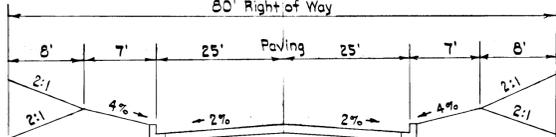
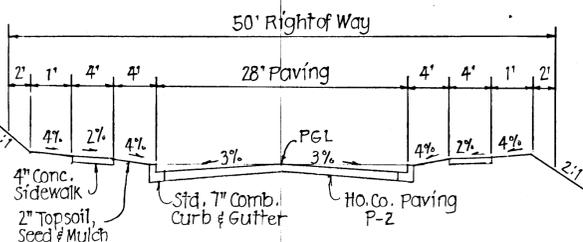


**GENERAL NOTES**

1. Construction shown hereon shall be in accordance with the Ho. Co. Std. Specifications and Details.
2. Elevations shown hereon are based on the Ho. Co. Vertical Control Datum.
3. The location of existing utilities shown on the drawing are based on the latest available information. The Contractor shall however, determine the exact locations and shall notify Miss Utility at least three (3) days prior to beginning any construction work.
4. The Developer shall notify the Ho. Co. Office of Inspection at least 24 hours prior to beginning any construction hereon at (301) 992-2436 or 992-7171.
5. Provide street trees at 40' interval. Trees shall have a minimum trunk diameter of 2 1/2" and shall be hardwood variety and indigenous to the area. Acer Rubrum (Red Maple) is preferred.
6. All traffic control devices to be installed shall comply to MSHA manual of uniform traffic control devices, 1978 Edition.



**FUTURE CEDAR LANE TYP. SECTION**



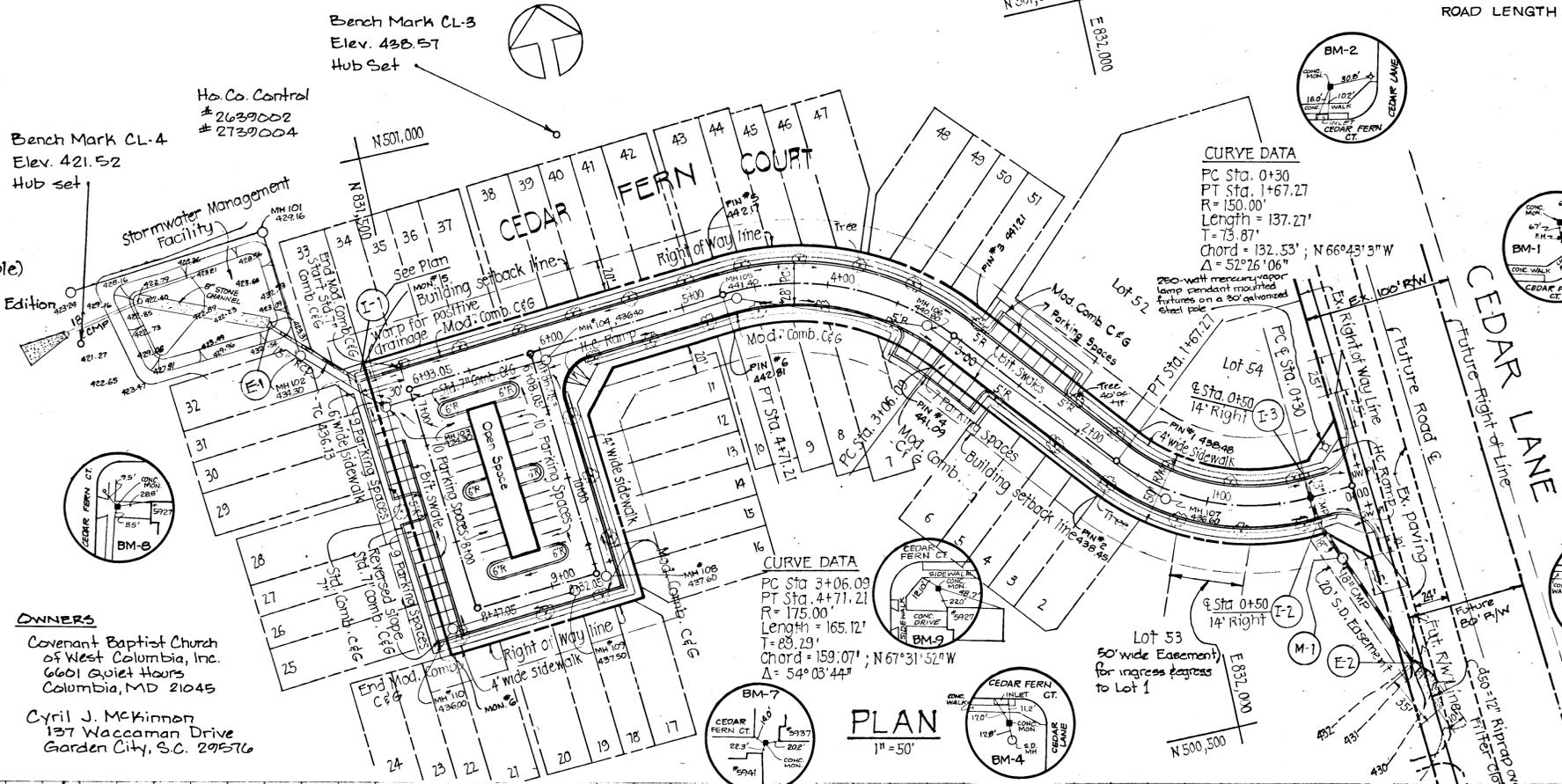
**ROADWAY TYP. SECTION**

Bench Mark CL-4  
Elev. 421.52  
Hub set

Ho. Co. Control  
# 2629002  
# 2729004

Bench Mark CL-3  
Elev. 438.57  
Hub Set

**OWNERS**  
Covenant Baptist Church  
of West Columbia, Inc.  
6601 Quiet Hours  
Columbia, MD 21045  
  
Cyril J. McKimmon  
137 Waccamam Drive  
Garden City, S.C. 29576



**PLAN**

1" = 50'

**VICINITY MAP**

1" = 1200'

