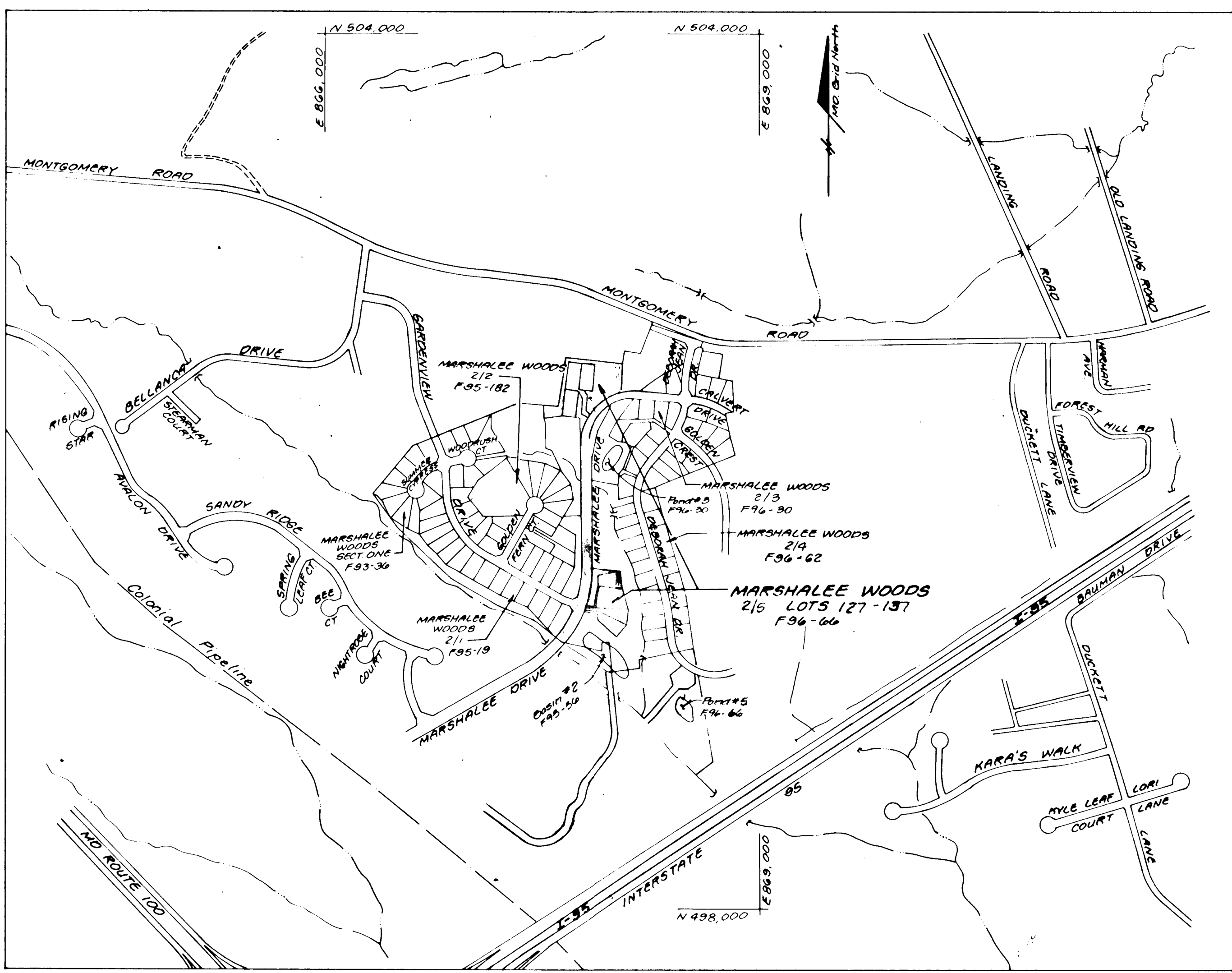


INDEX OF SHEETS	
SHEET NO.	TITLE
1	COVER SHEET
2	MARSHALEE DRIVE 88+47.50 - 98+75 PLAN & PROFILE
3	MARSHALEE DRIVE 98+75 - 106+96.03 PLAN & PROFILE
4	ROAD DETAILS
5	STORM DRAIN PROFILES
6	STORM DRAIN PROFILES
7	GRADING & SEDIMENT AND EROSION CONTROL PLAN
8	GRADING & SEDIMENT AND EROSION CONTROL PLAN
9	GRADING & SEDIMENT AND EROSION CONTROL DETAILS
10	DRAINAGE AREA MAP
11	DRAINAGE AREA MAP
12	LANDSCAPE PLAN
13	LANDSCAPE PLAN

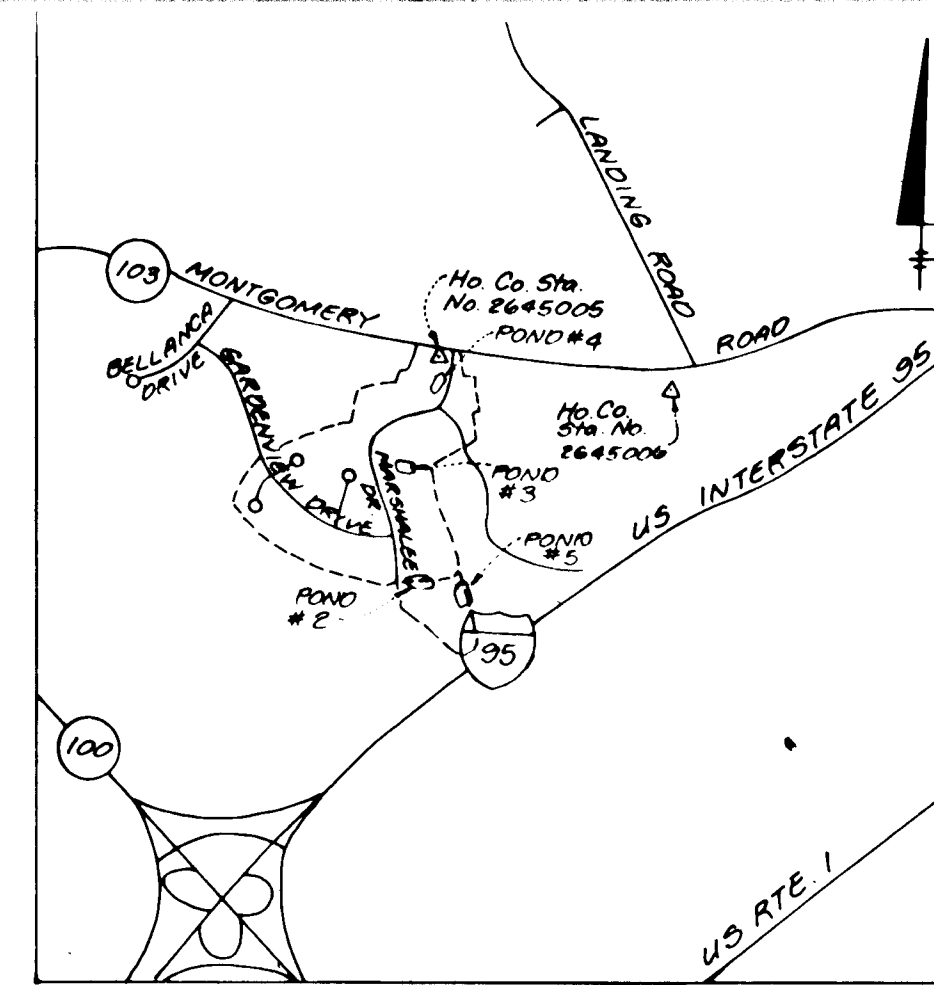
BENCHMARKS:

Ho. Co. Monument # 2645005
 ELEV. 291.929
 Description: Concrete Monument 0.3 ft. below surface at top of bank

Ho. Co. Monument # 2645006
 ELEV. N/A
 Description: Concrete Monument 0.2 ft. below surface at top of bank



LOCATION MAP
 Scale: 1" = 600'



VICINITY MAP
 Scale: 1" = 2000'

GENERAL NOTES

- All construction shall be in accordance with the latest standards and specifications of Howard County Design Manual, Volume II.
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection at (410) 313-1880 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least forty-eight (48) hours prior to any excavation work.
- Project Background:
 Location: Elkridge, Tax Map: 37, Parcels: 593 & 656
 Zoning: R-20
 Section / Area, Lots: 2/5, Lots 127 - 137
 Election District: 1st
 Total Area: 9.0860 Ac. plus/minus
 Previous Submittals: S88-66, S89-30, P90-28, WP91-190, P92-17, F93-36, P94-07, F95-19, F95-182, F98-30, F96-62
- Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- Any damage caused by the contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be corrected at the contractor's expense.
- The existing utilities shown hereon are located from field surveys and construction drawings of record. The approximate location of existing utilities are shown for the contractor's information and convenience. The contractor shall locate existing utilities to his own satisfaction and well in advance of any construction activities. Additionally, the contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service.
- The topography shown hereon is compiled from photogrammetric aerial survey, compiled by Photogrammetric Services, Inc. (March 16, 1989); and post-graded conditions in accordance with F95-19 and F95-182, F98-30, F96-62, and Culvert Ridge.
- Horizontal and vertical datums are related to the Maryland State Plane Coordinate System as projected from Howard county control stations No. 2645005 and No. 2645006 (NAD 27).
- All hydraulic data is for the 10-year storm unless otherwise noted.
- Sidewalks and ramps shall be in conformance with the current ADA requirements.
- See sheet 9 for construction sequence.
- 95% compaction in all fill areas shall be determined by AASHTO T-180.
- Stormwater management is provided in the Pond #2 (F93-36)
 Quality Management is by Detention
 Quality Management is by Retention.
 Stormwater management is provided in the Pond #3 (F96-30)
 Quality Management is by Detention
 Quality Management is by Extended Detention.
- Street Light placement and the type of fixture and pole selected shall be in accordance with the Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for street lights in Residential Developments (June 1993)."
- Wetlands delineation by Exploration Research, Inc. July 1988 and February 1989.
- Floodplain analyzed by Land Design Engineering, Inc., based on field run data and approved as part of P94-07.
- Noise Study compiled by Land Design Engineering, Inc. as part of P94-07 approval. At the time when the Ultimate Marshalee Drive is constructed, the noise berm across Lots 74 & 84 shall be built in accordance with the approved noise study.
- Access for Lots 127, 128, & 129 is by a shared driveway onto Marshalee Drive. Access for Lots 130, 131, 132, & 133 is by a shared driveway onto Marshalee Drive.
- Waivers
 WP94-90 To allow Residential Driveway Access Granted 1/23/95
 16.119(0)(2) To allow Residential Driveway Access onto a Minor Arterial Highway for Lots 61,62,63, and 73,74,75, and 76. (New Lot #'s are 127 - 135)
- Open Space Lots 86 & 87 of the F96-30 submission and Open Space Lots 134, 135, & 136 of the F94-07 submission. Right-of-Way Reservations for Ultimate Marshalee Drive; to be constructed as 80' Right-of-Way under Capital Project J-4136.
- 401 Permit 89-WG-0100 Expires Feb 8, 1997
 403 Permit 89-00107-5 Expires Jan 21, 1997
- Temporary Stormwater Management provided by F96-60
- Waivers (cont)
 WA96-10 To not require a usable yard 25 minimum between the 75 Stream Buffer and the rear of the proposed units on lots 87-90 (new lot # 110-115) Granted 1/20/96
 16.116(a)(b) Applicable to F96-62 Section 2 Area 4
- Future Marshalee Drive extension (Sta. 88+75+ to Sta. 109+50+) shall be constructed as part of Capital Project J4136. The Future extension shall be in accordance with the agreement between Howard County and the Developer signed and executed 6/3/96.

ROAD & STORM DRAIN CONSTRUCTION PLANS
 MARSHALEE WOODS
 SECTION TWO AREA FIVE
 LOTS 127 THRU 137
 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

6991

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Ariel Stummamp 8/20/96
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

Bill Dammer 8/20/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.

Robert M. Danche 8-16-96
 CHIEF, BUREAU OF HIGHWAYS DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MET THE TECHNICAL REQUIREMENTS.

N/A DATE

NATURAL RESOURCE CONSERVATION SERVICE DATE

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

HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE

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

Brace D. Burtan 7/21/96
 SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

"I HAVE 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 ATTENTION AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BY THE HOWARD SOIL CONSERVATION DISTRICT. I ALSO AUTHORIZE PERSONNEL OF THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS NECESSARY."

John L. Linn 11/2/95
 SIGNATURE OF DEVELOPER DATE

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 BRACE D. BURTON
 7/21/96

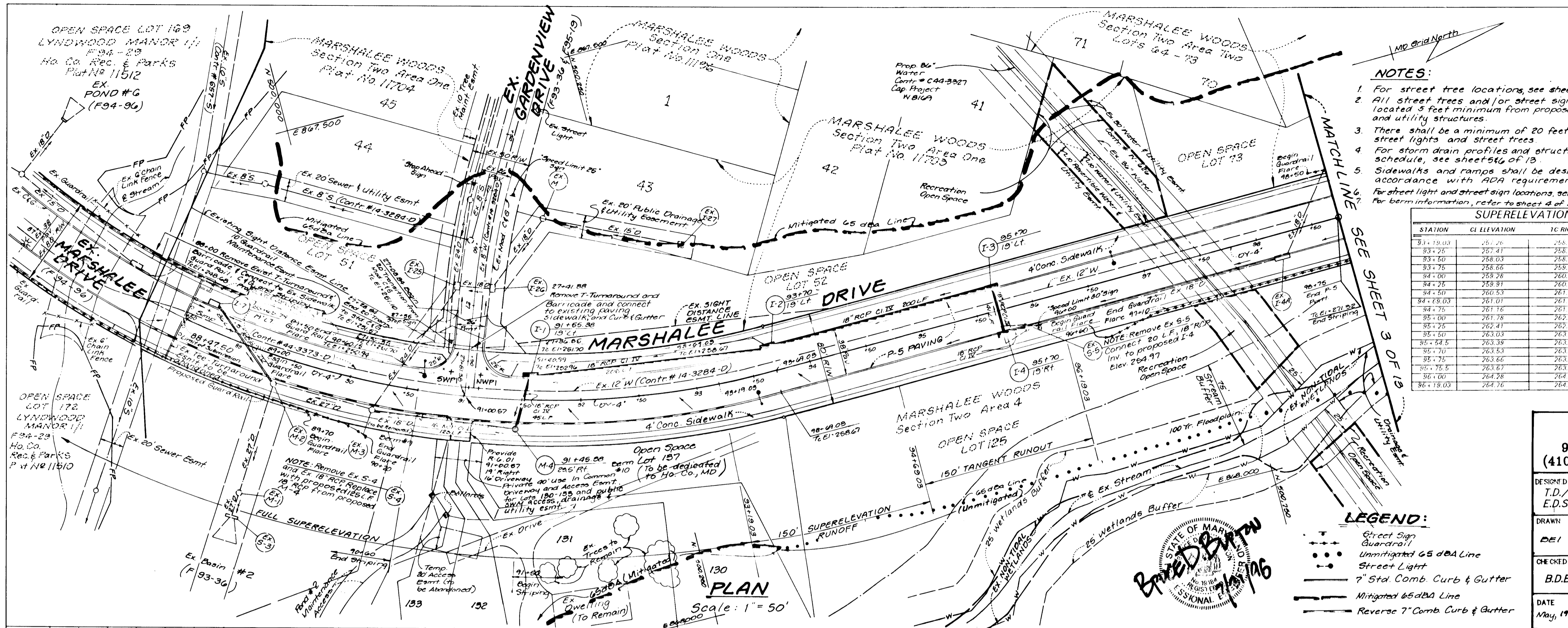
LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED T.D./E.D.S. COVER SHEET MARSHALEE WOODS Section 2 - Area 5 Lots 127 - 137 SCALE AS SHOWN

DRAWN W.J./C.E.I. DRAWING 1 of 13

CHECKED B.D.B. Tax Map 87/Article 5 & 11 1st ELECTION DISTRICT Parcels 593 & 656 HOWARD COUNTY, MARYLAND JOB NO.

DATE May 1996 Owner/Developer Marshalee Woods Limited Partnership 8835 Columbia 100 Parkway Unit P Columbia, Maryland 21045 (410) 730-0810 FILE NO. F96-66



CENTERLINE CURVE DATA

NAME & STA.	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
Marshalee Dr. 88+47.50 to 92+61.03	741.00'	42°52'24"	564.50'	290.96'	541.65'	N 21°00'55" E

- NOTES:**
- For street tree locations, see sheets 12 and 13.
 - All street trees and/or street signs shall be located 5 feet minimum from proposed drainage and utility structures.
 - There shall be a minimum of 20 feet between street lights and street trees.
 - For storm drain profiles and structure schedule, see sheet 54 of 13.
 - Sidewalks and ramps shall be designed in accordance with ADA requirements.
 - For street light and street sign locations, see sheet 4 of 13. For better information, refer to sheet 4 of 13.

SUPERELEVATION TABLE

STATION	CL ELEVATION	1C RIGHT	1C LEFT
88+19.03	251.26	251.24	251.42
88+25	251.41	251.37	251.57
88+30	251.63	251.53	251.79
88+35	251.66	251.50	251.82
88+40	251.78	251.06	251.84
88+45	251.91	250.62	251.87
88+50	252.03	250.18	251.89
88+55	252.15	250.74	251.91
88+60	252.27	250.30	251.93
88+65	252.39	250.86	251.95
88+70	252.51	250.42	251.97
88+75	252.63	250.98	251.99
88+80	252.75	250.54	252.01
88+85	252.87	250.10	252.03
88+90	252.99	250.66	252.05
88+95	253.11	250.22	252.07
89+00	253.23	250.78	252.09
89+05	253.35	250.34	252.11
89+10	253.47	250.90	252.13
89+15	253.59	250.46	252.15
89+20	253.71	250.02	252.17
89+25	253.83	250.58	252.19
89+30	253.95	250.14	252.21
89+35	254.07	250.70	252.23
89+40	254.19	250.26	252.25
89+45	254.31	250.82	252.27
89+50	254.43	250.38	252.29
89+55	254.55	250.94	252.31
89+60	254.67	250.50	252.33
89+65	254.79	251.06	252.35
89+70	254.91	250.62	252.37
89+75	255.03	251.18	252.39
89+80	255.15	250.74	252.41
89+85	255.27	251.30	252.43
89+90	255.39	250.86	252.45
89+95	255.51	251.42	252.47
90+00	255.63	250.98	252.49

APPROVED Department of Planning and Zoning

Olga Avramovic 8/20/96 Date
Chief, Division of Land Development and Research

Mr. Dammann 8/20/96 Date
Chief, Development Engineering Division

APPROVED Department of Public Works for Storm Drainage Systems and Roads.

Richard M. Lanko 8-16-96 Date
Chief, Bureau of Highways

PLAN
 SURVEYED
 PLOTTED
 NOTE BOOK
 GRADES CHECKED
 ALIGNMENT CHECKED
 STRUCTURE NOTATIONS CHECKED
 BY: _____
 DATE: _____
 NO. _____

PROFILE
 SURVEYED
 PLOTTED
 NOTE BOOK
 GRADES CHECKED
 STRUCTURE NOTATIONS CHECKED
 BY: _____
 DATE: _____
 NO. _____

LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 598-3424 (410) 715-9540 (Fax)

DESIGNED: I.D./E.D.S.
 DRAWN: B.E.I.
 CHECKED: B.D.B.
 DATE: May, 1996

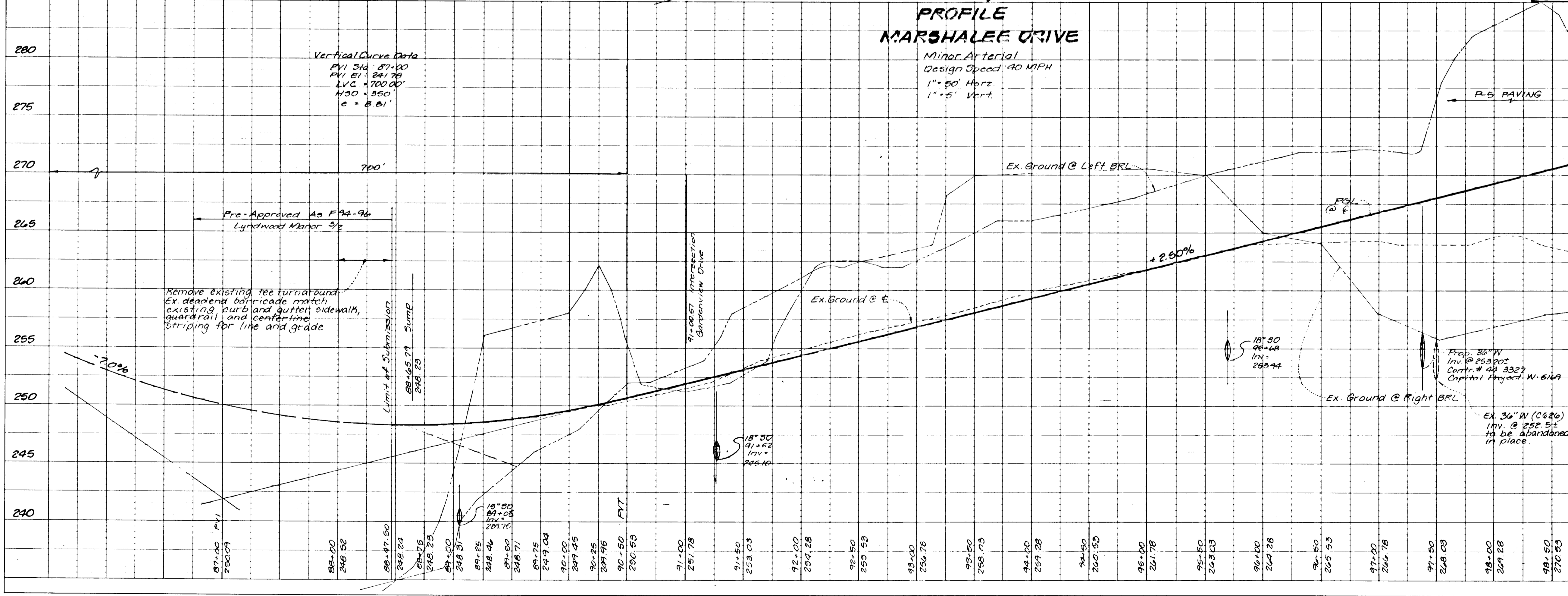
PLAN AND PROFILE
 88+47.50 - 98+75 MARSHALEE DRIVE

MARSHALEE WOODS
 Section 2 - Area 5
 Lots 127 - 137

Scale AS SHOWN
 2 of 13
 JOB NO.: 95-022.4
 FILE NO.: F96-66

Tax Map 37
 1st ELECTION DISTRICT
 Parcels 593 & 656
 HOWARD COUNTY, MARYLAND

OWNER: DEVELOPER
 MARSHALEE WOODS (M7) CO. PARTNERSHIP
 8335 Columbia 600 Parkway Drive
 Columbia, Maryland 21045 (410) 730-0810



Vertical Curve Data
 PVI Sta. 87+10
 PVI Elev. 241.46
 LVC = 700.00'
 HVC = 350.00'
 e = 8.81'

PROFILE MARSHALEE DRIVE
 Minor Arterial
 Design Speed: 40 MPH
 1" = 50' Horiz.
 1" = 5' Vert.

PROFILE GARDENVIEW DRIVE
 Local Road
 Design Speed: 30 mph
 1" = 50' Horiz.
 1" = 5' Vert.

1667

CENTERLINE CURVE DATA						
NAME & STA.	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
Temporary Marshalee Drive 102+54.17 to 106+93.03	320.00	77°06'56"	441.86'	24.25'	407.61'	N 39°07'46" E

- NOTES:**
1. For street tree locations see sheet 12 and 13
 2. All street trees and/or street signs shall be located 5 feet minimum from proposed drainage and utility structures.
 3. There shall be a minimum of 20 feet between street lights and street trees.
 4. For storm drain profiles and structure schedule, see sheet 516 of 13.
 5. Sidewalks and ramps shall be designed in accordance with ADA requirements.
 6. For street light and street sign locations see sheet 4 of 13.

APPROVED Department of Planning and Zoning
Gim Murrain 8/20/96
 Chief, Division of Land Development and Research

John Dummer 8/20/96
 Chief, Development Engineering Division

APPROVED Department of Public Works for Storm Drainage Systems and Roads.
Andrew M. Decker 8/16/96
 Chief, Bureau of Highways



LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

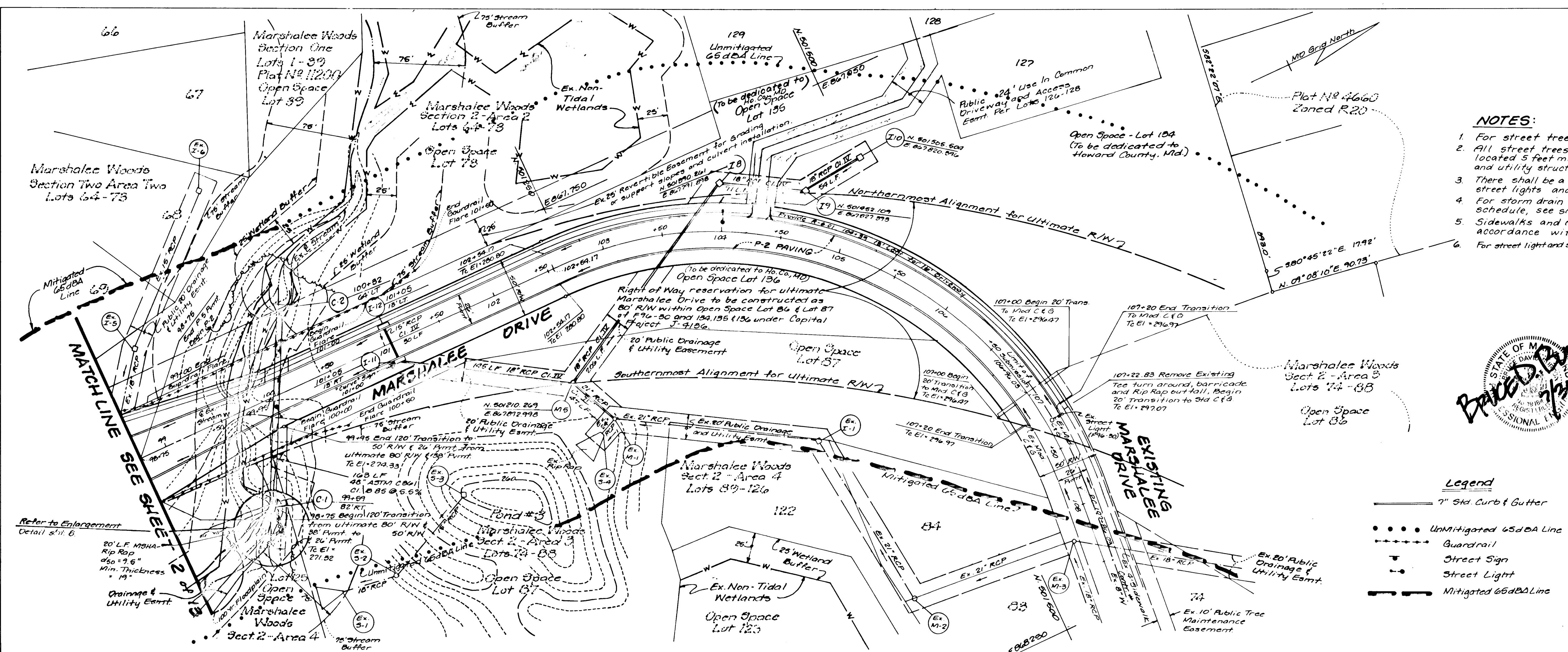
DESIGNED BY: T.D./E.D.S.
 DRAWN BY: DEI
 CHECKED BY: B.D.B.
 DATE: May 1996

PLAN AND PROFILE:
MARSHALEE DRIVE
 Section 2 - Area 5
 Lots 127 - 137

Tax Map 37
 1st ELECTION DISTRICT

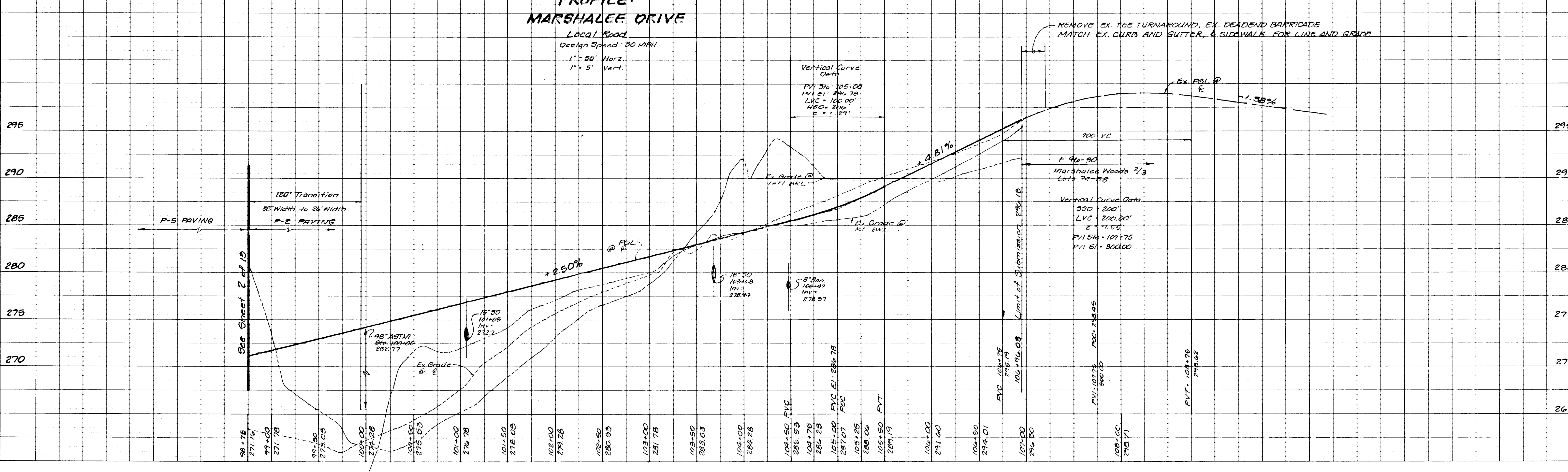
Parcels 593 & 656
 HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
 DRAWING: 3 of 13
 JOB NO.: 95-0224
 FILE NO.: F96-66



