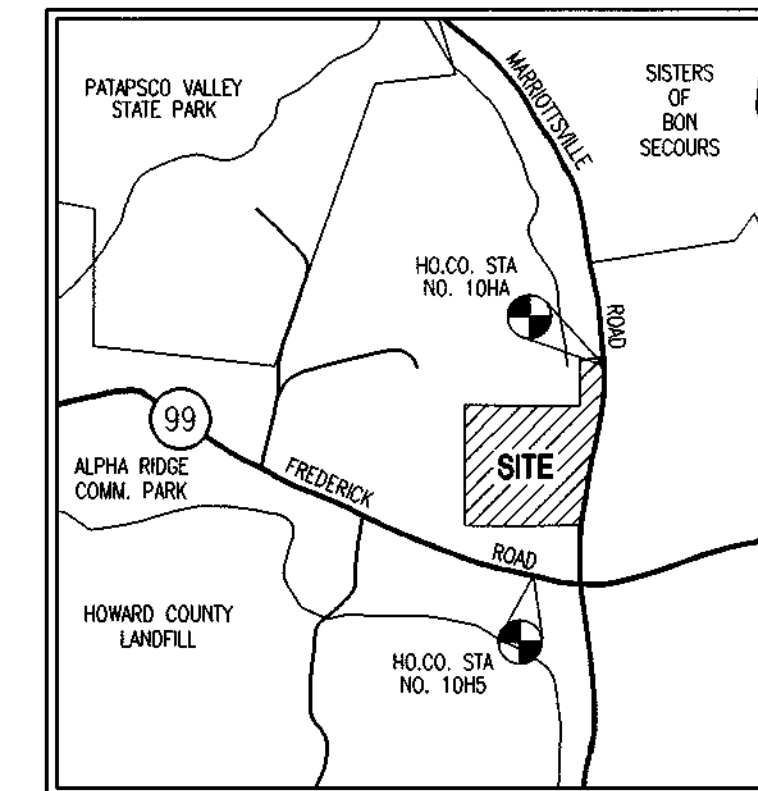


SHEET INDEX

1	COVER SHEET
2	ROAD CONSTRUCTION PLAN
3	ROAD CONSTRUCTION PROFILE
4	GRADING AND SEDIMENT CONTROL PLAN
5	STORM DRAIN DRAINAGE AREA MAP AND SOILS MAP
6	STORM DRAIN PROFILES AND STORM WATER MANAGEMENT POND DETAILS
7	SEDIMENT CONTROL NOTES & DETAILS STORM WATER MANAGEMENT DETAILS
8	LANDSCAPE PLAN, NOTES AND DETAILS
9	FOREST CONSERVATION PLAN
10	AFFORESTATION PLAN

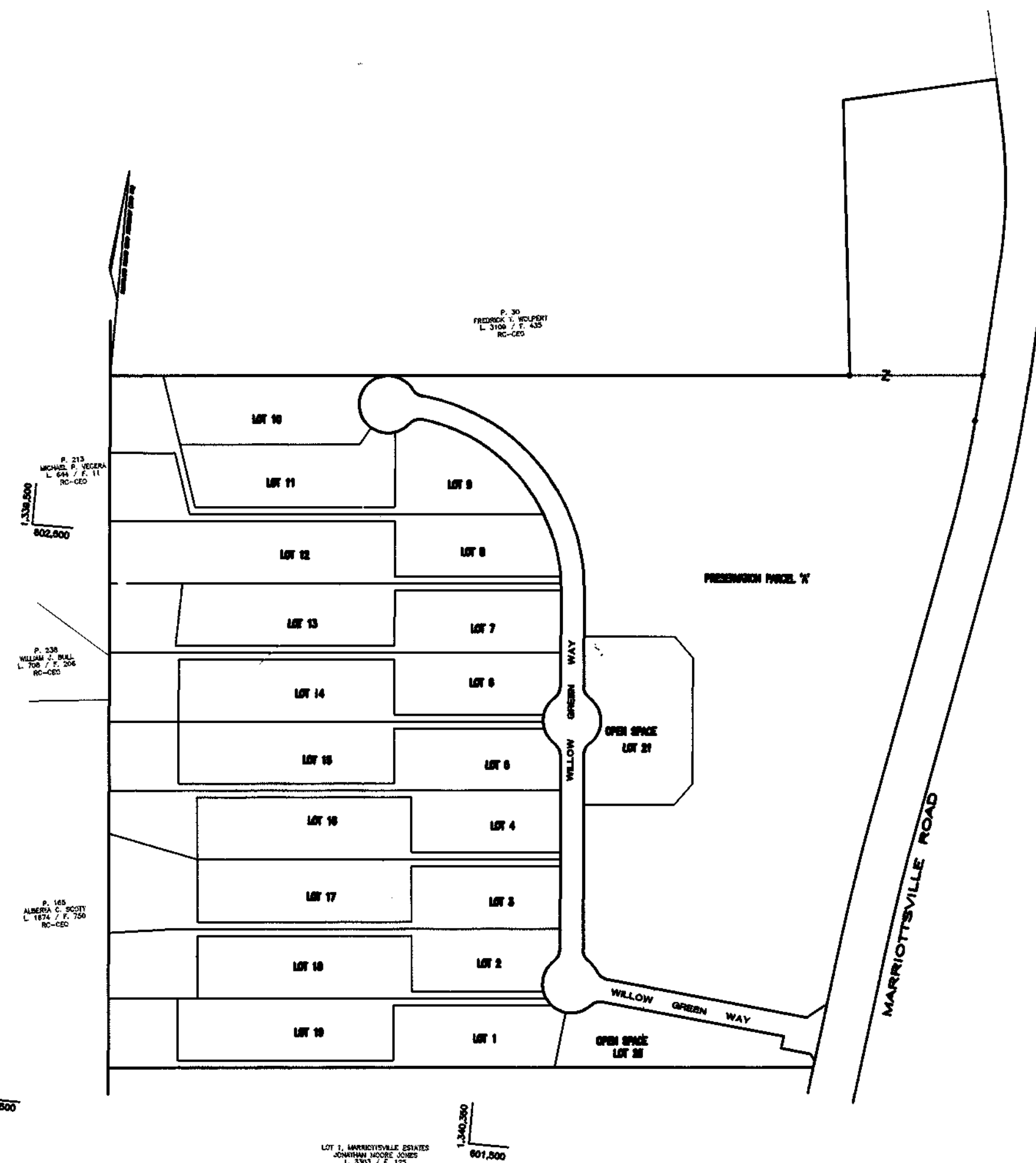
WOODFORDS GRANT III LOTS 1 THRU 21 & PRESERVATION PARCEL 'A' FINAL ROAD CONSTRUCTION PLANS HOWARD COUNTY, MARYLAND



GENERAL NOTES

VICINITY MAP
SCALE: 1" = 2000'

- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- PROJECT BACKGROUND
LOCATION: TAX MAP 10, 3RD ELECTION DISTRICT
ZONING: RC-CED
TOTAL AREA: 40.83 ACRES
NUMBER OF PROPOSED LOTS: 19 BUILDABLE
2 OPEN SPACE
1 NON-BUILDABLE PRESERVATION PARCEL
- THE PROJECT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED BY MARKS AND VOGEL ASSOC. IN OCTOBER OF 1997.
- THE TOPOGRAPHY SHOWN HEREON IS BASED ON AERIAL PHOTOGRAMMETRIC SURVEY AT 2 FEET CONTOUR INTERVAL PERFORMED BY POTOMAC AERIAL SURVEYS ON OCTOBER, 1997.
- COORDINATE DATUM IS BASED ON THE MARYLAND COORDINATE SYSTEM (NAD 83) AS PROJECTED BY THE FOLLOWING HO.CO. GEODETIC CONTROL STATIONS:
10HS N:601,201.871, E:1,339,637.669
10HA N:601,206.654, E:1,340,912.336
- WATER FOR THIS PROJECT WILL BE PUBLIC (EX. 12" WATER ALONG RTE 99 CONTRACT NO. 44-3480-D).
- EXISTING WATER LINE LOCATION ALONG RTE 99 IS BASED ON COUNTY DRAWINGS.
- STORMWATER MANAGEMENT (2 YR. AND 10 YR) TO BE PROVIDED FOR THE PROPOSED ROAD ONLY. WATER QUALITY TO BE PROVIDED BY EXTENDED DETENTION OF THE 1 YR. STORM. POND HAZARD CLASSIFICATION 'A'. THE FACILITY WILL BE PRIVATELY OWNED AND JOINTLY MAINTAINED.
- THE LOCATION OF THE WETLANDS, AND WATERS OF THE U.S. ARE PROVIDED BY EXPLORATION RESEARCH, INC.
- THE FLOODPLAIN SHOWN HEREON IS BASED ON A STUDY BY MARKS & VOGEL ASSOCIATES, INC.
- FOREST STAND DELINEATION PLAN PREPARED BY EXPLORATION RESEARCH, INC.
- APPO TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP, INC. APPROVED ON SEPT 11, 1997.
- THERE ARE NO STEEP SLOPES ON SITE THAT ARE CONTIGUOUS TO 20,000 sq.ft.
- A NOISE STUDY IS NOT REQUIRED FOR THIS SITE.
- ALL LANDSCAPING REQUIREMENTS AS SET FORTH IN THE LANDSCAPE MANUAL SHALL BE COMPLIED WITH.
- MARRIOTTVILLE ROAD IS A SCENIC ROAD.
- THE PURPOSE OF PRESERVATION PARCEL 'A' IS TO PRESERVE PASTURES AND EXISTING ENVIRONMENTALLY SENSITIVE AREAS.
- NO DISTURBANCE SHALL OCCUR WITHIN THE WETLANDS, THE WATERS OF THE U.S., 100 YEAR FLOODPLAIN OR THE RESPECTIVE BUFFERS, EXCEPT AS SHOWN FOR THE NECESSARY ROAD CROSSING. ALL STATE AND FEDERAL PERMITS SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL/CEMETERY LOCATIONS ON SITE
- PRIVATE SEWERAGE EASEMENTS OF 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL ARE SHOWN ON THIS PLAN. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS INTO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
- OPEN SPACE LOTS 20 AND 21 TO BE DEDICATED TO THE HOMEOWNERS ASSOCIATION.
- NON-BUILDABLE PARCEL A TO BE PRIVATELY OWNED.
- MOE JOINT PERMIT TRACKING NUMBER 199802822



PLAN

SCALE: 1" = 200'

OWNER/DEVELOPER
WOODFORDS EAST, LLC
10805 HICKORY RIDGE ROAD, SUITE 215
COLUMBIA, MD. 21044
TEL. NO. (410)740-2100

NO.	REVISION	DATE

WOODFORDS GRANT III
LOTS 1-21 AND PRESERVATION PARCEL A
A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4
AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II
COVER SHEET
REF: PLAT NO. 4131, VP 78-76, S-98-04, P-98-25
TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
ENGINEERS-SURVEYORS-PLANNERS
3601 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
Tel 410.461.9828 Fax 410.465.3966

DESIGN BY: J.C.O.
DRAWN BY: J.E.R.
CHECKED BY: R.H.V.
DATE: SEPTEMBER, 1998
SCALE: AS SHOWN
W.O. NO.: 97-47

1 SHEET
OF 10

TRAFFIC SIGN SCHEDULE

MUTCD TYPE	DESCRIPTION	LOCATION
R1-1	'STOP' SIGN 30" X 30" OCTAGON	SW CORNER OF WILLOW GREEN WAY & MARRIOTTVILLE ROAD
R2-1	'SPEED LIMIT 25 MPH' SIGN 24" X 30" RECTANGLE	STA. 1+50 ADJ. TO WESTBOUND WILLOW GREEN WAY STA. 8+15 ADJ. TO SOUTHBOUND WILLOW GREEN WAY
W3-1a	'STOP AHEAD' SIGN (DIAGRAMMATIC) 36" X 36" DIAMOND	STA. 1+50 ADJ. TO EASTBOUND WILLOW GREEN WAY
R4-7	'KEEP RIGHT' SIGN 24" X 30" RECTANGLE	STA. 12+90 ON WILLOW GREEN WAY MEDIAN, NORTHBOUND STA. 13+14 ON WILLOW GREEN WAY MEDIAN, SOUTHBOUND

SEE SHEET 2 OF 10 FOR ROUNDABOUT SIGN TYPE AND LOCATIONS.

STREET LIGHT LOCATION

CENTERLINE STATION	CENTERLINE OFFSET
0+38	23' R
4+79	20' R
9+36	20' R
12+95	0
16+45	0

NOTE:
A MIN. SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
ALL STREET LIGHTS TO BE 100-WATT TRADITIONARE HPS VAPOR POST TOP FIXTURE ON A 14' BLACK FIBERGLASS POLE.