**DRAWING INDEX**

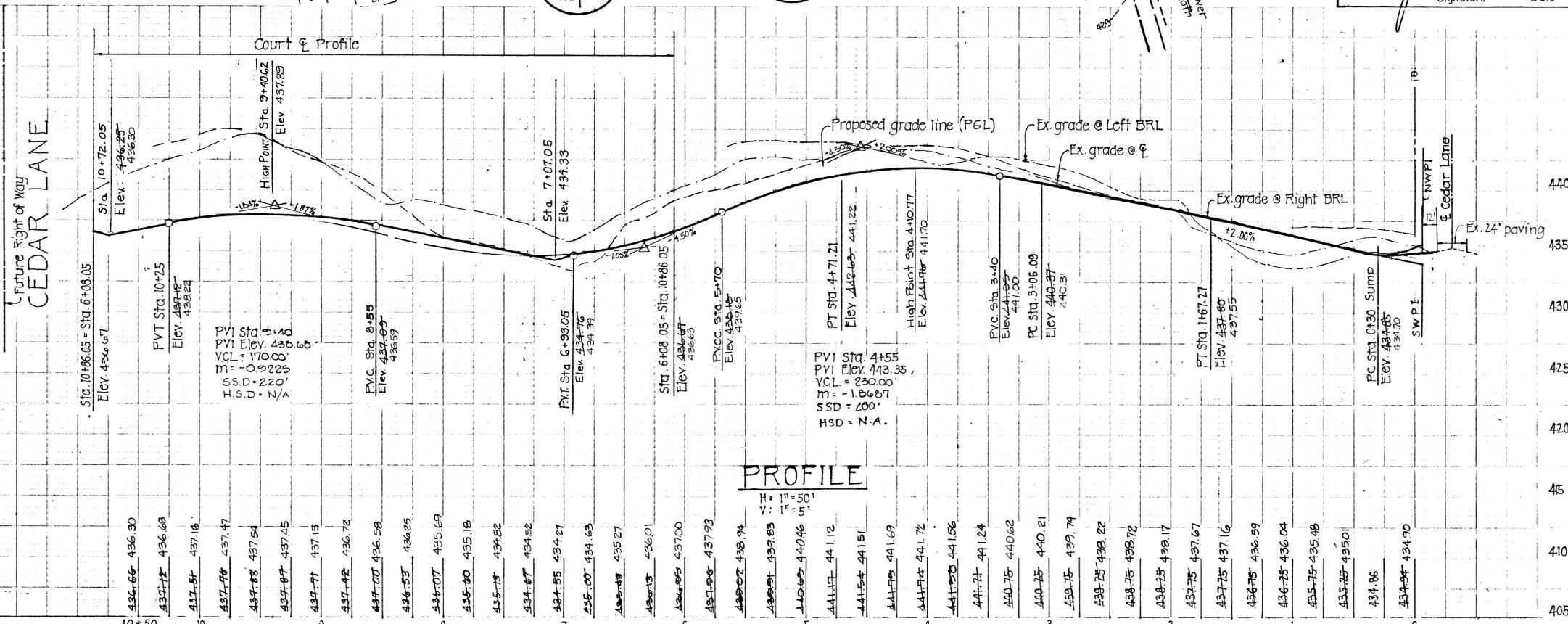
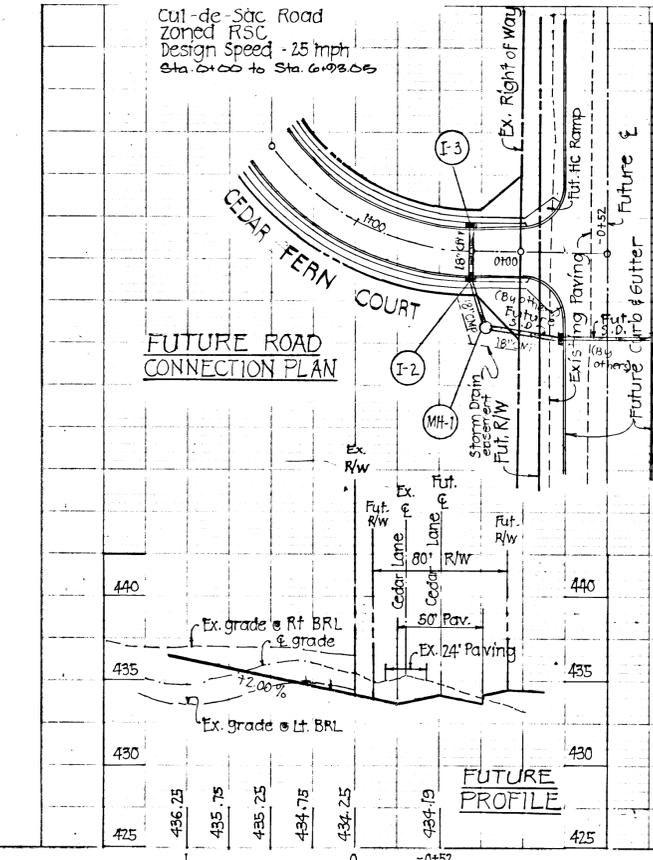
Sheet 1	Road Plan & Profile & Tree Planting Plan
2	Profiles and Details
3	Sediment Control, Grading Plan & Stormwater Management Plan
4	Sediment Control Details
5	Stormwater Management Profiles & Details

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Approved: *[Signature]*  
Signature Date

Reviewed for Howard Soil Conservation District and meets technical requirements.

Approved: *[Signature]* 10-7-86  
Signature Date



**PROFILE**

**FURDUM & JESCHKE**  
CONSULTING ENGINEERS  
LAND SURVEYORS  
1023 North Calvert Street  
Baltimore, Maryland 21202  
301/837-0184

Approved: Howard County Office of Planning and Zoning  
*[Signature]* 10-7-86  
Chief Div. of Land Development and Zoning Admin. Date

Approved: Howard County Department of Public Works  
*[Signature]*  
Chief, Bureau of Engineering Date

**DEVELOPER'S CERTIFICATION**  
I certify that all development and construction will be done according to this plan any responsible personnel involved in the construction project will have a certificate of attendance at the Dept. of Natural Resources approved training program for the control of any sediment erosion before beginning the project.  
*[Signature]* 12/21/85

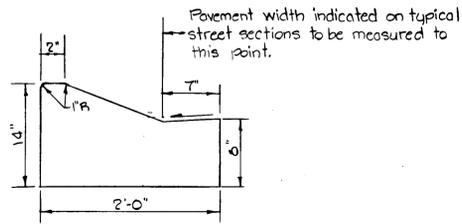
**ENGINEER'S CERTIFICATION**  
I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.  
*[Signature]* 9/12/86  
Date

**ROAD PLAN & PROFILE**  
**STORM DRAIN & TREE PLANTING PLANS**  
CEDAR FERN COURT  
CEDAR WOODS  
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
PARCEL NO. 36 & 37 TAX MAP NO. 35  
ZONED RSC DATE: DEC.  
REVISED 6-12-86