- Legend**
- 7" Sid Curb Gutter
 - Unmitigated 66dBA Line
 - Guardrail
 - Street Sign
 - Street Light
 - Mitigated 66dBA Line

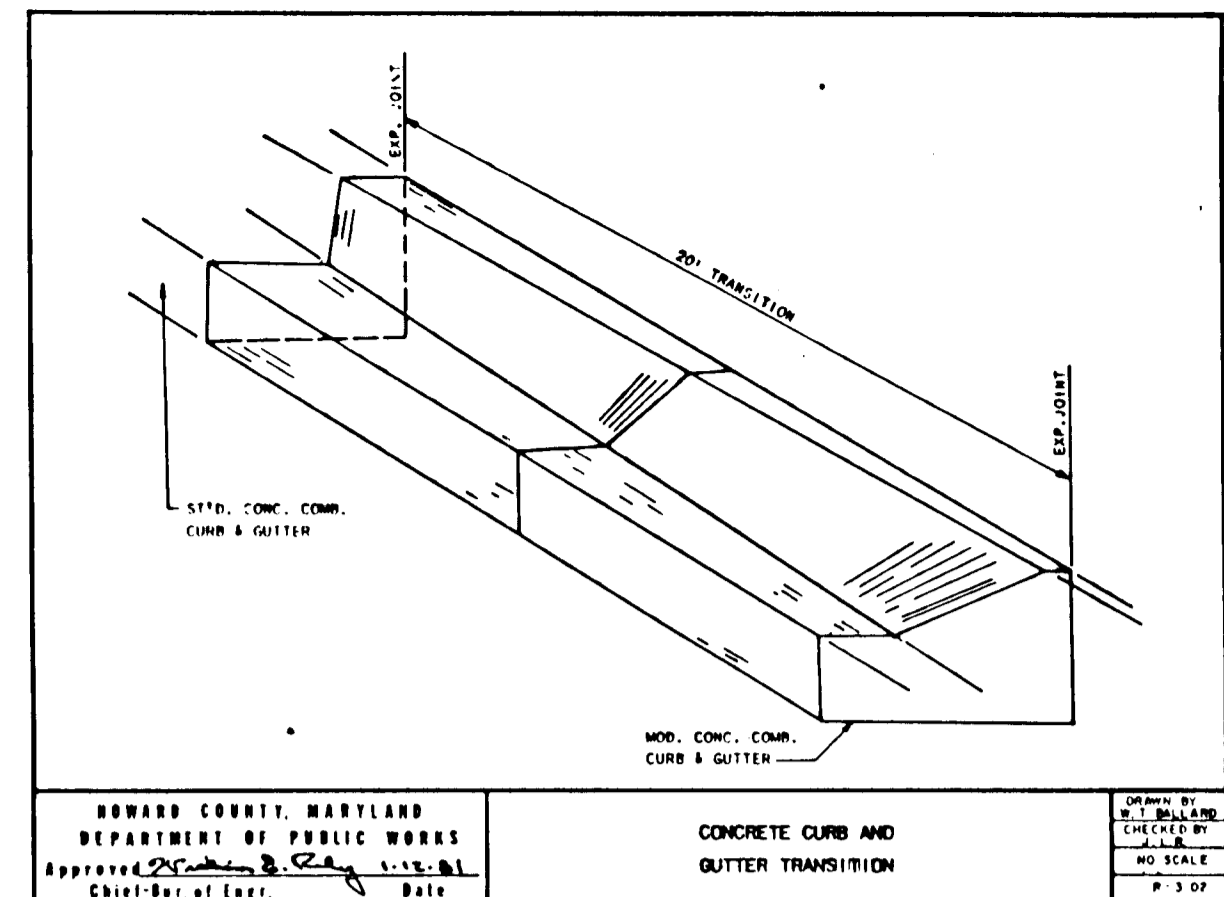
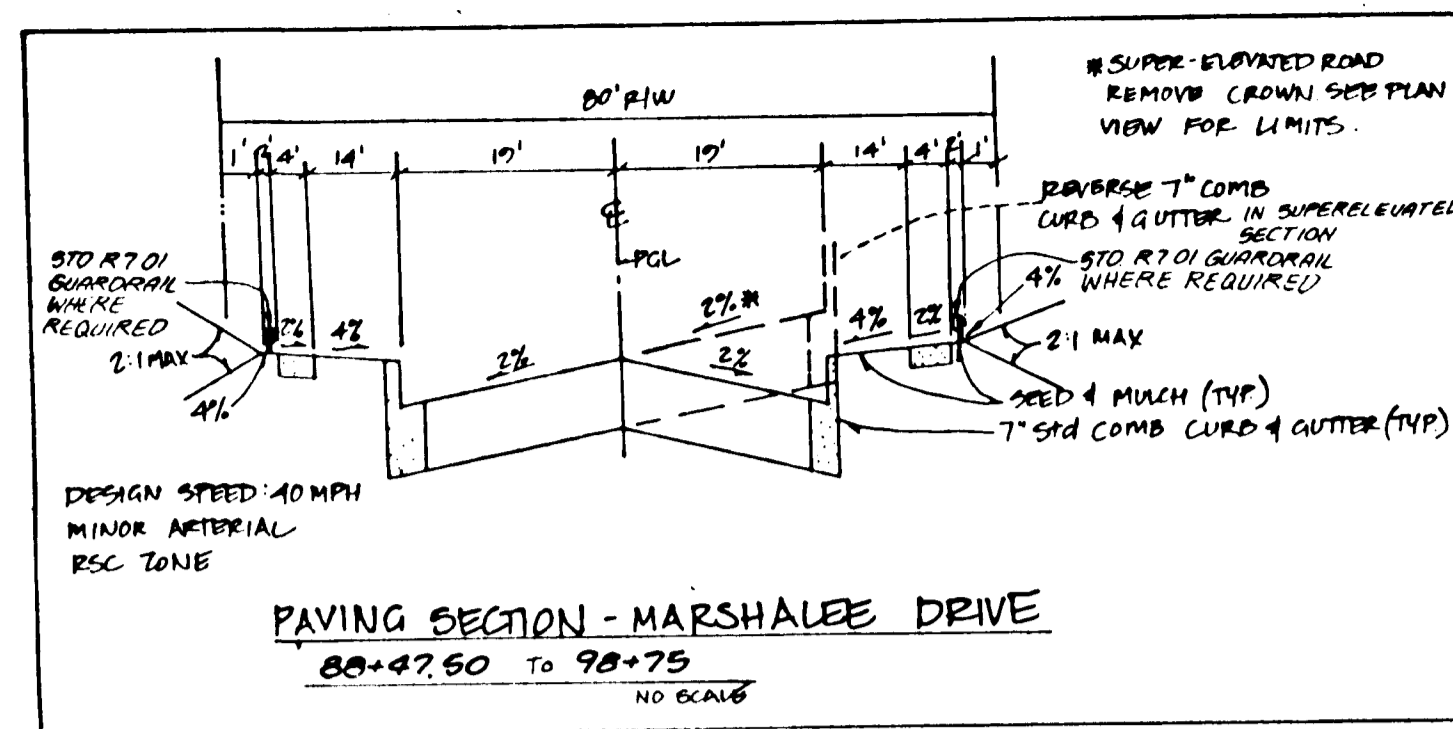
**PROFILE:
 MARSHALEE DRIVE**



1667

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAYMENT MATERIALS	GRAVEL BASE ALTERNATES
P-5	COMMERCIAL/INDUSTRIAL ZONES MAJOR COLLECTION ALL ZONES MINOR ARTERIAL	1 1/2" BIT. CONC. SURFACE 4 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 1 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE
P-6	ALL ZONES INTERMEDIATE ARTERIAL	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 4" BIT. CONC. BASE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE
P-7	STABILIZED SHOULDER FOR ALL ZONES AND ROAD CLASSIFICATIONS	COARSE BIT. SURFACE TREATMENT 8" LAYER OR MORE COURSE OR 4 1/2" LAYER STABILIZED AGGREGATE BASE COURSE	COARSE BIT. SURFACE TREATMENT 8" LAYER OR MORE COURSE OR 4 1/2" LAYER STABILIZED AGGREGATE BASE COURSE
P-8	PAVED SHOULDER FOR ALL ZONES AND ROAD CLASSIFICATIONS SIDEWALKS AND DRIVEWAYS (PRIVATE) DRAINAGE SECTION MAY BE USED IN LANE OR SIDEWALK CONCRETE SIDEWALK IN OFF SITE, PROBABLY MAINTAINED UNDER	1 1/2" BIT. CONC. SURFACE 2" BIT. CONC. BASE 3" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 2" BIT. CONC. BASE 3" BIT. CONC. BASE

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAYMENT MATERIALS	GRAVEL BASE ALTERNATES
P-1	PARKING AREAS APARTMENTS AND TERRAZZAS COMMERCIAL ZONES WITH NO HEAVY TRUCKS TRAVELWAYS FOR APARTMENTS AND TERRAZZAS HEAVY TRUCKS WITH NO HEAVY TRUCKS	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE 5" BIT. CONC. BASE	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE 5" BIT. CONC. BASE
P-2	RESIDENTIAL ZONES LOCAL COLLECTOR STREETS ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL TRAVELWAYS APARTMENTS AND COMMERCIAL/INDUSTRIAL ZONES WITH NO HEAVY TRUCKS OR HEAVY TRUCKS (NO HEAVY TRUCKS)	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE
P-3	RESIDENTIAL ZONES MINOR AND MAJOR COLLECTIONS COMMERCIAL/INDUSTRIAL ZONES LOCAL COLLECTOR STREETS ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL TRAVELWAYS APARTMENTS AND COMMERCIAL/INDUSTRIAL ZONES WITH NO HEAVY TRUCKS OR HEAVY TRUCKS (NO HEAVY TRUCKS)	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE
P-4	LOCAL COLLECTOR STREETS ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL TRAVELWAYS APARTMENTS AND COMMERCIAL/INDUSTRIAL ZONES WITH NO HEAVY TRUCKS OR HEAVY TRUCKS (NO HEAVY TRUCKS)	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE

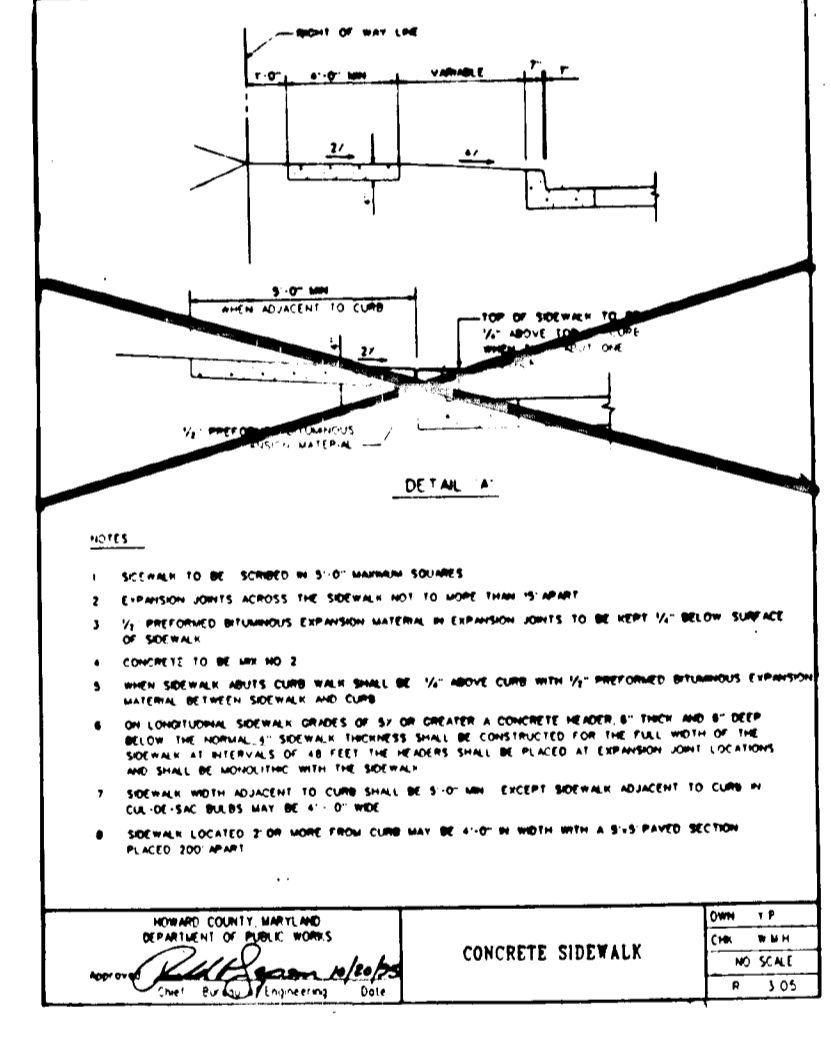
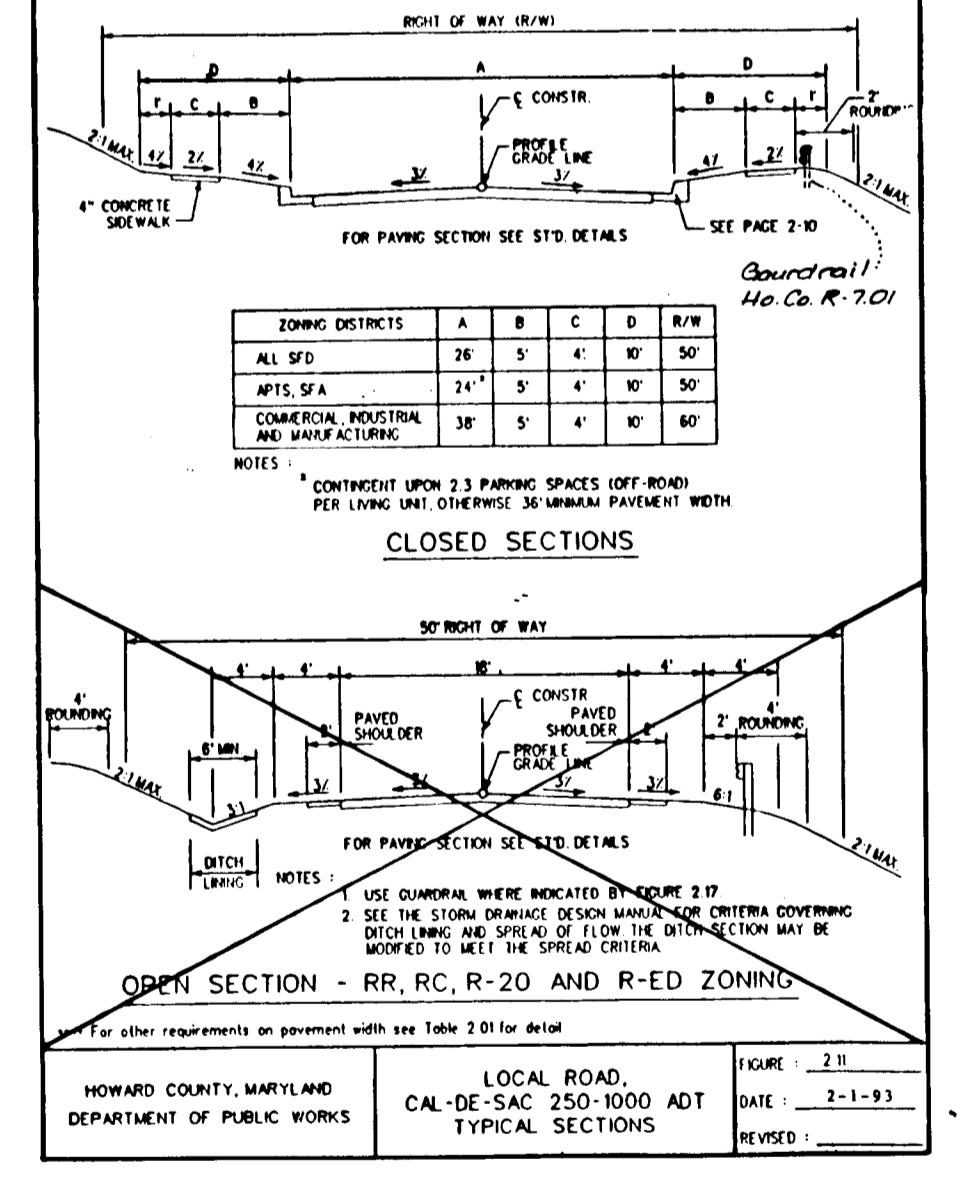
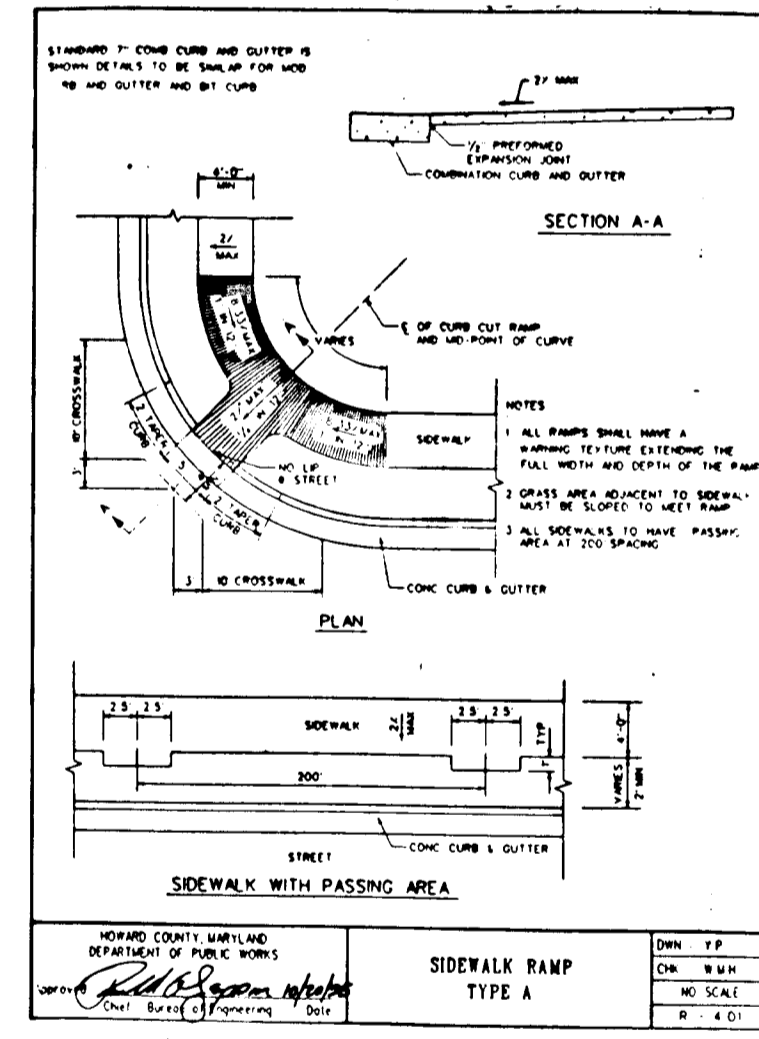
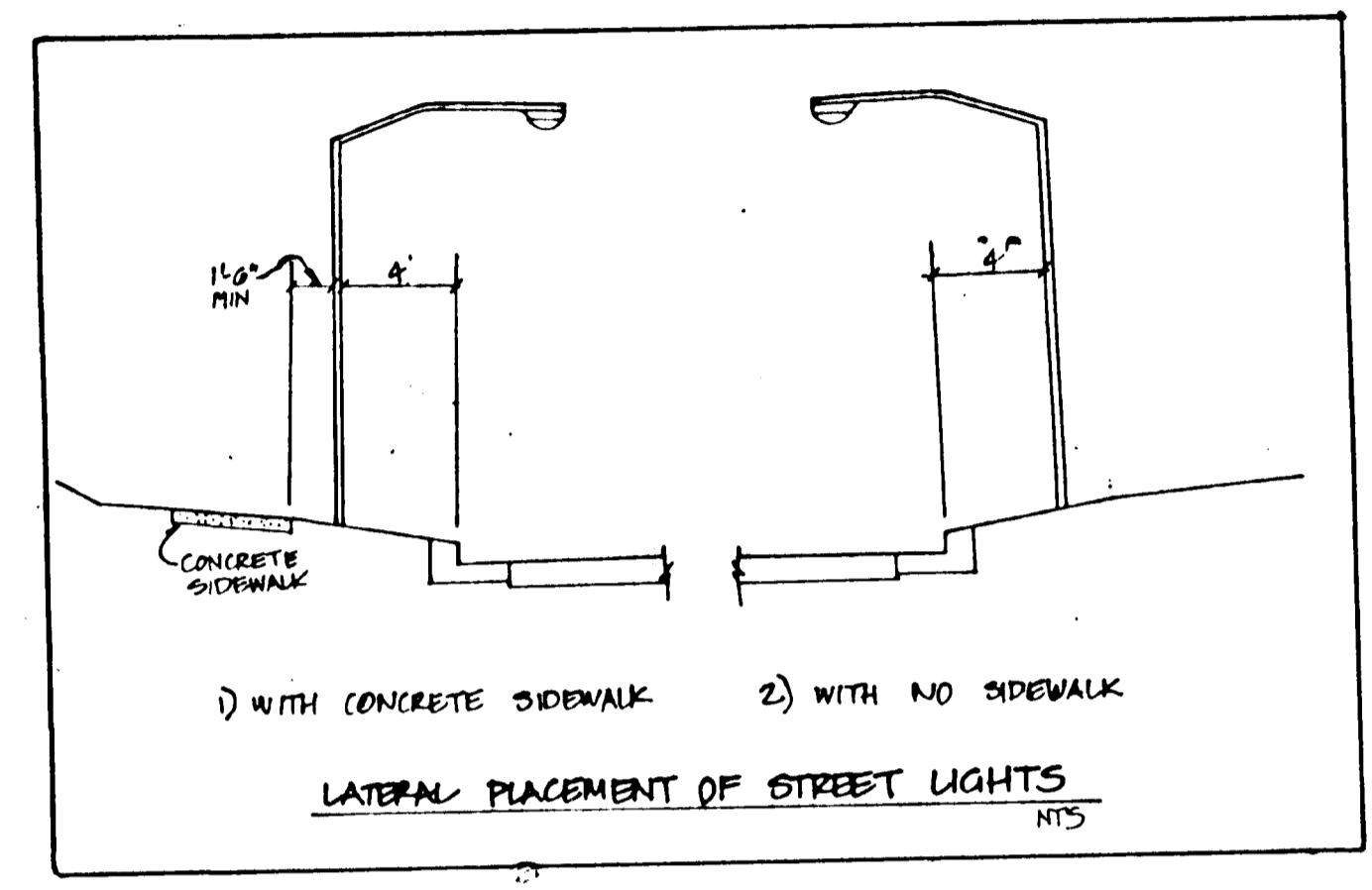
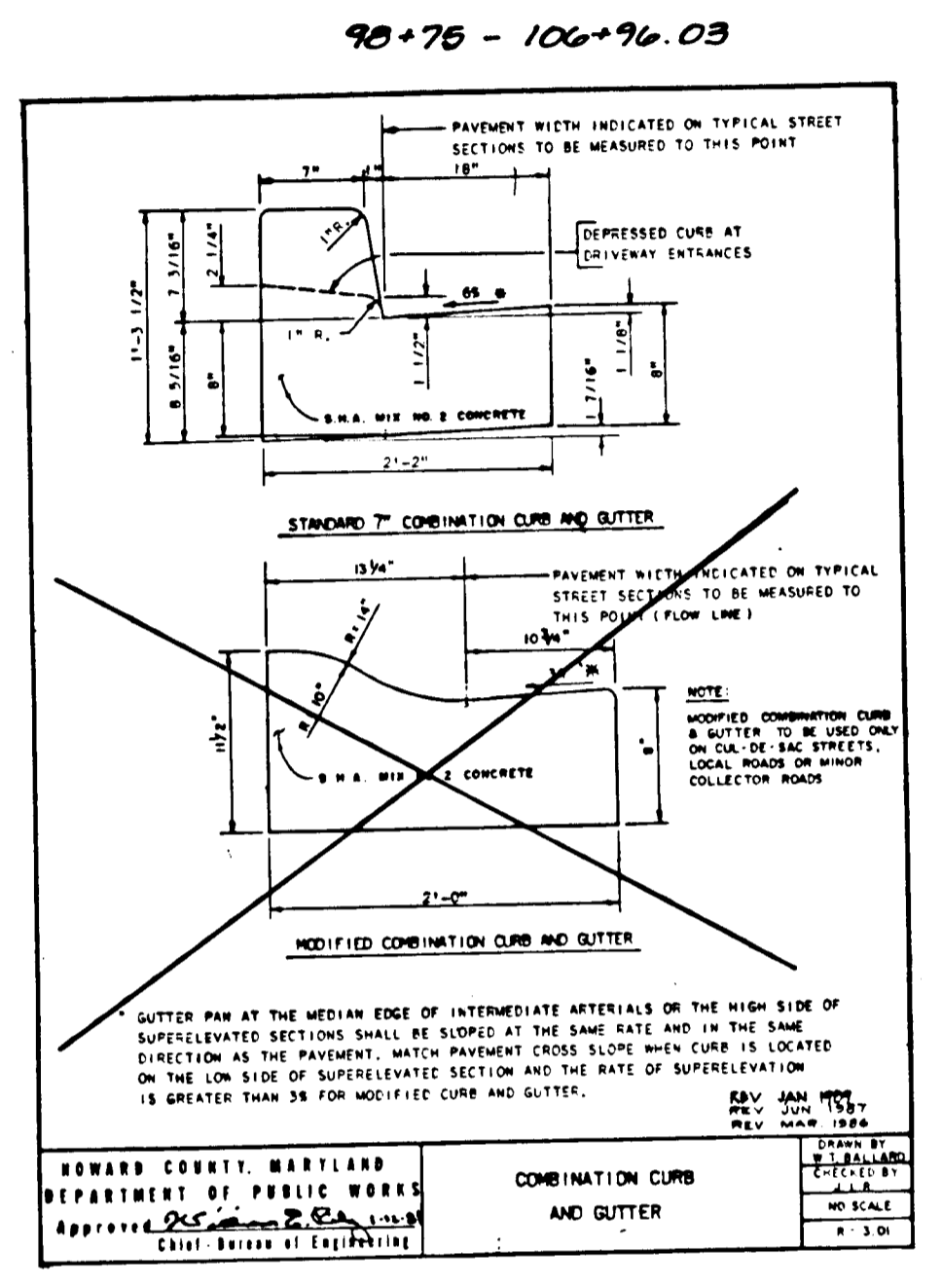
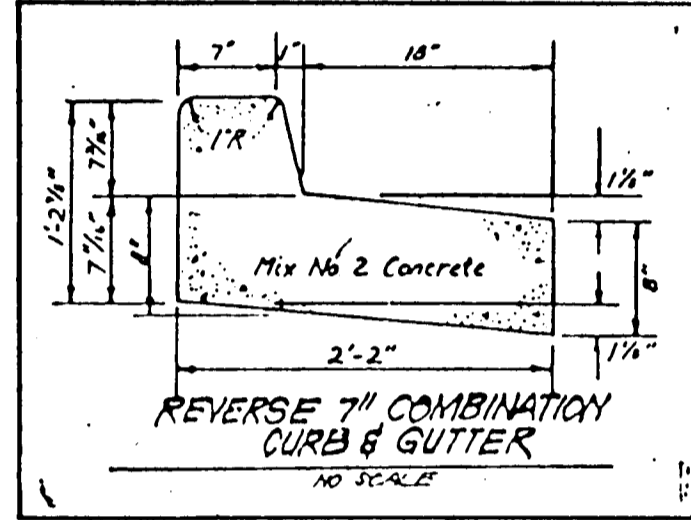


Street Name	Symbol	Centerline Station	Offset	Lamp Type	Post Type	Pole Type
Marshalee Drive	●	90+66	23' LT	150 Watt HPS	Pendant Fixture	30' Galvanized Steel Pole
Marshalee Drive	●	93+50	23' RT	150 Watt HPS	Pendant Fixture	30' Galvanized Steel Pole
Marshalee Drive	●	96+75	23' LT	150 Watt HPS	Pendant Fixture	30' Galvanized Steel Pole
Marshalee Drive	●	100+00	17' RT	150 Watt HPS	Pendant Fixture	30' Galvanized Steel Pole
Marshalee Drive	●	104+00	17' LT	150 Watt HPS	Pendant Fixture	30' Galvanized Steel Pole

Symbol	Street Name	R Sta	Offset	Type
▲	Gardenvue Dr.	87+85	16' RT	R1-1, "STOP" Sign 80" x 80" Octagon
▲	Marshalee Dr.	101+00	18' RT	W-2R, Curve Sign 30" x 80" Diamond
▲	Marshalee Dr.	96+00	24' RT	R2-1, "Speed Limit 30, 30" x 30" Rectangle
▲	Gardenvue Dr.	26+00	15' LT	R2-1, "Speed Limit 25, 25" x 30" Rectangle
▲	Gardenvue Dr.	28+00	15' RT	W-3, "Stop Ahead, 36" x 48" Diamond

Note: Micaceous soils subgrades require the use of either of the aggregate base pavement sections as shown on the pavement section tables. Either the full depth bituminous concrete section or the aggregate base pavement sections can be used for all other subgrade soils.

