVISION	DATE
1.	Added note for pipe substitution to Structure Schedule.	3-19-85

APPROVED: Department of Public Works

Chief, Bureau of Engineering — Date 11/20/84

APPROVED: Howard County Office of Planning and Zoning

Chief, Division of Land Development & Zoning Administration — Date 11-16-84

Reviewed for Howard S.C.D. Name and meets Technical Requirements. Signature — Date 11-15-84. U.S. Soil Conservation Service

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

Approved — Date 7-19-20

ENGINEER'S CERTIFICATE

I hereby 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.

G. Nelson Clark — 9-21-84 Date

STATE OF MARYLAND — CARLSON CLARK — NO. 7139 — REGISTERED PROFESSIONAL ENGINEER

CLARK · FINEFROCK & SACKETT
ENGINEERS · PLANNERS · SURVEYORS
11314 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593-3400

DESIGNED	V.L.S.
DRAWN	K.W.
CHECKED	J.L.S.
DATE	9-28-84

ROAD CONSTRUCTION PLANS
STORM DRAIN & PAVING DETAILS

CEDAR ACRES

SECTION THREE
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

FOR: BRANTLY DEVELOPMENT CORP.
5501 Twin Knolls Rd.
Columbia, Md. 21045

SCALE	AS SHOWN
DRAWING	30 OF 6
JOB NO.	83114
FILE NO.	83114-D

F-85-55

STORM WATER MANAGEMENT POND NOTES

I. SITE PREPARATION:

A. Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped no steeper than 1:1.

B. Areas to be covered by pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees brush, and stumps shall be cut approximately level with the ground surface.

C. All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

II. EARTH FILL

A. MATERIAL: The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversized stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.

B. PLACEMENT: Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most pervous borrow material shall be placed in the downstream portions of the embankment.

C. COMPACTION: The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture so that the required degree of compaction can be obtained with the equipment used. Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

D. CUTOFF TRENCH: Where specified, a cut off trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. STRUCTURAL BACKFILL:

Backfill material shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall be driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of the structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of twenty-four inches or greater over the structure or pipe.

IV. PIPE CONDUITS: (All pipes shall be circular in cross-section)

A. CORRUGATED METAL PIPE:

1. MATERIALS: (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specifications M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of .001 inch (1.0 mil) on both sides of the pipe. The following coatings are commercially available: Nevon, Plasti-Cote, Blac-Klad and Beth-Cu-Loy Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.
MATERIALS (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-79.1 with watertight coupling bands or flanges.
MATERIALS (Aluminum Pipe): - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Coupling bands, anti-seep collars, end sections, etc. must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of Zinc Chromate Primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be less than 9 and greater than 4.

2. CONNECTIONS: All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

3. BEDDING: The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. LAYING PIPE: The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

5. Backfilling shall conform to structural backfill as shown above.

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

B. REINFORCED CONCRETE PIPE

1. MATERIALS: Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. An approved equivalent is AWWA Specification C-301.

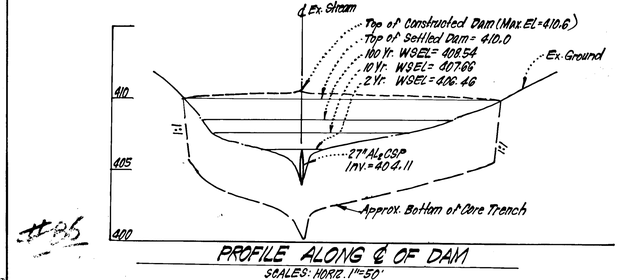
2. BEDDING: All reinforced concrete pipe conduits shall be laid in a concrete bedding for there entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3", or as shown on the drawings.

3. LAYING PIPE: Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.

4. Backfilling shall conform to structural backfill as shown above.

5. Other details (anti-seep collars, valves, etc.) shall be shown on the drawings.

C. For pipes of other materials, specific specifications shall be shown on the drawings.



PROFILE ALONG ℄ OF DAM

SCALES: HORIZ. 1"=50'
VERT. 1"=5'

V. CONCRETE

A. MATERIALS

1. CEMENT - Normal Portland cement shall conform to latest ASTM Specification C-150.

2. WATER - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.

3. SAND - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100% passing a one quarter inch sieve. Limestone sand shall not be used.