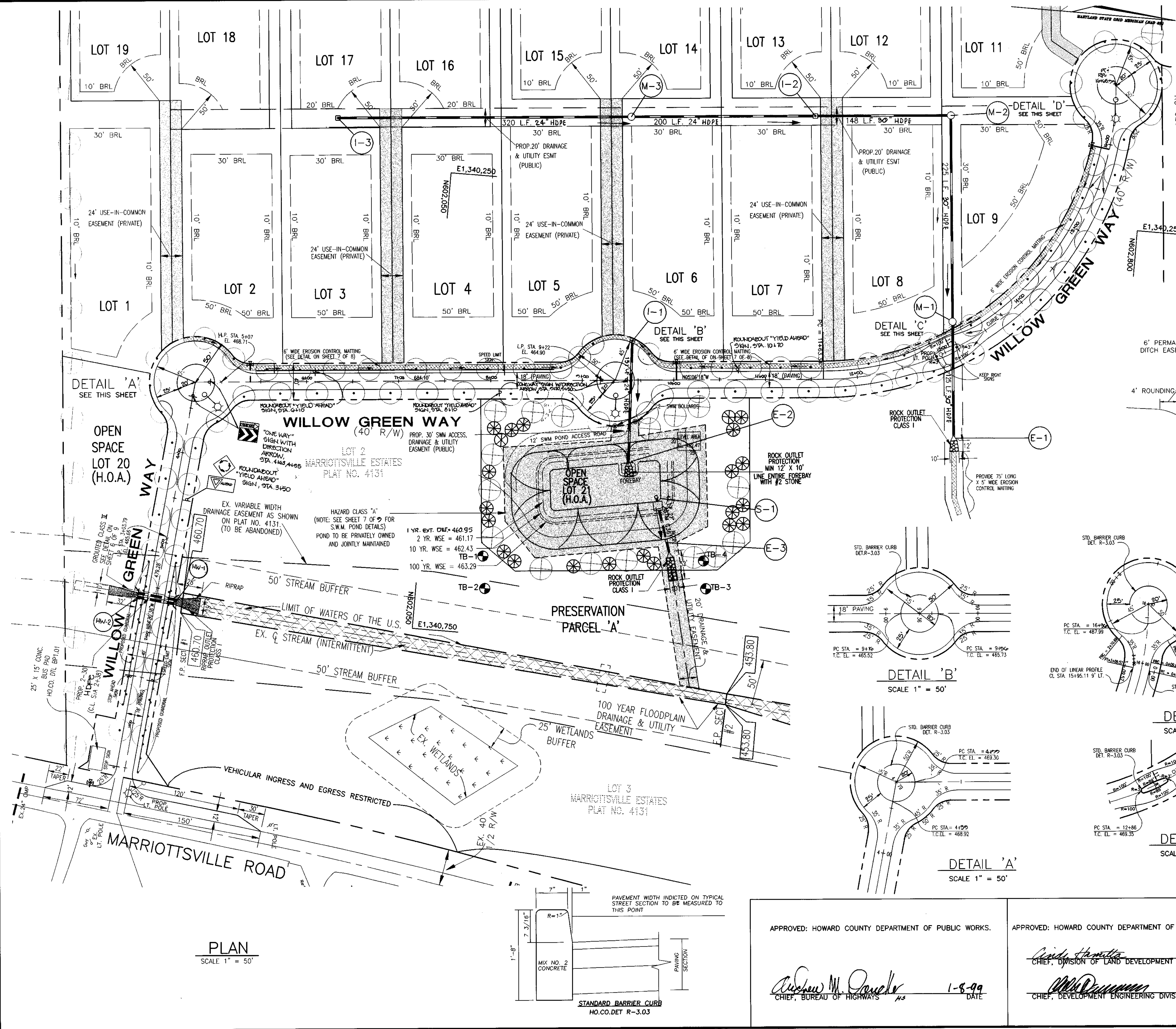
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Daniels 1-8-99
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

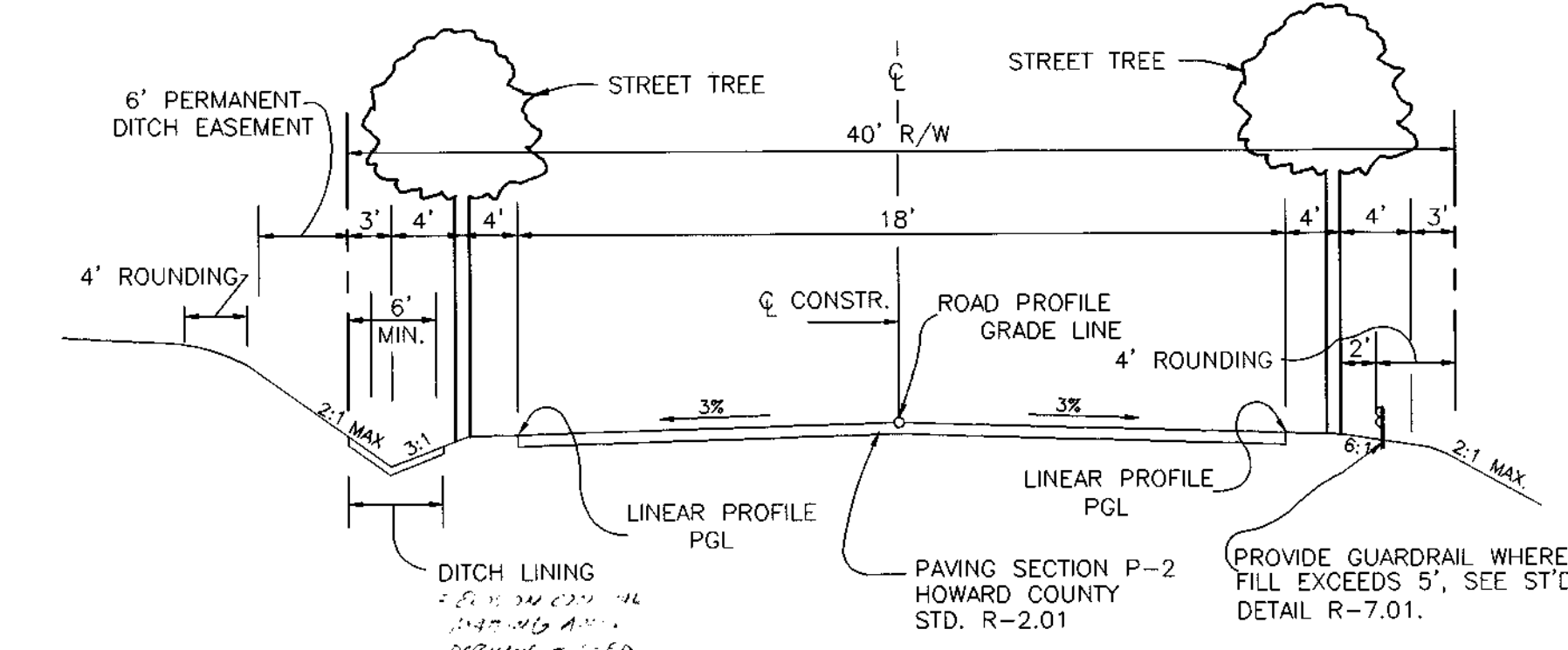
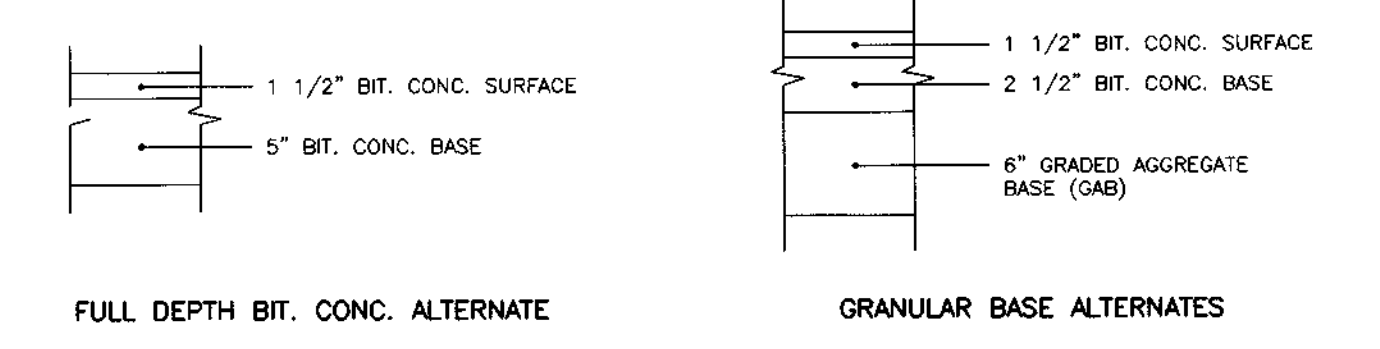
Linda Harotta 1/27/99
CHIEF, DIVISION OF LAND DEVELOPMENT
John J. ... 1/2/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION





GUARD RAIL LOCATION		
BEGINNING STA.	ENDING STA.	CENTERLINE OFFSET
0+48	2+80	14.0' RIGHT
1+18	2+76	14.0' LEFT

C.L. ROAD CURVE DATA CHART						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	DELTA	LOCATION
C-1	950.00'	270.83'	136.34'	269.92'	104°01'25"	16+20.04' MARRIOTTVILLE RD.
C-2	1991.27'	199.84'	100.00'	199.75'	50°35'45"	MARRIOTTVILLE RD.
C-3	1505.72'	199.94'	100.00'	199.92'	50°35'13"	13+03.18' MARRIOTTVILLE RD.
C-4	970.00'	100.00'	50.00'	100.00'	90°00'00"	WILLOW GREEN WAY



PUBLIC ACCESS PLACE
STA. 0+00 TO 16+65.99
WILLOW GREEN WAY
HOWARD COUNTY STANDARD FIGURE 2.09b
DESIGN SPEED 25 MPH
NOT TO SCALE

OWNER/DEVELOPER
WOODFORDS EAST, LLC
18085 HICKORY RIDGE ROAD, SUITE 215
COLUMBIA, MD. 21044
TEL. NO. (410)740-2100

"AS-BUILT" CERTIFICATION		
NO.	REVISION	DATE
2	REVISE CULVERT PIPES TO HDPE	5/17/99
1	REVISE STORM DRAIN PIPE FROM RCP TO HDPE	2/2/99
	REVISION	DATE

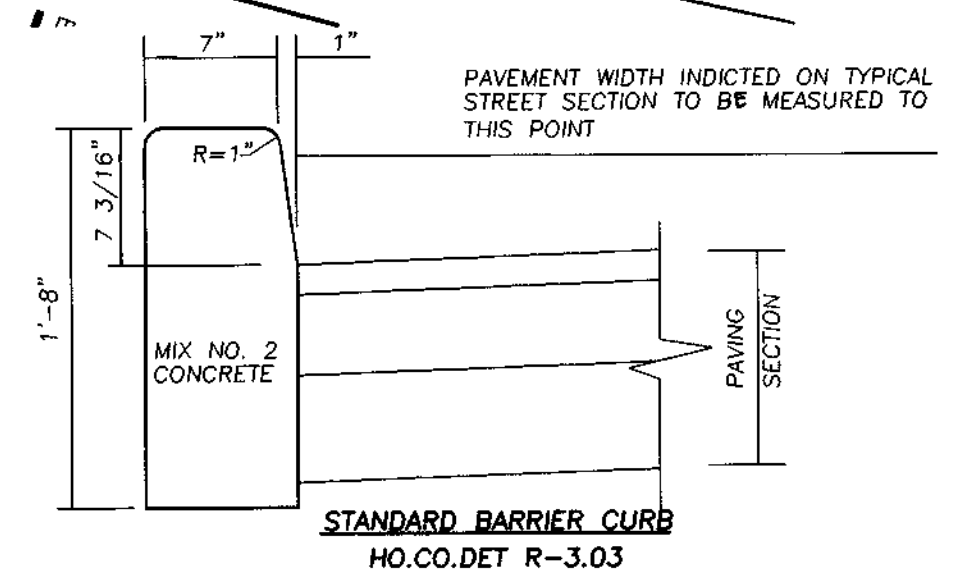
WOODFORDS GRANT III
LOTS 1-21 AND PRESERVATION PARCEL A
A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4
AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II
ROAD CONSTRUCTION PLAN
REF: PLAT NO. 4131, VP 78-76, S-98-04, P-98-25
TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
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DESIGN BY: J.C.O.
DRAWN BY: J.E.R.
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SCALE: AS SHOWN
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2 SHEET OF 10

PLAN
SCALE 1" = 50'



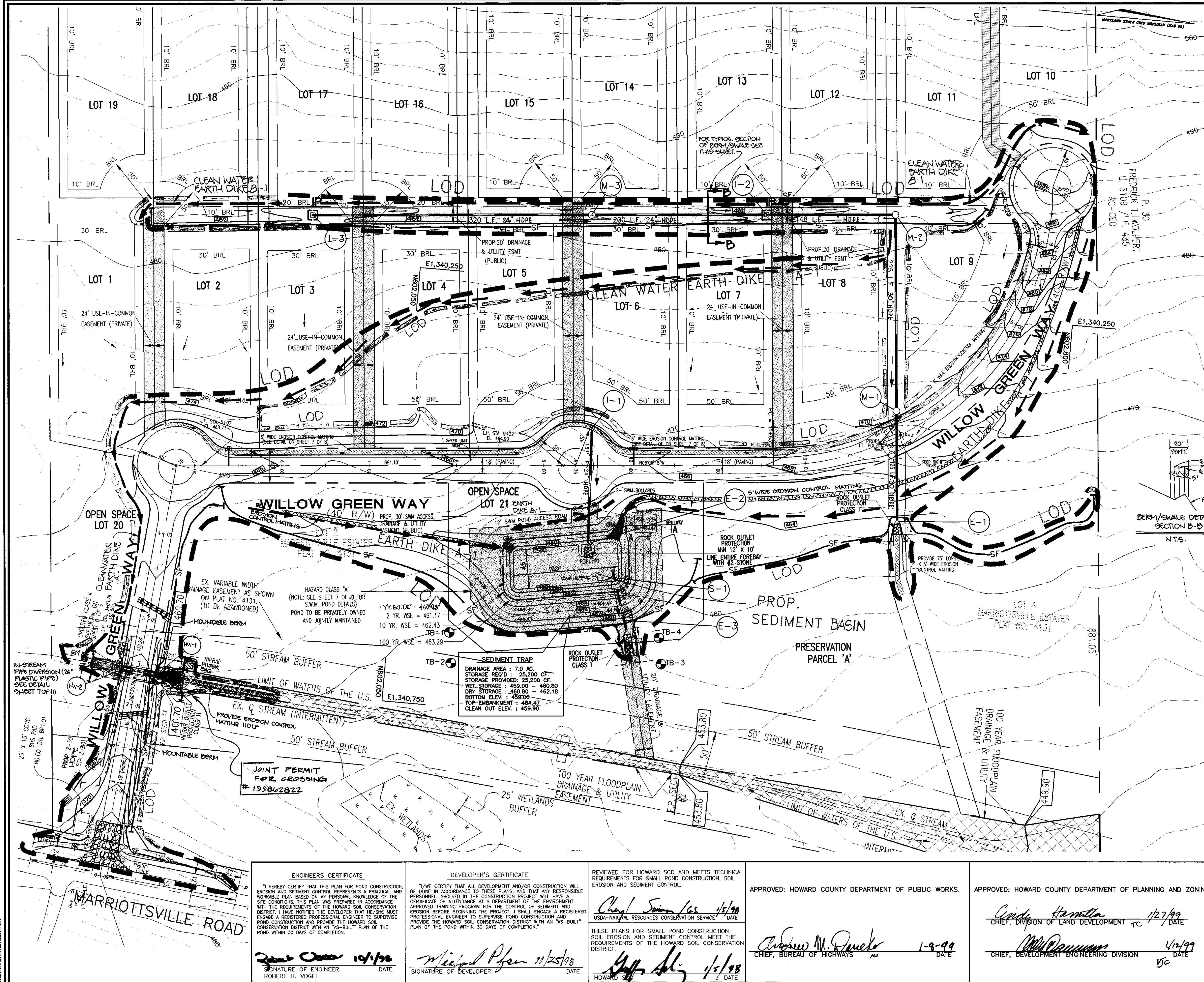
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Conner
CHIEF, BUREAU OF HIGHWAYS
1-8-99 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John H. Smith
CHIEF, DIVISION OF LAND DEVELOPMENT
1/27/99 DATE