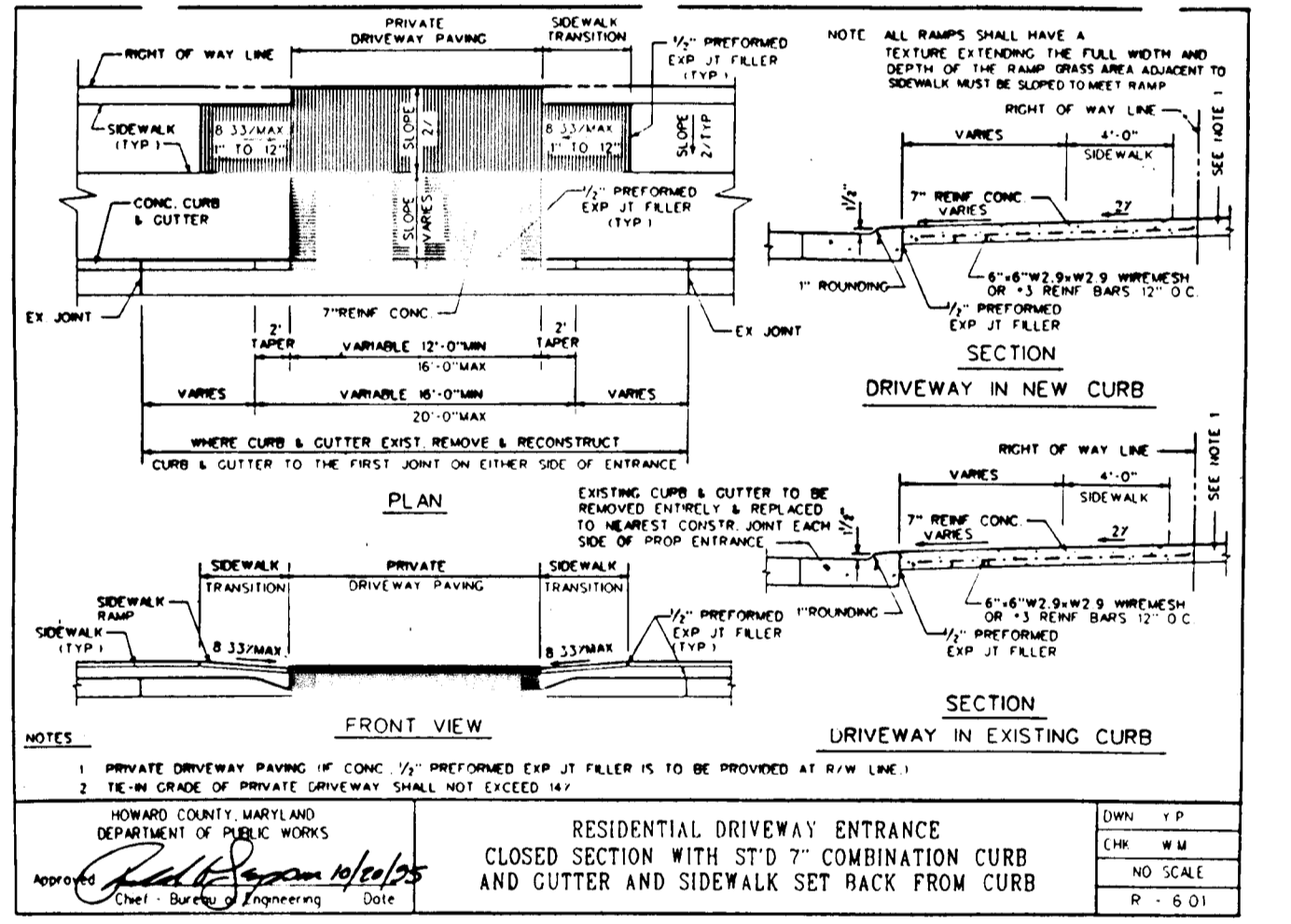
88+47.50 - 98+75



Centerline Station	Centerline Offset	Top Elevation	Top Width
88+84	58 RT	250	2.0'
90+75	58 RT	256	2.0'
90+90	57 RT	254	2.0'
90+98	58 RT	254	2.0'

Centerline Station	Centerline Offset	Top Elevation	Top Width
91+12	58 RT	254	2.0'
91+27	58 RT	256	2.0'
91+50	63 RT	263	2.0'
91+84	67 RT	265	2.0'
92+05	70 RT	268	2.0'
93+17	65 RT	269	2.0'
94+57	58 RT	269	2.0'

NOISE BERM TABLE
FOR LOCATION REFER TO SHEET 2 OF 13
FOR GRADING REFER TO SHEET 7 OF 13



Road Name	Station to Station	Class.	R/W	Speed	Pav. Sect.	Zone	A	B	C	D
Marshalee Drive	88+47.50 - 98+75	Minor Arterial	80	40	P-5	R-20	38	14	4	21
Marshalee Drive	98+75 - 106+96.03	Local	50	30	P-2	R-20	26	5	4	10
Gardenvue Drive	27+41.38 - 27+62.38	Local	50	30	P-2	R-20	26	5	4	10

1667

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 8/20/96
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 [Signature] 8/20/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS
 [Signature] 9-16-96
 CHIEF, BUREAU OF HIGHWAYS

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.
 [Signature] 8/2/96
 NATURAL RESOURCE CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 8/2/96
 HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE
 "I HEREBY CERTIFY THAT THE PLANS 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] 7/21/96
 SIGNATURE OF ENGINEER
 DEVELOPER'S CERTIFICATE
 "I HEREBY 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 THE ENVIRONMENT 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 DEEMED NECESSARY."
 [Signature] 1/2/95
 SIGNATURE OF DEVELOPER

PROFESSIONAL ENGINEER
 BRUCE D. BURTON
 7/21/96

LDE, INC.
 9250 Rumsey Road - Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

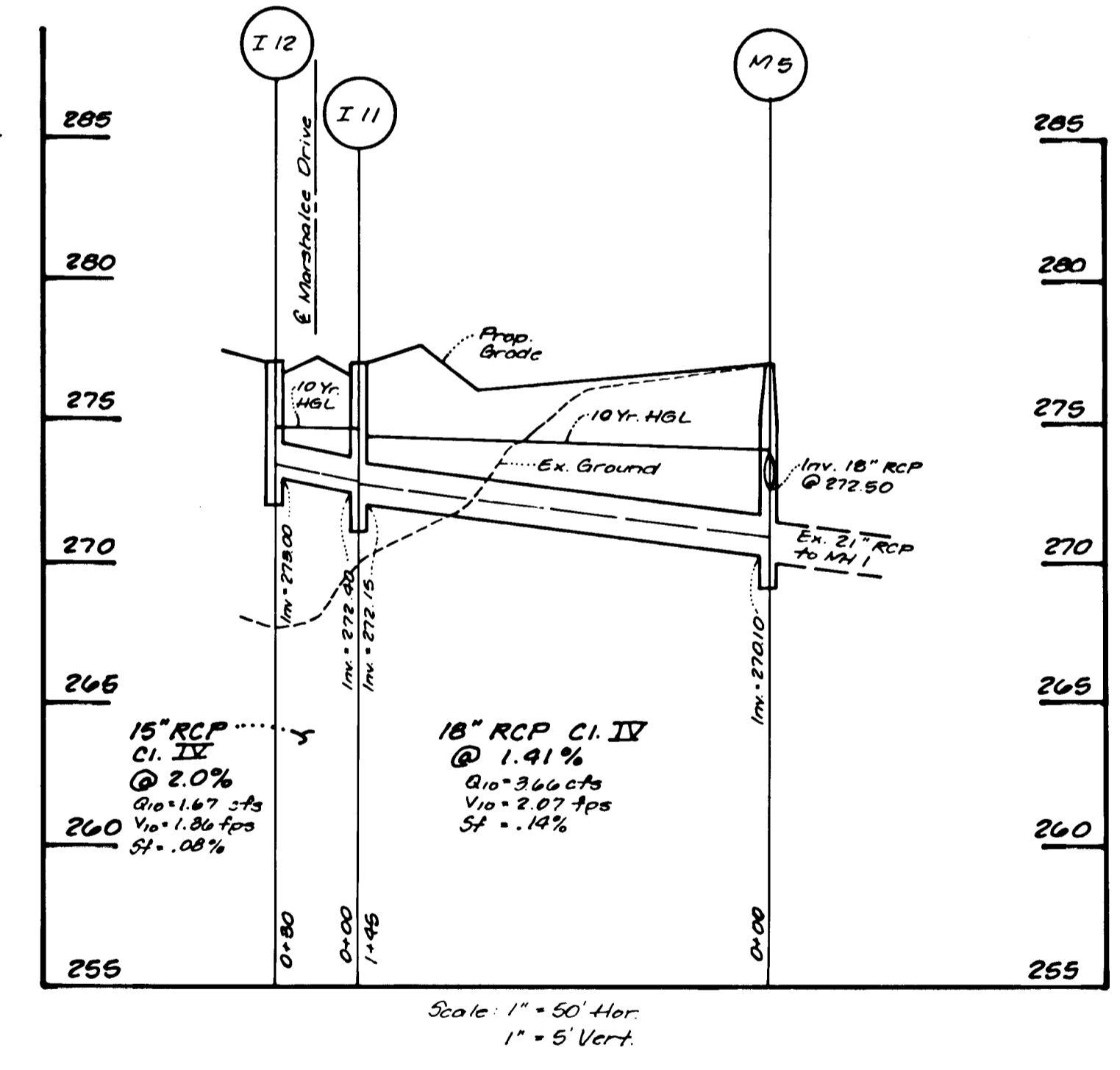
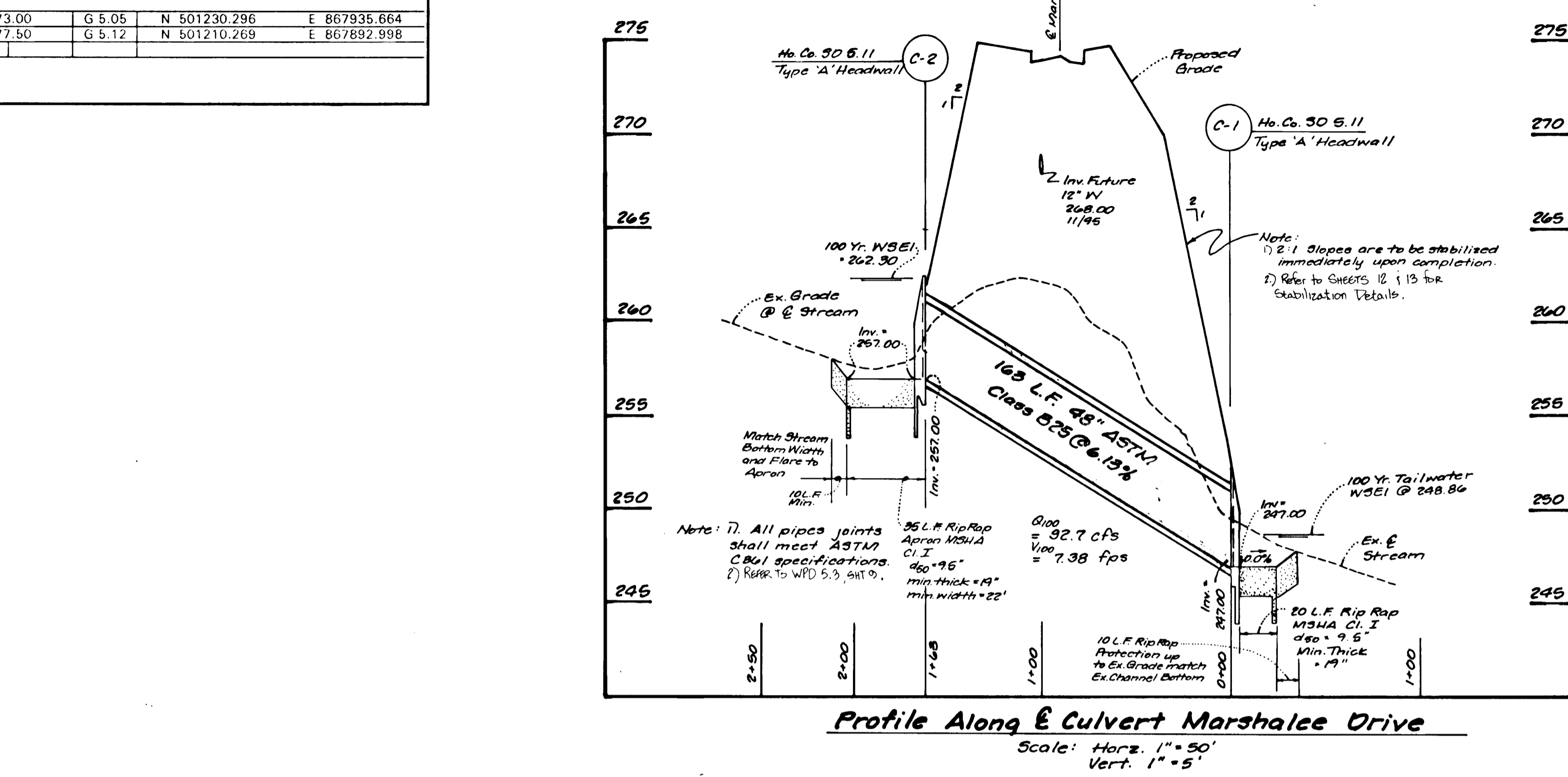
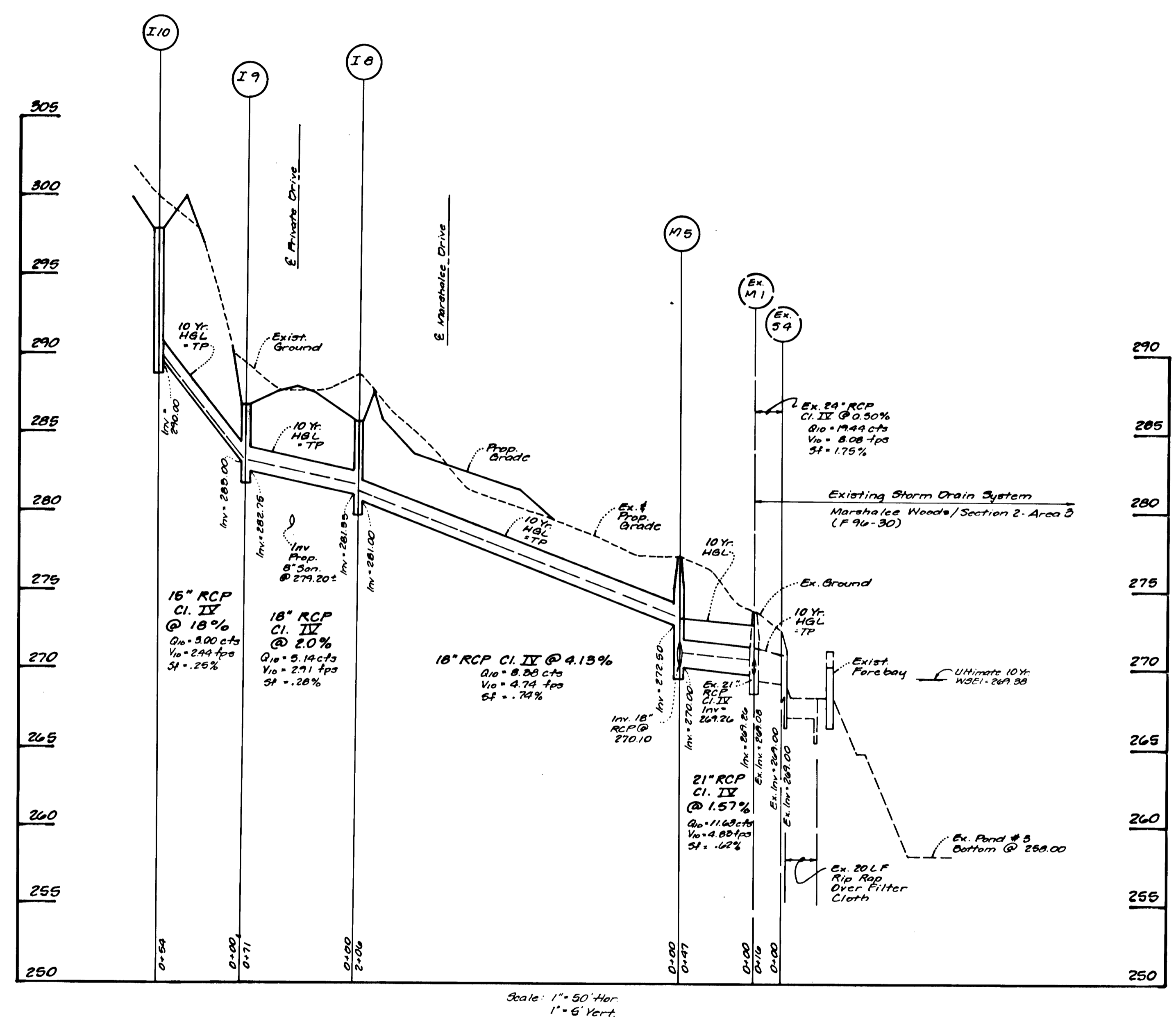
DESIGNED: E.D.S.
 DRAWN: DEI
 CHECKED: B.D.B.
 DATE: May 1996

ROAD DETAILS
 MARSHALEE WOODS
 Section Two - Area Five
 Lots 127 - 137
 Tax Map 37
 1st Election District
 Parcels 593 & 656
 Howard County, Maryland
 Owner / Developer
 Marshalee Woods Limited Partnership
 8835 Columbia 100 Parkway - Unit P
 COLUMBIA, MARYLAND 21045
 (410) 730-0810

SCALE AS SHOWN
 DRAWING 4 of 13
 JOB NO. 95-022.4
 FILE NO. F96-66

STRUCTURE SCHEDULE							
Inlet No.	Type	Inv. In	Inv. Out	Upper	Lower	Detail	Location
I-8	S **	281.33	281.00	286.00	SD 4.02	N 501390.261	E 867791.898
I-9	S **	283.00	282.75	287.00	SD 4.02	N 501457.109	E 867827.393
I-10	S **	-	290.00	298.00	SD 4.02	N 501505.504	E 867820.396
I-11	A-10	272.40	272.15	277.21	SD 4.02	101 + 05	Marshalee Drive 13' RT
I-12	A-10	-	273.00	277.21	SD 4.02	101 + 05	Marshalee Drive 13' LT
C-1	Type 'A' HW	247.00	247.00	262.50	SD 5.11	99 + 59	Marshalee Drive 82' RT
C-2	Type 'A' HW	257.00	257.00	262.50	SD 5.11	100 + 32	Marshalee Drive 64' LT
Ex. M-1	Shallow Manhole	268.26	269.08	273.00	G 5.05	N 501230.296	E 867935.664
M-5	Std. Manhole	272.50	270.00	277.50	G 5.12	N 501210.269	E 867892.998
		270.10					

** Recticular Grate



1667

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 8/20/96
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 [Signature] 8/20/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS
 [Signature] 8-16-96
 CHIEF, BUREAU OF HIGHWAYS

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.
 [Signature] 8/7/96
 NATURAL RESOURCES CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 8/7/96
 HOWARD SOIL CONSERVATION DISTRICT

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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
 [Signature] 7/31/96
 SIGNATURE OF ENGINEER
 DEVELOPER'S CERTIFICATE
 "I HAVE 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 THE ENVIRONMENT 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, IF DEEMED NECESSARY."
 [Signature] 11/8/95
 SIGNATURE OF DEVELOPER

LDE, INC.
 9250 Rumsey Road - Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED E.D.S.	STORM DRAIN PROFILES & CULVERT PROFILE	SCALE AS SHOWN
DRAWN BEI	MARSHALEE WOODS Section Two - Area Five Lots 127 - 137	DRAWING 6 of 6
CHECKED B.D.B.	Tax Map 37 1st Election District	JOB NO. 95-02
DATE May, 1996	Parcels 593 & 656 Howard County, Maryland	FILE NO. F96-6

Owner / Developer
 Marshalee Woods Limited Partnership
 8835 Columbia 100 Parkway - Unit P
 COLUMBIA, MARYLAND 21045
 (410) 730-0610



LEGEND:

- 5'42' - Exist. Contour (2' Intervals)
- 5'42' - Prop. Contour (2' Intervals)
- Stabilized Construction Entrance
- Limit of Disturbance
- Silt Fence
- Ex. Woods to be Removed
- Ex. Woods to Remain Undisturbed
- Super Silt Fence
-
- Exist. Easement to be Abandoned
- Mountable Barr

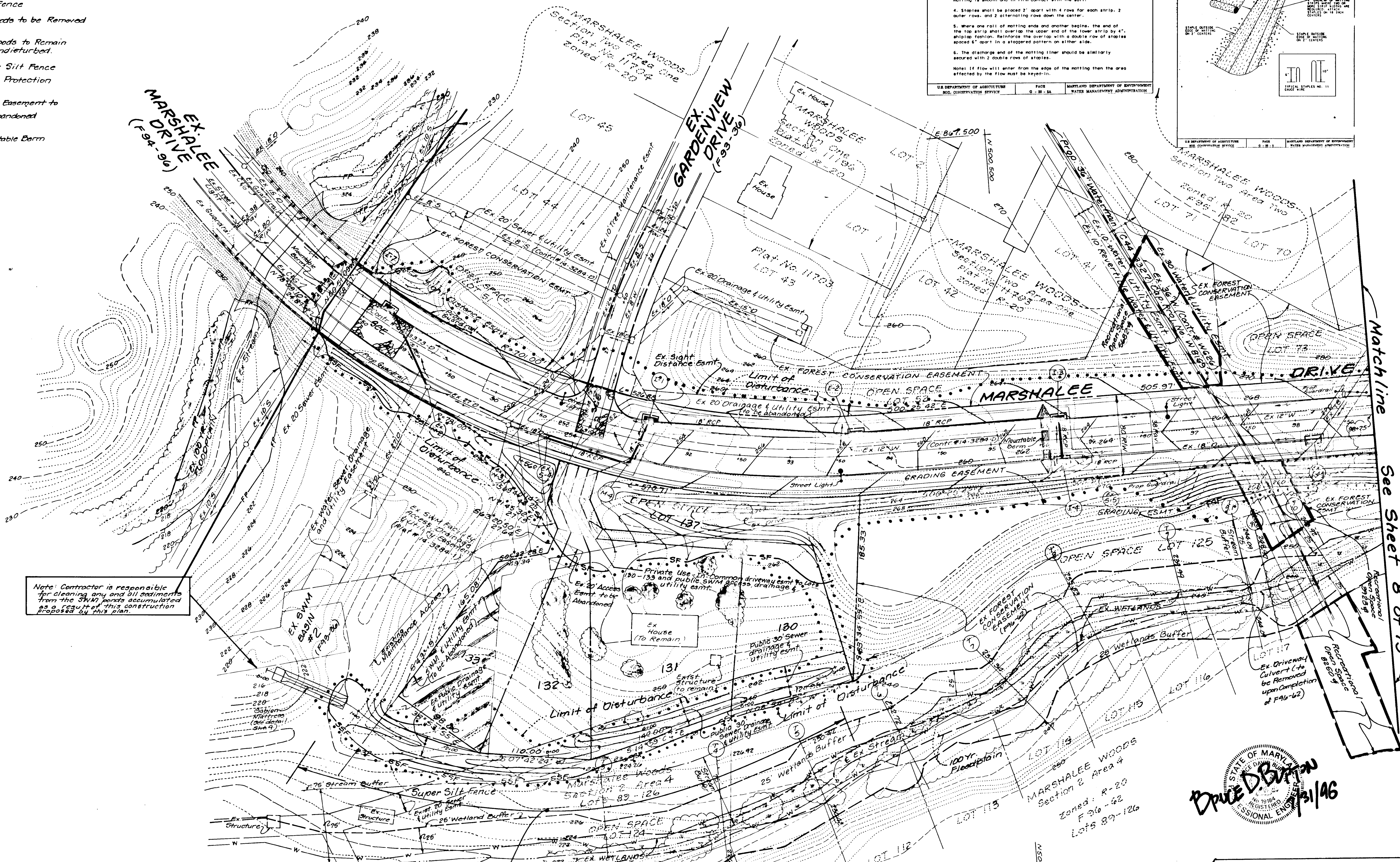
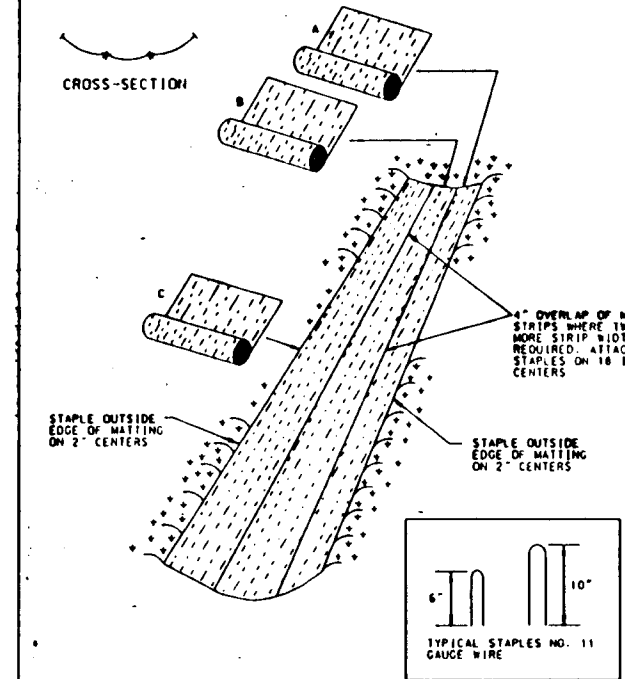
SPECIAL STABILIZATION NOTE:

Side slopes of Marshalee Drive to be constructed of County approved material. Placement of road fill shall be inspected and certified by a Geotechnical Engineer. Side slope shall be stabilized with erosion control matting stapled in place until permanent seeding.

EROSION CONTROL MATTING

- Construction Specifications**
- Key-in the matting by placing the top ends of the matting in a narrow trench 2" to 4" deep. Backfill the trench and top firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
 - Staple the 4" overlap in the channel center using an 18" spacing between staples.
 - Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
 - Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
 - When one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", and lap tension. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
 - The discharge end of the matting liner should be similarly secured with 2 double rows of staples.
- Note: If flow will enter from the edge of the matting then the area affected by the flow must be protected.*

DETAIL 30 EROSION CONTROL MATTING



Note: Contractor is responsible for cleaning any and all sediments from the SWM ponds accumulated as a result of this construction proposed by this plan.

NOTE:
1) 2:1 Slopes over 48" Culverts to be immediately stabilized upon completion with crown vetch. Refer to sheets 12 and 13 for details.