4. COARSE AGGREGATE - The coarse aggregate shall be clean, hard, strong and durable, and free from clay and dirt. It shall be well graded with a maximum size of one-and-one-half (1 1/2) inches.

5. REINFORCING STEEL - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

B. DESIGN MIX - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5 1/2 to 6 U.S.Gals. of water/94-pound bag of cement. The proportion of materials for the trial mix shall be 1-2-3 1/2. The combination of the aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.

C. MIXING - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixture and uniform distribution of the materials including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.

D. FORMS - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping and vibration without deflection from the prescribed lines. They should be mortar-tight and constructed so they can be removed without hammering or prying against the concrete. The inside of the forms will be oiled with a non staining mineral oil or thoroughly wetted before concrete is placed. Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.

E. REINFORCING STEEL - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.

F. CONSOLIDATION - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

G. FINISHING - Defective concrete, honey combed areas, voids left by removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry patching mortar.

H. PROTECTION AND CURING - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compound may also be used.

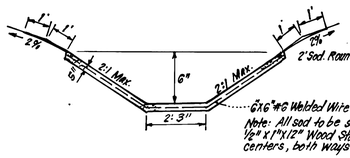
I. PLACING TEMPERATURE - Concrete may not be placed at temperature below 37°F with the temperature falling, or 34°F with the temperature rising.

VI. STABILIZATION

All borrow areas shall be graded to provide drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing, and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

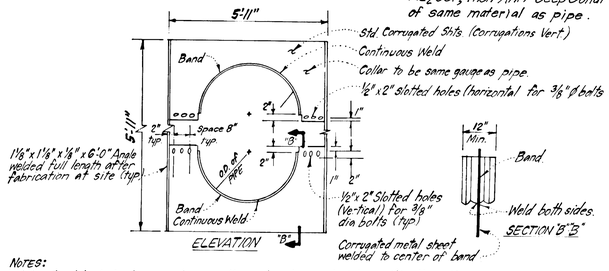
VII. EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.



CONCRETE TRAPEZOIDAL CHANNEL

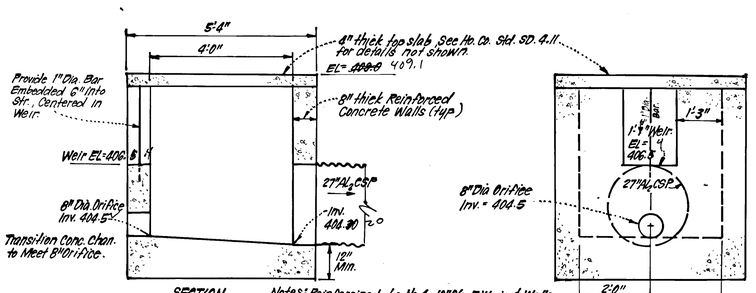
NO SCALE



Notes:
1. All materials to be in accordance with construction material specifications *
2. When specified on the plans, coating of collars shall be in accordance with contr. material specs.
3. Unassembled collars shall be marked by painting or tagging to identify matching pairs.
4. The lap between the two half sections and between the pipe and connection band shall be caulked with asphalt mastic at time of installation.
5. Each collar shall be furnished with two 1/2" diameter rods w/std. tank lugs for connecting collars to pipe.