John P. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
1/12/99 DATE



OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT DETENTION FACILITY
 ROUTINE MAINTENANCE
 1. FACILITY WILL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF FUNCTIONING PROPERLY.
 2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.
 3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
 4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE
 1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
 2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERE WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

OPERATION, MAINTENANCE AND INSPECTION
 INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS 'STANDARDS AND SPECIFICATIONS FOR PONDS' (MD-578). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

LEGEND

--- EX. 10' CONTOUR	--- PROP. 10' CONTOUR
--- EX. 2' CONTOUR	--- PROP. 2' CONTOUR
⊕ PROP. SHADE TREES	▨ FLOODPLAIN
● PROP. EVERGREEN TREES	▩ FOREST CONSERVATION EASEMENT
○ PROP. STREET TREES	▧ SOIL EROSION MATTING
--- EX. FENCE	▧ STABILIZED CONSTRUCTION ENTRANCE
⊙ SWM BORING LOCATIONS	
--- LOD	
--- EARTH DIKE	
--- SF	

OWNER/DEVELOPER
 WOODFORDS EAST, LLC
 10805 HICKORY RIDGE ROAD, SUITE 215
 COLUMBIA, MD. 21044
 TEL. NO. (410)740-2100

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN IN THE AS-BUILT PLANS AND MEETS APPROVED PLANS AND SPECIFICATIONS.

ROBERT H. VOGEL, P.E. NO. 16193 DATE
 CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION PREVENT ANY OTHER PARTY FROM MEETING CONTRACT REQUIREMENTS THROUGH EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

NO.	REVISION	DATE
2	REMOVE CULVERT PIPE TO HDPE	5/17/99
1	REVISE STORM DRAIN PIPE FROM RCP TO HDPE	2/2/99

WOODFORDS GRANT III
 LOTS 1-21 AND PRESERVATION PARCEL A
 A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4 AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II
GRADING & SEDIMENT CONTROL PLAN
 REF: PLAT NO. 4131, VP 78-76, S-98-04, P-98-25
 TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
 ENGINEERS/SURVEYORS/PLANNERS
 3091 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
 Tel 410.461.5828 Fax 410.465.3966

DESIGN BY: J.C.O.
 DRAWN BY: J.E.R.
 CHECKED BY: R.H.V.
 DATE: SEPTEMBER, 1998
 SCALE: 1" = 50'
 W.D. NO.: 97-47
 4 SHEET OF 10

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 Signature: Robert H. Vogel
 DATE: 10/1/98

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 Signature: Michael Pfeiffer
 DATE: 11/25/98

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 Signature: Cheryl Simon
 DATE: 1/5/98
 USDA-NATURAL RESOURCES CONSERVATION SERVICE
 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: Jeff Saly
 DATE: 1/5/98
 HOWARD COUNTY

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 Signature: Andrew M. Duncanson
 DATE: 1-9-99
 CHIEF, BUREAU OF HIGHWAYS

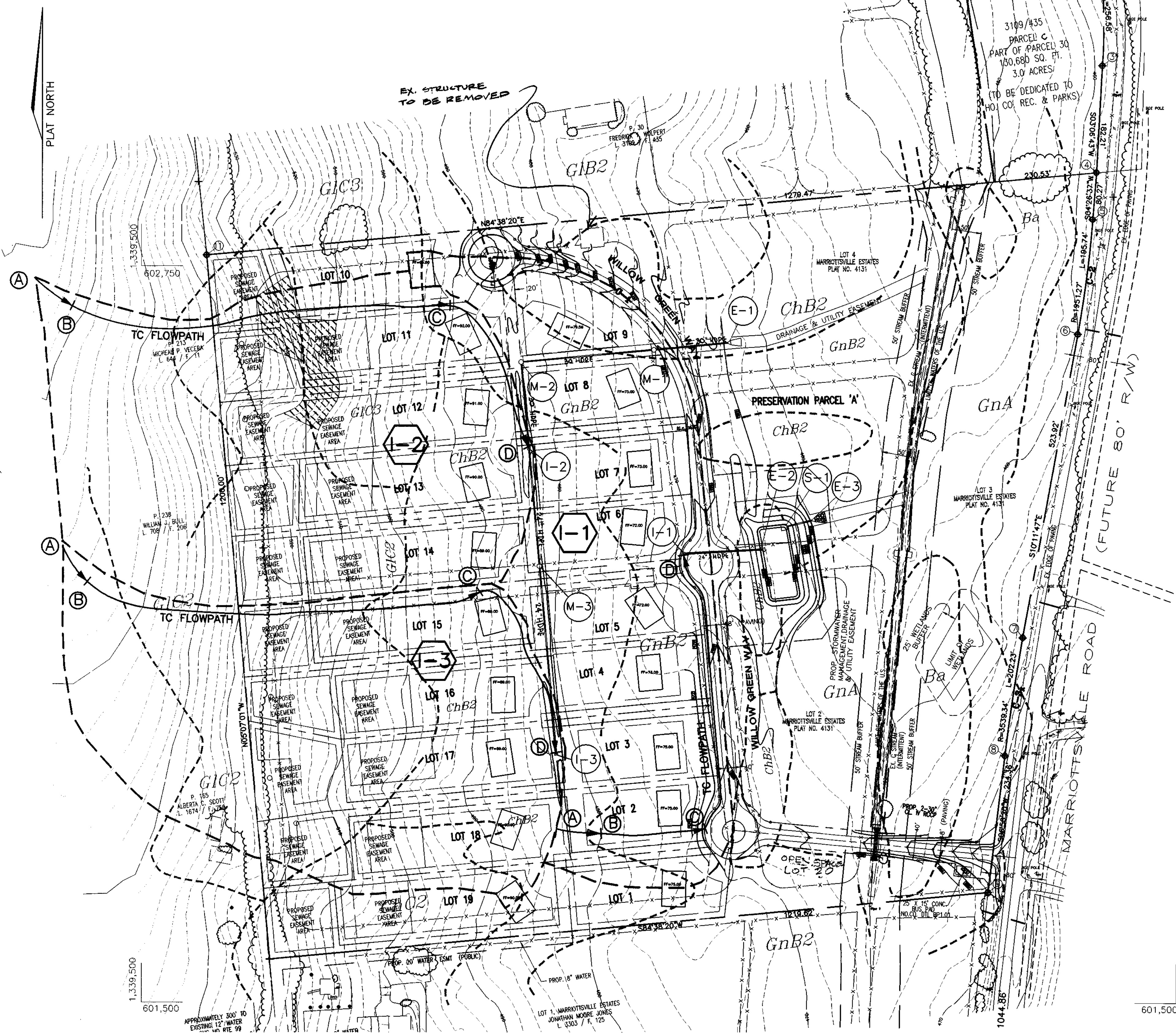
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Signature: Cindy Hamstra
 DATE: 1/27/99
 CHIEF, DIVISION OF LAND DEVELOPMENT
 Signature: Bill Dammann
 DATE: 1/27/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

DRAINAGE AREA TABULATIONS					
NO.	AREA	'C'	% IMP.	SOIL TYPE	ZONE
I-1	7.30 AC.	0.31	16%	C&B	RR
I-2	9.67 AC.	0.22	3%	B	RR
I-3	9.00 AC.	0.23	4%	B	RR

* DRAINAGE AREAS ARE BASED ON ULTIMATE LOT GRADING

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	TYPE
*Bo	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	D
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
GnA	GLENVILLE SILT LOAM, 0 TO 3 PERCENT SLOPES, MODERATELY ERODED	C
ChB2	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
ChC2	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B
G1B2	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
G1C2	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
G1C3	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B

NOTE:
 * DESIGNATED AS A SOIL CONTAINING HYDRIC CONDITIONS.
 - HOWARD SOIL SURVEY, MAP NUMBER 9



LEGEND	
	EX. 10' CONTOUR
	EX. 2' CONTOUR
	EX. FENCE
	SOILS DIVIDE
	EX. TREELINE
	15% - 24.9% STEEP SLOPES
	SEPTIC EASEMENT

OWNER/DEVELOPER
 WOODFORDS EAST, LLC
 10805 HICKORY RIDGE ROAD, SUITE 215
 COLUMBIA, MD. 21044
 TEL. NO. (410)740-2100

NO.	REVISION	DATE
1	REVISE STORM DRAIN PIPE FROM RCP TO HDPE	2/2/99

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Daniels 1-8-99
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Cindy Hermita 1/27/99
 CHIEF, DIVISION OF LAND DEVELOPMENT
John Dammann 1/27/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