BRUCE D. BURTON
PROFESSIONAL ENGINEER
7/31/96

1667

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Quinn Drummond 8/20/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

Walter Drummond 8/20/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS

Andrew M. Daveler 7-16-96
CHIEF, BUREAU OF HIGHWAYS

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

J. H. Warfield 8/1/96
NATURAL RESOURCE CONSERVATION SERVICE

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

Richard W. Schmitt 8/1/96
HOWARD SOIL CONSERVATION DISTRICT

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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

BRUCE D. BURTON 7/31/96
SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

"I HAVE CERTIFIED 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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGGING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Mark L. Linn 11/4/95
SIGNATURE OF DEVELOPER DATE

<p>LDE, INC. 9250 Rumsey Road, Suite 106, Columbia, MD. 21045 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)</p>		
DESIGNED	E.D.S.	SCALE: 1"=50'
DRAWN	K.B.W.	DRAWING: 7 of 11
CHECKED	B.D.B.	JOB NO.: 95-022
DATE	May 1996	FILE NO.: F96-60
<p>MARSHALEE WOODS Section Two - Area Five Lots 127 thru 137</p> <p>Tax Map 37 1ST ELECTION DISTRICT</p> <p>Parcels 583 & 656 HOWARD COUNTY, MARYLAND</p> <p>Owner/Developer: Marshalee Woods Limited Partnership 8835 Columbia 100 Parkway, Unit P Columbia, Maryland 21045 (410) 730-0810</p>		

LEGEND:

- Exist Contour (2' Intervals)
- Prop Contour (2' Intervals)
- Stabilized Construction Entrance
- Limit of Disturbance
- Silt Fence
- Ex Woods to be Removed
- Ex Woods to Remain Undisturbed
- Super Silt Fence
- Inlet Protection
- Movable Berm

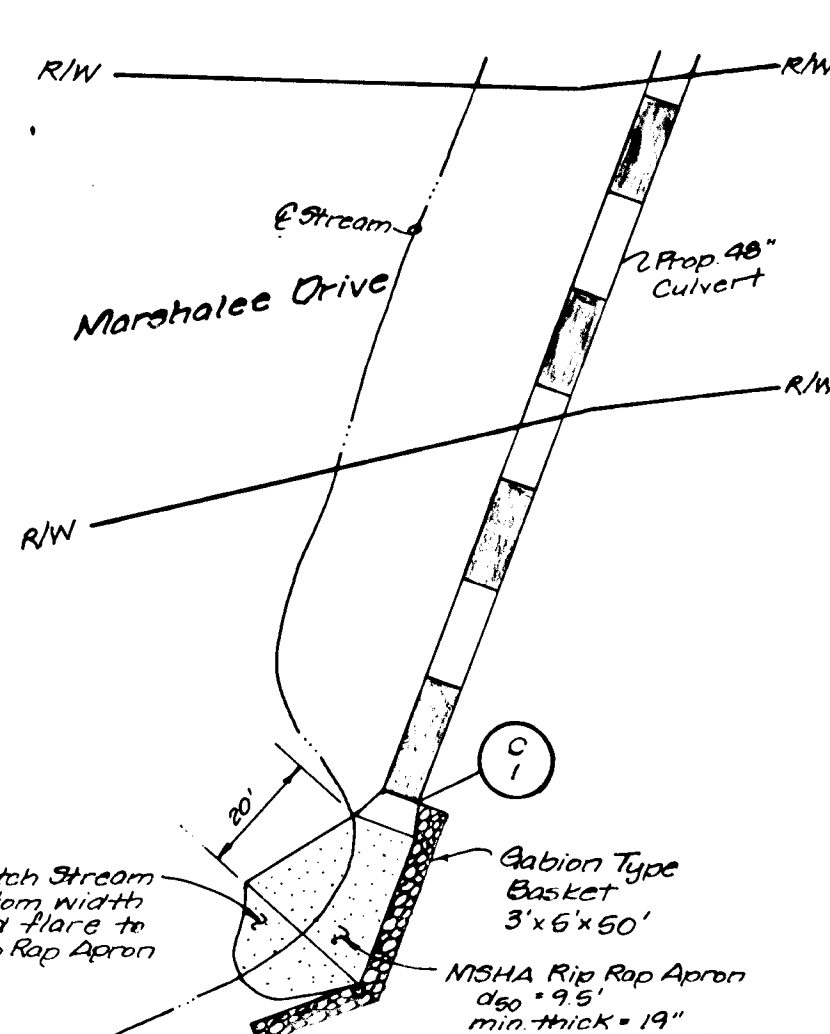
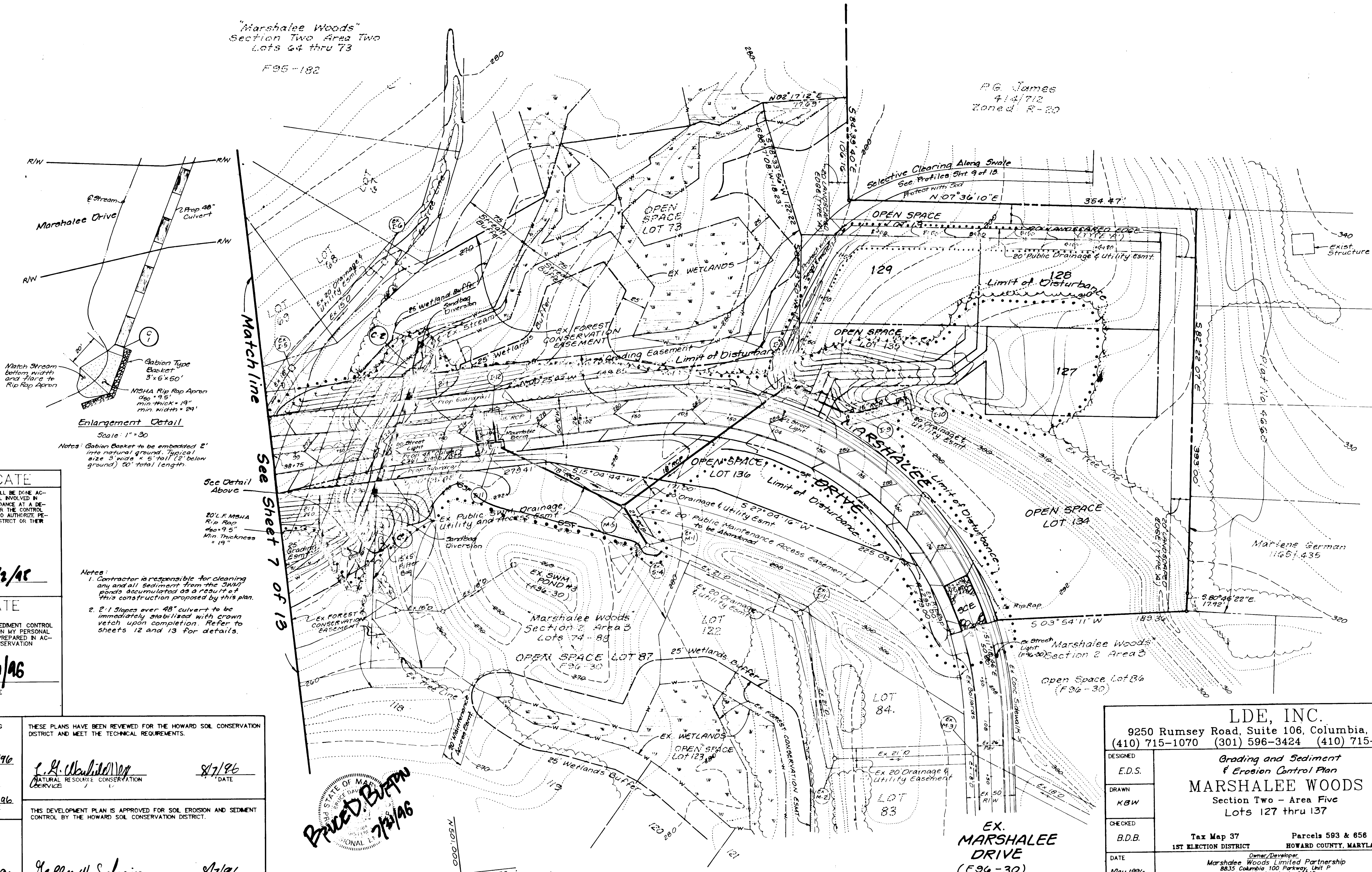
SPECIAL STABILIZATION NOTE:

Side slopes of Marshalee Drive to be constructed of County approved material. Placement of road fill shall be inspected and certified by a Geotechnical Engineer. Side slope shall be stabilized with erosion control matting stapled in place until permanent seeding.



"Marshalee Woods"
Section Two Area Two
Lots 64 thru 73
F95-182

"Marshalee Woods"
Section One
Lots 1 thru 39
Plat No. 11200
Open Space Lot 39



Notes:
1. Contractor is responsible for cleaning any and all sediment from the SWM ponds accumulated as a result of this construction proposed by this plan.
2. 2:1 Slopes over 48" culvert to be immediately stabilized with crown vetch upon completion. Refer to sheets 12 and 13 for details.

DEVELOPER'S CERTIFICATE

"I/WE 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 THE ENVIRONMENT 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 **11/2/95**
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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Signature of Professional Engineer **7/21/96**
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature **8/20/96**
DATE

Signature **8/20/96**
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.

Signature **8-16-96**
DATE

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

Signature **8/7/96**
DATE

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

Signature **8/7/96**
DATE

PROFESSIONAL ENGINEER
Signature **7/21/96**

<p>LDE, INC. 9250 Rumsey Road, Suite 106, Columbia, MD. 21045 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)</p>		
DESIGNED	E.D.S.	SCALE: 1" = 50'
DRAWN	K.B.W.	DRAWING: 8 OF 13
CHECKED	B.D.B.	JOB NO.: 95-022
DATE	May 1996	FILE NO.: F96-66
<p>Grading and Sediment & Erosion Control Plan MARSHALEE WOODS Section Two - Area Five Lots 127 thru 137</p>		
<p>Tax Map 37 Parcels 593 & 656 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p>		
<p>Owner/Developer: Marshalee Woods Limited Partnership 8835 Columbia 100 Parkway, Unit P Columbia, Maryland 21045 (410) 730-0810</p>		

E 991

HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction, (1910-1066).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within 7 calendar days for the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- All sediment traps/basins must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, and temporary seeding, and mulching (Sec. 6). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	9,060 Acres
Area Disturbed	742 Acres
Area to be roofed or paved	5.82 Acres
Area to be vegetatively stabilized	8.16 Acres
Total Cut	8,200 Cu Yd
Total Fill	2,200 Cu Yd

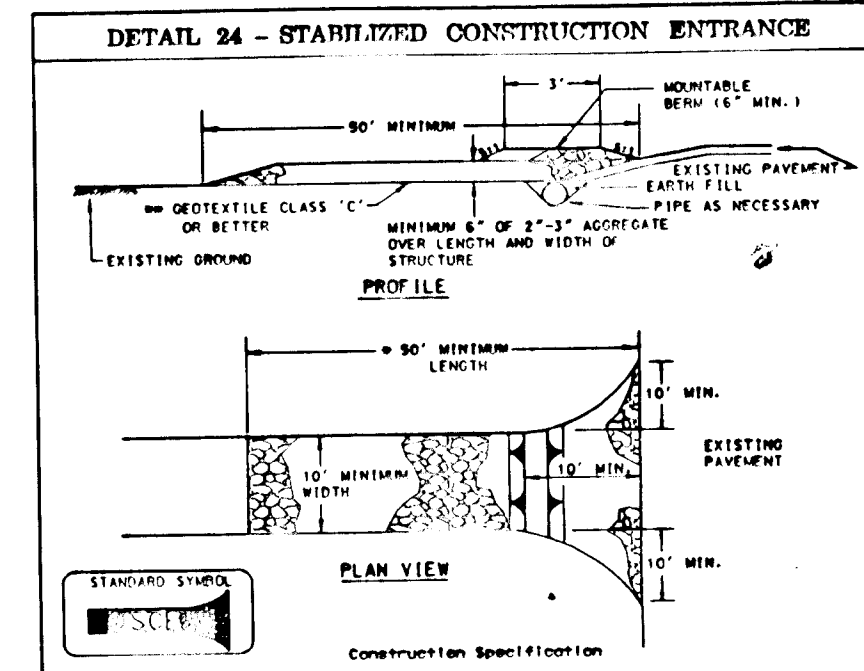
 Offsite waste/borrow area location:
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On 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 disturbing or grading or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.

HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES

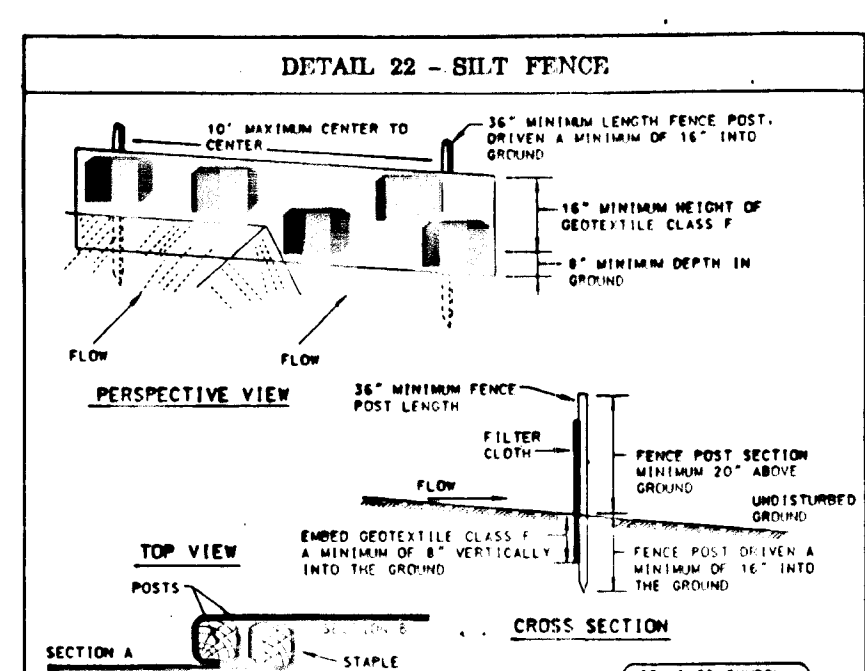
- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.
- SOL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:
- PREFERRED** --- Apply 2 tons per acre dolomitic limestone (92 lb/1000sq. ft.) 600 lbs per acre 10-10-10 fertilizer (14 lb/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaiform fertilizer (9 lb/1000sq. ft.)
 - ACCEPTABLE** --- Apply 2 tons per acre dolomitic limestone (92 lb/1000sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lb/1000 sq. ft.) before seeding. Harrow or disk 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 lb/1000sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs per acre (1.4 lb/1000sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs per acre (0.5 lb/1000sq. ft.) of weeping 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 2 tons / acre well anchored straw.
- MULCHING --- Apply 1-1/2 to 2 tons per acre (70 to 90 lb/1000sq. 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/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.
- MAINTENANCE --- Inspect all seeding 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.
- SEEDBED PREPARATION: --- Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.
- SOL AMENDMENTS: --- Apply 600 lbs per acre 10-10-10 fertilizer (14 lb/1000sq. ft.)
- SEEDING --- For periods March 1 thru April 30, and from August 1 thru October 15 seed with 2-12 bushels per acre of annual rye (3.2 lb/1000sq. ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lb/1000sq. 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 lb/1000sq. ft.) of unrotted weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.
- Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

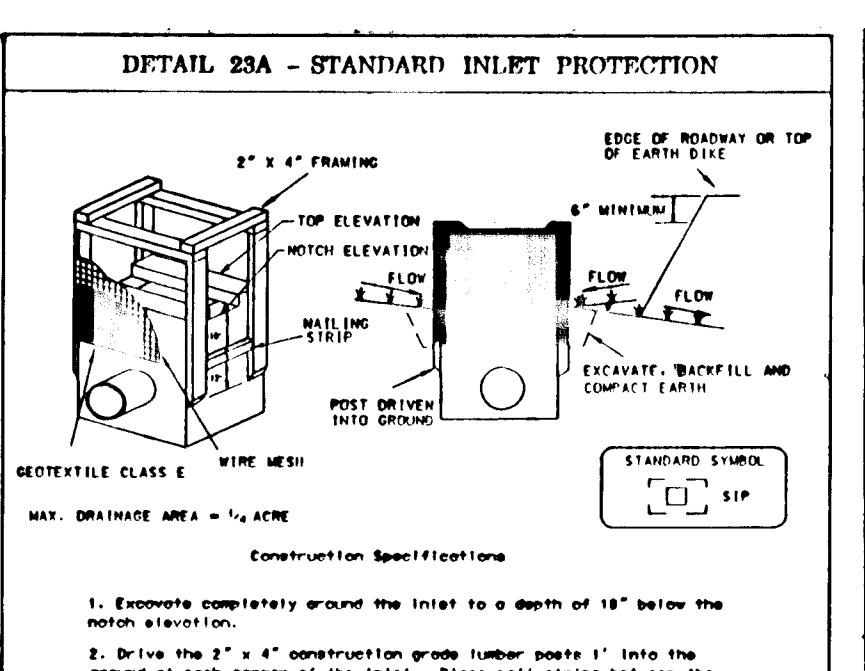


- Length - minimum of 30' (60' for slope resistance test).
- Width - 18' minimum, should be stored on the existing road to provide a turning radius.
- General site (filter cloth) shall be placed over the existing ground prior to placing stone. Stone on approved surface may not require a single facility resistance to use generally.
- Stone - washed aggregate (2" to 3" or recycled or recycled concrete) shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or through the construction entrance shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a minimum 18" diameter and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SFE is located at a high spot and no drainage to cover a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - a stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

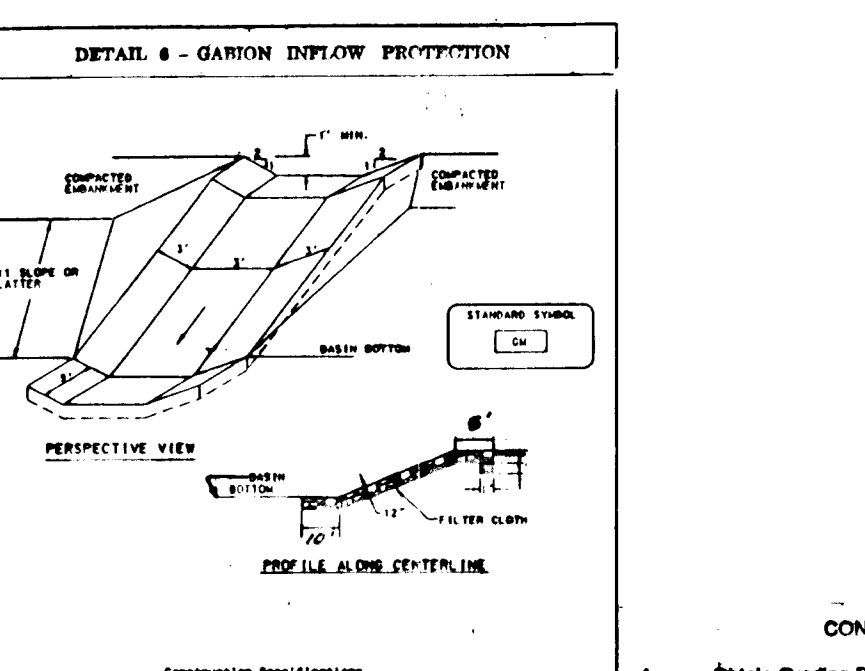


1. Fence posts shall be a minimum of 36" long driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 4" square structural cut or 1 1/2" diameter minimum round and shall be of some quality hardwood. Steel posts will be approved if it meets or exceeds the following minimum requirements:

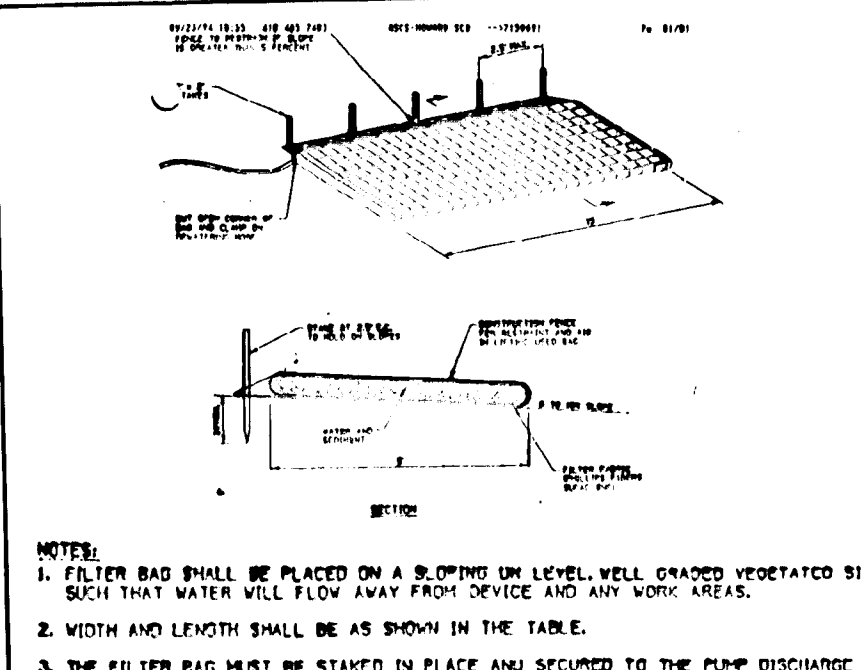
Tube Size	30 (approx. 1.5")	Weight	1000
Tube Material	20 (approx. 1.5")	Weight	1000
Filter Cloth	0.15 (approx. 1.5")	Weight	300
Filter Cloth Efficiency	75% (min.)	Weight	300
2. General site (filter cloth) shall be placed over the existing ground prior to placing stone. Stone on approved surface may not require a single facility resistance to use generally.
3. Stone - washed aggregate (2" to 3" or recycled or recycled concrete) shall be placed at least 6" deep over the length and width of the entrance.
4. Location - a stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.



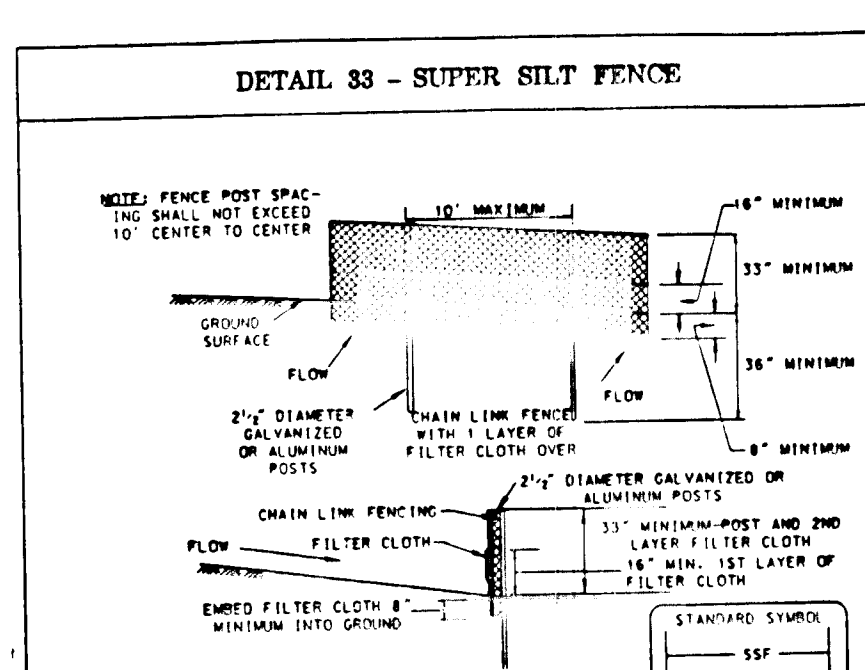
1. Excavate completely around the inlet to a depth of 18" below the bottom elevation.
2. Drive the 2' x 4" construction grade lumber posts 18" into the ground at each corner of the inlet. Place soil filled between the posts on the ends of the inlet. Assemble the top portion of the 2' x 4" frame using the post (joint shown on detail 23A). The top of the frame must be 4" below adjacent roadway where flooding and safety lanes may exist.
3. Strain the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
4. Strain the Geotextile Class II fabric over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet bottom elevation. Fasten the geotextile tightly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
5. Backfill around the inlet in notched 6" layers until the top of earth is level with the bottom elevation on the ends and top elevation on the sides. 2" x 4" stones shall be used for backfilling.
6. If the inlet is not a curb, construct a concrete curb also around the inlet line directly below it. The top of the curb should be at least 6" higher than the top of the frame.
7. The structure must be installed carefully and after each rain and the geotextile checked when it becomes clogged.



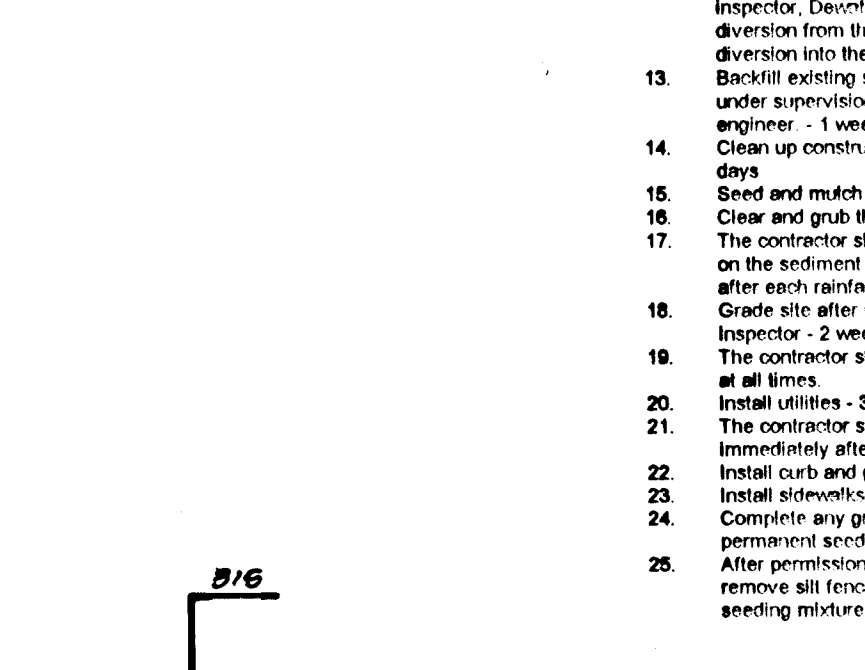
1. Excavate completely around the inlet to a depth of 18" below the bottom elevation.
2. Drive the 2' x 4" construction grade lumber posts 18" into the ground at each corner of the inlet. Place soil filled between the posts on the ends of the inlet. Assemble the top portion of the 2' x 4" frame using the post (joint shown on detail 23A). The top of the frame must be 4" below adjacent roadway where flooding and safety lanes may exist.
3. Strain the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
4. Strain the Geotextile Class II fabric over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet bottom elevation. Fasten the geotextile tightly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
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7. The structure must be installed carefully and after each rain and the geotextile checked when it becomes clogged.



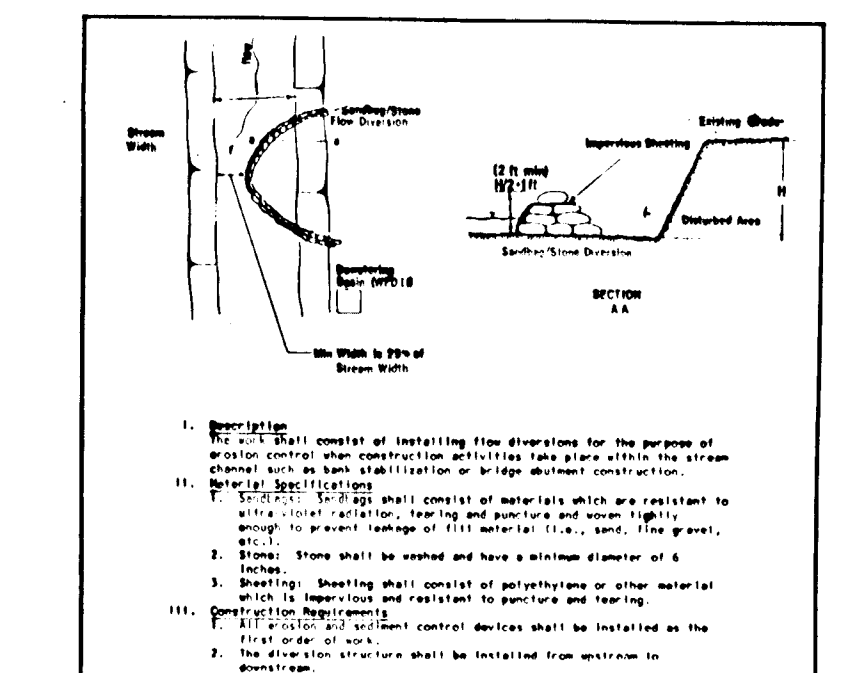
1. Filter bag shall be placed on a sloping or level well graded vegetated site such that water will flow 4" above the top of the bag.
 2. WIDTH AND LENGTH SHALL BE AS SHOWN IN THE TABLE.
 3. THE FILTER BAG MUST BE STAPLED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
 4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOW CAPACITY THAN 300 GPM.
 5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UNPAVED AREA.
- | | |
|--------------------------------|----------------------|
| AVAILABLE FROM | POLE & COMPANY, INC. |
| INDIAN VALLEY INDUSTRIES, INC. | 425 10th St., 1544 |
| P.O. BOX 800 | PO BOX 800 |
| JONSON CITY, NEW YORK 13790 | (616) 535-2520 |
| 800-555-5111 | |



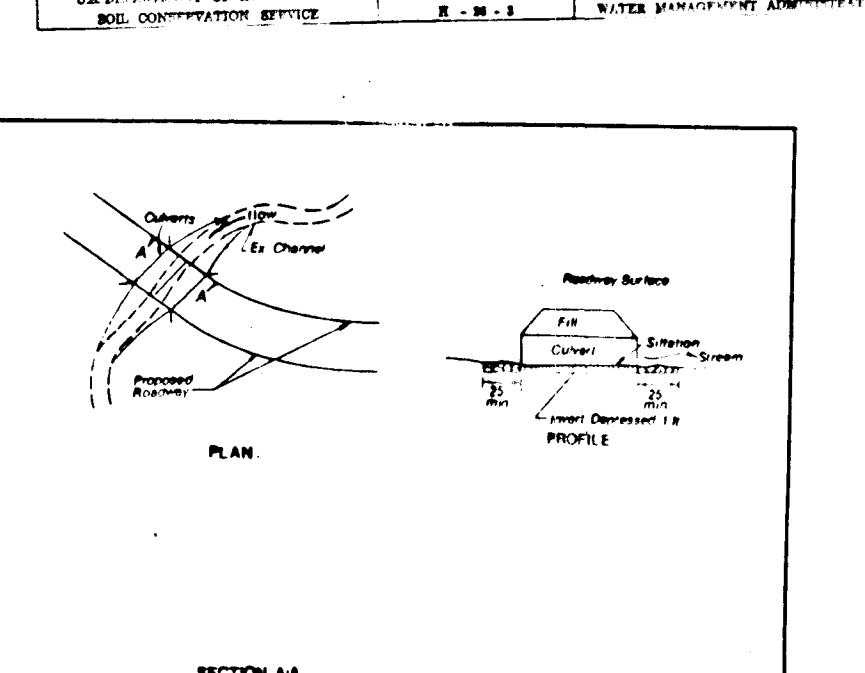
1. Strain a continuous piece of wire mesh (30" minimum length by 30" length) over the 2' x 4" wire framing (see detail 23A) as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class II fabric over the wire mesh over the wire mesh and secure it to the 2' x 4" wire.
3. Securely nail the 2' x 4" wire to a 6" long vertical post to be located between the wire and the inlet face curb. 4' apart.
4. Place the assembly against the inlet curb and nail (minimum 1" length of 2" x 4" to the top of the curb at each location). These 2" x 4" anchors shall extend across the inlet top and be held in place by anchors or alternate weight.
5. The assembly shall be placed so that the anchors are a minimum 1" beyond both ends of the filter assembly.
6. Place the 1/2" x 1/2" wire mesh and the geotextile fabric to the opposite curb and repeat the steps of the curb on both sides of the inlet. Place each 2" x 4" anchor on the wire mesh and over the geotextile fabric.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Ensure that stone flow does not bypass the inlet by installing a temporary curb or deposit dirt to direct the flow to the inlet.