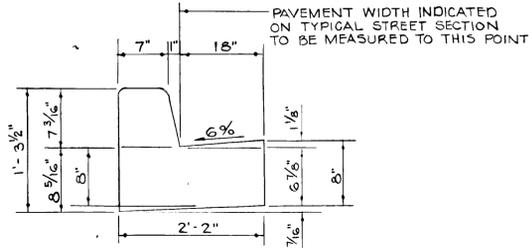
**SHEET 1 OF 5**  
DES. A.R.T.  
DRWN.  
CHK. A.R.T.  
J.O. 5433-00  
AS-BUILT

1238

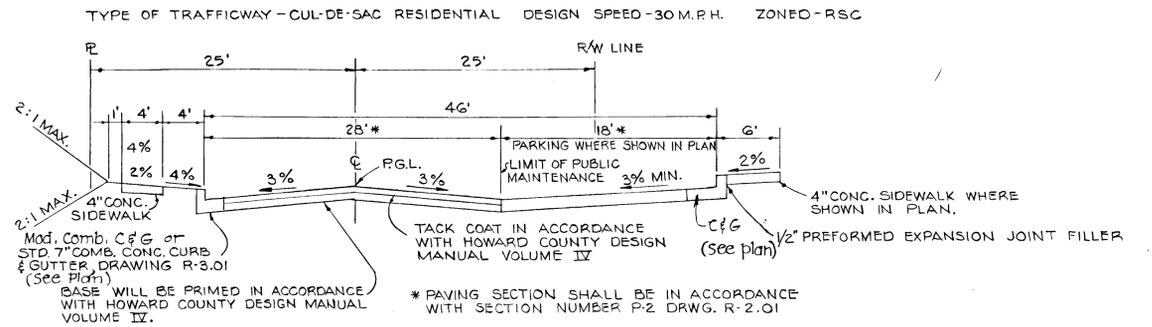
STRUCTURE SCHEDULE					
No.	TYPE	INV. IN	INV. OUT	TOP ELEV.	REMARKS
I-1	A-10	—	433.00	433.58	Ho. Co. Std. 4.02
I-2	A-10	430.97	430.97	434.05	Ho. Co. Std. 4.02
I-3	A-10	—	431.25	434.25	Ho. Co. Std. 4.02
MH-1	Manhole	430.37	430.37	435.00	Ho. Co. Std. 5.01 or Ho. Co. Std. 5.11
E-1	Endwall	—	423.00	—	Ho. Co. Std. 5.61
E-2	Endwall	—	423.50	—	Ho. Co. Std. 5.61



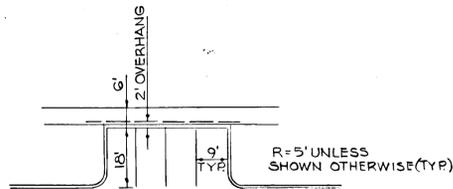
MODIFIED COMBINATION CURB & GUTTER  
NO SCALE



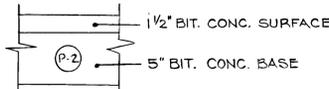
STANDARD SLOPE 7" COMB. CONC. CURB & GUTTER  
NO SCALE