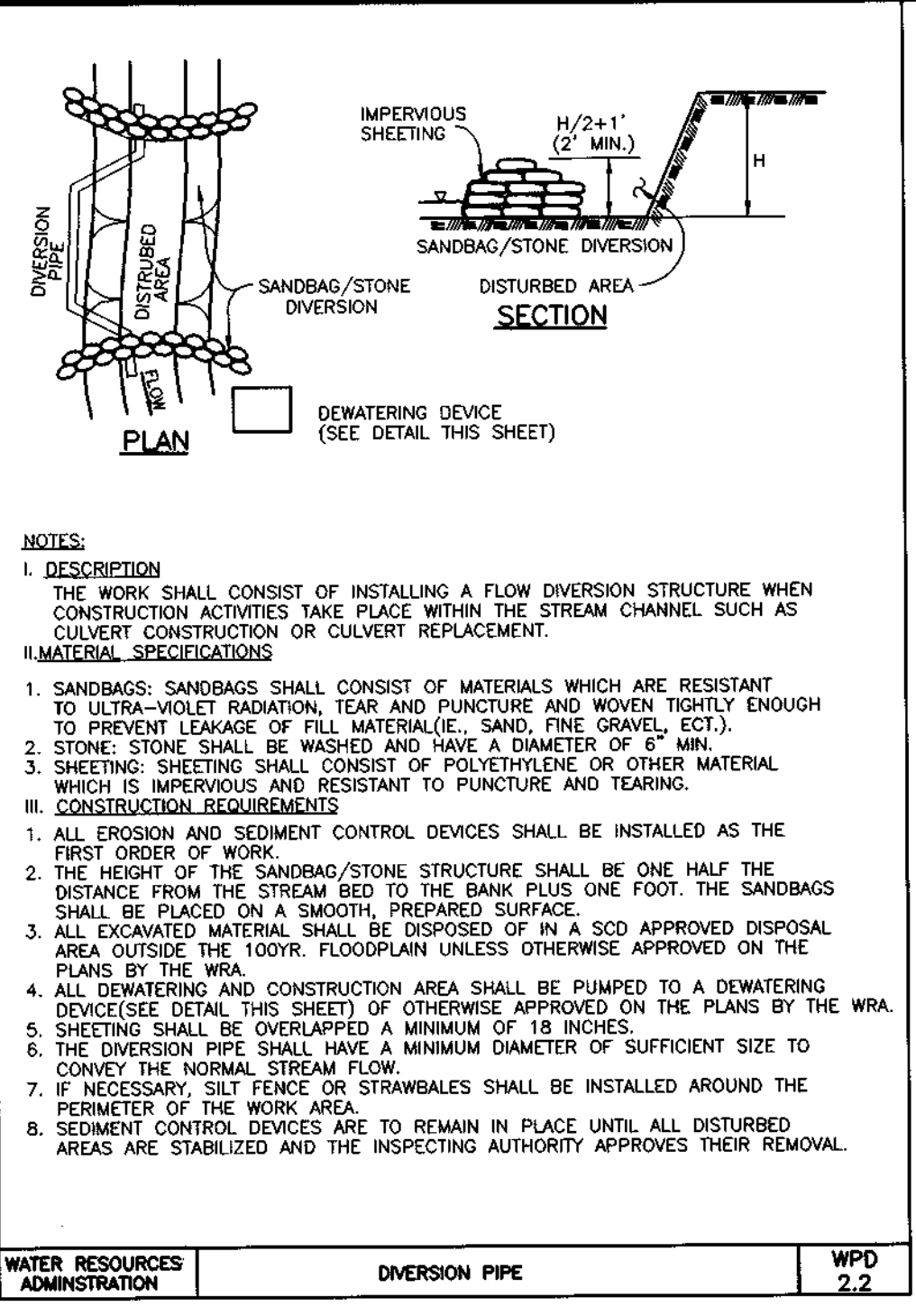
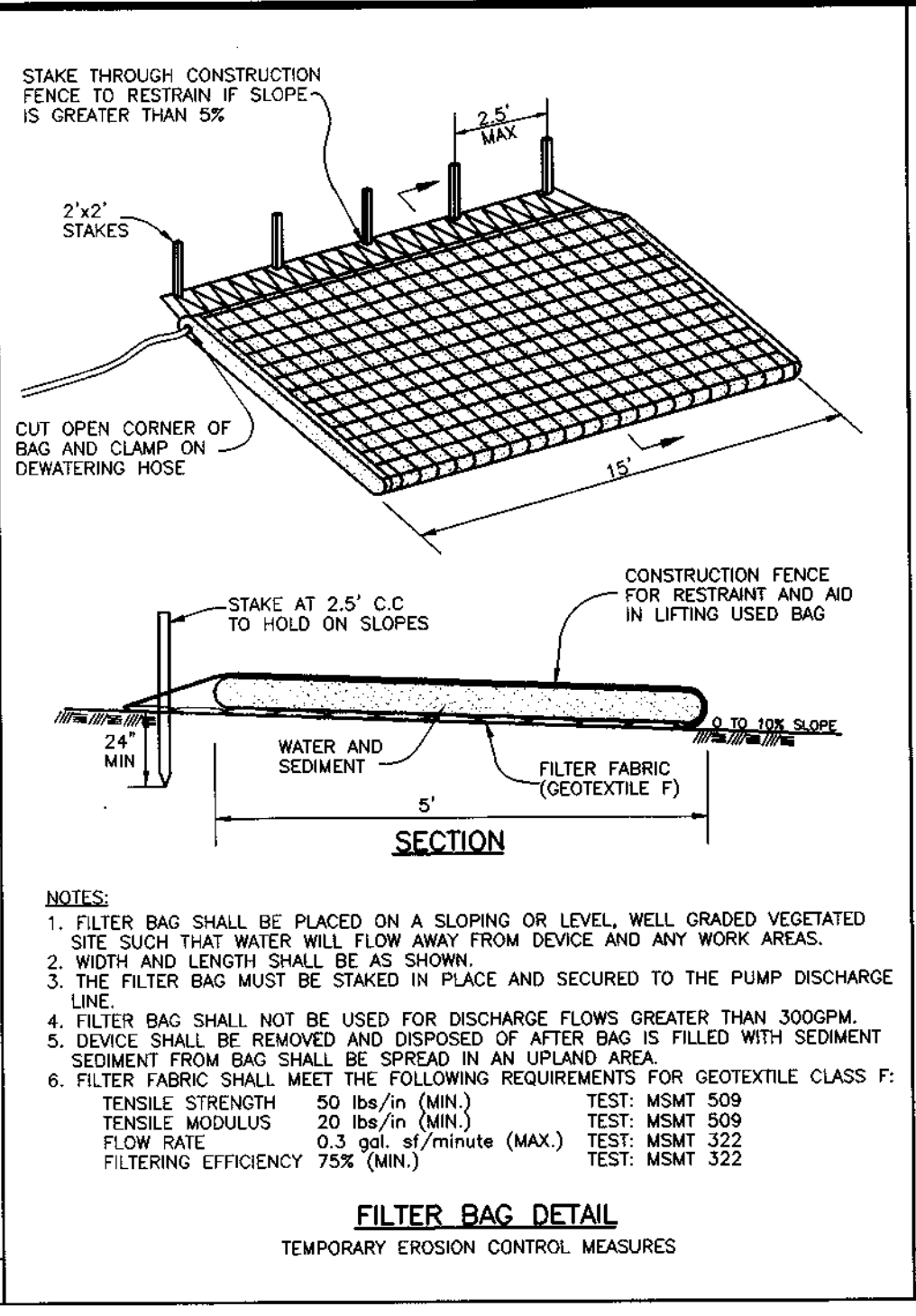
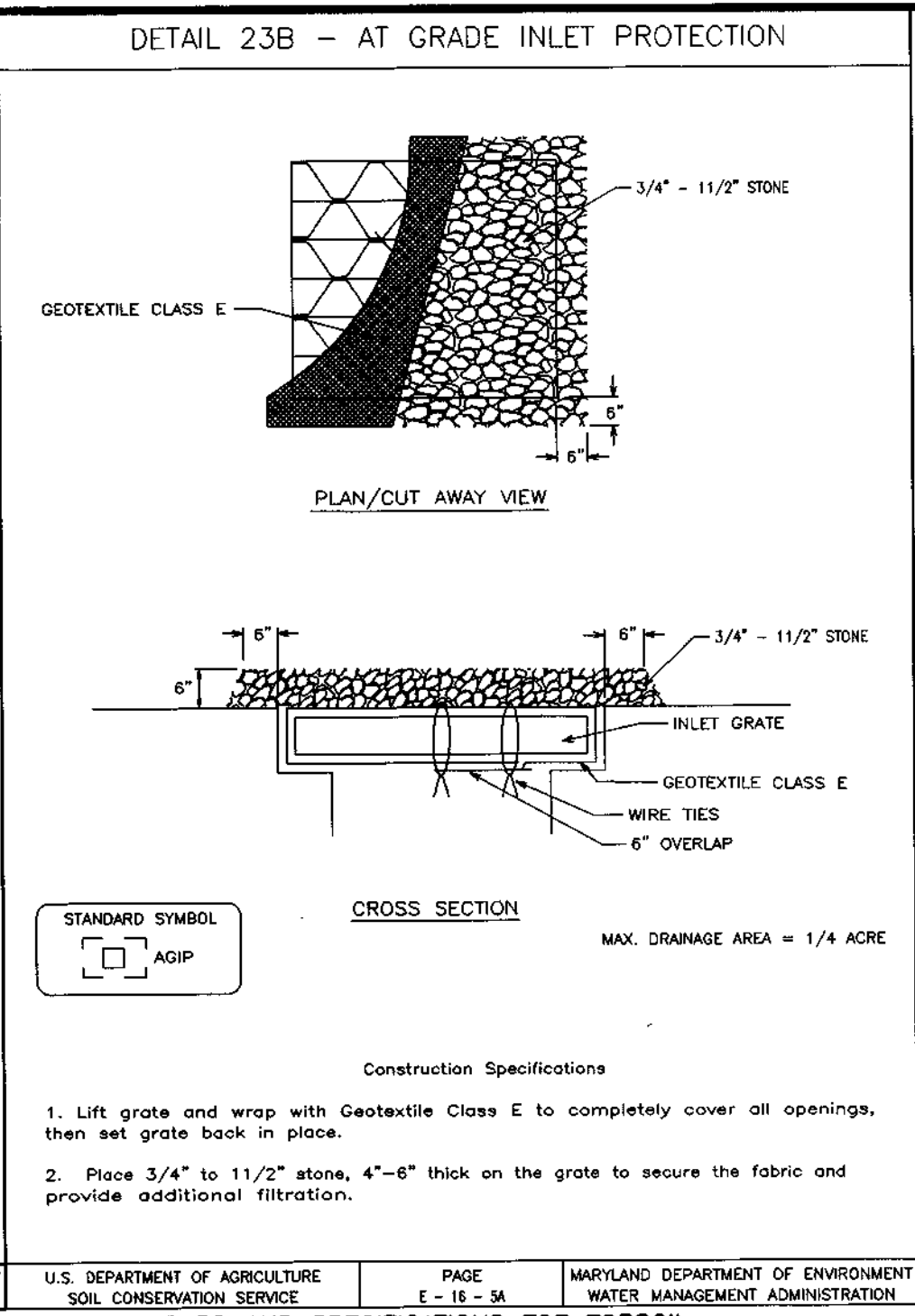
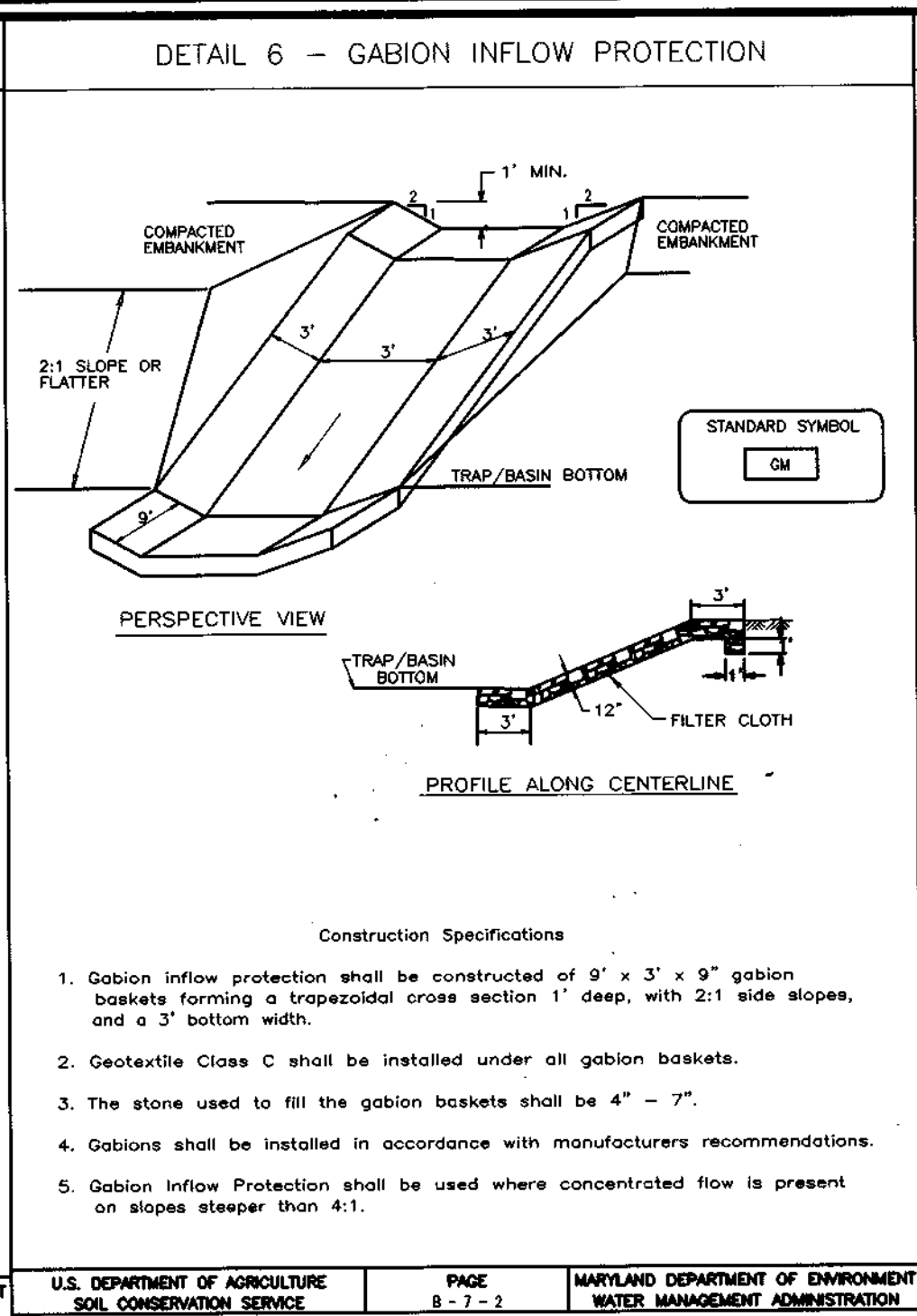
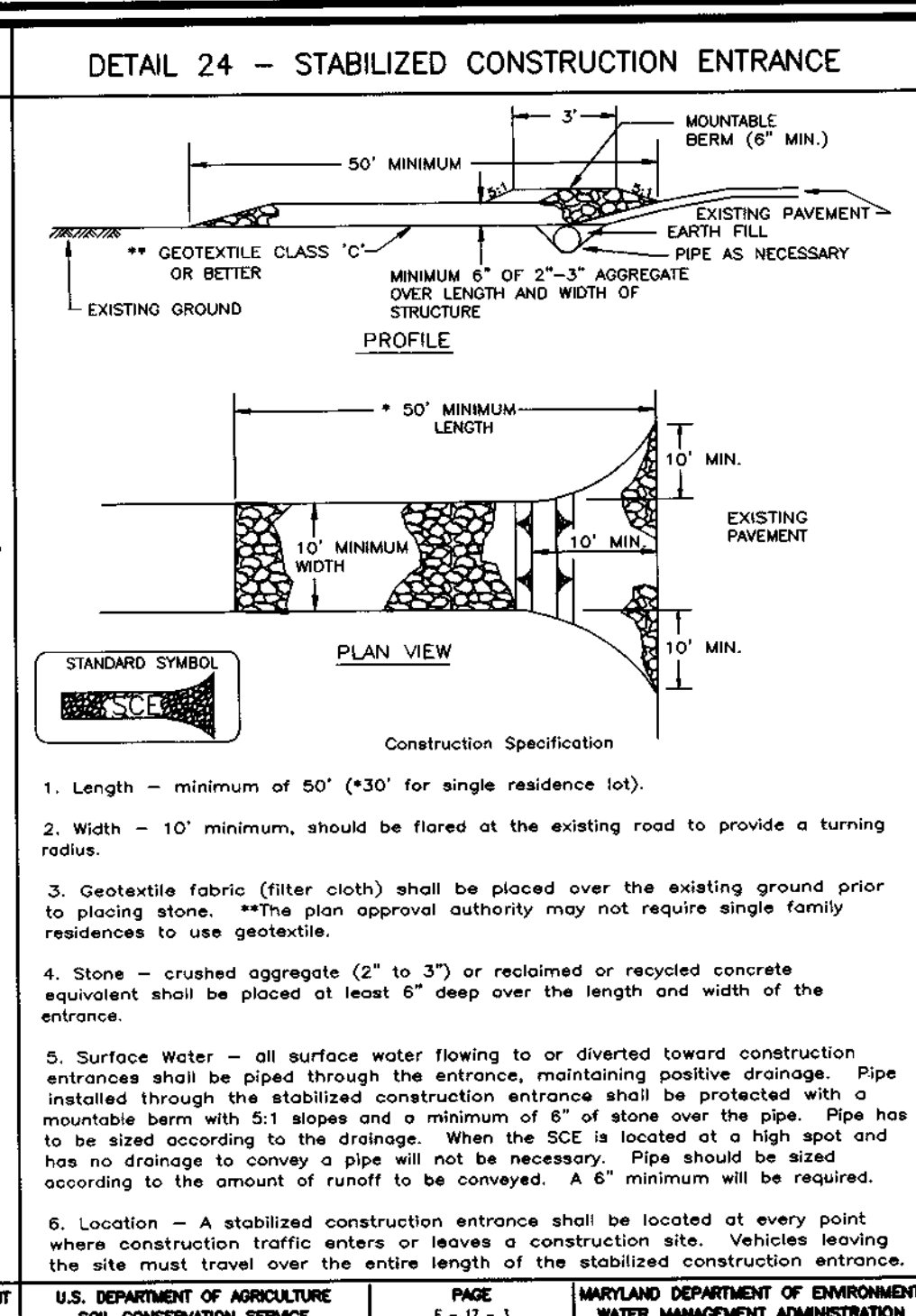
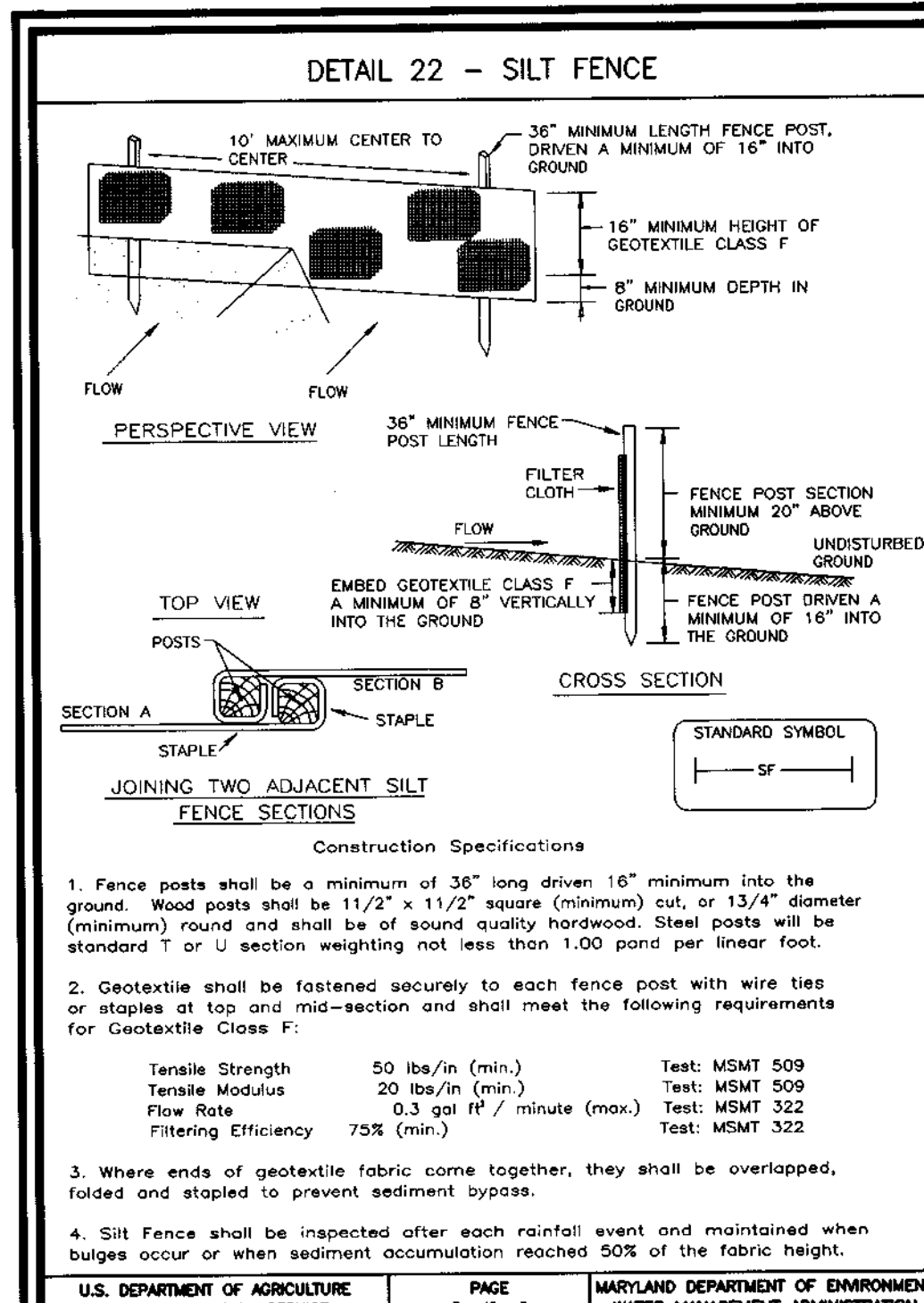
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 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
 ENGINEERS SURVEYORS PLANNERS
 3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
 Tel. 410.461.5229 Fax 410.465.3886