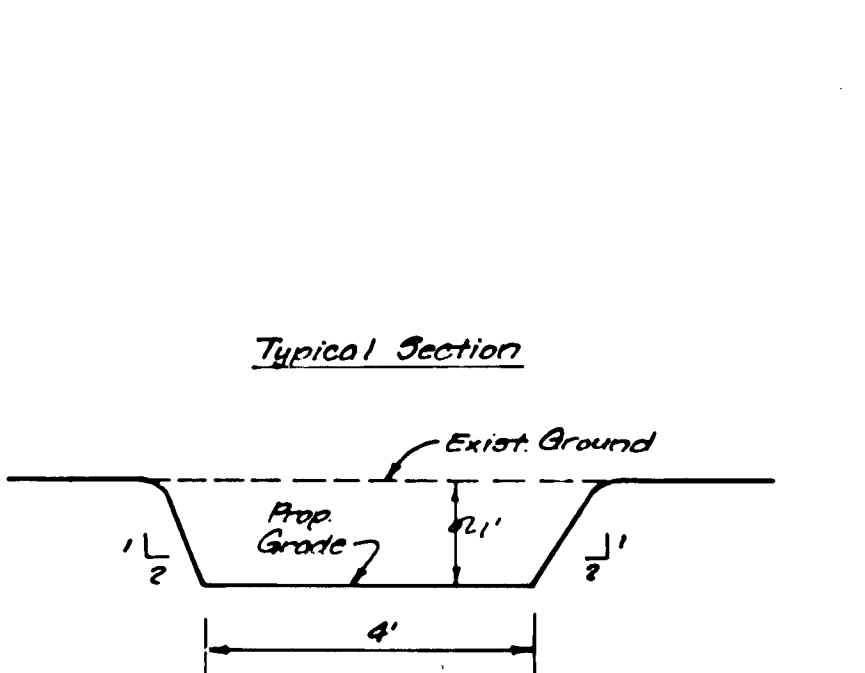
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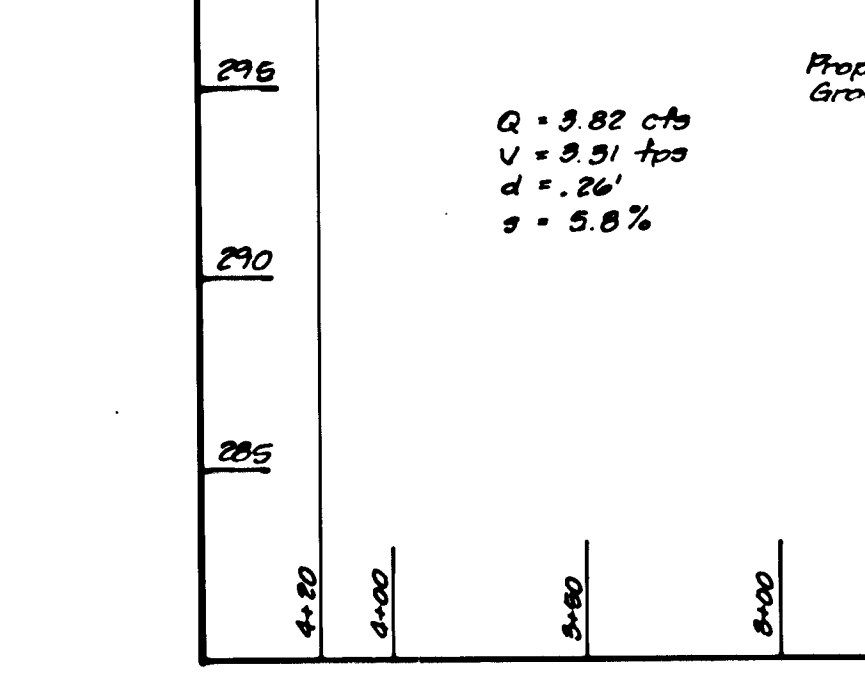
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8. Ensure that stone flow does not bypass the inlet by installing a temporary curb or deposit dirt to direct the flow to the inlet.



- Swale @ Lot 128: 129 to I-8
N.T.S.
- Note: Protect Swale per profile with either seed & mulch or sod.



- Profile Along E Swale @ Lot 128: 129 to I-8
Scale: 1" = 60' Hor.
1" = 6' Vert.
- Protect Swale with sod & mulch
- Protect Swale with seed & mulch
- Q = 3.82 cfs
V = 3.51 fps
d = .26'
s = 5.8%
- Q = 3.82 cfs
V = 2.76 fps
d = .20'
s = 3.3%

- STAMPING AND SPECIFICATIONS
1. All work shall be done in accordance with the specifications for the work to be done. The specifications shall be those of the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division.
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- CONSTRUCTION SEQUENCE
1. Obtain Grading Permit - 1 day
 2. Install silt fence and sediment control structures - 1 day
 3. Install Tree Protection Fence where shown hereon - 2 days
 4. Install all fence all limit of disturbance where shown - 2 days
 5. Clear and grub areas for culvert construction - 3 days
 6. After permit has been given by the sediment control inspector, install Super Silt Fence along the south side of the inlet. The Super Silt Fence shall be placed on the level that requires removal and the fence is diverted into the ditch 2 days
 7. Construct temporary sediment diversion upstream to divert water away from work area and downstream of the proposed culvert to prevent backflowing into construction area, per detail WPD 3.3 - 2 days
 8. After permit has been given by the sediment control inspector, construct 48" culvert under Manure Drive at Station 100+00 +/- per Profile on Sheet 4 of 13 and detail WPD 3.3 this sheet - 3 weeks
 9. Backfill culvert, after permit has been given by the sediment control inspector, remove silt fence installed under Manure Drive - 2 days
 10. Stabilize the disturbed slopes and stream bed with acceptable methods accepted by the Administration - 2 days
 11. After permit has been given by the sediment control inspector, divert the area, then remove the temporary stream diversion from the downstream area, redirect the temporary diversion into the proposed culvert - 3 days
 12. Backfill existing stream bed per geotechnical requirements under supervision of a representative of the geotechnical engineer - 1 week
 13. Clean up construction site surrounding culvert construction - 2 days
 14. Seed and mulch all disturbed areas
 15. Clear and grub the remainder of the site - 1 week
 16. The contractor shall provide necessary maintenance on the sediment and erosion control structures shown hereon after each rainfall and on a daily basis - 1 day
 17. Grade site after permit is given by Sediment Control Inspector - 2 weeks
 18. The contractor shall maintain access to the Zelman Properties at all times - 3 weeks
 19. The contractor shall stabilize the 2:1 slopes over the 48" culvert immediately after creating proposed grade - 1 day
 20. Complete any grading and stabilize disturbed areas with permanent seeding mixture and straw/mulch - 1 week
 21. After permit has been given by Sediment Control Inspector, remove silt fence, and stabilize disturbed areas with permanent seeding mixture and straw/mulch - 1 week
 22. Complete any grading and stabilize disturbed areas with permanent seeding mixture and straw/mulch - 1 week
 23. Complete any grading and stabilize disturbed areas with permanent seeding mixture and straw/mulch - 1 week
 24. Complete any grading and stabilize disturbed areas with permanent seeding mixture and straw/mulch - 1 week
 25. Complete any grading and stabilize disturbed areas with permanent seeding mixture and straw/mulch - 1 week

- Notes:
1. For plan view, refer to sheet 7.
 2. For profile, refer to sheet 6.

LDE, INC.
9250 Rumsey Road - Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: GRADING & SEDIMENT AND EROSION CONTROL DETAILS
E.D.S.
SCALE: 1" = 60'

DRAWN: KEW
DRAWING: MARSHALEE WOODS
9 of 13

CHECKED: B.D.B.
JOB NO.: 95-022

DATE: May 1996
Tax Map 37
1st Election District
Parcels 593 & 656
Howard County, Maryland
FILE NO.: F96-66

Owner / Developer
Marshalee Woods Limited Partnership
8835 Columbia 100 Parkway - Unit P
COLUMBIA, MARYLAND 21045
(410) 730-0810

1537

BRUCE D. BURTON
7/31/96

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Jim Swannick
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
DATE: 8/20/96

Chris Swannick
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 8/20/96

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS

Andrew M. Davelos
CHIEF, BUREAU OF HIGHWAYS
DATE: 8-16-96

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

J. L. Washburn
NATURAL RESOURCE CONSERVATION SERVICE
DATE: 8/17/96

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

Yelken W. Schminz
HOWARD SOIL CONSERVATION DISTRICT
DATE: 8/17/96

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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

BRUCE D. BURTON
SIGNATURE OF ENGINEER
DATE: 7/31/96

DEVELOPER'S CERTIFICATE

"I/WE 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 THE ENVIRONMENT 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 DEEMED NECESSARY."

DATE: 11/2/95

WATER RESOURCES ADMINISTRATION

Depressed Culvert

Approved: 11/2/95
DATE: 11/2/95

WATER RESOURCES ADMINISTRATION

Depressed Culvert

Approved: 11/2/95
DATE: 11/2/95

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WATER RESOURCES ADMINISTRATION

Depressed Culvert

Approved: 11/2/95
DATE: 11/2/95

1667



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Jim Hummer 8/20/96
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

Alan Dammann 8/20/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.

Andrew M. Daulton 8-16-96
 CHIEF, BUREAU OF HIGHWAYS

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

J. H. Washburn 8/7/96
 NATURAL RESOURCE CONSERVATION OFFICER

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

Stephen W. Schering 8/7/96
 HOWARD SOIL CONSERVATION DISTRICT

LDE, INC. 9250 Rumsey Road, Suite 106, Columbia, MD. 21045 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)		
DESIGNED	E.D.S.	SCALE 1"=50'
DRAWN	K.B.W.	DRAWING 10 of 13
CHECKED	B.D.B.	JOB NO. 95-022.4
DATE	May 1996	FILE NO. F96-66
Tax Map 37 Parcels 593 & 656 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND Owner/Developer: Marshalee Woods Limited Partnership 8835 Columbia 100 Parkway, Unit P Columbia, Maryland 21045 (410) 730-0810		

PAUCE D. DUTTON
 7/27/96

2991

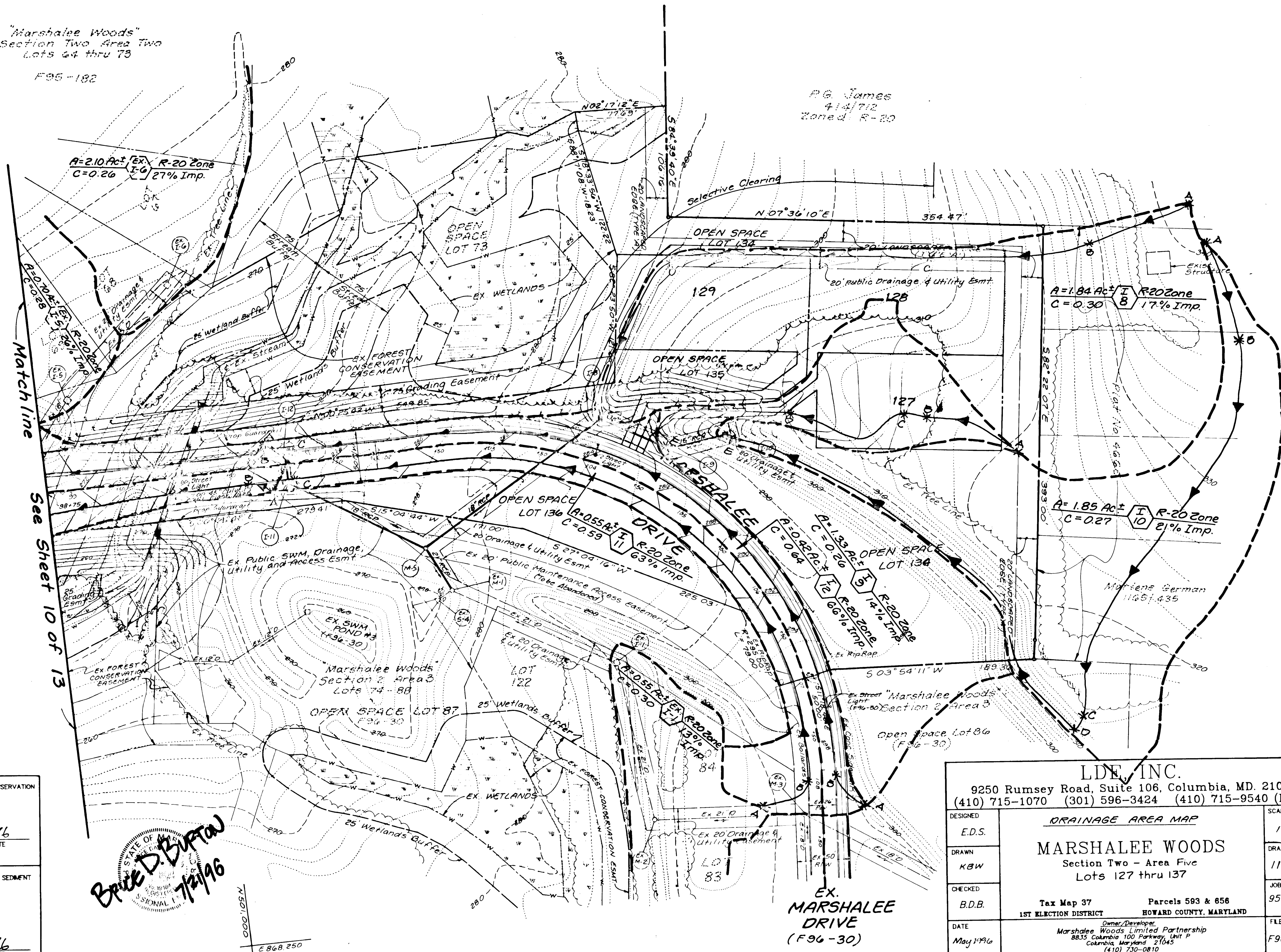
MD GRID NORTH

E 867.500
N 501.000

E 867.250
N 501.500

"Marshalee Woods"
Section One
Lots 1 thru 39
Plat No. 11200
Open Space Lot 39

"Marshalee Woods"
Section Two Area Two
Lots 64 thru 73
F95-182



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Asha Swannick
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
DATE: 8/20/96

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.

Andrew M. Daniels
CHIEF, BUREAU OF HIGHWAYS
DATE: 8-16-96

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

J. L. Workild
NATURAL RESOURCE CONSERVATION SERVICE
DATE: 8/1/96

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

Stephen W. Schomins
HOWARD SOIL CONSERVATION DISTRICT
DATE: 8/1/96

Bruce D. Burton
7/21/96

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED E.D.S.	DRAINAGE AREA MAP MARSHALEE WOODS Section Two - Area Five Lots 127 thru 137 Tax Map 37 1ST ELECTION DISTRICT Parcels 593 & 656 HOWARD COUNTY, MARYLAND Date/Developer: Marshalee Woods Limited Partnership 8835 Columbia 100 Parkway, Unit P Columbia, Maryland 21045 (410) 730-0810	SCALE 1" = 50'
DRAWN KBW		DRAWING 11 of 13
CHECKED B.D.B.		JOB NO. 95-022
DATE May 1996		FILE NO. F95-666

F96-66

STREET TREE TABLE					
SYMB	COMMON NAME	BOTANICAL NAME	QTY	SIZE	REMARKS
⊙	Northern Red Oak	Quercus Rubra	10	2"-2 1/2" Cal B&B	40' o.c.
⊙	Red Sunset Red Maple	"Red Sunset"	4	2"-2 1/2" Cal B&B	40' o.c.
⊕	Marshall's Seedless Green Ash	Fraxinus Pennsylvanica "Marshall's Seedless"	11	2"-2 1/2" Cal B&B	40' o.c.
⊙	Columbia London Plane	Platanus x acerifolia "Columbia"	9	2"-2 1/2" Cal B&B	40' o.c.
⊙	Flametail Sumac	Rhus copallina	43	18"-24" HT Cont.	5' o.c.

Landscape Edge

- 10 Pinus strobus - white pine 5'-6" ht. 0 x 0
- 2 Liquidambar styraciflua-sweetgum 2"-2 1/2" cal. B&B
- 5 Acer Rubrum-Red Maple 2"-2 1/2" cal. 0 x 0
- 3 Quercus coccinea-Scarlet oak 2"-2 1/2" cal. B&B

PLANTING NOTES - street trees

- Notify "Miss Utility" 72 hours prior to installation of all plant material.
- Plant installation must conform to the minimum standards cited in the latest edition of Landscape Specification Guidelines, published by the Landscape Contractors Association.
- Plants to be located in the field by the owner or owner's representative. Notify owner 72 hours in advance of planting.
- A Certification of Landscape Installation is required as per the Howard County Landscape Ordinance.
- The number, size, location of plants shall not be changed without the approval of the Landscape Architect. Substitutions must be included in the recommended plant list in the Howard County Landscape Ordinance.
- Street tree locations may be adjusted for final location of driveways. Trees to be located a minimum of 10 feet from driveways.
- Street trees may not be planted within 5 feet of drain inlets, 5 feet of an open space access strip and 10 feet of a driveway.
- Street Tree planting must conform to the Subdivision and Land Development Regulations and the Department of Public Works Design Manual of Howard County.
- Balled and Burlapped plant material shall not be accepted if ball is cracked or broken before or during planting. Protect all plants from drying by either sun or wind.
- Tree pits shall be backfilled with 50% topsoil, 25% peat, 25% sand with one pound of 10-10-10 fertilizer per pit.
- Top soil shall be sandy loam soil free from noxious weeds or grasses, roots, clay clumps, stones, sticks, etc. Peat moss shall be commercial with pH 4.5 to 5.5. Free of woody material or harmful minerals.
- All plants shall be watered at planting with weekly watering thereafter for the first 80 days. Watering shall continue bi-monthly or as necessary to maintain plants in a healthy condition during the guarantee period.
- Maintain the site in an orderly manner. Streets and sidewalks shall be swept clean. All rejected or dead materials shall be immediately removed from the site.
- Plant material to be alive and healthy at the time of the guarantee period (one year), as specified in the Howard County Landscape Ordinance.
- Maintenance shall begin immediately after planting and continue to the end of guarantee period.
- Maintenance consist of pruning, watering, weeding, re-mulching, resetting plants to proper grades as needed and repairing guys and stakes as needed.

PLANTING NOTES - afforestation planting

- Forest Stand Delineation and the Preliminary Forest Conservation Plan prepared by C. Williams, Landscape Architect.
- Written Documentation including afforestation location, construction protection and management, cost estimate, plant densities, etc. prepared by C. Williams, Landscape Architect, Submission No. P-94-07.
 - A) Construction Protection and Management. Upon completion of the rough grading of the afforestation areas, a protective fence and signs will be installed. Adjacent landowners will be informed about the existence and importance of these areas.
 - B) Post Construction Protection. After completion and approval of planting, the protective fence shall remain only if construction of Marshalee Drive endangers the viability of the newly planted area. Signs will be removed after the two year maintenance period as directed by the Howard County Forest Conservation Manual.
- All planting to meet the implementation techniques and practices as described in the Howard County Forest Conservation Manual.
- There are no existing trees on the site.
- The hardwood container grown stock should be planted randomly at an average of eleven feet on center in a naturalized pattern. Species should be mixed with no less than three trees of one species in a group. Edge species should be planted on the perimeter of the afforestation area (Amenlancher, Cercis, and Viburnum).
- Evergreen seedlings should be planted randomly at an average of eight feet on center in a naturalized pattern.
- The Landscape Contractor will be responsible for general site preparation of the rough graded afforestation areas. The planting areas should be treated by incorporating natural mulch into the top twelve inches of soil. The Contractor will provide needed soil amendments as determined by a soil analysis. Amendments should be natural materials such as organic mulch or leaf mold compost.
- All disturbed areas within the afforestation area to be seeded with K-31 Tall Fescue (March 1 - April 30 and August 1 - Oct. 15, seed with 60 lbs/acre; May 1 - July 31 use 60 lbs/acre K-31 and 2 lbs/acre of weeping lovegrass; Oct. 16 - Feb. 28 use 60 lbs/acre k-31 and mulch with 2 tons/acre well anchored straw or mulch and seed in the spring.
- Seeded areas to be hand mulched with 1 1/2 to 2 tons per acre of unrotted small grain straw and non-asphaltic tackifier and left unremoved. All areas between the Site Line Easement and the ROW of Marshalee Drive shall be seeded with K-31 Fescue and mowed once a year.
- The Landscape Architect will inspect the planting at the end of the construction period and provide to the County a certification that all plantings have been installed and that all protection devices are in place.
- The Landscape Contractor shall be responsible for management of afforestation areas for a period of two years, including needed watering, removal of dead or damaged material and control of undesirable species, fertilizing if necessary and control of pests, and replacement of plant material as described in the Howard County Forest Conservation Manual.
- All inspections as required by the Forest Conservation Manual shall be performed by the Landscape Architect.

FOREST RETENTION AREA

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM

SPECIMEN TREE

DO NOT REMOVE

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM

Forest Conservation Technique Area / sq. ft. Plant Density Plants Required Plants Shown

Landscape option	7880	40 trees / 10,000sf	32 trees	32 trees
Afforestation w/ 1-2 gal. cont. stock	18515	350 trees / ac.	149 trees	149 trees
Afforestation w/ evgn seedlings	13005	700 trees / ac.	209 trees	209 trees

Total Area 39400

- Notes: 1. This plan has been prepared in accordance with the provisions of Section 16.129 of the Howard County Code and the Landscape Manual.
 2. Financial security for the proposed landscaping has been posted as part of the DPW Developer Agreement in the amount of \$5000.
 3. There shall be a minimum of 20 feet between street lights and street trees.

SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	—	A
Linear Feet of Roadway Frontage/Perimeter	—	878 L.F.
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	—	Yes 783 L.F. (1)
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	—	No
Number of Plants Required	—	2
Shade Trees	—	—
Evergreen Trees	—	—
Other Trees (2:1 substitution)	—	—
Shrubs (10:1 substitution)	—	—
(Describe plant substitution credits below if needed)	—	—

NO KEY BOTANICAL / COMMON NAME SIZE COMMENT

AFFORESTATION PLANTING

Landscape Option (20%)

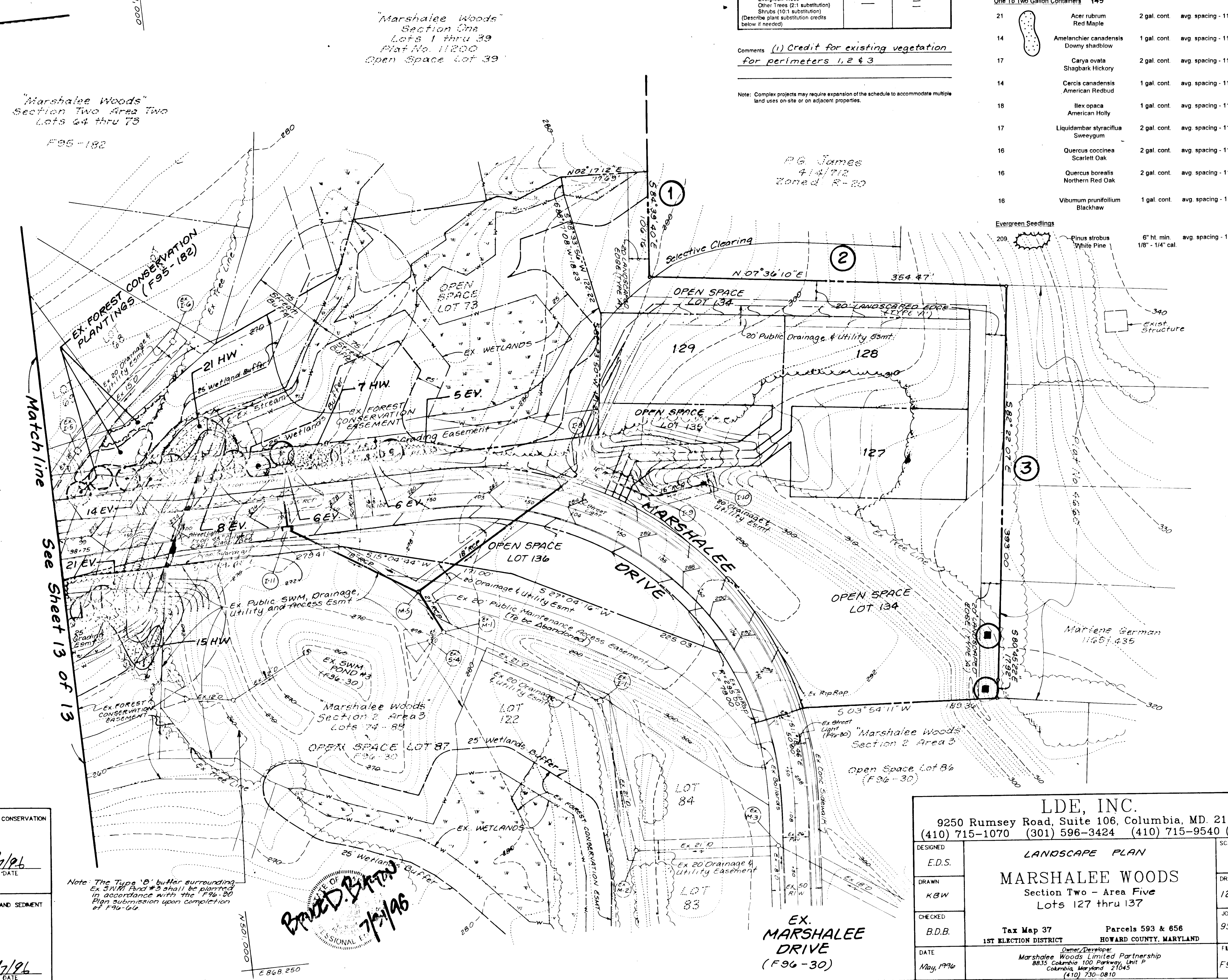
10		Acer rubrum Red Maple	2-2 1/2" - 3" cal. B&B	
4		Liquidambar styraciflua Sweetgum	2-2 1/2" - 3" cal. B&B	
13		Quercus borealis Northern Red Oak	2-2 1/2" - 3" cal. B&B	
5		Quercus coccinea Scarlet Oak	2-2 1/2" - 3" cal. B&B	

One To Two Gallon Containers 149

21		Acer rubrum Red Maple	2 gal. cont.	avg spacing - 11'
14		Amelanchier canadensis Downy Shadblow	1 gal. cont.	avg spacing - 11'
17		Carya ovata Shagbark Hickory	2 gal. cont.	avg spacing - 11'
14		Cercis canadensis American Redbud	1 gal. cont.	avg spacing - 11'
18		Ilex opaca American Holly	1 gal. cont.	avg spacing - 11'
17		Liquidambar styraciflua Sweetgum	2 gal. cont.	avg spacing - 11'
16		Quercus coccinea Scarlet Oak	2 gal. cont.	avg spacing - 11'
16		Quercus borealis Northern Red Oak	2 gal. cont.	avg spacing - 11'
16		Viburnum prunifolium Blackhaw	1 gal. cont.	avg spacing - 11'

Evergreen Seedlings

209		Pinus strobus White Pine	6" ht. min. 18" - 1/4" cal.	avg spacing - 11'
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"Marshalee Woods" Section One Lots 1 thru 39 Plat No. 11200 Open Space Lot 39

"Marshalee Woods" Section Two Area Two Lots 84 thru 89

Comments (1) Credit for existing vegetation for perimeters 1, 2 & 3

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

P.G. James
4/14/96
Zoned R-20

Mariene German
11/26/93

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Gina Swannomy 8/20/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
John J. Williams 8/20/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.

Andrew M. Daniels 8/16/96
CHIEF, BUREAU OF HIGHWAYS

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

J. L. Wauhillon 8/7/96
NATURAL RESOURCE CONSERVATION SERVICE

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

Stephen M. Schomier 8/7/96
HOWARD SOIL CONSERVATION DISTRICT

Note: The Type "B" buffer surrounding Ex SWM Pond #3 shall be planted in accordance with the F96-30 Plan submission upon completion of F96-66.

Brad D. Britton 7/21/96
PROFESSIONAL ENGINEER

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: E.D.S. SCALE: 1"=50'

DRAWN: K.B.W. DRAWING: 12 OF 13

CHECKED: B.D.B. JOB NO: 95-022.4

DATE: May, 1996 FILE NO: F96-66

LANDSCAPE PLAN
MARSHALEE WOODS
Section Two - Area Five
Lots 127 thru 137

Tax Map 37 Parcels 593 & 656
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

Owner/Developer:
Marshalee Woods Limited Partnership
8835 Columbia 100 Parkway, Unit P
Columbia, Maryland 21045
(410) 730-0810

6991

STREET TREE TABLE				
SYMB	COMMON NAME	BOTANICAL NAME	QTY	SIZE
⊙	Northern Red Oak	Quercus Rubra	10	2"-2 1/2" Cal B&B
⊙	Red Sunset Red Maple	"Red Sunset"	4	2"-2 1/2" Cal B&B
⊕	Marshall's Seedless Green Ash	Fraxinus Pennsylvanica "Marshall's Seedless"	11	2"-2 1/2" Cal B&B
⊙	Columbia London Plane	Platanus x acerifolia "Columbian"	9	2"-2 1/2" Cal B&B
⊙	Flameleaf Sumac	Rhus copallina	43	18"-24" HT Cont.

REVISIONS				
No.	By	Date	Description	
1	LDE	3/04	Revise Storm Drain	

Forest Conservation Technique	Area / sq. ft.	Plant Density	Plants Required	Plants Shown
Landscape option	7880	40 trees / 10,000sf	32 trees	32 trees
Afforestation w/ 1-2 gal. cont. stock	18515	350 trees / ac.	149 trees	149 trees
Afforestation w/ evgn seedlings	13005	700 trees / ac.	209 trees	209 trees
Total Area	39400			

Notes: 1. This plan has been prepared in accordance with the provisions of Section 16.194 of the Howard County Code and the Landscape Manual.
 2. Financial surety for the proposed landscaping has been posted as part of the CPW Developer's Agreement in the amount of \$200,000.
 3. There shall be a minimum of 20 feet between street lights and street trees.