CORRUGATED METAL ANTI-SEEP COLLAR DETAILS

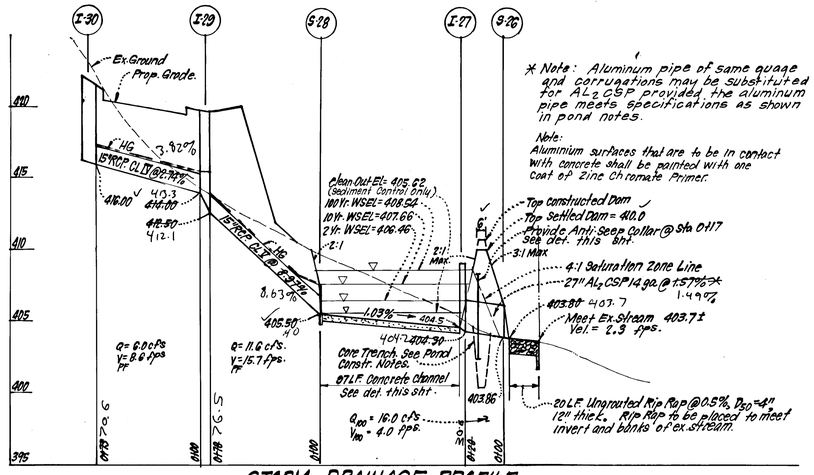
NO SCALE



Notes: Reinforcing to be No 4, 10" c/c E.W. in ℄ Walls.
Reinforcing to be continuous @ corners, Laps 1'-4"
All concrete to have f'_c = 4000 psi.

SPECIAL STRUCTURE # 1.27

NO SCALE



STORM DRAINAGE PROFILE

SCALE: HORIZ. 1"=50'
VERT. 1"=5'

No.	REVISION	DATE
1.	Added note for pipe substitution for anti-seep collar detail, and storm drainage profile.	3-19-85

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved Robert W. Zischke, Howard S.C.D. 11/16/84 Date

Plan Number

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

U.S. Soil Conservation Service 11-15-84 Date

DEVELOPER'S CERTIFICATE

"I certify that all development and/or construction will be done according to these plans of development, pond construction and erosion and sediment control. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary. Deviation from this plan will not be made unless authorized by The Howard Soil Conservation District. I will provide the Howard Soil Conservation District with a red-lined "as built" of the pond within 30 days of completion."

Signature of Developer — Date 9/25/84

ENGINEER'S CERTIFICATE

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined "as built" of the pond within 30 days of completion."

Signature of Engineer — Date 9-21-84

STATE OF MARYLAND — DONALD W. CLARK — NO. 7139 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Engineering — Date 11-20-84