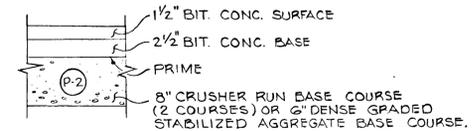
TYPICAL SECTION - PARKING ADJACENT TO PUBLIC ROAD  
NO SCALE



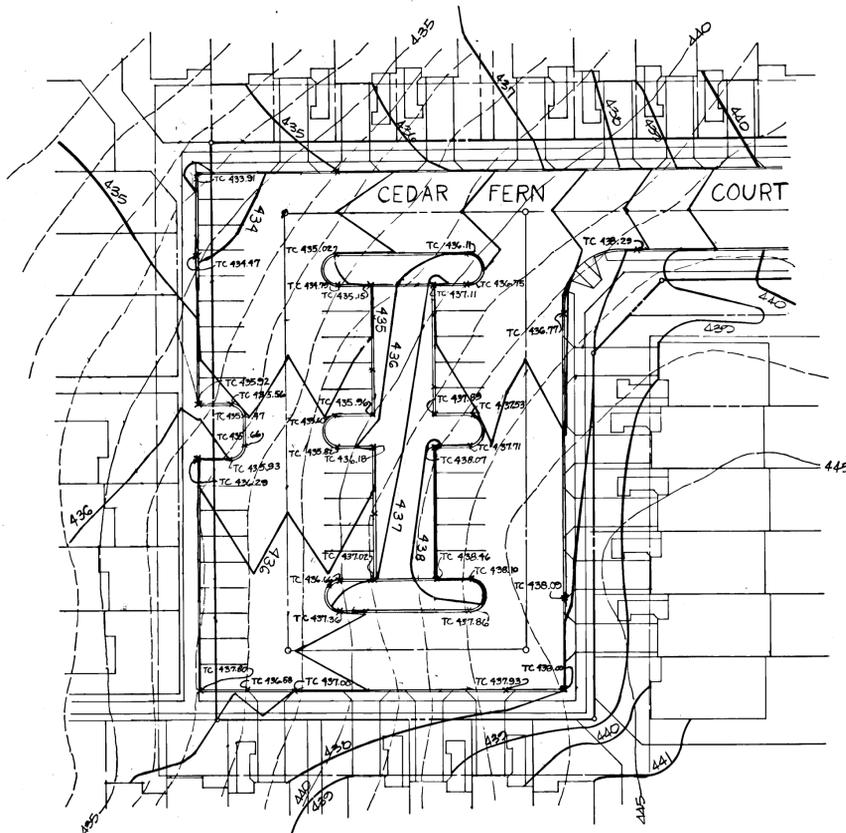
TYPICAL PARKING DETAIL  
NO SCALE



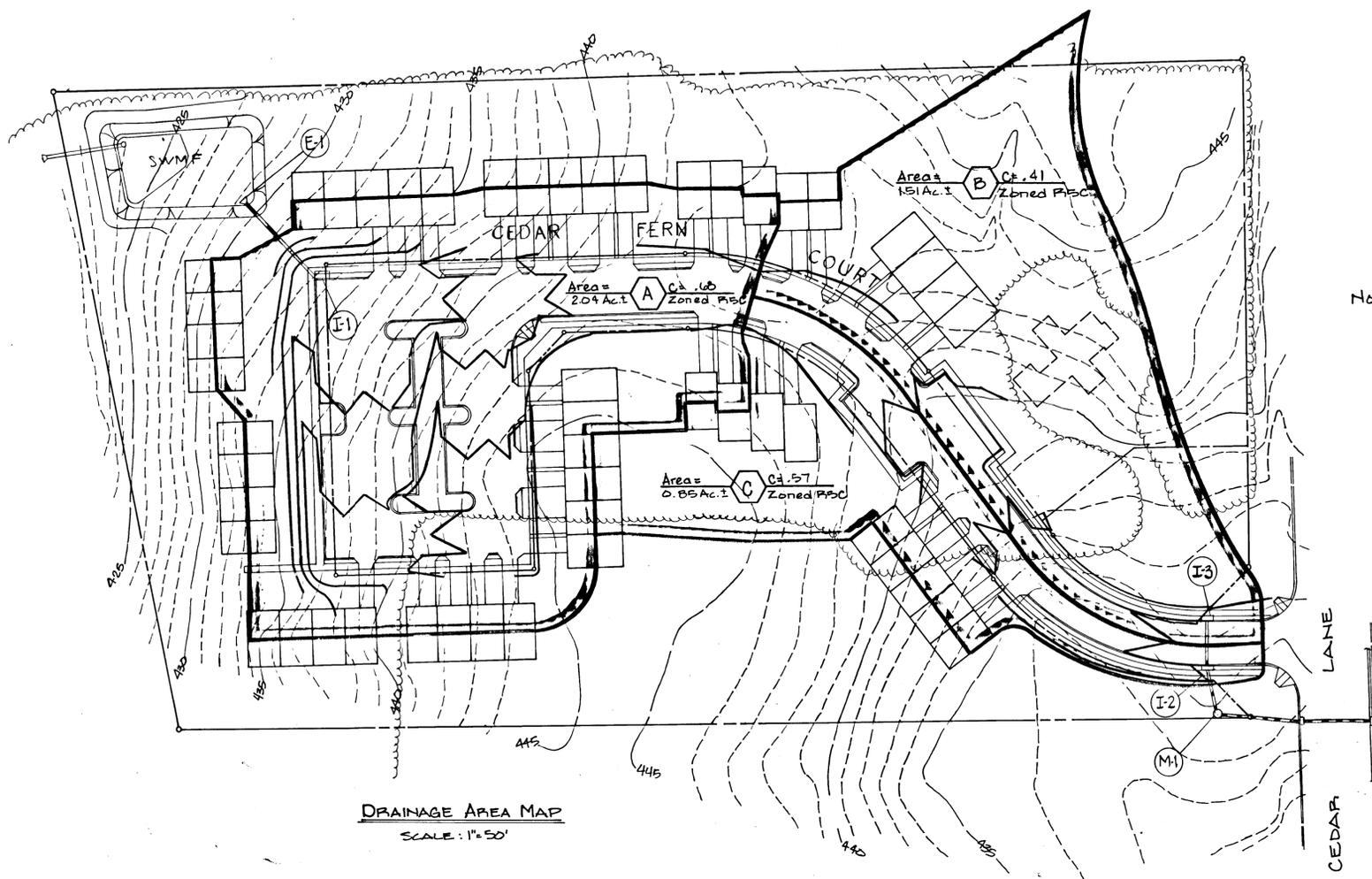
PAVING SECTION P-2  
NO SCALE



PAVING SECTION P-2  
NO SCALE



CUL-DE-SAC GRADING DETAIL  
SCALE: 1" = 50'



DRAINAGE AREA MAP  
SCALE: 1" = 50'

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Reviewed for Howard Soil Conservation District and meets technical requirements.

Approved: *[Signature]* 10-7-86  
Signature Date

Approved: *[Signature]* 10-9-86  
Signature Date

**PURDUM & JESCHKE**  
CONSULTING ENGINEERS  
LAND SURVEYORS  
1029 North Calvert Street  
Baltimore, Maryland 21202 301/837-0194

Approved: Howard County Office of Planning and Zoning  
*[Signature]* 10-7-86  
Chief Div. of Land Development and Zoning Admin. Date

Approved: Howard County Department of Public Works  
*[Signature]* 10/24/86  
Chief, Bureau of Engineering Date

DEVELOPER'S CERTIFICATION  
I certify that all development and construction will be done according to this plan any responsible personnel involved in the construction project will have a certificate of attendance at the Dept. of Natural Resources approved training program for the control of any sediment erosion before beginning the project.  
12/27/85

ENGINEER'S CERTIFICATION  
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.  
*[Signature]* 9/13/86  
Date

PROFILES & DETAILS  
STORM DRAINAGE AREA MAP  
CEDAR WOODS  
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
PARCEL NO. 36 & 37 TAX MAP NO. 35  
ZONED RSC DATE: DEC.

SHEET 2 OF 5  
DES. ART.  
DRWN.  
CHK. ART.  
J.D. 5433-00

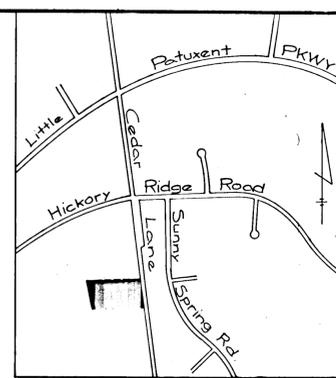
Existing 100 year Flood Plain Sewer, Water, Utility Drainage, and Storm Water Management Access Easement

**SEDIMENT BASIN DATA**  
 DRAINAGE AREA - 4.2 AC.  
 VOLUME REQUIRED - 1800 x 4.2 = 7,560 CU.FT.  
 VOLUME PROVIDED - 18,703 CU.FT.  
 BOTTOM ELEV. 421.5  
 CLEAN OUT ELEV. 422.5