SCHEDULE A PERIMETER LANDSCAPE EDGE		
Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	---	1A'
Linear Feet of Roadway Frontage/Perimeter	---	878 LF
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	---	Yes 783 LF (1)
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	---	No
Number of Plants Required	---	2
Shade Trees	---	---
Evergreen Trees	---	---
Shrubs	---	---
Number of Plants Provided	---	2
Shade Trees	---	---
Evergreen Trees	---	---
Other Trees (2:1 substitution)	---	---
Shrubs (10:1 substitution)	---	---
(Describe plant substitution credits below if needed)	---	---

NO.	KEY	BOTANICAL / COMMON NAME	SIZE	COMMENT
AFFORESTATION PLANTING				
Landscape Option (20%)				
10	⊙	Acer rubrum Red Maple	2-2 1/2" - 3" cal. B&B	
4	⊙	Liquidambar styraciflua Sweetgum	2-2 1/2" - 3" cal. B&B	
13	⊙	Quercus borealis Northern Red Oak	2-2 1/2" - 3" cal. B&B	
5	⊙	Quercus coccinea Scarlet Oak	2-2 1/2" - 3" cal. B&B	
One To Two Gallon Containers 149				
21	⊙	Acer rubrum Red Maple	2 gal. cont.	avg spacing - 11'
14	⊙	Amelanchier canadensis Downy shadowb	1 gal. cont.	avg spacing - 11'
17	⊙	Carya ovata Shagbark Hickory	2 gal. cont.	avg spacing - 11'
14	⊙	Cercis canadensis American Redbud	1 gal. cont.	avg spacing - 11'
18	⊙	Ilex opaca American Holly	1 gal. cont.	avg spacing - 11'
17	⊙	Liquidambar styraciflua Sweetgum	2 gal. cont.	avg spacing - 11'
16	⊙	Quercus coccinea Scarlet Oak	2 gal. cont.	avg spacing - 11'
16	⊙	Quercus borealis Northern Red Oak	2 gal. cont.	avg spacing - 11'
16	⊙	Viburnum prunifolium Blackhaw	1 gal. cont.	avg spacing - 11'
Evergreen Seedlings				
209	⊙	Pinus strobus White Pine	6" ht. min. 1/8" - 1/4" cal.	avg spacing - 11'

- Landscape Edge**
- 10 Pinus Strobus - White pine 5'-6" ht. B&B
 - 2 Liquidambar styraciflua - Sweetgum 2"-2 1/2" cal. B&B
 - 5 Acer Rubrum - Red Maple 2"-2 1/2" cal. B&B
 - 3 Quercus Coccinea - Scarlet Oak 2"-2 1/2" cal. B&B

PLANTING NOTES - street trees

- Notify "Miss Utility" 72 hours prior to installation of all plant material.
- Plant installation must conform to the minimum standards cited in the latest edition of Landscape Specification Guidelines, published by the Landscape Contractors Association.
- Plants to be located in the field by the owner or owner's representative. Notify owner 72 hours in advance of planting.
- A Certification of Landscape Installation is required as per the Howard County Landscape Ordinance.
- The number, size, location of plants shall not be changed without the approval of the Landscape Architect. Substitutions must be included in the recommended plant list in the Howard County Landscape Ordinance.
- Street tree locations may be adjusted for final location of driveways. Trees to be located a minimum of 10 feet from driveways.
- Street trees may not be planted within 5 feet of drain inlets, 5 feet of an open space access strip and 10 feet of a driveway.
- Street Tree planting must conform to the Subdivision and Land Development Regulations and the Department of Public Works Design Manual of Howard County.
- Balled and Burlapped plant material shall not be accepted if ball is cracked or broken before or during planting. Protect all plants from drying by either sun or wind.
- Tree pits shall be backfilled with 50% topsoil, 25% peat, 25% sand with one pound of 10-10 fertilizer per pit.
- Top soil shall be sandy loam soil free from noxious weeds or grasses, roots, clay clumps, stones, sticks, etc. Peat moss shall be commercial with pH 4.5 to 5.5, free of woody material or harmful minerals.
- All plants shall be watered at planting with weekly watering thereafter for the first 80 days. Watering shall continue bi-monthly or as necessary to maintain plants in a healthy condition during the guarantee period.
- Maintain the site in an orderly manner. Streets and sidewalks shall be swept clean. All rejected or dead materials shall be immediately removed from the site.
- Plant material to be alive and healthy at the time of the guarantee period (one year), as specified in the Howard County Landscape Ordinance.
- Maintenance shall begin immediately after planting and continue to the end of guarantee period.
- Maintenance consist of pruning, watering, weeding, re-mulching, resetting plants to proper grades as needed and repairing guys and stakes as needed.

PLANTING NOTES - afforestation planting

- Forest Stand Delineation and the Preliminary Forest Conservation Plan prepared by C. Williams, Landscape Architect.
- Written Documentation including afforestation location, construction protection and management, cost estimate, plant densities, etc. prepared by C. Williams, Landscape Architect. Submission No. P-94-07.
 - Construction Protection and Management:** Upon completion of the rough grading of the afforestation areas, a protective fence and signs will be installed. Adjacent landowners will be informed about the existence and importance of these areas.
 - Post Construction Protection:** After completion and approval of planting, the protective fence shall remain only if construction of Marshalee Drive endangers the viability of the newly planted area. Signs will be removed after the two year maintenance period as directed by the Howard County Forest Conservation Manual.
- All planting to meet the implementation techniques and practices as described in the Howard County Forest Conservation Manual.
- There are no existing trees on the site.
- The hardwood container grown stock should be planted randomly at an average of eleven feet on center in a naturalized pattern. Species should be mixed with no less than three trees of one species in a group. Edge species should be planted on the perimeter of the afforestation area (Amelanchier, Cercis, and Viburnum).
- Evergreen seedlings should be planted randomly at an average of eight feet on center in a naturalized pattern.
- The Landscape Contractor will be responsible for general site preparation of the rough graded afforestation areas. The planting areas should be treated by incorporating natural mulch into the top twelve inches of soil. The Contractor will provide needed soil amendments as determined by a soil analysis. Amendments should be natural materials such as organic mulch or leaf mold compost.
- All disturbed areas within the afforestation area to be seeded with K-31 Tall Fescue (March 1 - April 30 and August 1 - Oct. 15, seed with 60 lbs/acre; May 1 - July 31 use 60 lbs/acre K-31 and 2 lbs/acre of weeping lovegrass; Oct. 15 - Feb 28 use 60 lbs/acre K-31 and mulch with 2 tons/acre well anchored straw or mulch and seed in the spring.
- Seeded areas to be hand mulched with 1 1/2 to 2 tons per acre of unrotted small grain straw and non-asphaltic tackifier and left unrotted. All areas between the Site Line Easement and the ROW of Marshalee Drive shall be seeded with K-31 Fescue and mowed once a year.
- The Landscape Architect will inspect the planting at the end of the construction period and provide to the County a certification that all plantings have been installed and that all protection devices are in place.
- The Landscape Contractor shall be responsible for management of afforestation areas for a period of two years, including needed watering, removal of dead or damaged material and control of undesirable species, fertilizing if necessary and control of pests, and replacement of plant material as described in the Howard County Forest Conservation Manual.
- All inspections as required by the Forest Conservation Manual shall be performed by the Landscape Architect.

Min 11'

FOREST RETENTION AREA

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM

Min 15'

Min 11'

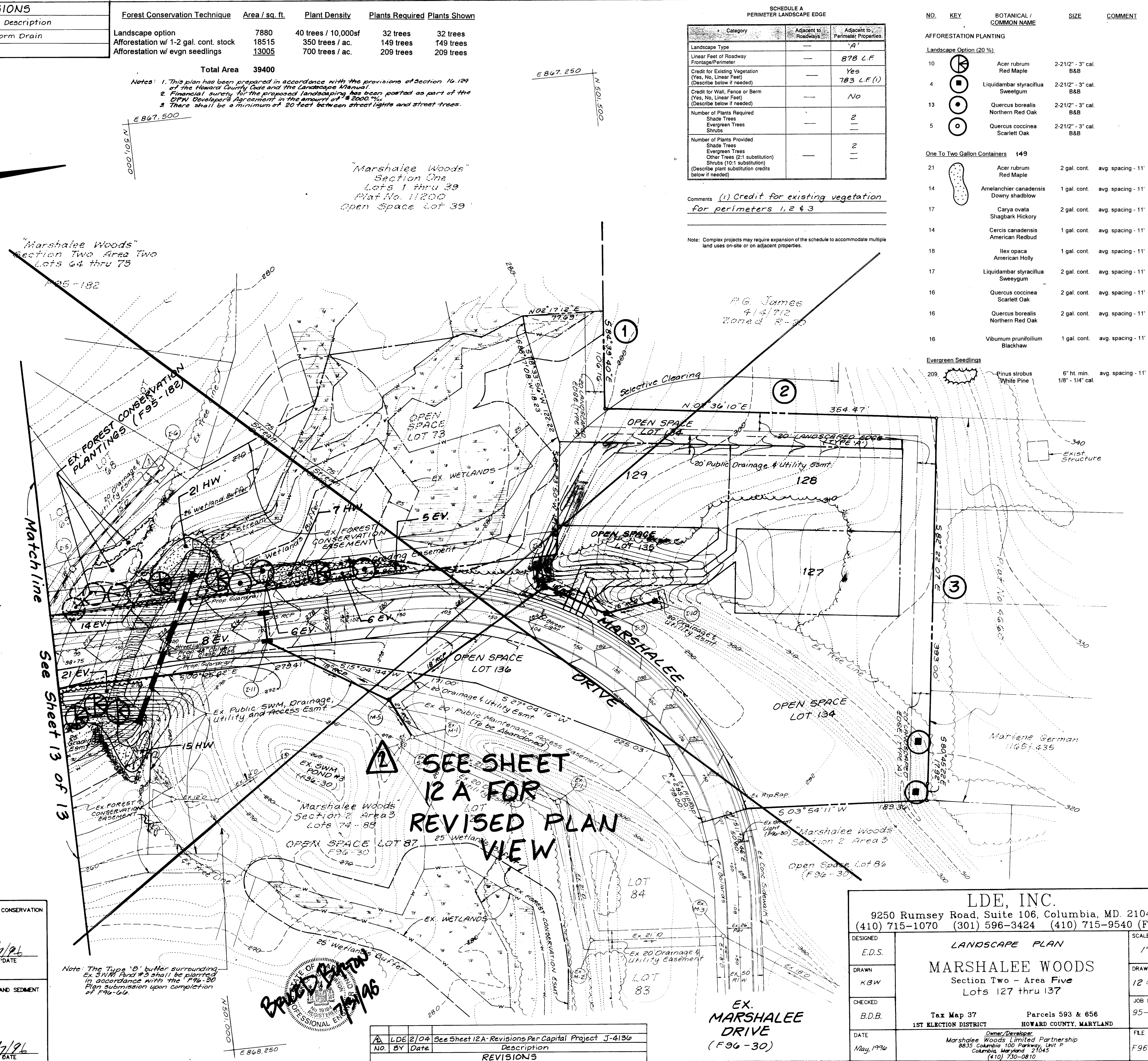
SPECIMEN TREE

DO NOT REMOVE

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM

Min 15'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Aina M. Williams 8/20/96
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

Allen Williams 8/20/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.

Andrew M. Daniels 8/16/96
 CHIEF, BUREAU OF HIGHWAYS DATE

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

L. H. Wainwright 8/17/96
 NATURAL RESOURCE CONSERVATION SERVICE DATE

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

Stephen W. Schomig 8/7/96
 HOWARD SOIL CONSERVATION DISTRICT DATE

Note: The Type 'B' buffer surrounding EX SWM Pond #3 shall be planted in accordance with the F96-30 Plan submission upon completion of F96-66.

Brad Pittman 7/19/96
 PROFESSIONAL ENGINEER

No.	By	Date	Description
1	LDE	2/04	See Sheet 12A - Revisions Per Capital Project J-4136

LDE, INC.

9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

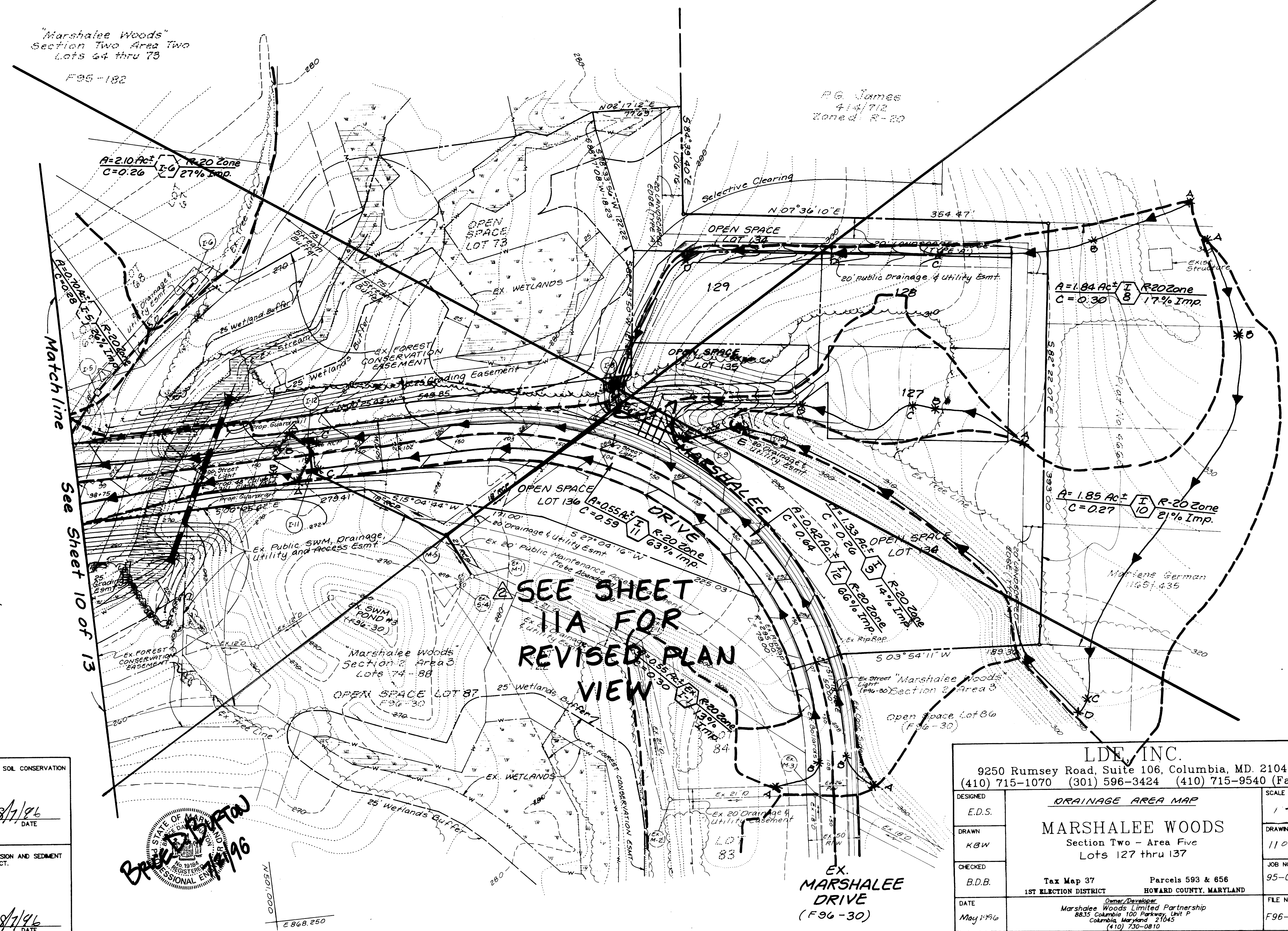
DESIGNED E.D.S.	LANDSCAPE PLAN	SCALE 1"=50'
DRAWN KBW		DRAWING 12 of 13
CHECKED B.D.B.	MARSHALEE WOODS Section Two - Area Five Lots 127 thru 137	JOB NO. 95-022.4
DATE May, 1996		Tax Map 37 1ST ELECTION DISTRICT

Owner/Developer:
 Marshalee Woods Limited Partnership
 8835 Columbia 100 Parkway, Unit P
 Columbia, Maryland 21045
 (410) 730-0810

MD GRID NORTH

"Marshalee Woods"
Section One
Lots 1 thru 39
Plat No. 11800
Open Space Lot 39

"Marshalee Woods"
Section Two Area Two
Lots 44 thru 73



No.	By	Date	Description
1	LDE	2/04	See Sheet IIA, Revisions Per Capital Project 5-4130
2	LDE	3/04	Revise Storm Drain

REVISIONS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Aina Stumm 8/20/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

John Stumm 8/20/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.

Andrew M. Daniels 8-16-96
CHIEF, BUREAU OF HIGHWAYS

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

J. A. Washfield 8/7/96
NATURAL RESOURCE CONSERVATION SERVICE

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

Stephen M. Schmitz 8/7/96
HOWARD SOIL CONSERVATION DISTRICT



LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED E.D.S.	DRAINAGE AREA MAP	SCALE 1" = 50'
DRAWN KBW		DRAWING 11 of 13
CHECKED B.D.B.	MARSHALEE WOODS Section Two - Area Five Lots 127 thru 137	JOB NO. 95-022.4
DATE May 1-96		Tax Map 37 1ST ELECTION DISTRICT

Parcels 593 & 656
HOWARD COUNTY, MARYLAND

Owner/Developer
Marshalee Woods Limited Partnership
8835 Columbia 100 Parkway, Unit P
Columbia, Maryland 21045
(410) 730-0810

HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction, (48H-1850).
 - All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
 - 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 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
 - All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, mulch, temporary stabilization with mulch done on only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
 - All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
- | | |
|------------------------------------|---------------|
| Total Area of Site | 9,080 Acres |
| Area Disturbed | 756 Acres |
| Area to be roofed or paved | 832 Acres |
| Area to be vegetatively stabilized | 416 Acres |
| Total Cut | 8,000 Cu.Yd. |
| Total Fill | 27,000 Cu.Yd. |
- On-site 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 disturbance.
 - All additional control structures to be provided, if deemed necessary by the Howard County 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 received.
 - Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.

HOWARD SOIL CONSERVATION DISTRICT
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, disking, or other acceptable means before seeding, if not previously loosened.

- SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:
- PREFERRED** --- Apply 2 tons per acre dolomitic limestone (92 lbs/1000sq. ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000sq. ft.)
 - ACCEPTABLE** --- Apply 2 tons per acre dolomitic limestone (92 lbs/1000sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk 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/1000sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs. per acre (.05 lbs/1000sq. ft.) of weeping 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 2 tons / acre well anchored straw.

MULCHING --- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000sq. 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/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.

MAINTENANCE --- Inspect all seeding 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.

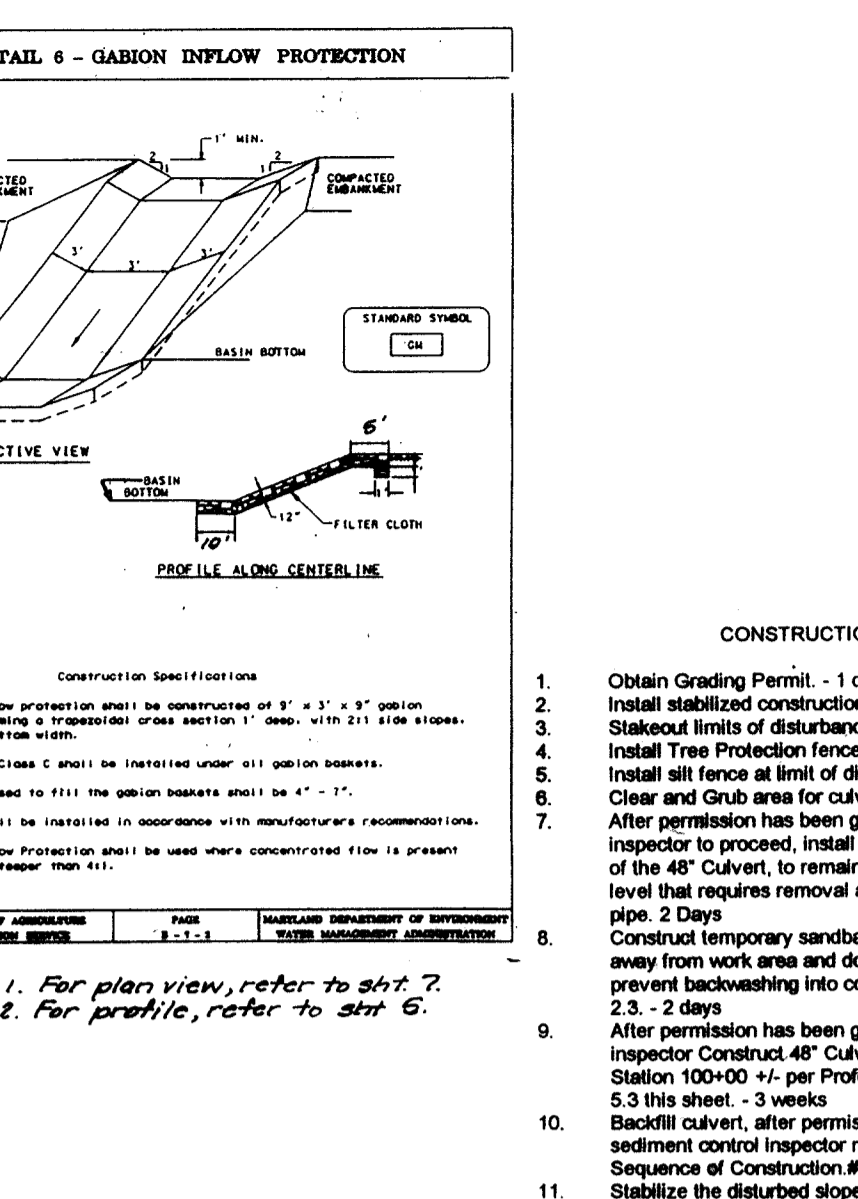
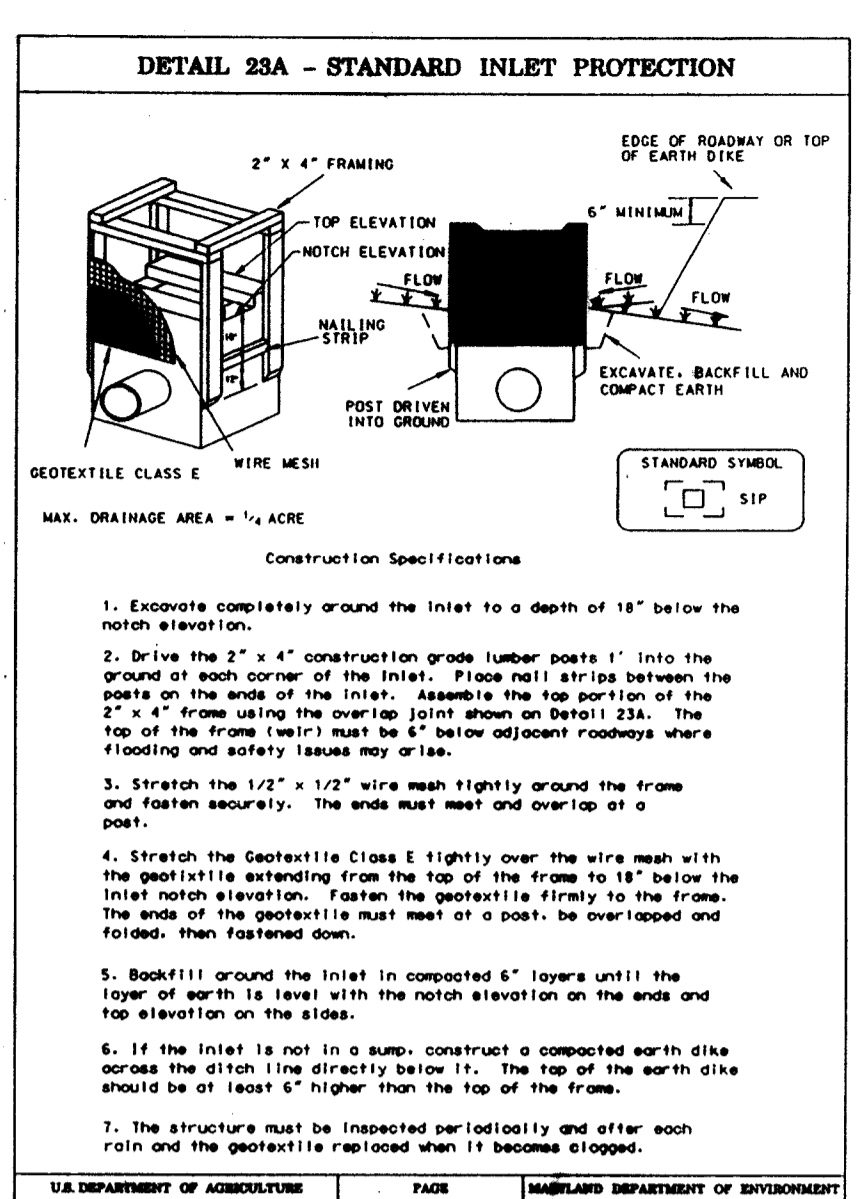
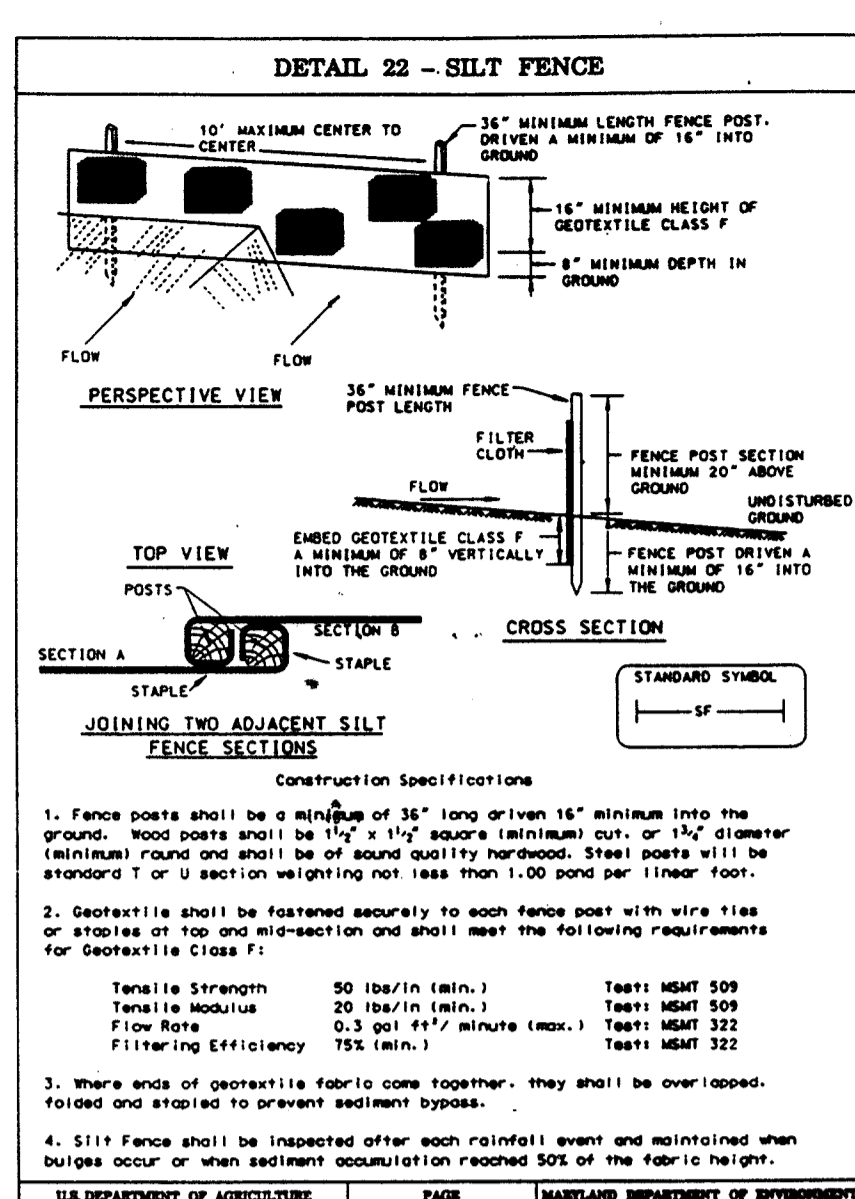
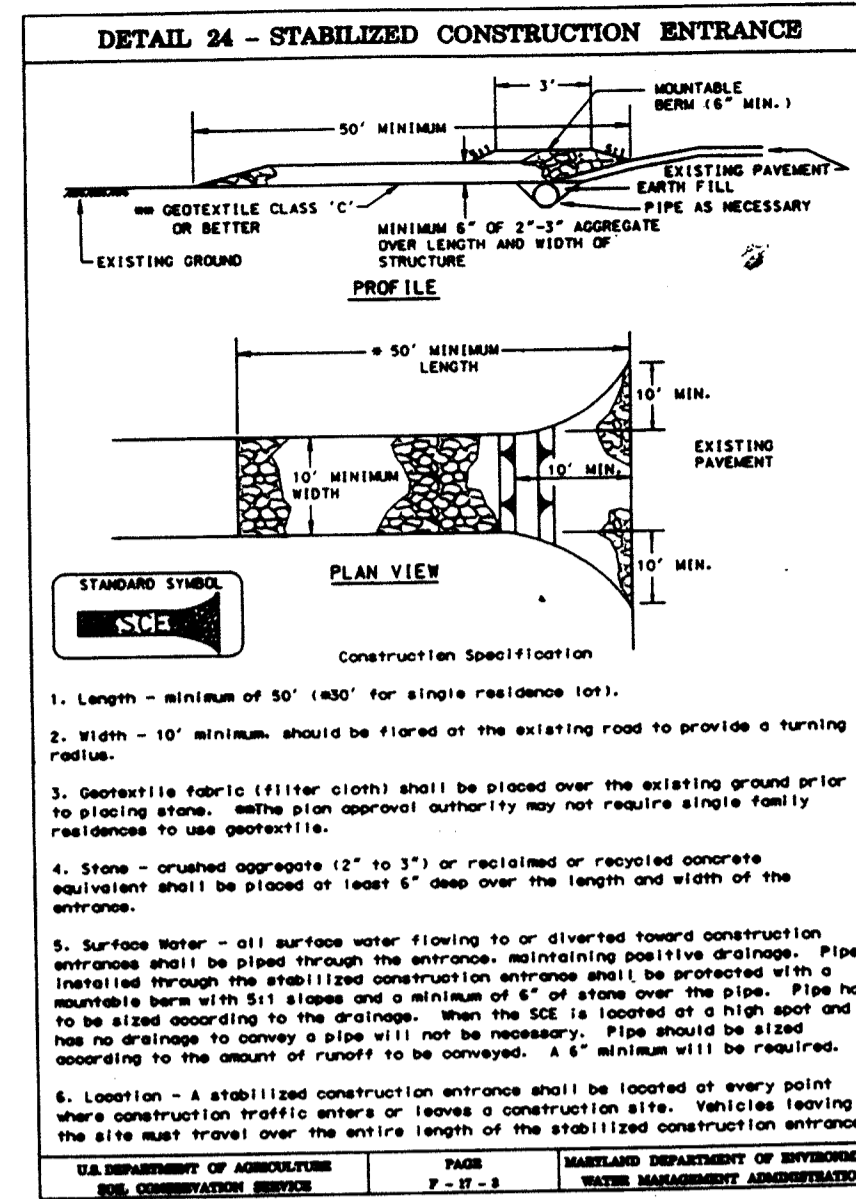
SEEDBED PREPARATION: --- Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: --- Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000sq. ft.).