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

Chief, Division of Land Development, Zoning Administration — Date 11-16-84

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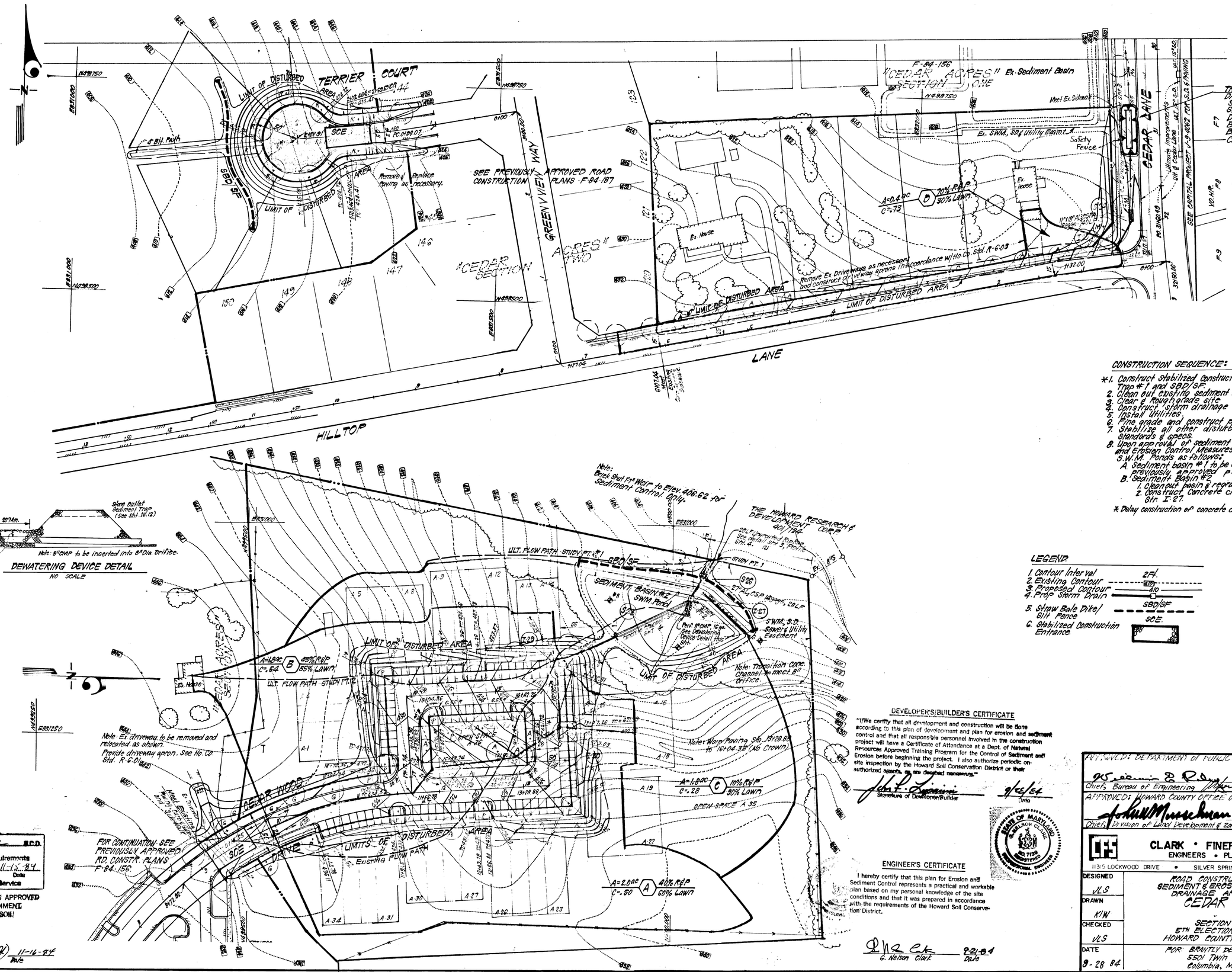
11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400

DESIGNED: V.L.S.	ROAD CONSTRUCTION PLANS STORM WATER MANAGEMENT DETAILS	SCALE: As Shown
DRAWN: R.W.	CEDAR ACRES	DRAWING: 4 OF 6
CHECKED: J.L.B.	SECTION THREE 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO.: 83-114
DATE: 9-28-84	FOR: BRANTLY DEVELOPMENT CORP. 5501 Twin Knolls Rd. Columbia, Md. 21045	FILE NO.: 83-114-D

D-3381

7-19-88 AS BUILT

F-85-55



CONSTRUCTION SEQUENCE:

*1. Construct Stabilized Construction Entrances, Sediment Basin #2, Trap #1 and SBD/SF.
2. Clean out existing sediment basin.
3. Clear & Rough grade site
4. Construct storm drainage
5. Install Utilities.
6. Fine grade and construct paving.
7. Stabilize all other disturbed areas onsite in accordance with Standards & Specs.
8. Upon approval of sediment control inspector, remove Sediment and Erosion Control Measures and convert Sediment Basin to S.W.M. Ponds as follows:
   A. Sediment basin #1 to be coverted in accordance with previously approved plans F-84-156.
   B. Sediment Basin #2
      1. Cleanout basin & regrade pond bottom and stabilize.
      2. Construct concrete channel and remove blocking at Str. E-27.

* Delay construction of concrete channel.

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

John F. Lorenzini
Signature of Developer/Builder — 9/ee/84 Date

ENGINEER'S CERTIFICATE

I hereby 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.