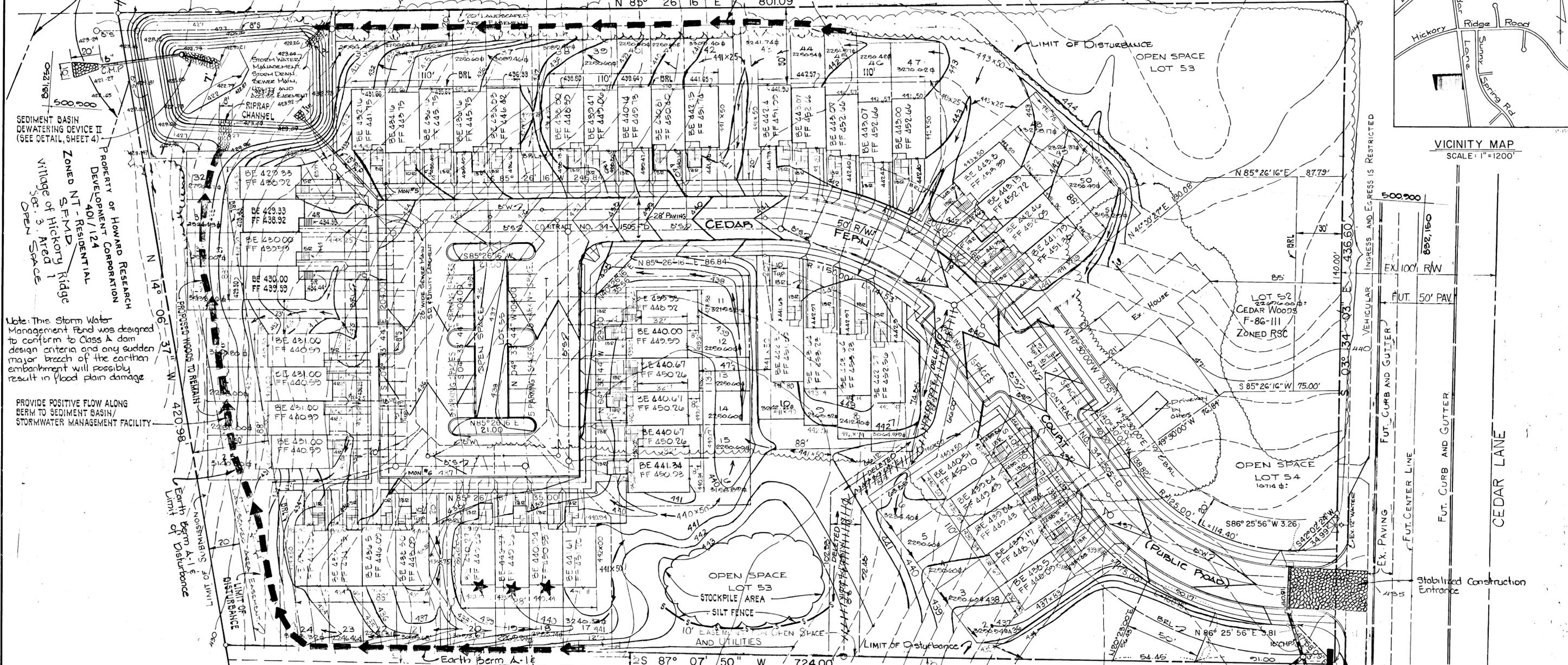
Village of Hickory Ridge  
 Sec. 3, Area 2  
 5615 - 5620  
 Zoned NT-Residential  
 S.F.M.D.

Earth Berm A-1  
 Limit of Disturbance

NOTE: THE GARAGES WITHIN THE UNITS SHALL BE USED FOR PARKING PURPOSES ONLY IN ACCORDANCE WITH SECTION 127.B.2.b.(18) OF THE HOWARD COUNTY ZONING REGULATIONS.  
 Property of Howard County Teacher's Association 627/0197  
 Zoned RSC



VICINITY MAP  
 SCALE: 1"=1200'



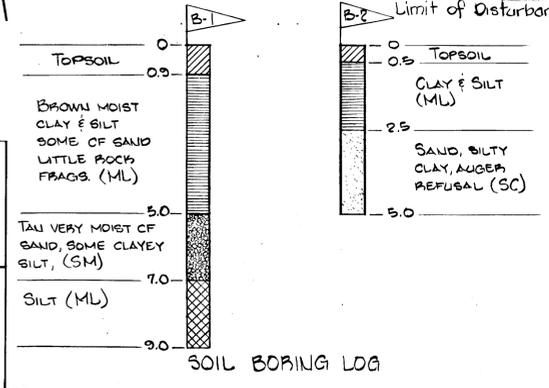
SEDIMENT BASIN DEWATERING DEVICE II (SEE DETAIL, SHEET 4)

Property of HOWARD RESEARCH DEVELOPMENT CORPORATION  
 Zoned NT-Residential  
 S.F.M.D.  
 Village of Hickory Ridge  
 Sec. 3, Area 1  
 OPEN SPACE

Note: This Storm Water Management Pond was designed to conform to Class A dam design criteria and any sudden major breach of the earthen embankment will possibly result in flood plain damage.

PROVIDE POSITIVE FLOW ALONG BERM TO SEDIMENT BASIN/STORMWATER MANAGEMENT FACILITY

Limit of Disturbance  
 Earth Berm A-1  
 Limit of Disturbance



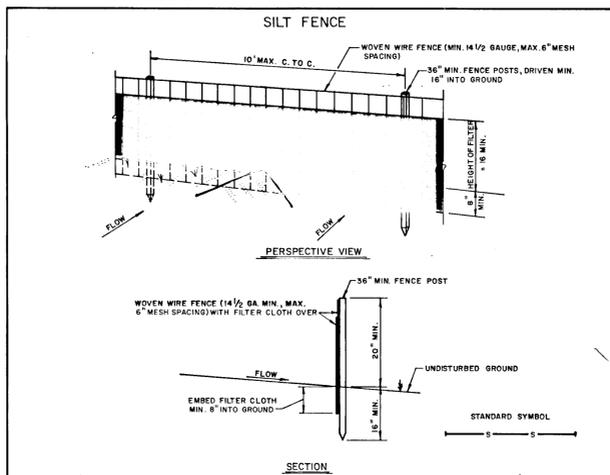
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.  
 U.S. SOIL CONSERVATION SERVICE 10-7-86 DATE  
 APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL.  
 HOWARD SOIL CONSERVATION DISTRICT 10-7-86 DATE

NOTE: PARKING SPACES FOR USE ONLY BY UNITS WITHOUT GARAGES.

Stone Outlet Sediment Trap No. 1  
 Drainage Area: 4.50 ac.  
 Volume Required: 8100 CF  
 Volume Provided: 60' x 80' x 1.70' = 8160 CF  
 Bottom Elev: 430.30  
 Storage Limit Elev: 432.0  
 Stone Outlet Crest Elev: 433.0  
 Earth Dike Elev: 434.0  
 Length of Stone Outlet: 4' x 5' = 20'  
 Cleanout Elev: 431.0

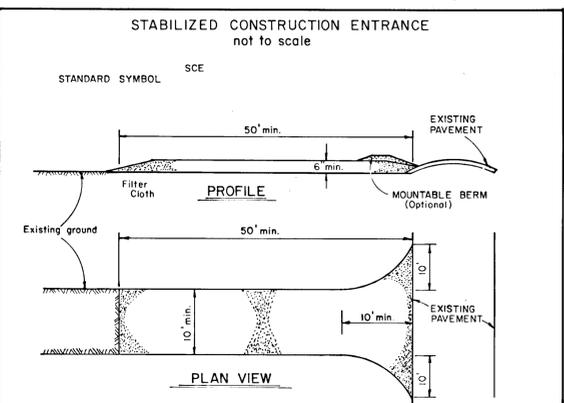
<b>PURDUM &amp; JESCHKE</b> <b>CONSULTING ENGINEERS</b> <b>LAND SURVEYORS</b> 1029 North Calvert Street Baltimore, Maryland 21202 301/837-0194	APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING <i>[Signature]</i> 10-7-86 CHIEF DIVISION OF LAND DEVELOPMENT & ZONING ADMIN. DATE	APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>[Signature]</i> CHIEF, BUREAU OF ENGINEERING DATE	DEVELOPERS CERTIFICATION I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEGINNING THE PROJECT. <i>[Signature]</i> 10/23/86 SIGNATURE DATE	ENGINEER'S CERTIFICATION I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. <i>[Signature]</i> 11/2/86 SIGNATURE DATE	SEDIMENT CONTROL, GRADING & STORM WATER MANAGEMENT PLAN <b>CEDAR WOODS</b> 5th ELECTION DISTRICT PARCEL NO. 36 B 37 ZONED R SC AS-BUILT	SHEET 3 OF 5 DES. M.A.H. DRWN. T.D.E. CHK. M.A.H. SCALE: 1"=30' HOWARD COUNTY, MD. TAX MAP NO. 35 DATE: APRIL 22, 1986 JOB # 5433-10
	F-86-111					