SEEDING --- For periods March 1 thru April 30, and from August 15 thru October 15 seed with 2-12 bushels per acre of annual ryegrass (3.2 lbs/1000sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs/1000sq. 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/1000sq. ft.) of unrotted weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.



STANDARD AND SPECIFICATIONS FOR SOIL

1. Topsoil salvaged from the existing site may be used provided that it meets the standards set forth in these specifications. Typically, the depth of topsoil to be salvaged shall be 4" to 6" and shall be found in the representative soil profile section in the Soil Survey published by USDA, NRCS in cooperation with Maryland Agricultural Experiment Station.

2. Topsoil Specifications: Soil to be used as topsoil must meet the following:

- Topsoil shall be loose, sandy loam, clay loam, sandy clay loam, heavy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textures and shall contain less than 5% by volume of rocks, stones, log, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
- Topsoil must be free of plants or plant parts such as broadleaf grass, quackgrass, Johnsongrass, nutgrass, poison ivy, bitile, or others as specified.
- Where the soil is either highly acidic or composed of heavy clay, ground limestone shall be spread at the rate of 8 lb/1000 sq. ft. (2000 square feet) (2000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in combination with tillage operations as described in the following sections.

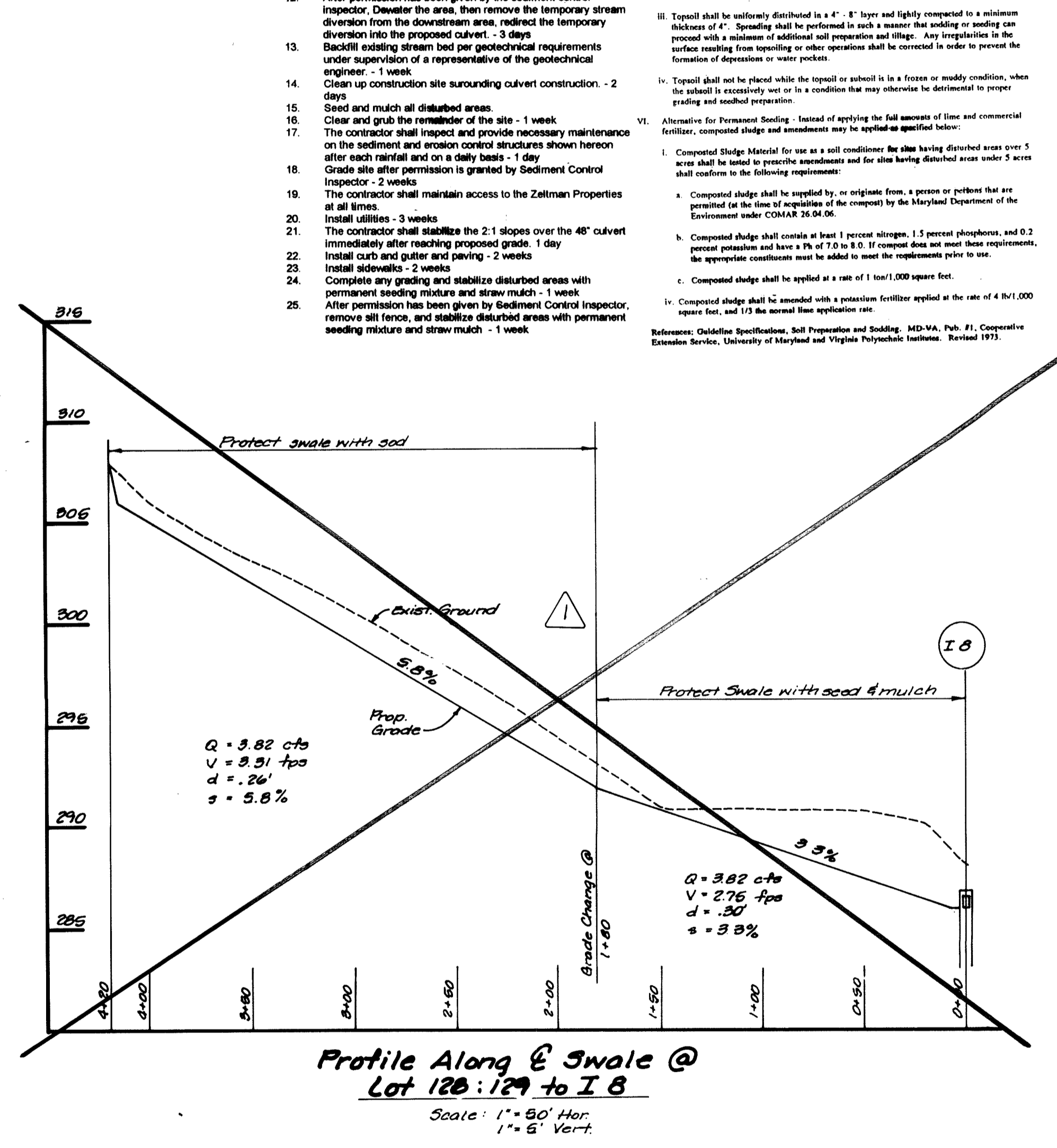
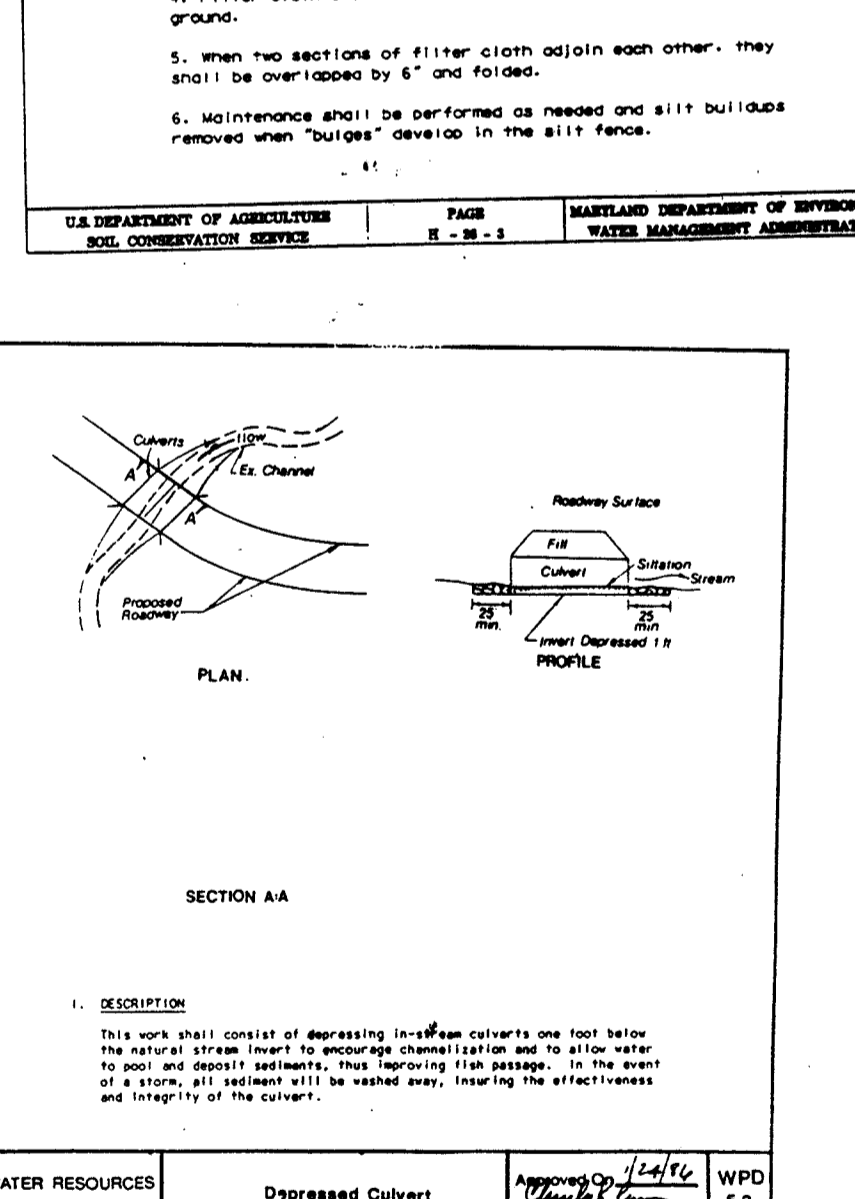
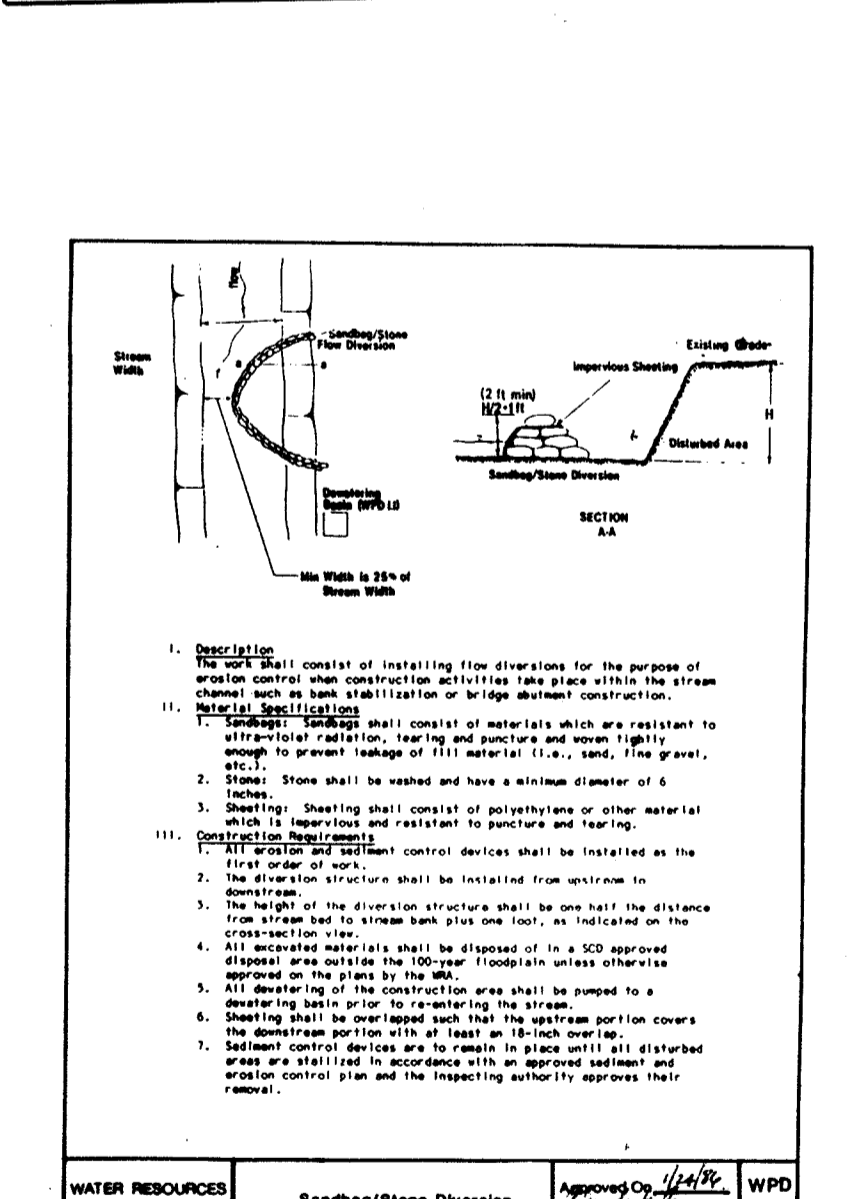
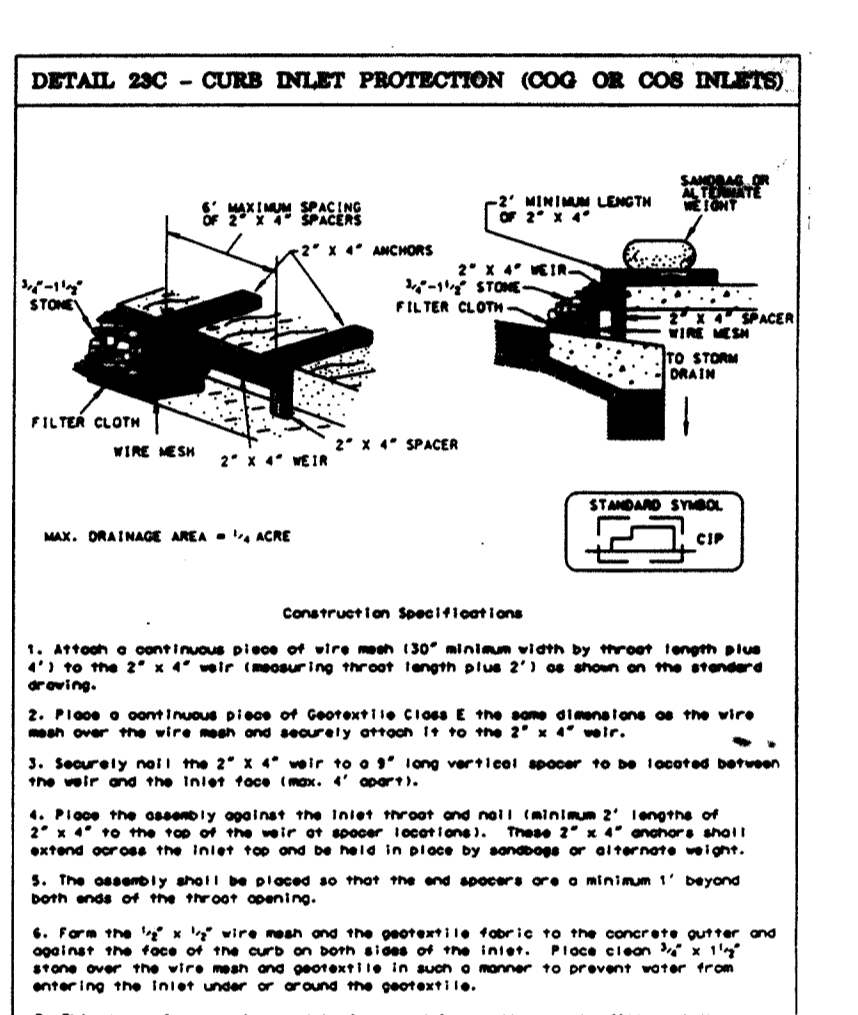
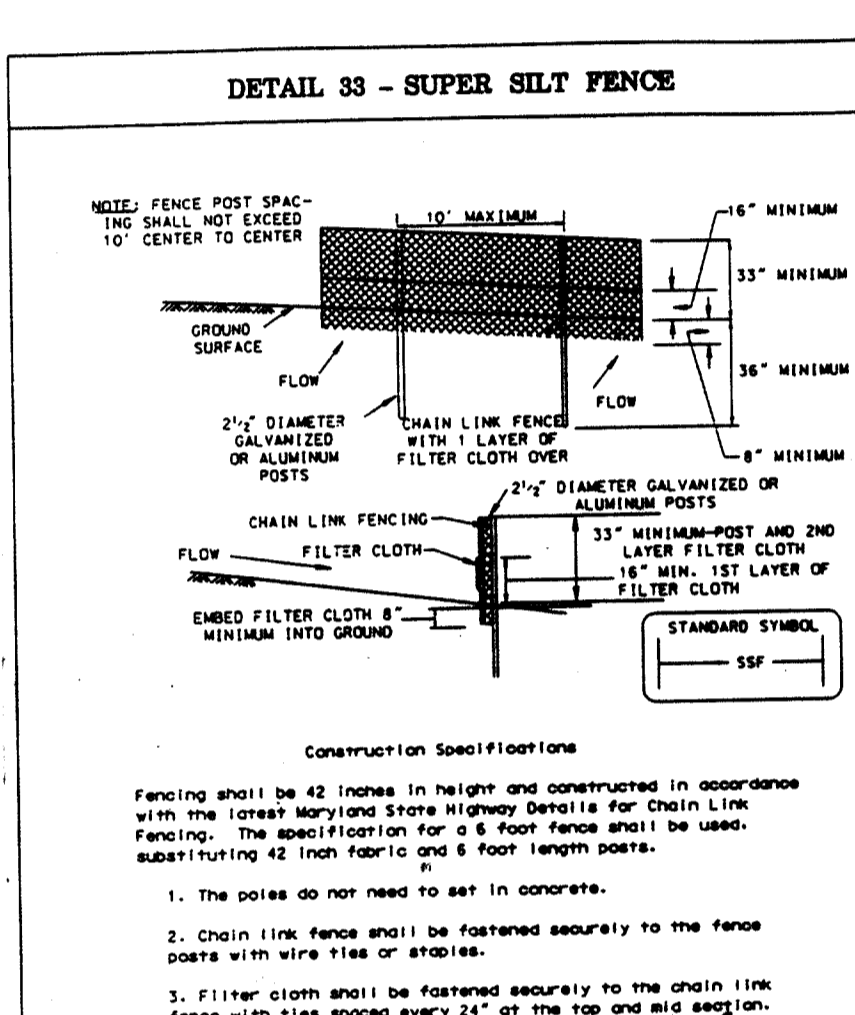
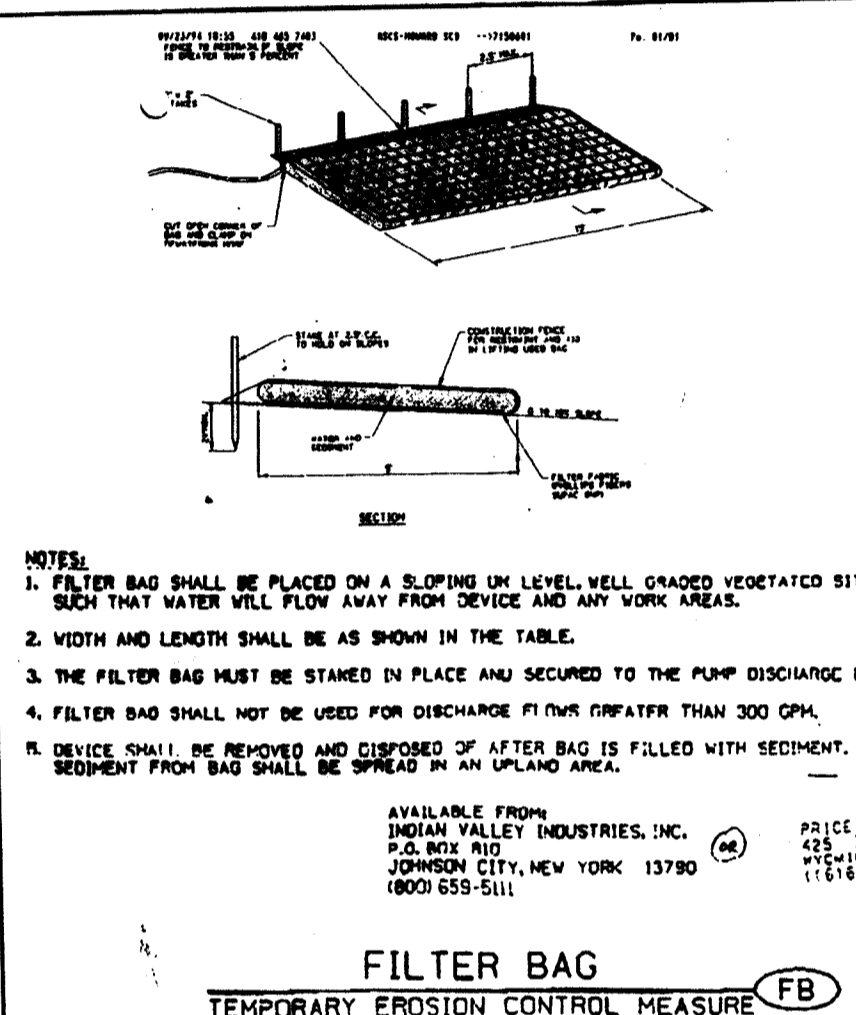
III. For sites having disturbed areas under 5 acres:

- Flow topsoil (if required) and apply soil amendments as specified in 2002 Vegetables Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres:

1. On soil meeting Topsoil specifications, obtain test results following fertilizer and lime amendments required to bring the soil into compliance with the following:

- pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
- Organic content of topsoil shall be not less than 1% by weight.
- Topsoil having soluble salt content greater than 500 parts per million shall not be used.
- No sod or soil shall be placed on soil which has been treated with soil surfactants or chemicals used for weed control and soil surfactant has been applied (14 days) into the period of placement of topsoil.

Notes: 1. For plan view, refer to sheet 7. 2. For profile view, refer to sheet 8.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Jim Strumony
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

8/20/96 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS

Andrew M. Dawick
CHIEF, BUREAU OF HIGHWAYS

8-16-96 DATE

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

L. H. Washfield
NATURAL RESOURCE CONSERVATION SERVICE

8/7/96 DATE

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

Jeffrey W. Schmirer
HOWARD SOIL CONSERVATION DISTRICT

8/7/96 DATE

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THESE PLANS 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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

BRUCE D. BORTON
SIGNATURE OF ENGINEER

7/31/96 DATE

DEVELOPER'S CERTIFICATE

"I/WE 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 THE ENVIRONMENT 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 DEEMED NECESSARY."

John J. ...
SIGNATURE OF DEVELOPER

11/2/95 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Jim Strumony
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

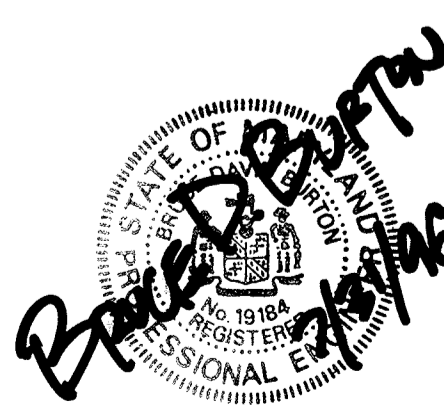
8/20/96 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS

Andrew M. Dawick
CHIEF, BUREAU OF HIGHWAYS

8-16-96 DATE

LDE	2/2004	Revisions Per Capital Project J-4130
NO	BY	DATE
DESCRIPTION		
REVISIONS		
LDE, INC.		
9250 Rumsey Road - Suite 106, Columbia, MD. 21045		
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)		
DESIGNED	GRADING & SEDIMENT AND EROSION CONTROL DETAILS	
E.D.S.	SCALE 1"=60'	
DRAWN	DRAWING 9 of 13	
MARK	MARSHALEE WOODS	
CHECKED	Section Two - Area Five	
B.D.B.	Lots 127 - 137	
DATE	Tax Map 37	Parcels 593 & 656
May 1996	1st Election District	Howard County, Maryland
FILE NO.	Job No.	95-0224
F96-66	996-66	

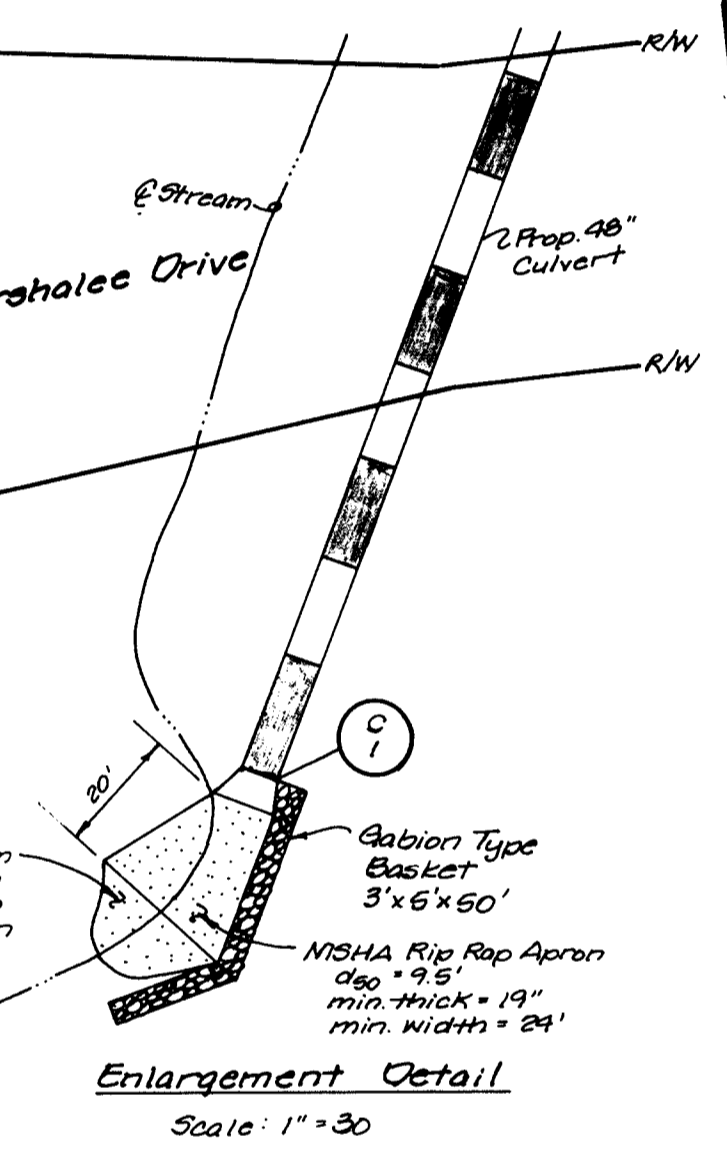
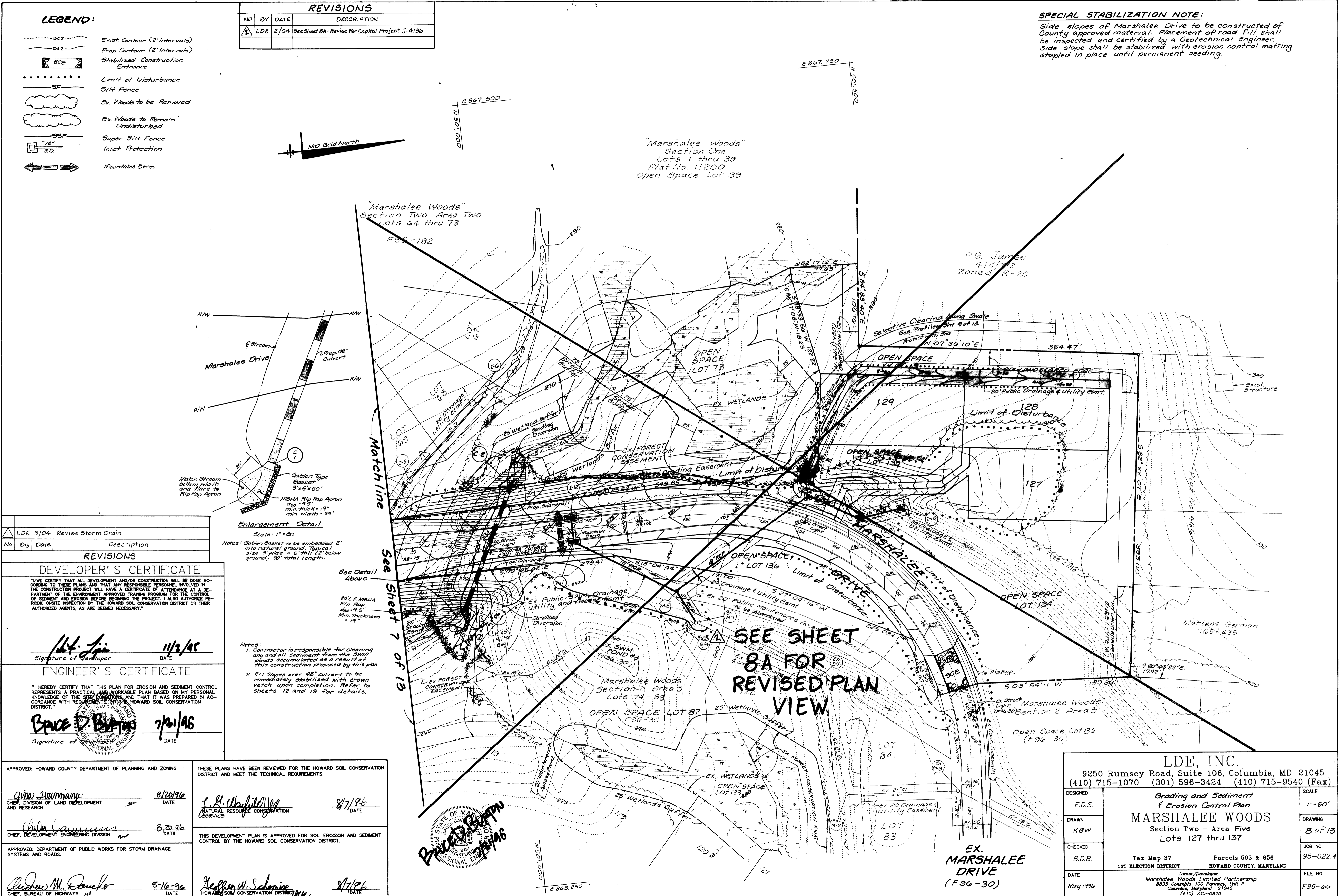


LEGEND:

- 342--- Exist. Contour (2' Intervals)
- 342--- Prop. Contour (2' Intervals)
- ☐ SCE ☐ Stabilized Construction Entrance
- Limit of Disturbance
- SF--- Silt Fence
- ☁ Ex. Weeds to be Removed
- ☁ Ex. Weeds to Remain Undisturbed
- 3SF--- Super Silt Fence
- ☐ 78" / 36" Inlet Protection
- ←---→ Movable Berm

NO	BY	DATE	DESCRIPTION
1	LDE	2/04	See Sheet 8A - Revise Per Capital Project J-4136

SPECIAL STABILIZATION NOTE:
 Side slopes of Marshalee Drive to be constructed of County approved material. Placement of road fill shall be inspected and certified by a Geotechnical Engineer. Side slope shall be stabilized with erosion control matting stapled in place until permanent seeding.