G. Nelson Clark — 8-21-84 Date

STATE OF MARYLAND — G. NELSON CLARK — NO. 7139 — REGISTERED PROFESSIONAL ENGINEER

Reviewed for ... Name ... SCD and meets Technical Requirements
Signature ... Date ... 11-15-84
U.S. Soil Conservation Service

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

Robert W. Jielhen (dlh) 11-16-84
Approved Date

APPROVED: DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Engineering — 11-21-84 Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Chief, Division of Land Development & Zoning Administration — 11-16-84 Date

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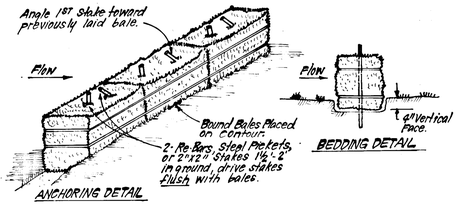
11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400

DESIGNED VLS	ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL PLAN & DRAINAGE AREA MAP	SCALE AS SHOWN
DRAWN KW	CEDAR ACRES	DRAWING 5 OF 6
CHECKED VLS	SECTION THREE 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 83-114
DATE 8-28-84	FOR: BRANTLY DEVELOPMENT CORP. 5501 Twin Knolls Road Columbia, Md. 21045	FILE NO. 83-114-D

7-19-85 AS BUILT

F-85-55



ANCHORING DETAIL

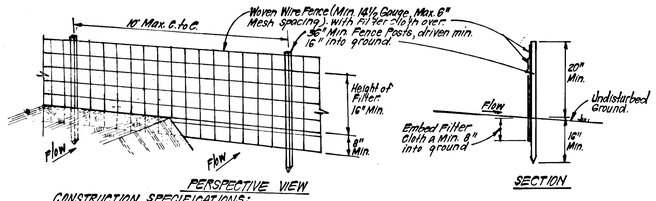
BEDDING DETAIL

CONSTRUCTION SPECIFICATIONS:

1. Bales shall be placed at the Toe of a Slope or on the contour and in a row with ends tightly abutting the adjacent bales.
2. Each bale shall be embedded in the soil a min. of 4" and placed so the bindings are horizontal.
3. Bales shall be securely anchored in place by either 2 stakes or re-bars driven thru the bale. The 1st stake in each bale shall be driven toward the previously laid bale at an angle to force the bales together. Stakes shall be driven flush with the bale.
4. Inspection shall be frequent and repair replacement shall be made promptly as needed.
5. Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

STRAW BALE DIKE DETAIL (SBD)

NO SCALE



PERSPECTIVE VIEW

SECTION

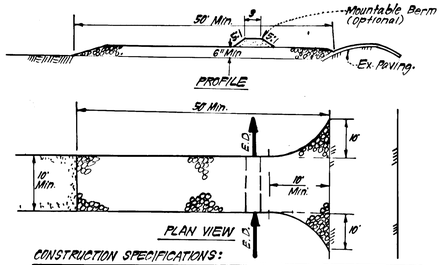
CONSTRUCTION SPECIFICATIONS:

1. Woven wire fence to be fastened securely to fence posts with wire ties or staples.
2. Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
3. When 2 sections of filter cloth adjoin each other they shall be overlapped by 6" and folded.
4. Maintenance shall be performed as needed and material removed when "Bulges" develop in Silt Fence.

POSTS: Steel either T or U Type or 2" x 2" Hardwood.
FENCE: Woven Wire, 14½ Gage 6" Max. Mesh Opening.
FILTER CLOTH: Filter X, Mirafi 100X, Stablinka, T140N or Approv. equal.
PREFABRICATED UNIT: GeoFab, Envirefence, or Approv. equal.

SILT FENCE DETAIL (S)

NO SCALE

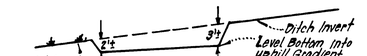


CONSTRUCTION SPECIFICATIONS:

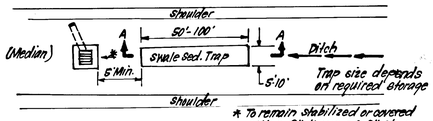
1. Stone Size - Use 2" Stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30' min length would apply).
3. Thickness - Not less than 6".
4. Width - Ten feet min, but not less than the full width at point where ingress & egress occur.
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 impractical, 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. Sediment spilled, dropped, washed or tracked on to public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance 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 device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE (S.C.E)

NO SCALE



SECTION A-A



CONSTRUCTION SPECIFICATIONS:

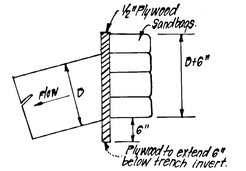
1. The swale sediment trap shall be constructed in accordance with the dimensions provided on the design drawings or sized to provide the min. storage necessary (1800 c.f. of storage for each acre of drainage area).
2. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to ½ the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
3. The structure shall be inspected after each rain and repairs made as needed.
4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
5. The sediment trap shall be removed and area stabilized when the contributory drainage area has been properly stabilized.
6. The swale sediment trap will be properly back-filled and the swale or ditch reconstructed.