DESIGN BY: J.C.O.
 DRAWN BY: J.E.R.
 CHECKED BY: R.H.V.
 DATE: SEPTEMBER, 1998
 SCALE: 1" = 100'
 W.O. NO.: 87-47

5 SHEET OF 10



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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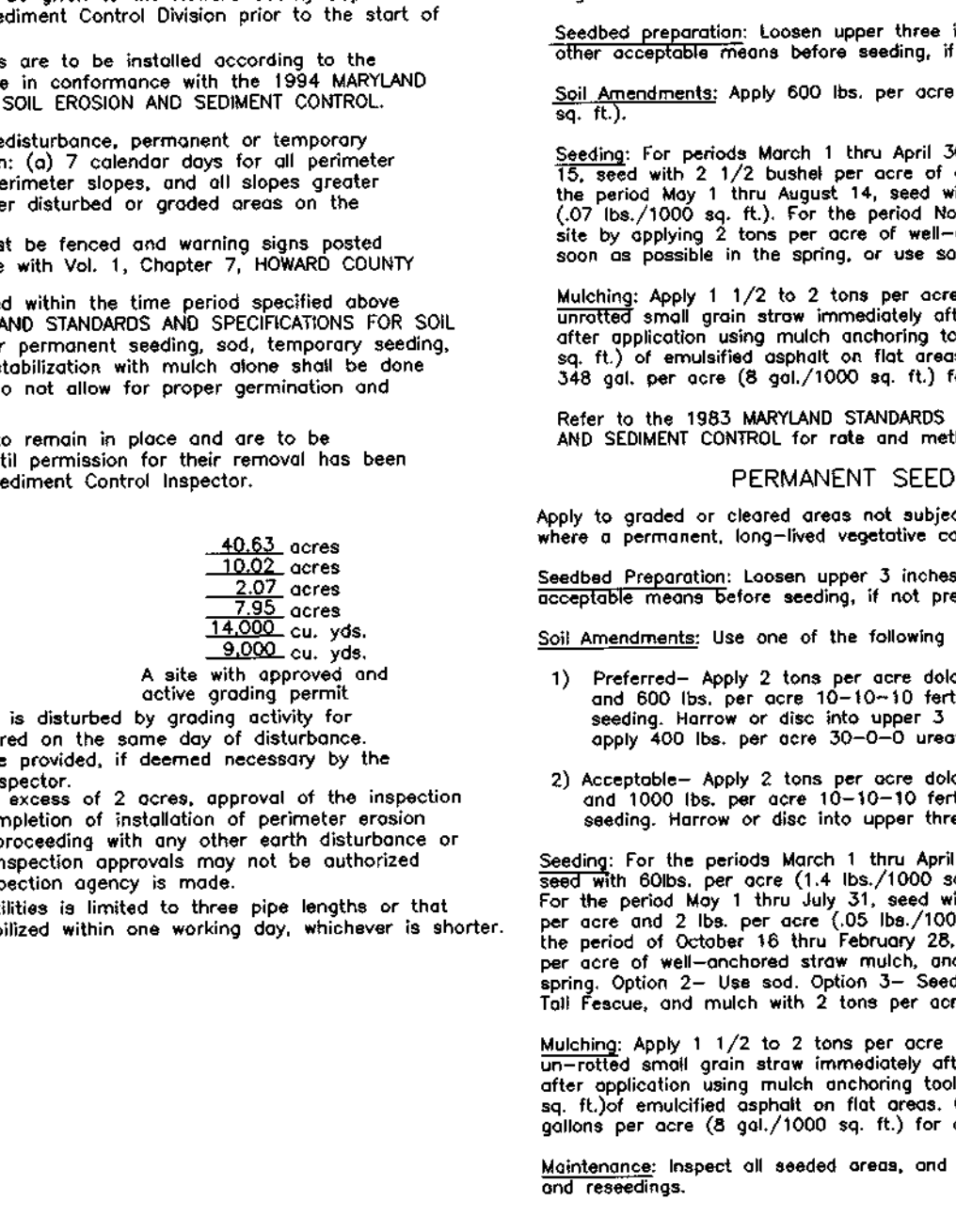
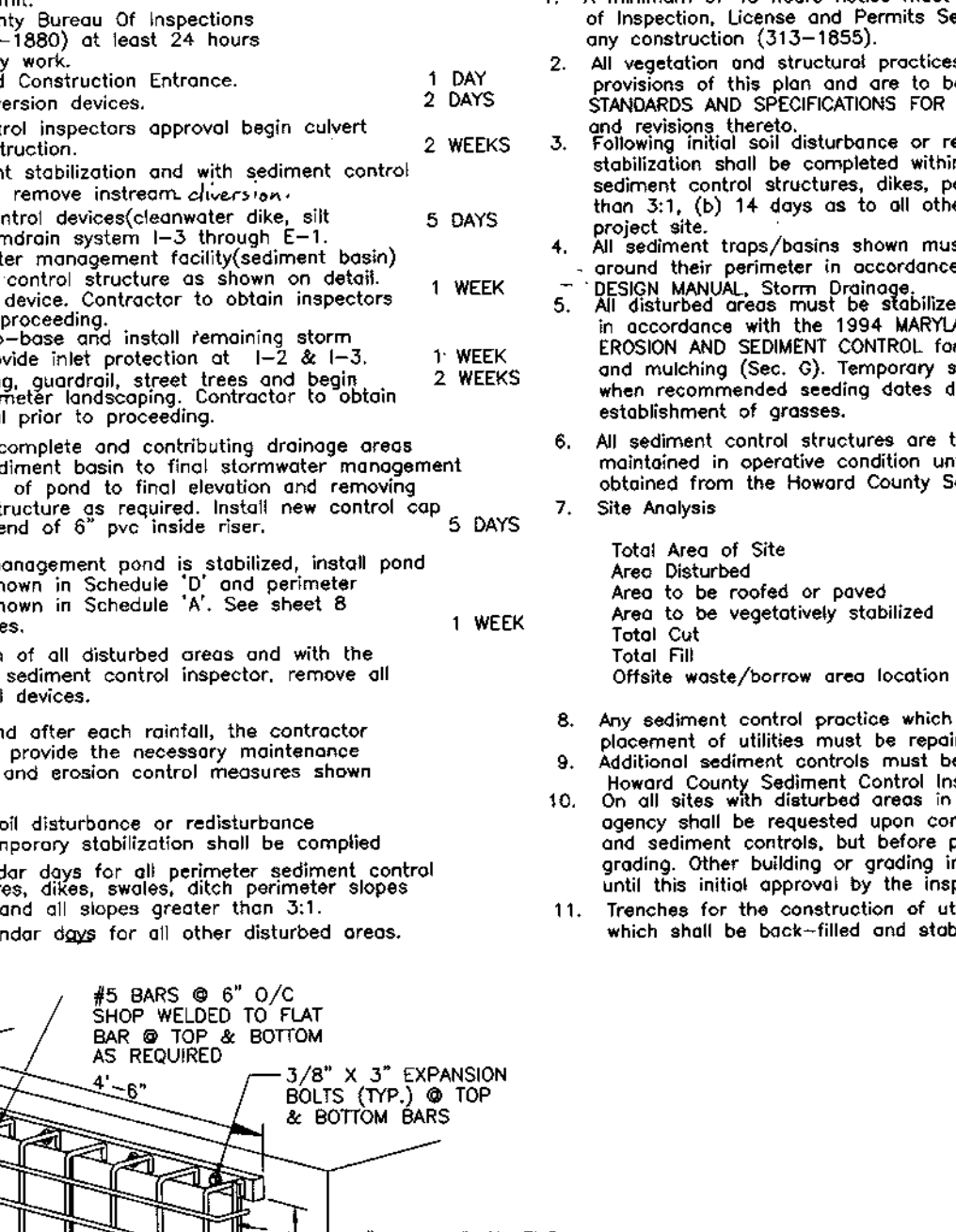
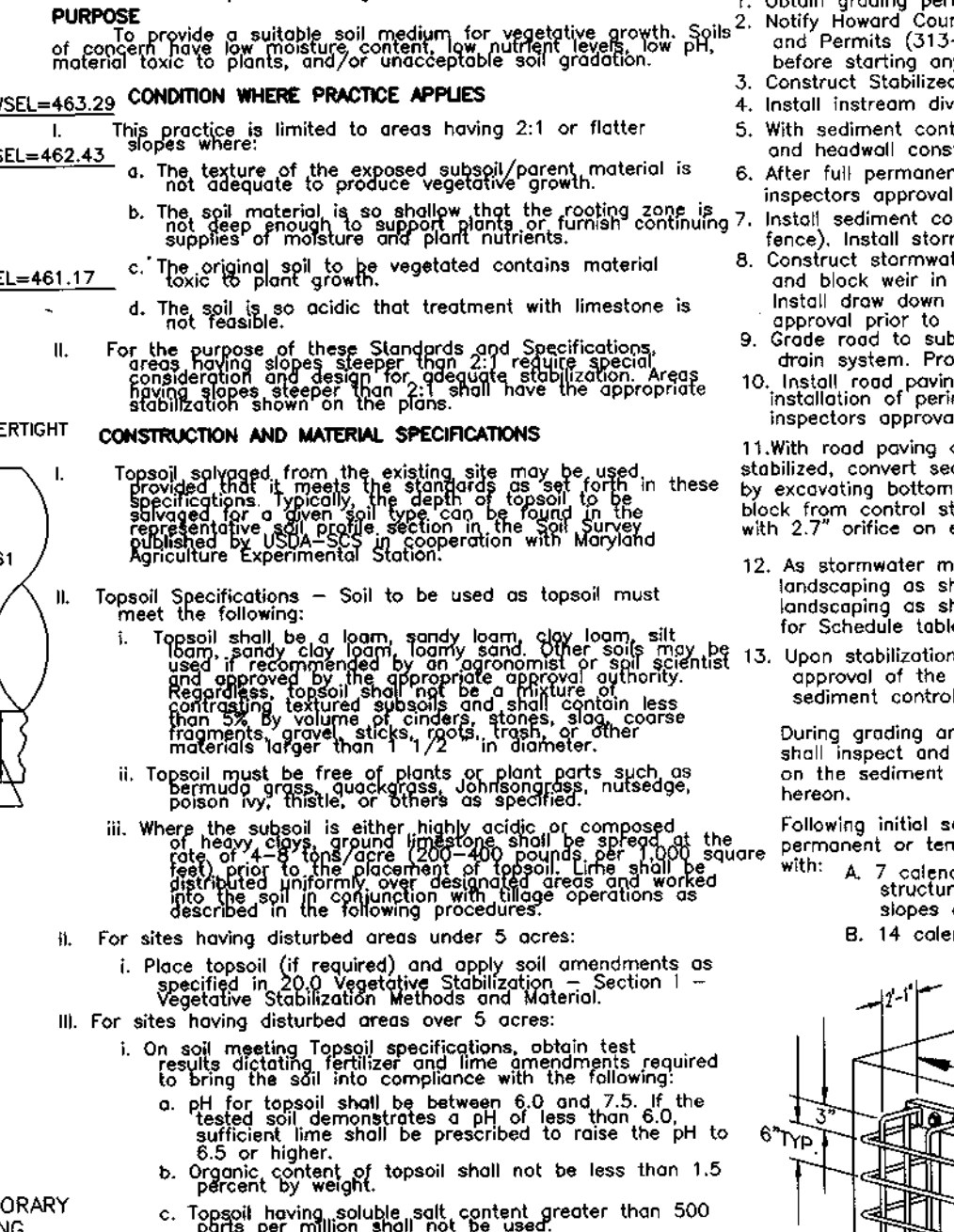
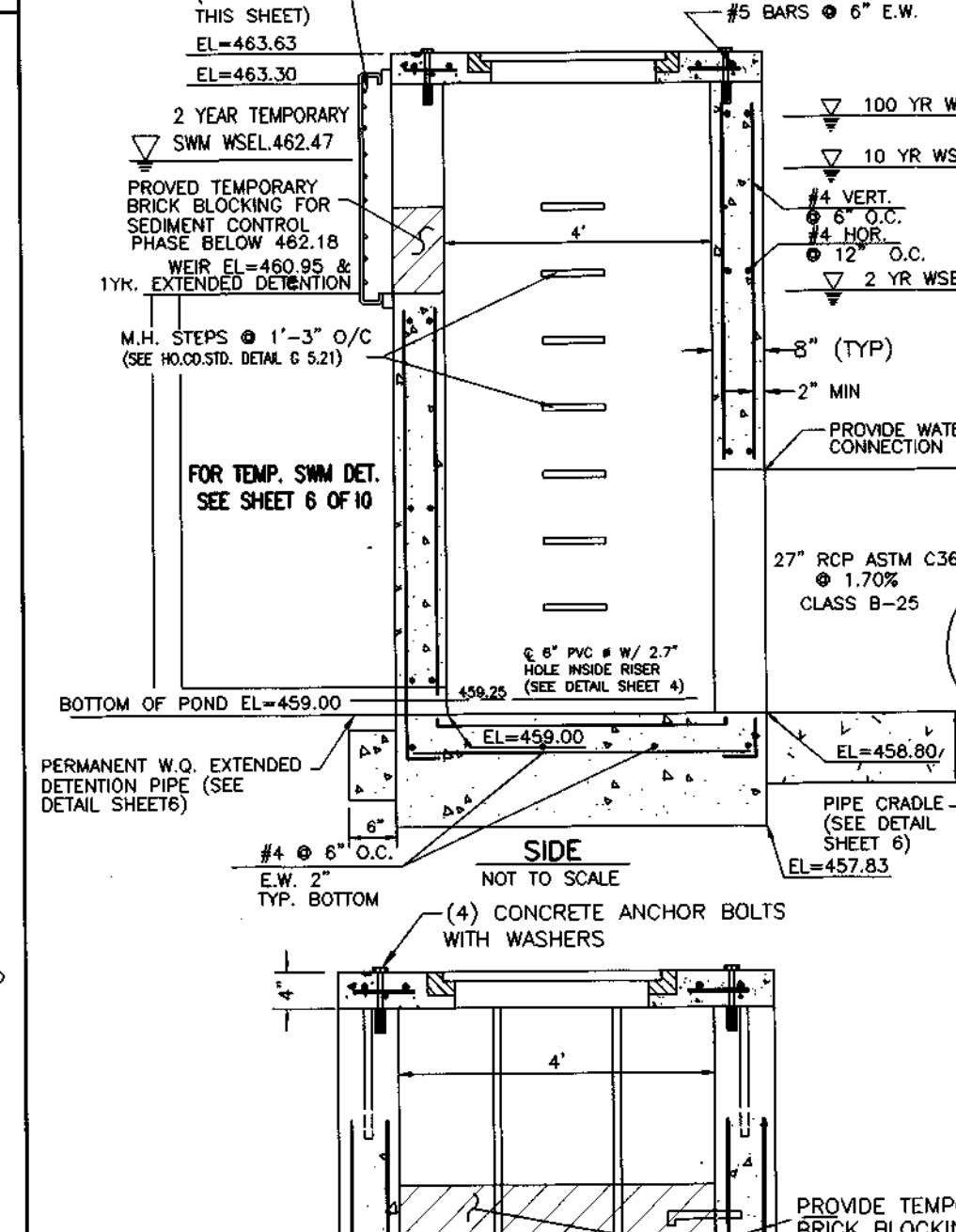
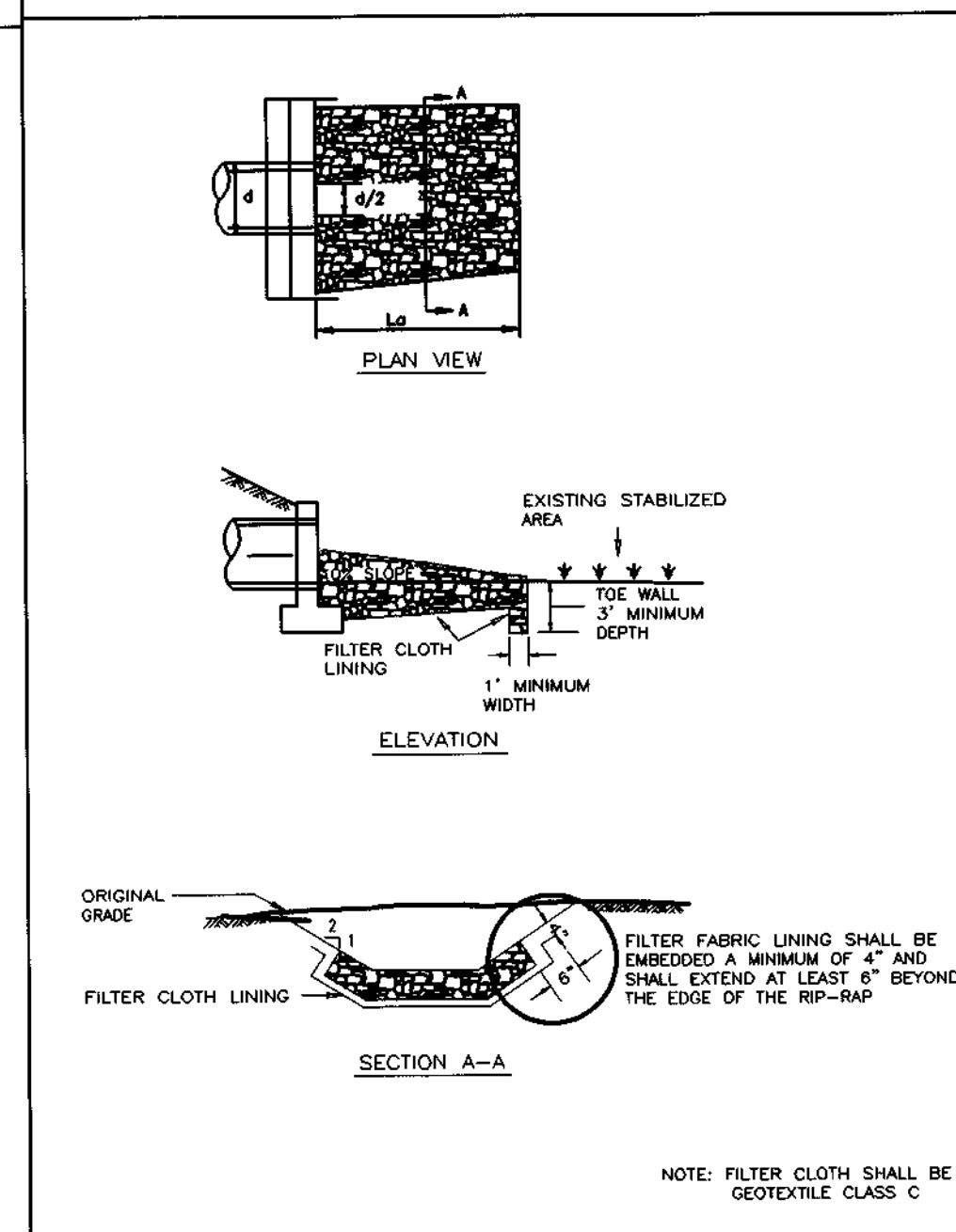
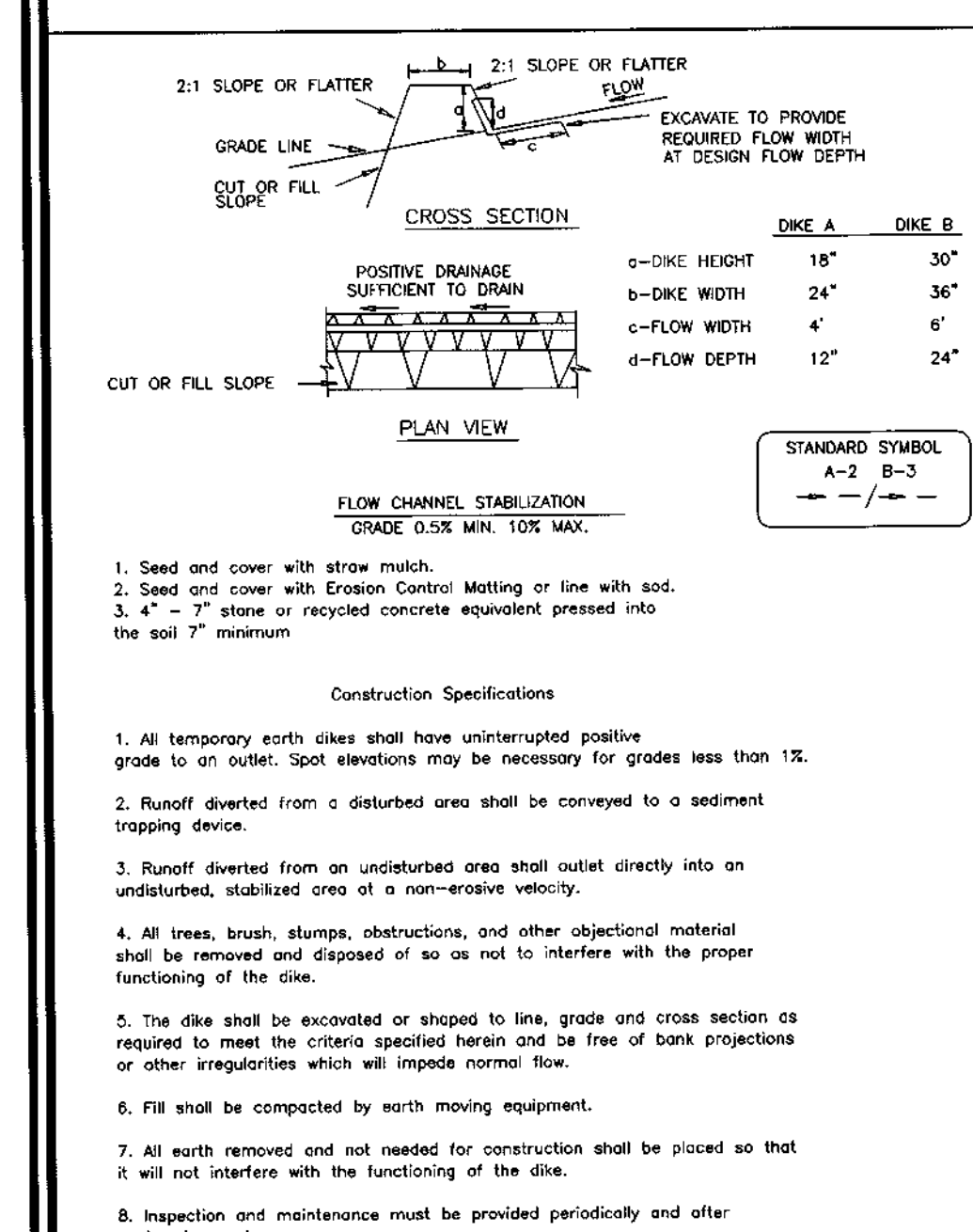
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F-12-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B-7-2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-18-5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F-12-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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WATER