No	By	Date	Description
1	LDE	3/04	Revise Storm Drain

REVISIONS

DEVELOPER'S CERTIFICATE
 "I/WE 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 THE ENVIRONMENT 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: *Mark Linn* DATE: 11/2/95

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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Signature of Professional Engineer: *Bruce D. Berman* DATE: 7/21/96

- Notes:
- Contractor is responsible for clearing any and all sediment from the 3400 ponds accumulated as a result of this construction proposed by this plan.
 - 2:1 Slopes over 48" culvert to be immediately stabilized with crown vetch upon completion. Refer to sheets 12 and 13 for details.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development and Research: *Quinn Zimmerman* DATE: 8/20/96

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS
 Chief, Bureau of Highways: *Andrew M. Donker* DATE: 8-16-96

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.
 Natural Resource Conservation Service: *L. R. Wolfchild* DATE: 8/7/96

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Howard Soil Conservation District: *Stephen W. Scheraga* DATE: 8/7/96

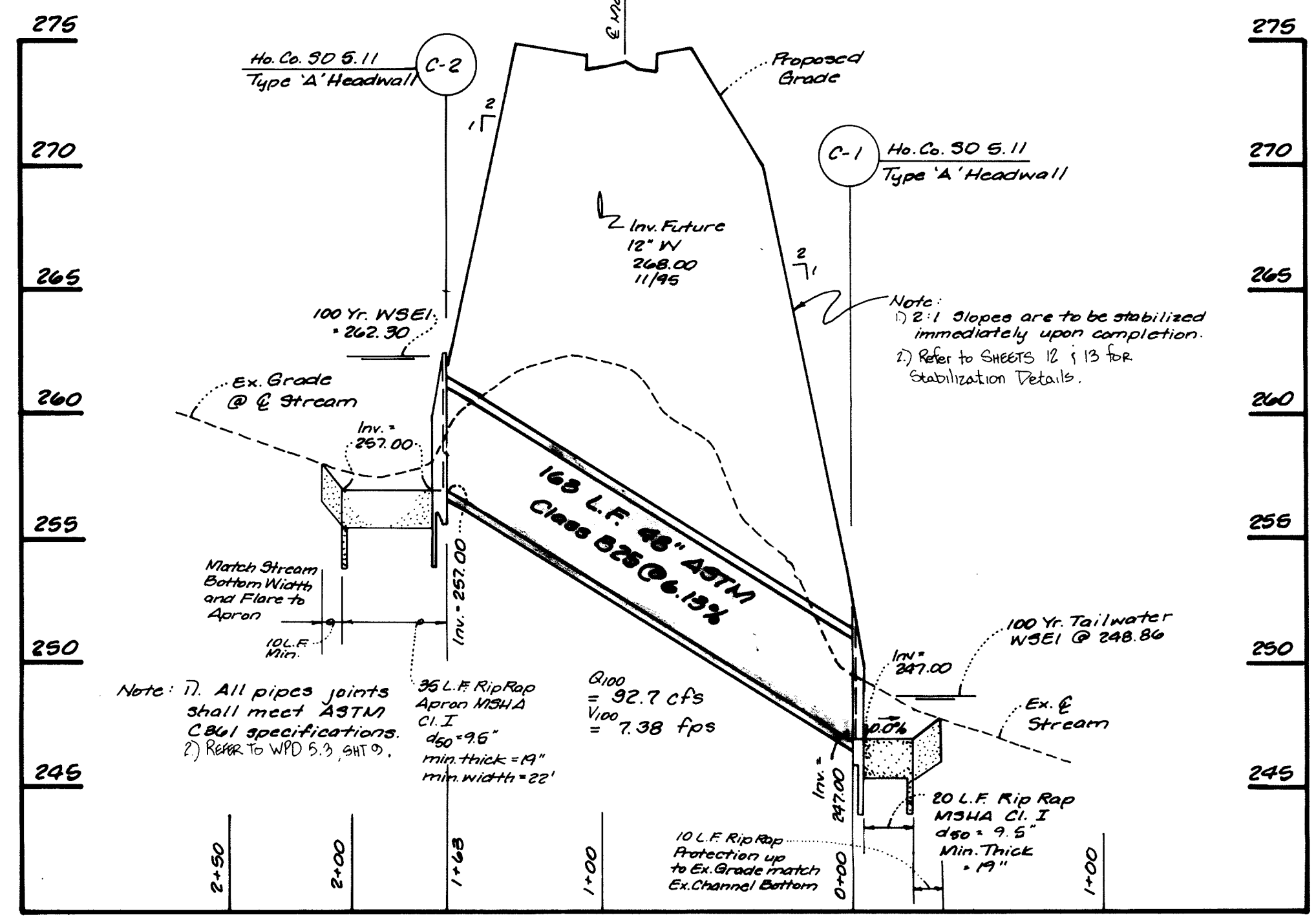
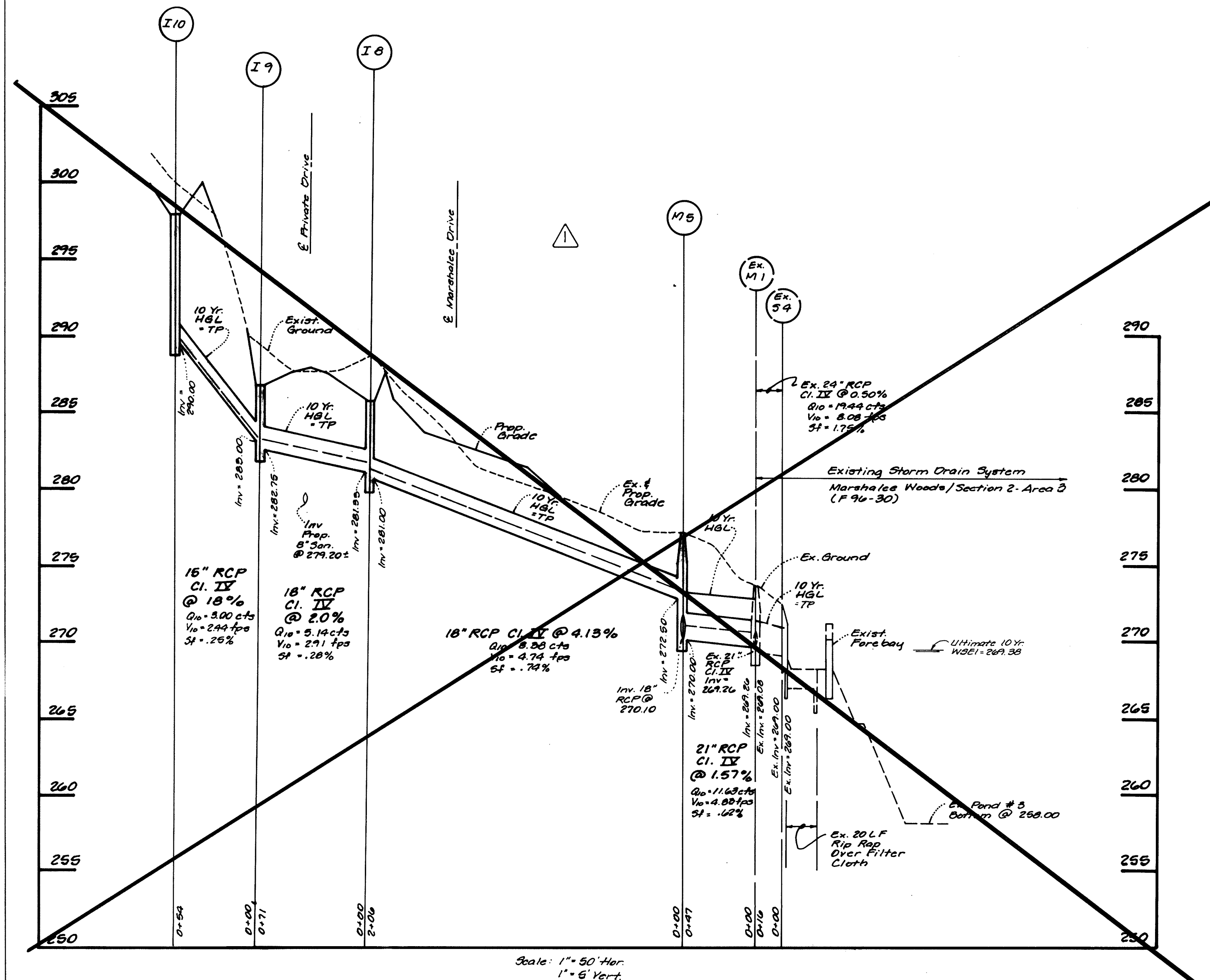
LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED E.D.S.	Grading and Sediment & Erosion Control Plan MARSHALEE WOODS Section Two - Area Five Lots 127 thru 137	SCALE 1" = 50'
DRAWN KBW		DRAWING 8 of 13
CHECKED B.D.B.	Tax Map 37 1ST ELECTION DISTRICT	PARCELS 593 & 656 HOWARD COUNTY, MARYLAND
DATE May 1996	Owner/Developer Marshalee Woods Limited Partnership 8835 Columbia 100 Parkway, Unit P Columbia, Maryland 21045 (410) 730-0810	JOB NO. 95-022.4 FILE NO. F96-66

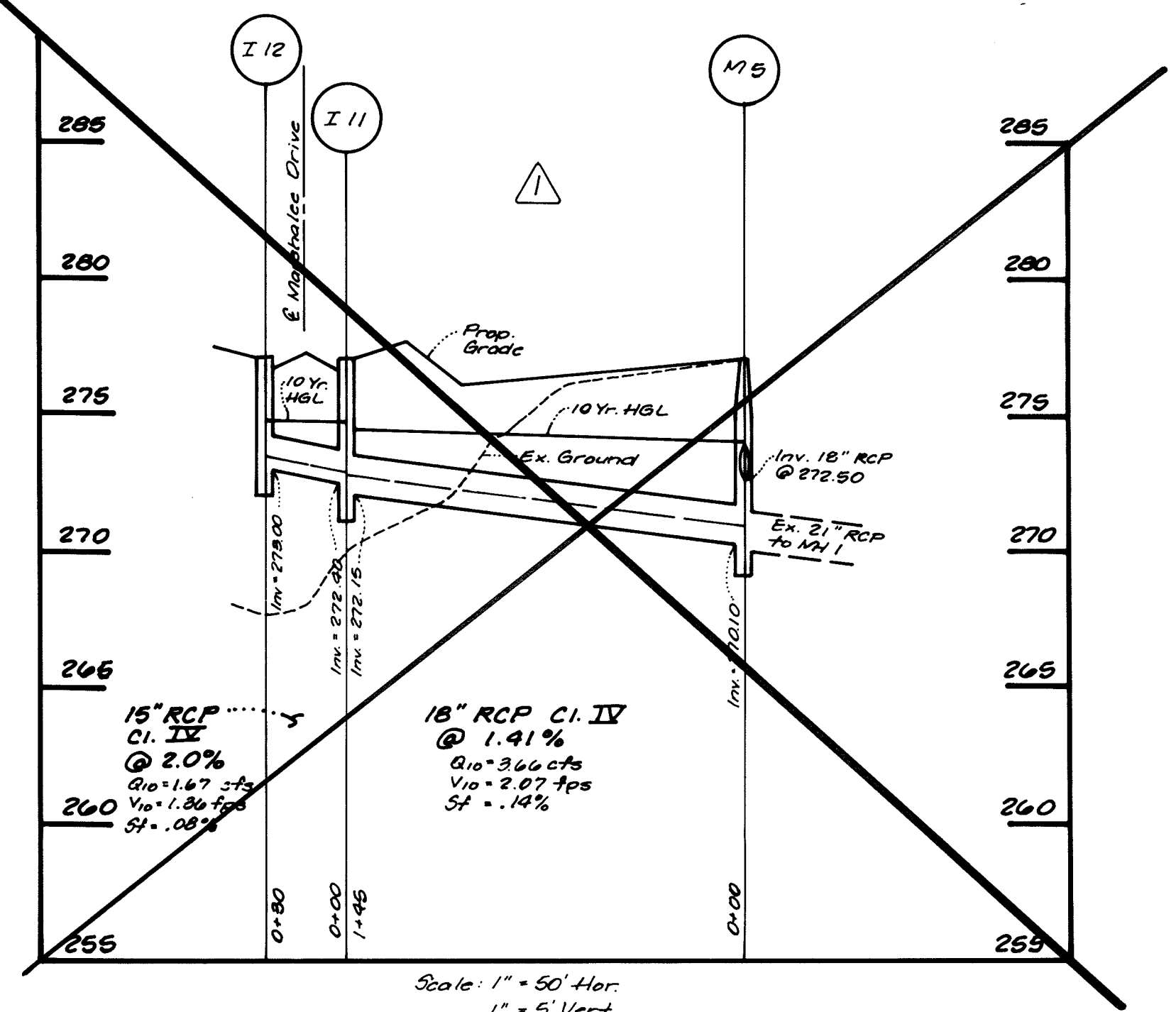
10661097

STRUCTURE SCHEDULE							
Inlet No.	Type	Inv. In	Inv. Out	Upper	Lower	Detail	Location
I-8	S-11	281.33	281.00	286.00	SD 4.02	N 501300.261	E 867791.998
I-9	S-11	269.00	262.75	267.00	SD 4.02	N 501462.100	E 867827.303
I-10	S-11	296.00	296.00	296.00	SD 4.02	N 501505.504	E 867820.595
I-11	A-10	272.40	272.15	277.21	SD 4.02	101+05	Marshalee Drive 13' RT
I-12	A-10	275.00	277.21	270.54	SD 4.02	101+05	Marshalee Drive 13' LT
C-1	Type 'A' HW	247.00	247.00	262.50	SD 5.11	99+59	Marshalee Drive 82' RT
C-2	Type 'A' HW	257.00	257.00	262.50	SD 5.11	100+32	Marshalee Drive 64' LT
Ex. M-1	Shallow Manhole	269.26	269.08	273.00	G 5.05	N 501230.296	E 867935.664
M-5	Std. Manhole	272.50	270.00	277.00	G 5.12	N 501210.200	E 867882.988
		-270.10					

▲ Rectangular-Grate



Profile Along E Culvert Marshalee Drive
Scale: Horiz. 1"=50'
Vert. 1"=5'



Scale: 1"=50' Hor.
1"=5' Vert.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Ann Stannony 8/20/96
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

Chad Janssen 8/20/96
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Andrew M. Daniels 8-16-96
CHIEF, BUREAU OF HIGHWAYS

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

J. H. Washburn 8/7/96
NATURAL RESOURCES CONSERVATION SERVICE

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

Herb Schomig 8/7/96
HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

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

Bruce D. Brown 7/31/96
SIGNATURE OF ENGINEER

DEVELOPER'S CERTIFICATE

"I HAVE 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 THE ENVIRONMENT 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 DEEMED NECESSARY."

W. J. Lipp 11/9/95
SIGNATURE OF DEVELOPER

NO	BY	DATE	DESCRIPTION
1	LDE	2/2004	Revisions Per Capital Project J-4136

REVISIONS

LDE, INC.
9250 Rumsey Road - Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED	E.D.S.	STORM DRAIN PROFILES & CULVERT PROFILE MARSHALEE WOODS Section Two - Area Five Lots 127 - 137	SCALE AS SHOWN
DRAWN	BEI		DRAWING 6 of 13
CHECKED	B.D.B.		JOB NO. 95-022.4
DATE	May, 1996	Tax Map 37 1st Election District	Parcels 593 & 656 Howard County, Maryland
		Owner / Developer Marshalee Woods Limited Partnership 8835 Columbia 100 Parkway - Unit P COLUMBIA, MARYLAND 21045 (410) 730-0810	FILE NO. F96-66

1667

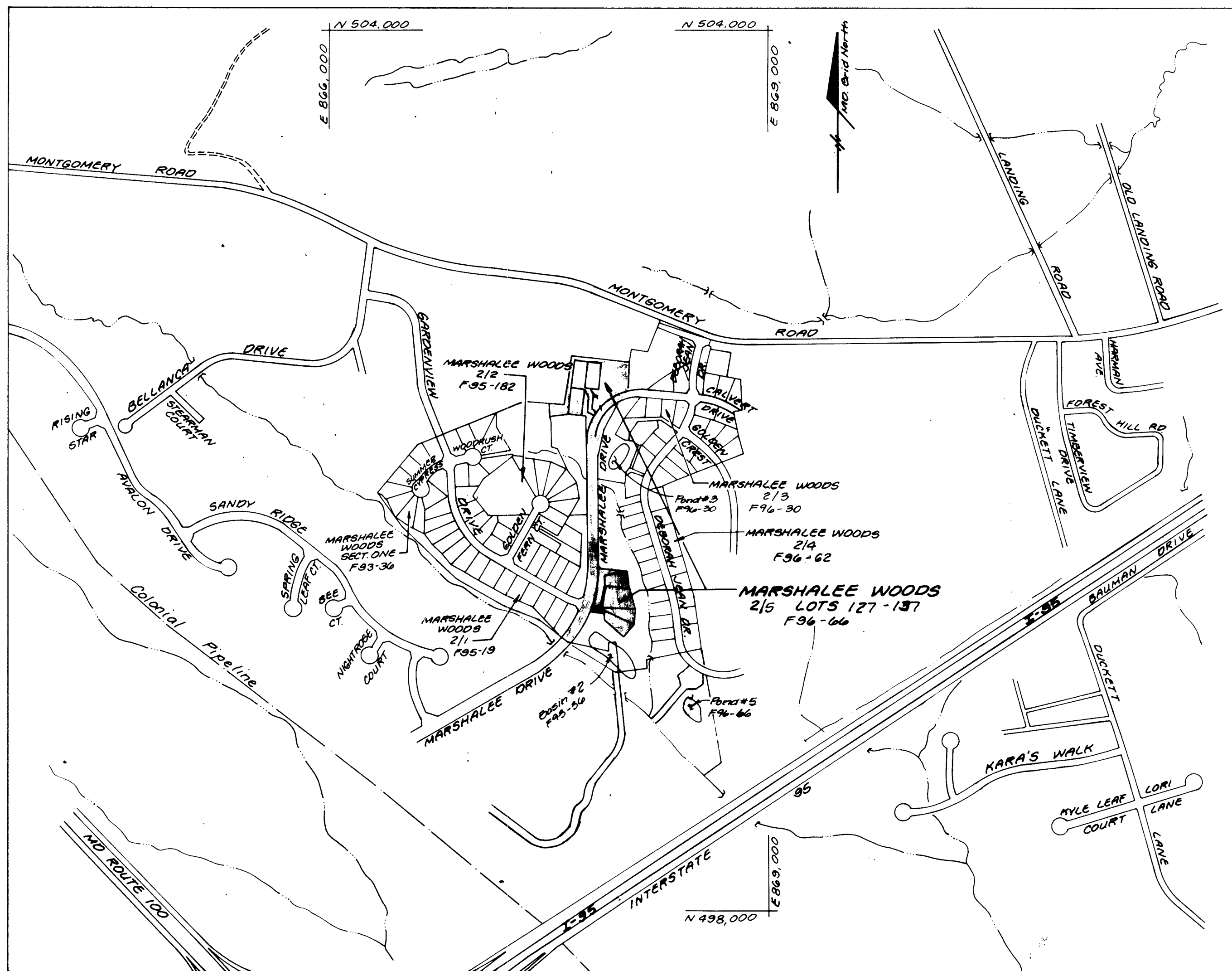


INDEX OF SHEETS	
SHEET NO.	TITLE
1	COVER SHEET
2	MARSHALEE DRIVE 88+47.50 - 98+75 PLAN & PROFILE
3	MARSHALEE DRIVE 98+75 - 106+96.03 PLAN & PROFILE
3A	MARSHALEE DRIVE 98+75 - 109+50 PLAN & PROFILE
4	ROAD DETAILS
5	STORM DRAIN PROFILES
6	STORM DRAIN PROFILES
6A	STORM DRAIN PROFILES
7	GRADING & SEDIMENT AND EROSION CONTROL PLAN
8	GRADING & SEDIMENT AND EROSION CONTROL PLAN
8A	GRADING & SEDIMENT AND EROSION CONTROL PLAN
9	GRADING & SEDIMENT AND EROSION CONTROL DETAILS
10	DRAINAGE AREA MAP
11	DRAINAGE AREA MAP
11A	DRAINAGE AREA MAP
12	LANDSCAPE PLAN
12A	LANDSCAPE PLAN
13	LANDSCAPE PLAN

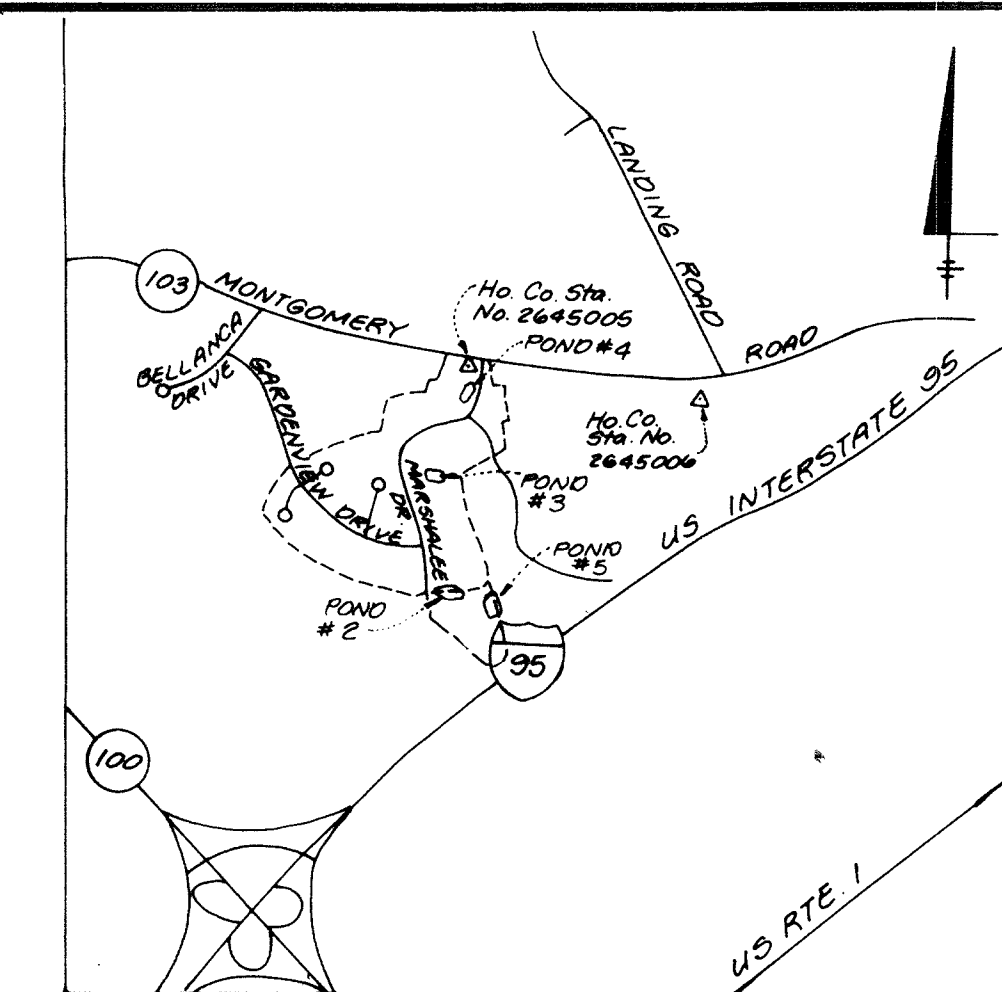
BENCHMARKS:

Ho. Co. Monument # 2645005
 ELEV. 291.929
 Description: Concrete Monument 0.3 ft.
 below surface at top of bank

Ho. Co. Monument # 2645006
 ELEV. N/A
 Description: Concrete Monument 0.2 ft.
 below surface at top of bank



LOCATION MAP
 Scale: 1" = 600'



VICINITY MAP
 Scale: 1" = 2000'

GENERAL NOTES

- All construction shall be in accordance with the latest standards and specifications of Howard County Design Manual, Volume II.
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection at (410) 313-1880 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least forty-eight (48) hours prior to any excavation work.
- Project Background: Tax Map: 37, Parcels: 593 & 656
 Zoning: R-20
 Section / Area, Lots: 2/5, Lots 127 - 137
 Election District: 1st
 Total Area: 9.0860 Ac. plus/minus
 Previous Submittals: S88-66, S89-90, P90-28, WP91-190, P92-17, F93-36, P94-07, F95-19, F95-182, F96-30, F98-62
- Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- Any damage caused by the contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be corrected at the contractor's expense.
- The existing utilities shown hereon are located from field surveys and construction drawings of record. The approximate location of existing utilities are shown for the contractor's information and convenience. The contractor shall locate existing utilities to his own satisfaction and well in advance of any construction activities. Additionally, the contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service.
- The topography shown hereon is compiled from photogrammetric aerial survey, Services, Inc. (March 16, 1989); and post-graded conditions in accordance with F95-19 and F95-182, F98-30, F98-62, and Calvert Ridge.
- Horizontal and vertical datums are related to the Maryland State Plane Coordinate System as projected from Howard county control stations No. 2645005 and No. 2645006 (NAD 27).
- All hydraulic data is for the 10-year storm unless otherwise noted.
- Sidewalks and ramps shall be in conformance with the current ADA requirements.
- See sheet 9 for construction sequence.
- 95% compaction in all fill areas shall be determined by AASHTO T-180.
- Stormwater management is provided in the Pond #2 (F93-36) Quality Management is by Retention.
- Stormwater management is provided in the Pond #3 (F96-30) Quality Management is by Retention.
- Stormwater management is provided in the Pond #4 (F96-62) Quality Management is by Extended Detention.
- Street Light placement and the type of fixture and pole selected shall be in accordance with the Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for street lights in Residential Developments (June 1993)."
- Wetlands delineation by Exploration Research, Inc. July 1988 and February 1989.
- Floodplain analyzed by Land Design Engineering, Inc., based on field run data and approved as part of P94-07.
- Noise Study compiled by Land Design Engineering, Inc. as part of P94-07 approval. At the time when the Ultimate Marshalee Drive is constructed, the noise berm across Lots 74 & 84 shall be built in accordance with the approved noise study.
- Access for Lots 127, 128, & 129 is by a shared driveway onto Marshalee Drive. Access for Lots 130, 131, 132, & 133 is by a shared driveway onto Marshalee Drive.
- Waivers
 WP94-90 To allow Residential Driveway Access Granted 1/23/95
 16.119(f)(2) To allow Residential Driveway Access Granted 1/23/95
 Lots 61,62,63, and 73,74,75, and 76.
 (New Lot #'s are 127 - 133)
- Open Space Lots 86 & 87 of the F96-30 submission and Open Space Lots 134, 135, & 136 of this submission are Right-of-Way Reservations for Ultimate Marshalee Drive; to be constructed as 80' Right-of-Way under Capital Project J-4136.
- 401 Permit 89-WG-0100 Expires Feb 8, 1997
 402 Permit 89-00107-5 Expires Jan 21, 1997
- Temporary Stormwater Management provided by F96-90
- Waivers (Cont)
 WP96-90 To not require a useable granted 1/26/96
 16.116(a)(2) used 25 minimum between applicable to F96-62
 the 75 stream buffer and the rear of the proposed units on Section 2 Area 4
 lots 87-90 (new lot #s 110-113)
- Future Marshalee Drive extension (Sta. 88+75+ to Sta. 109+50+) shall be constructed as part of Capital Project J4136. The future extension shall be in accordance with the agreement between Howard County and the Developer signed and executed 6/3/96.

ROAD & STORM DRAIN CONSTRUCTION PLANS

MARSHALEE WOODS

SECTION TWO AREA FIVE

LOTS 127 THRU 137

1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

NO	BY	DATE	DESCRIPTION
1	LDE	2/2004	Revise per Capital Project J-4136

REVISIONS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Alvin Summerville 8/20/96
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

W. J. B. B. 8/20/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.

Andrew M. Ranche 8-16-96
 CHIEF, BUREAU OF HIGHWAYS

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

NATURAL RESOURCE CONSERVATION SERVICE DATE: N/A

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

HOWARD SOIL CONSERVATION DISTRICT DATE:

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THESE PLANS AND SEDIMENT CONTROL REPRESENTS A PRACTICAL SOLUTION BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT THE PROJECT WAS PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Eric D. Batten 7/31/96
 SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

"I HEREBY 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 THE ENVIRONMENT 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 DEEMED NECESSARY."

W. J. B. B. 11/2/95
 SIGNATURE OF DEVELOPER DATE



LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED T.D./E.D.S.	COVER SHEET MARSHALEE WOODS Section 2 - Area 5 Lots 127 - 137	SCALE AS SHOWN
DRAWN W.J.B./B.E.I.	Tax Map 37, Grids 5 & 11 1st ELECTION DISTRICT	DRAWING 1 of 13
CHECKED B.D.B.	Parcels 593 & 656 HOWARD COUNTY, MARYLAND	JOB NO. 95-022.4
DATE May 1996	Previous Submittals: S86-66, S89-19, P92-17, P94-07, F93-36 F95-19, F95-182, F96-30, F98-62	FILE NO. F96-66
	Owner/Developer Marshalee Woods Limited Partnership 8835 Columbia 100 Parkway Unit P Columbia, Maryland 21045 (410) 730-0810	

1667