SWALE SEDIMENT TRAP (ST-IV)

NO SCALE

GENERAL NOTES

1. Grading Permits shall be obtained prior to installation of sediment control.
2. All Sediment Control Measures will be installed and stabilized according to this plan prior to any other grading, clearing or disturbance of existing surface of site.
3. Notify the Bureau of Inspections and Permits at least 24 hours before starting any work.
4. All Sediment Control Practices to conform to the "Standards and Specs. for Soil Erosion and Sediment Control in Developing Areas", and shall be adjusted to meet actual field conditions.
5. All structural Sediment Control Measures are to remain in place until permission for their removal has been obtained from the Bureau of Inspections and Permits.
6. On Site inspection and maintenance of all sediment control measures including clean-out of Sediment Traps and Dikes, and proper establishment of all planned vegetative measures will be the responsibility of the developer or his representative on the site, on a continuing day to day basis.
7. It will be the developers responsibility to provide additional Sediment & Erosion Control Devices to protect Stabilized areas during construction.
8. The contractor shall keep all public roads free of sediment deposits left from traffic leaving construction site.
9. Approval of this plan is conditional upon the approval of Sediment Control Plan for the off-site waste or borrow area prior to the import of any borrow or export of waste to or from this site.
10. See Pages 51.01 - 51.08 of the Maryland Stds. & Specs. for Soil Erosion and Sediment Control for Permanent Seeding and Pages 50.01 - 50.05 for Temporary Seeding.
11. As per C.O.MAR 08.05.01.06 — "Following initial soil disturbance or redisturbance, permanent or temp. stabilization shall be completed within: (a) Seven calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to one vertical (3:1) and (b) fourteen days as to all other disturbed or graded areas on the project site."
12. All Pipes to be blocked at the end of each day (See detail below).
13. The total amount of Straw Bale Dikes / Silt Fence shown = 900 L.F.
14. SITE ANALYSIS:
    - A. Total Area: 17.0568 Acres
    - B. Area to be Roofed: None Acres
    - C. Area to be Paved: 1.1000 Acres
    - D. Area to be Seeded: 1.8247 Acres
    - E. Area Undisturbed: 14.1321 Acres
15. All sediment traps must be fenced and warning signs posted around their perimeter in accordance with Vol. I, Chapter 12, of the Howard Co. Design Manual for Storm Drainage.
16. EXCAVATION = 5710 CY
    FILL = 7150 CY



PIPE BLOCKING DETAIL

NO SCALE

#86

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents as are deemed necessary."

Signature of Developer/Builder — 9/28/84 Date

Reviewed for Howard S.C.D. Name and meets Technical Requirements

Signature — Date

U.S. Soil Conservation Service

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

Approved — 11/6/84 Date

STATE OF MARYLAND — G. NELSON CLARK — NO. 7199 — REGISTERED PROFESSIONAL ENGINEER

ENGINEER'S CERTIFICATE

I hereby 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.

G. Nelson Clark — 9-21-84 Date

APPROVED: DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Engineering — 11-20-84 Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

Chief, Division of Land Development & Zoning Administration — 11-16-84 Date

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DESIGNED JLS	ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL DETAILS	SCALE AS SHOWN
DRAWN KW	CEDAR ACRES	DRAWING 6 OF 6
CHECKED JLS	SECTION THREE 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 83.114
DATE 9-28-84	FOR: BRANTLY DEVELOPMENT CORP. 5501 Twin Knolls Rd. Columbia, Md 21045	FILE NO. 83114-D

7-19-88 AS-BUILT

F-85-55