1238



**CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**

- Woven wire fence to be fastened securely to fence posts with wire ties or staples. POSTS: Steel either T or U Type or 2" Hardwood
- Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid-section. FENCE: Woven wire, 14 Ga. 6" Max. Mesh Opening
- When two sections of filter cloth adjoin each other, they shall be overlapped by six inches and folded. FILTER: Filter X, Mirafix 100X, Stabilinks T140N, or approved equal
- Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence. PREFABRICATED Geofab, UNIT: Envirofence, or approved equal



**CONSTRUCTION SPECIFICATIONS**

- Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
- Length - As required, but not less than 50 feet (except on a single residence lot where a 30-foot minimum length would apply).
- Thickness - Not less than six (6) inches.
- Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
- Filter Cloth - Will be placed over the entire area prior to placement of stone. Filter will not be required on a single family residence lot.
- 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.
- 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.
- 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.
- Periodic inspections and needed maintenance shall be provided after each rain.

**PERMANENT SEEDING NOTES**

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

**Seeded Preparation:** Loosen upper 3 inches of soil by raking, disking, or other acceptable means before seeding.

**Soil Amendments:** Use on the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq.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.)
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq.ft.) and 1000 lbs. 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 thru July 31, seed with 60 lbs. of Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs./1000 sq.ft.) of creeping lovegrass. During the period of October 16 thru February 28, protect site by: Option 1 - 2 tons 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. per acre Kentucky 31 Tall Fescue, and mulch with 2 tons per acre well-anchored straw.

**Mulching:** Apply 1 1/2 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 gallons per acre (5 gal./1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal./1000 sq.ft.) for anchoring.

**Maintenance:** Inspect all seeded areas, and make needed repairs, replacements, and reseedings.

**TEMPORARY SEEDING NOTES**

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

**Seeded Preparation:** Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding.

**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 25 bushel per acre of annual rye (3.2 lbs./1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of creeping 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.

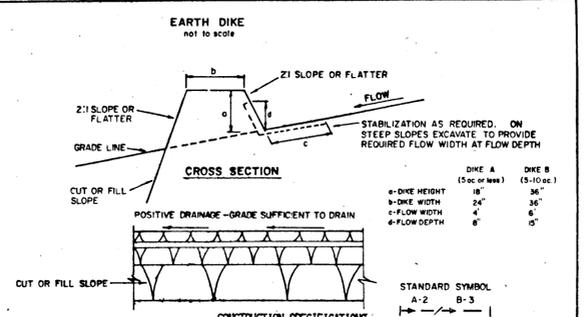
**Mulching:** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal./1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher,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

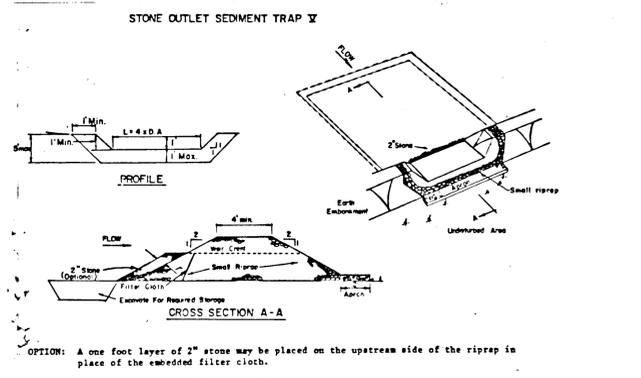
- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction (997-7437).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 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 all other disturbed or graded areas on the project site.
- 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.
- 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 seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50), and mulching (Sec. 52). Temporary stabilization with mulch along can only be done when recommended seeding dates do not allow 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	13.45 acres
Area disturbed	3.97 acres
Area to be roofed or paved	1.30 acres
Area to be vegetatively stabilized	2.67 acres
Total cut	7.588 cu.yds.
Total fill	3.487 cu.yds.
Office waste/borrow area location	Not Necessary
- 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 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.
- On all site 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.



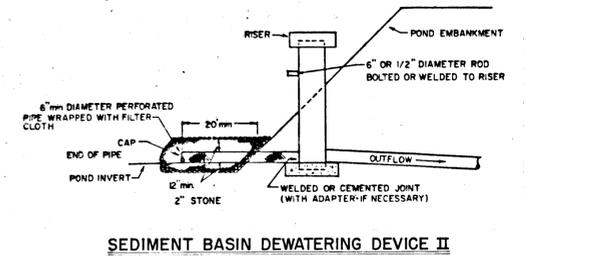
**CONSTRUCTION SPECIFICATIONS**

- All dikes shall be compacted by earth-moving equipment.
  - All dikes shall have positive drainage to an outlet.
  - Top width may be wider and side slopes may be flatter if desired to facilitate crossing by 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. RUNOFF 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 ADEQUATELY STABILIZED.
  - 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 THE CHART BELOW.
- | TYPE OF TREATMENT | CHANNEL WIDTH | 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 EXCELISOR, 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. 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. RIP-RAP 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.  
 7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

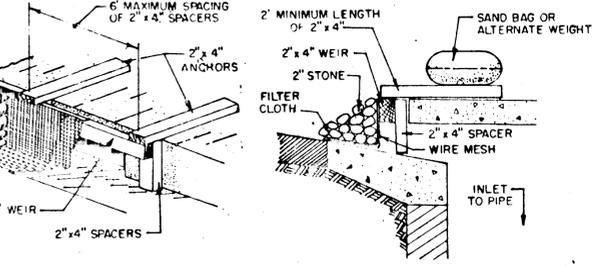


**CONSTRUCTION SPECIFICATIONS FOR ST-V**

- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots and other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- All cut and fill slopes shall be 2:1 or flatter.
- The stone used in the outlet shall be small riprap 4"-8" along with a 1" thickness of 2" aggregate placed on the upgrade side on the small riprap or embedded filter cloth in the riprap.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
- The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.