RESOURCES ADMINISTRATION	DIVERSION PIPE	WPD 2.2
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A-1-6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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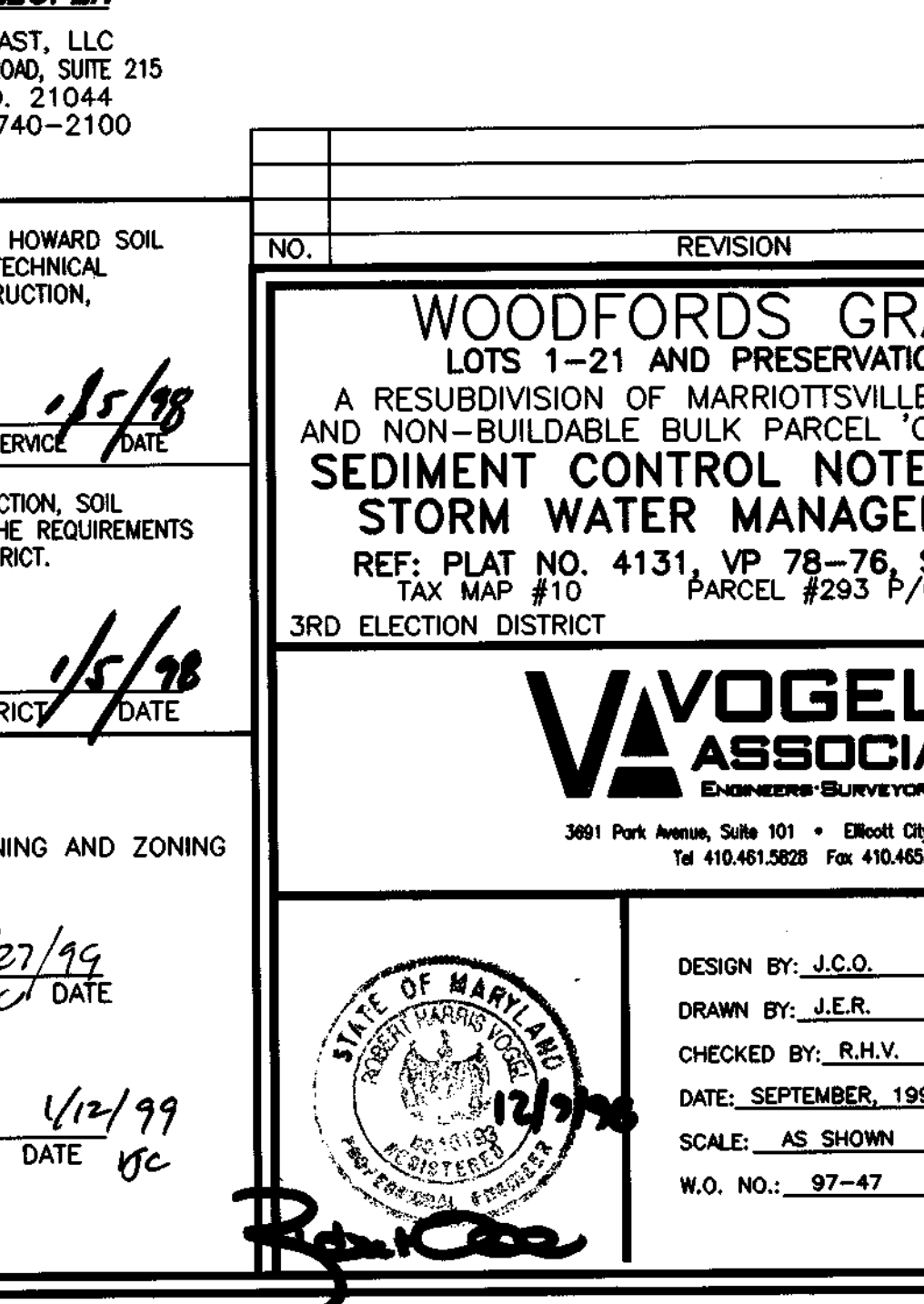
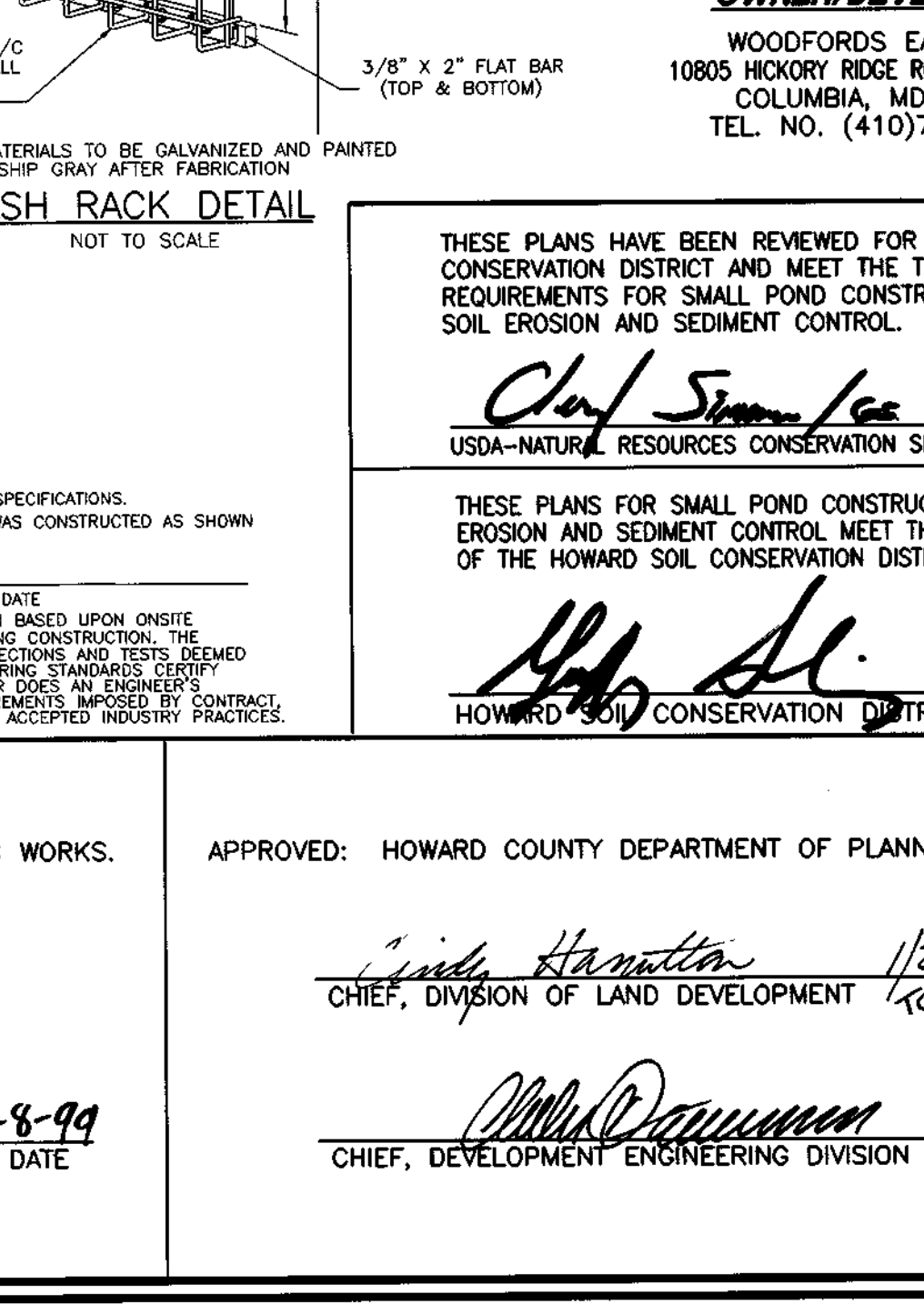
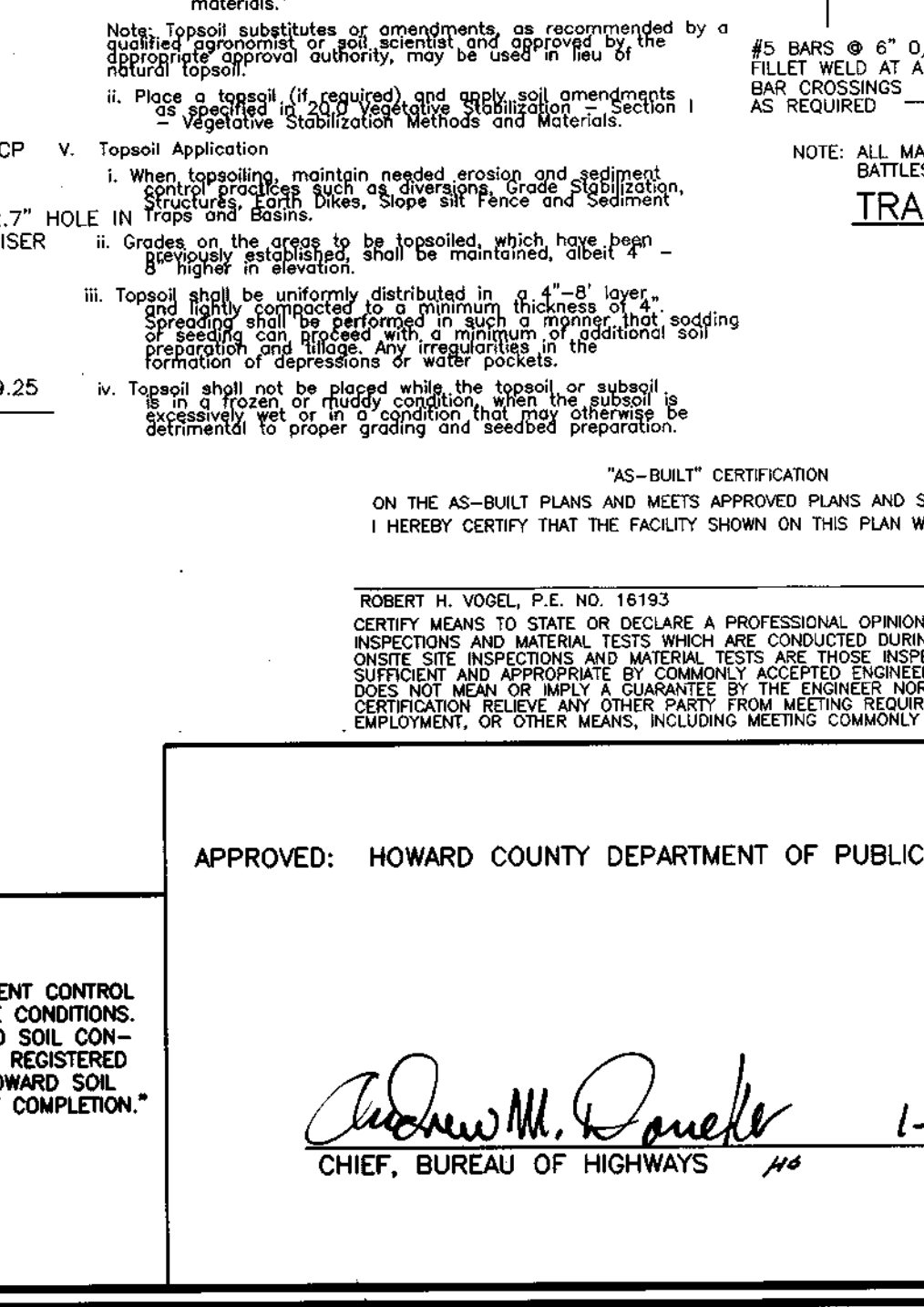
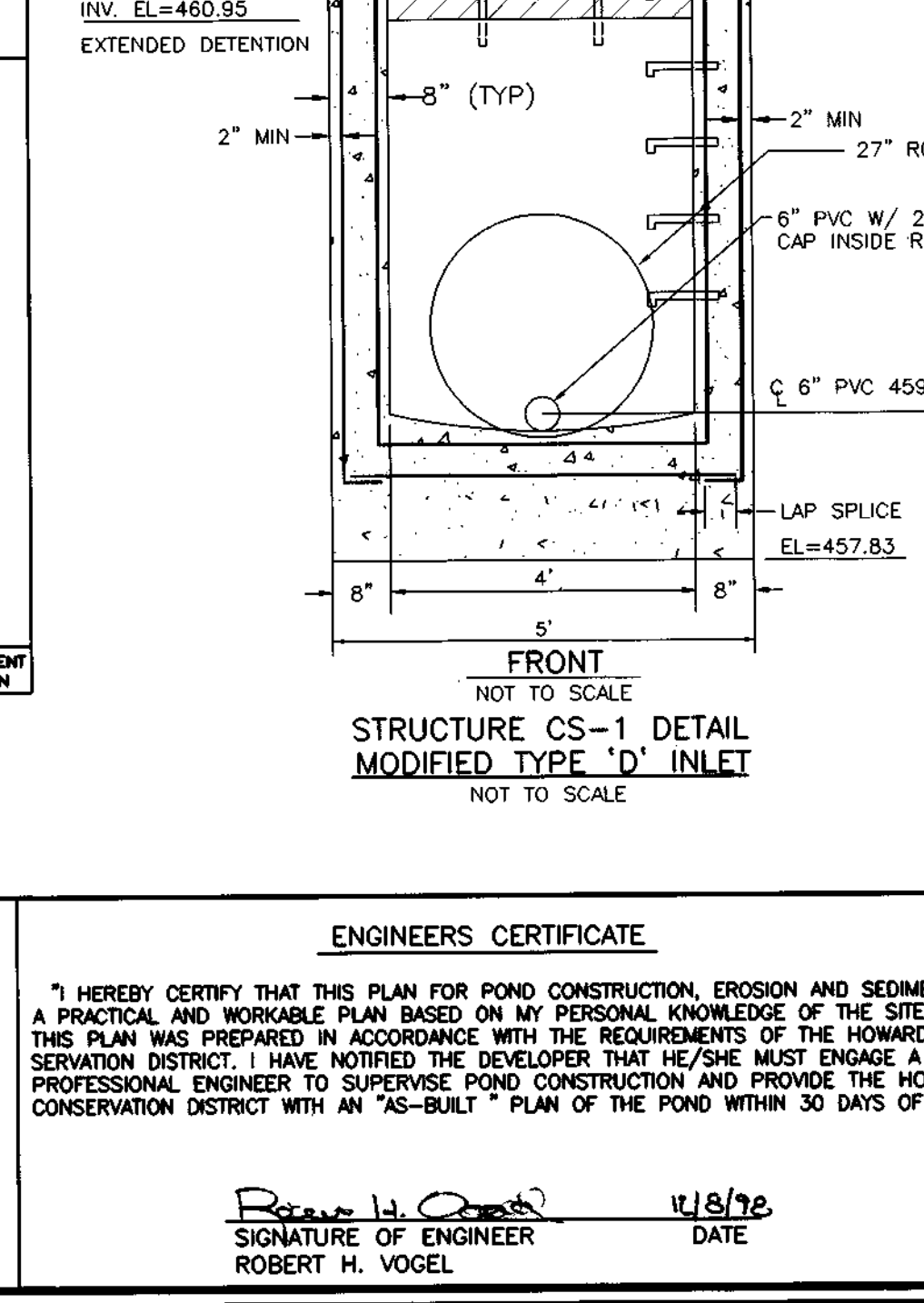
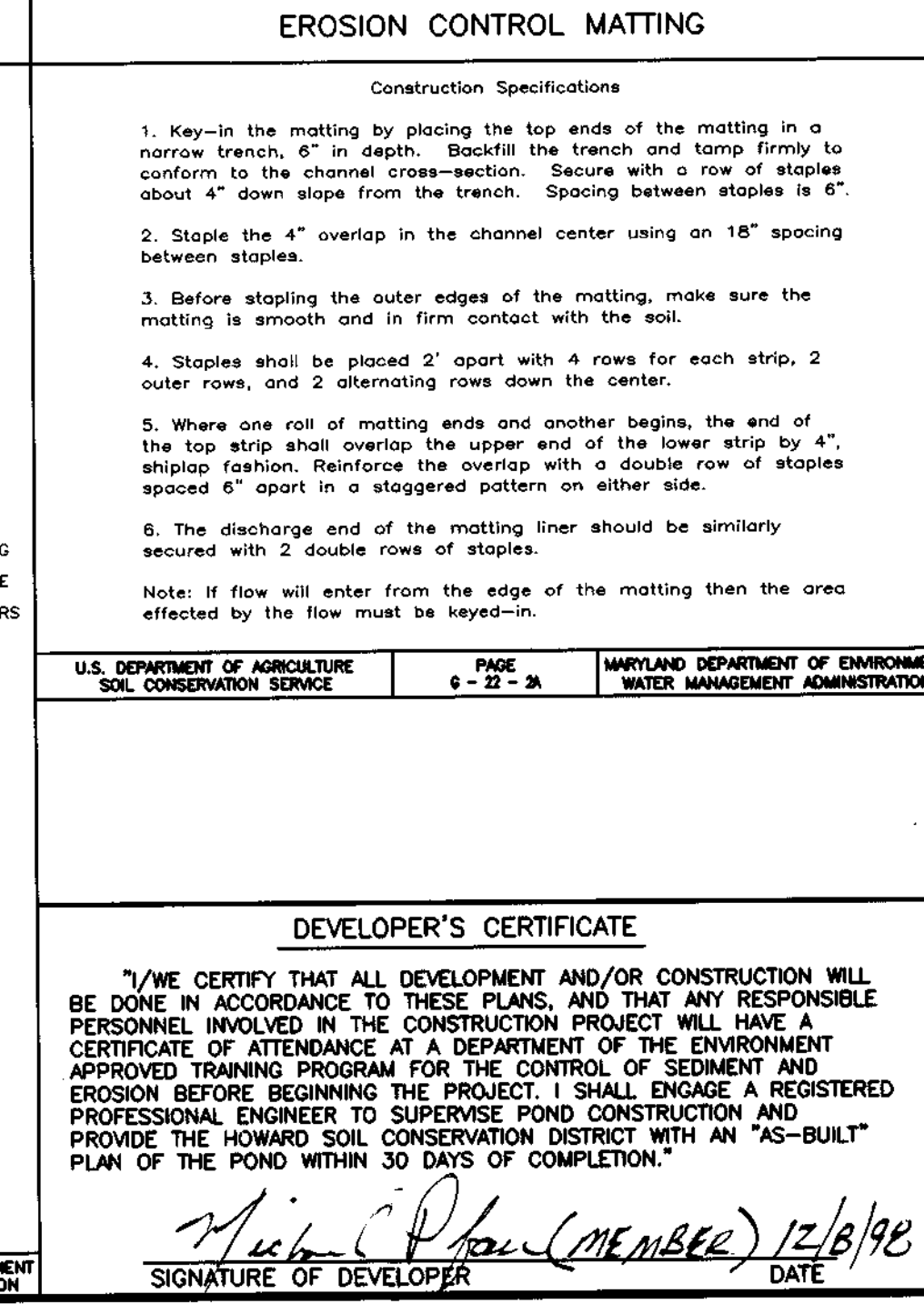
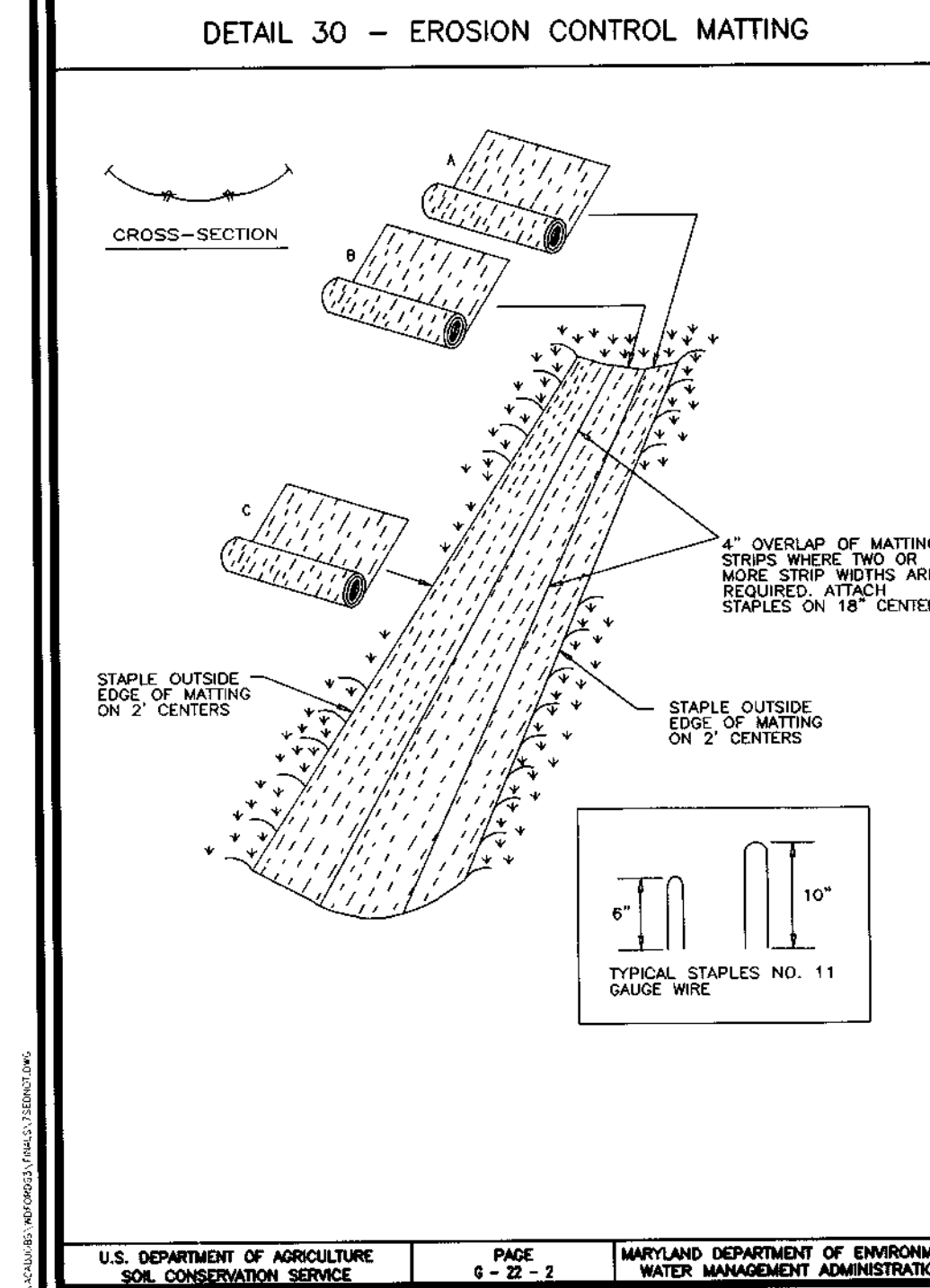
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F-18-18	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-18-5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F-12-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-18-5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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WATER RESOURCES ADMINISTRATION	DIVERSION PIPE	WPD 2.2
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G-2-2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-18-5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-18-5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-18-5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-18-5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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WATER RESOURCES ADMINISTRATION	DIVERSION PIPE	WPD 2.2
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**SCHEDULE A
PERIMETER LANDSCAPE EDGE**