**SEDIMENT BASIN DEWATERING DEVICE II**



**CURB INLET PROTECTION DETAIL**

- CONSTRUCTION SEQUENCE**
- Obtain grading permit. 2 weeks
  - Clear and grub for the installation of perimeter controls. 3 days
  - Install sediment control devices. 3 days
  - Clear and grub area of stormwater management facility. 4 days
  - Install sewer from existing Manhole 143 to Manhole 222. 1 week
  - Construct stormwater management pond, temporary sediment basin, riprap channels, and stabilize prior to grading site. 6 weeks
  - Clear and grub remaining area. 2 weeks
  - Start grading of roadway to subgrade. 3 weeks
  - Install storm drain, water main, and sewer main; provide inlet protection to all inlets. 3 weeks
  - Construct curb and gutter and start paving. 2 weeks
  - Stabilize disturbed areas not to be paved. 3 months
  - Remove sediment control devices as approved by inspector. 5 days

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Reviewed for Howard Soil Conservation District and meets technical requirements.

Approved: *Stephen L. Phelps* 10/7/86  
Signature Date

Approved: *Thomas M. Phelps* 10-7-86  
U.S. Soil Conservation Dist. Date

APPROVED FOR PUBLIC WATER & PRIVATE SEWERAGE SYSTEMS.

HOWARD COUNTY HEALTH DEPARTMENT

OWNER / DEVELOPER

COUNTY HEALTH OFFICER DATE

**PURDUM & JESCHKE**  
CONSULTING ENGINEERS  
LAND SURVEYORS  
1029 North Calvert Street  
Baltimore, Maryland 21202 301/837-0194

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

*William J. ...* 10-7-86  
CHIEF DIVISION OF LAND DEVELOPMENT & ZONING ADMIN. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*...* DATE  
CHIEF, BUREAU OF ENGINEERING

DEVELOPER'S CERTIFICATION

I 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 the Dept. of Natural Resources approved training program for the control of any sediment and erosion before beginning the project.

*Harold Pains* 10/2/86

ENGINEER'S CERTIFICATION

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.

*William J. ...* 9/12/86  
DATE

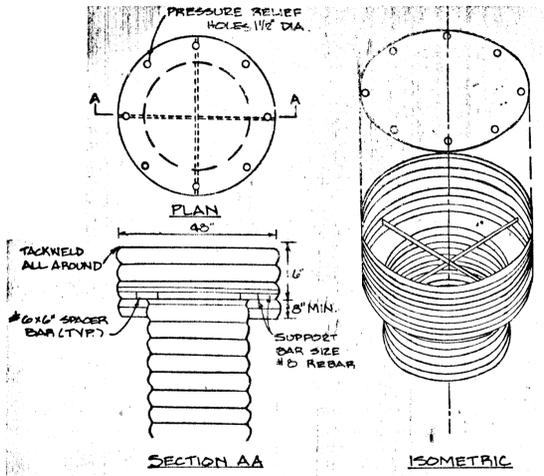
SEDIMENT CONTROL DETAILS

CEDAR WOODS

6TH ELECTION DISTRICT ZONED M-2

HOWARD COUNTY MD. SCALE: AS SHOWN AUGUST 1986

J.O. 5433-00

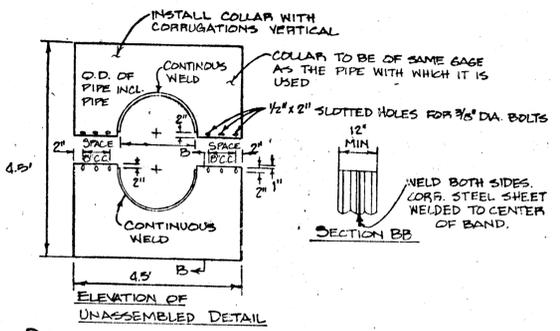


TOP IS 12 GAGE CORRUGATED METAL. PRESSURE RELIEF HOLES MAY BE OMITTED IF ENDS OF CORRUGATIONS ARE LEFT FULLY OPEN WHEN CORRUGATED TOP IS WELDED TO CYLINDER.

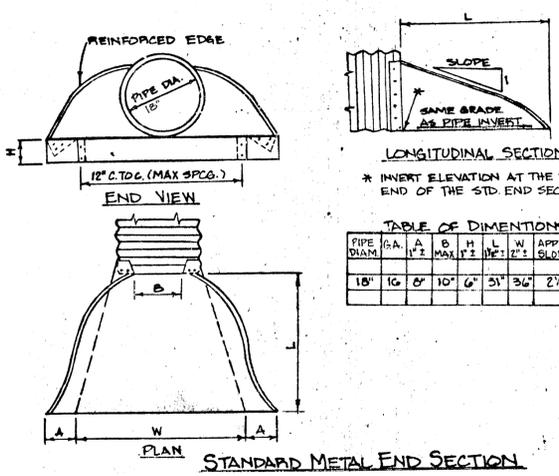
CYLINDER IS 12 GAGE CORRUGATED METAL PIPE.

NOTES:  
1. THE CYLINDER MUST BE FIRMLY FASTENED TO THE TOP OF THE RISER.  
2. SUPPORT BARS ARE WELDED TO THE TOP OF THE RISER OR ATTACHED BY STRAPS BOLTED TO TOP OF RISER.

CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

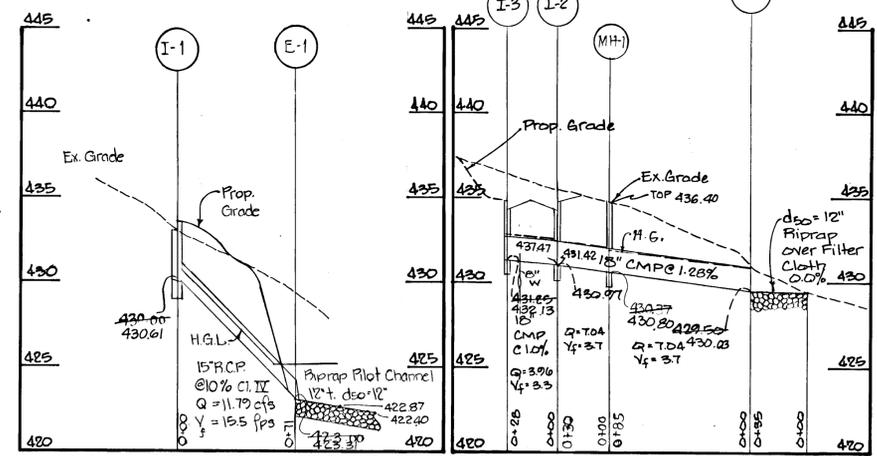


DETAILS OF CORRUGATED STEEL ANTI-SEEP COLLAR  
\*Alternate - Metal Sheet



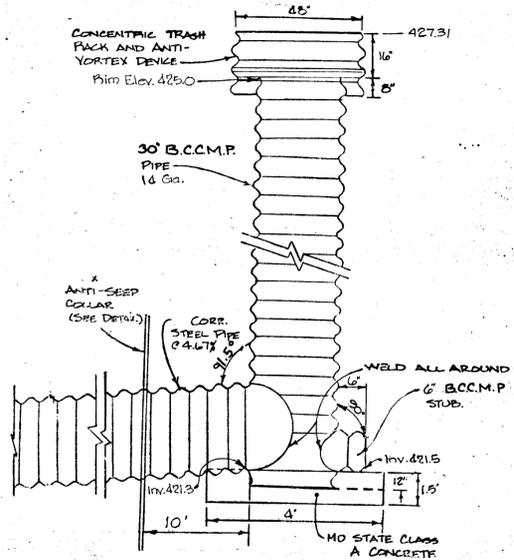
STANDARD METAL END SECTION

PIPE DIAM.	GA.	A	B	H	L	W	APPROX. SLOPE	BODY
18"	16	6"	10"	6"	5 1/2"	3 1/2"	2 1/2"	1PC.

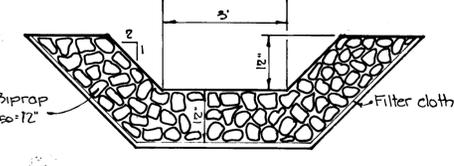


STORM DRAIN PROFILE I-1 TO E-1  
SCALE: HORIZ. 1"=50' VERT. 1"=5'  
NOTE: For Storm Pipe use Class C Bedding Ho Co. Fig 11.4 Vol. 1

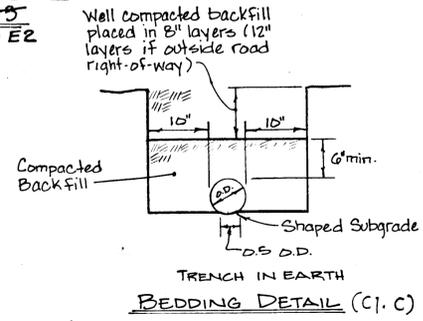
STORM DRAIN PROFILE I-2 TO E-2  
SCALE: HORIZ. 1"=50' VERT. 1"=5'



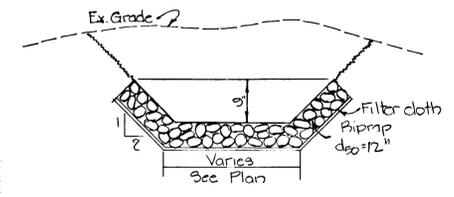
PRINCIPLE SPILLWAY DETAIL



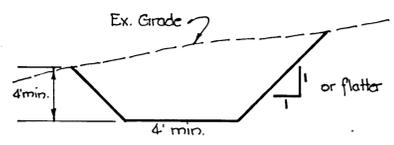
PILOT CHANNEL U.T.S.



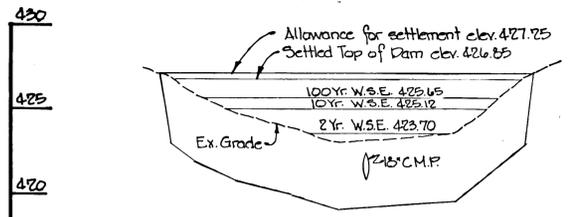
TRENCH IN EARTH BEDDING DETAIL (C.I.C.)



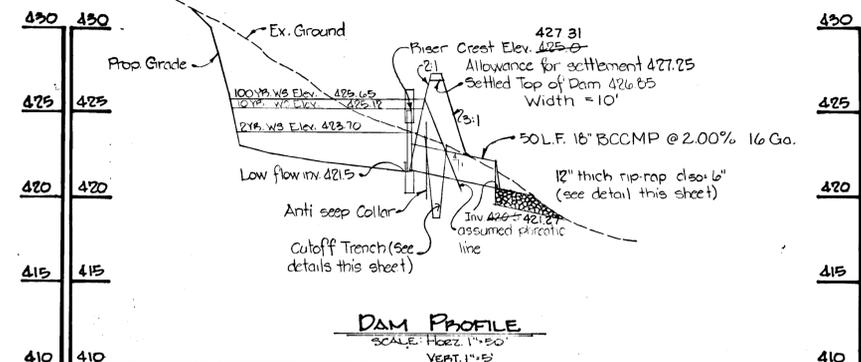
PIPRAP OUTLET PROTECTION DETAIL U.T.S.



CUTOFF TRENCH CROSS SECTION U.T.S.



CUTOFF TRENCH PROFILE SCALE: HORIZ. 1"=50' VERT. 1"=5'



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

**SITE PREPARATION**  
Areas under the borrow areas, embankment, and structural works shall be cleared, grubbed, and the topsoil stripped to remove all trees, vegetation, roots, or other objectionable material. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas covered by the 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.

All cleared and grubbed material shall be disposed of outside 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.

**EARTH FILL**  
Material  
The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, and 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.

**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 porous borrow material shall be placed in the downstream portions of the embankment.

**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 sheepfoot, rubber tired, or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

**Cutoff Trench**  
Where specified, a cutoff 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 governed by the equipment used for excavation 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.

**PIPE CONDUITS**  
**Corrugated Metal Pipe**  
Materials (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190, Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

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 shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight.

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.

Laying Pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides. Backfilling shall conform to structural backfill as shown above.

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

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

**NOTE:**  
This stormwater management pond was designed to conform to Class A dam design criteria and any sudden major breach of the earthen embankment will possibly result in floodplain damage.

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  
Date: 10-7-86

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
Howard Soil Conservation District  
Date: 10/7/86

Approved: Howard County Office of Planning and Zoning  
Date: 10-7-86

Approved: Howard County Department of Public Works  
Date: 10-7-86

**DEVELOPER'S CERTIFICATION**  
I certify that all development and/or construction will be done according to these plans, 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 will provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.  
Date: 10/27/86

**ENGINEER'S CERTIFICATION**  
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 an "as-built" plan of the pond within 30 days of completion.  
Date: 9/14/86

**STORMWATER MANAGEMENT PROFILES & DETAILS** SHEET 5 OF 5  
DES. ART. DRWN. T.O.E.  
CHK. A.R.T. J.O. 5433-00  
**CEDAR WOODS**  
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
PARCEL NO. 36 B 37 TAX MAP NO. 35  
ZONED RSC DATE: DEC.  
AS-BUILT Rev. 6-12-86 F-86-111

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