LANDSCAPE EDGE	1	2	3	4
LANDSCAPE TYPE	NONE	A	A	A
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1754	1219	1200	480
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	YES 750	YES 65
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED (BASED ON TOTAL PERIMETER) TYPE A	N/A	20	20	7
SHADE TREES (1:60)		0	0	0
EVERGREEN TREES		0	0	0
SHRUBS		0	0	0
NUMBER OF PLANTS PROVIDED (BASED ON TOTAL MINUS CREDIT) TYPE A		1200	480	
		-750	-65	
		450LF	415 LF	
NUMBER OF PLANTS PROVIDED (BASED ON TOTAL MINUS CREDIT) TYPE B		20	8	7
SHADE TREES (1:60)		0	0	0
EVERGREEN TREES		0	0	0
OTHER TREES (2:1 SUBSTITUTION)		0	0	0
SHRUBS (10:1 SUBSTITUTION)		0	0	0

**SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING**

LANDSCAPE TYPE	B
TOTAL LINEAR FEET OF PERIMETER	850
NUMBER OF TREES REQUIRED	
SHADE TREES(1:50)	17
EVERGREEN TREES(1:40)	22
CREDIT FOR EXISTING VEGETATION LINEAR FEET	NO
CREDIT FOR OTHER LANDSCAPING	NO
NUMBER OF PLANTS PROVIDED (460-270-190LF)	
SHADE TREES(1:50)	17
EVERGREEN TREES(1:40)	22
SHRUBS(10:1 TREE SUBSTITUTION)	0

NOTES:
THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$18,900.00
I/WE CERTIFY THAT THE LANDSCAPING SHOW ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEED OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

DRB
SIGNATURE OF DEVELOPER
10-1-98
DATE

10-1-98
DATE

1,200 L.F.
PERIMETER LANDSCAPE

1,339,500
602,500
CREDIT = 780'

CREDIT = 65'

PERIMETER LANDSCAPE ③ = 480 L.F.

PERIMETER LANDSCAPE ① = 1,784 L.F.

LANDSCAPE TREE SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	SIZE	REMARKS
⊕	52	SHADE TREES ACER RUBRUM/ RED MAPLE	2 1/2"-3" CAL	B & B
⊗	22	EVERGREEN TREES PINUS STROBUS/ EASTERN WHITE PINE	6' - 8' HT.	B & B

STREET TREE SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	SIZE	REMARKS
⊕	87	SHADE TREES ACER RUBRUM/ RED MAPLE	2 1/2"-3" CAL	B & B

NOTE: A MIN. SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

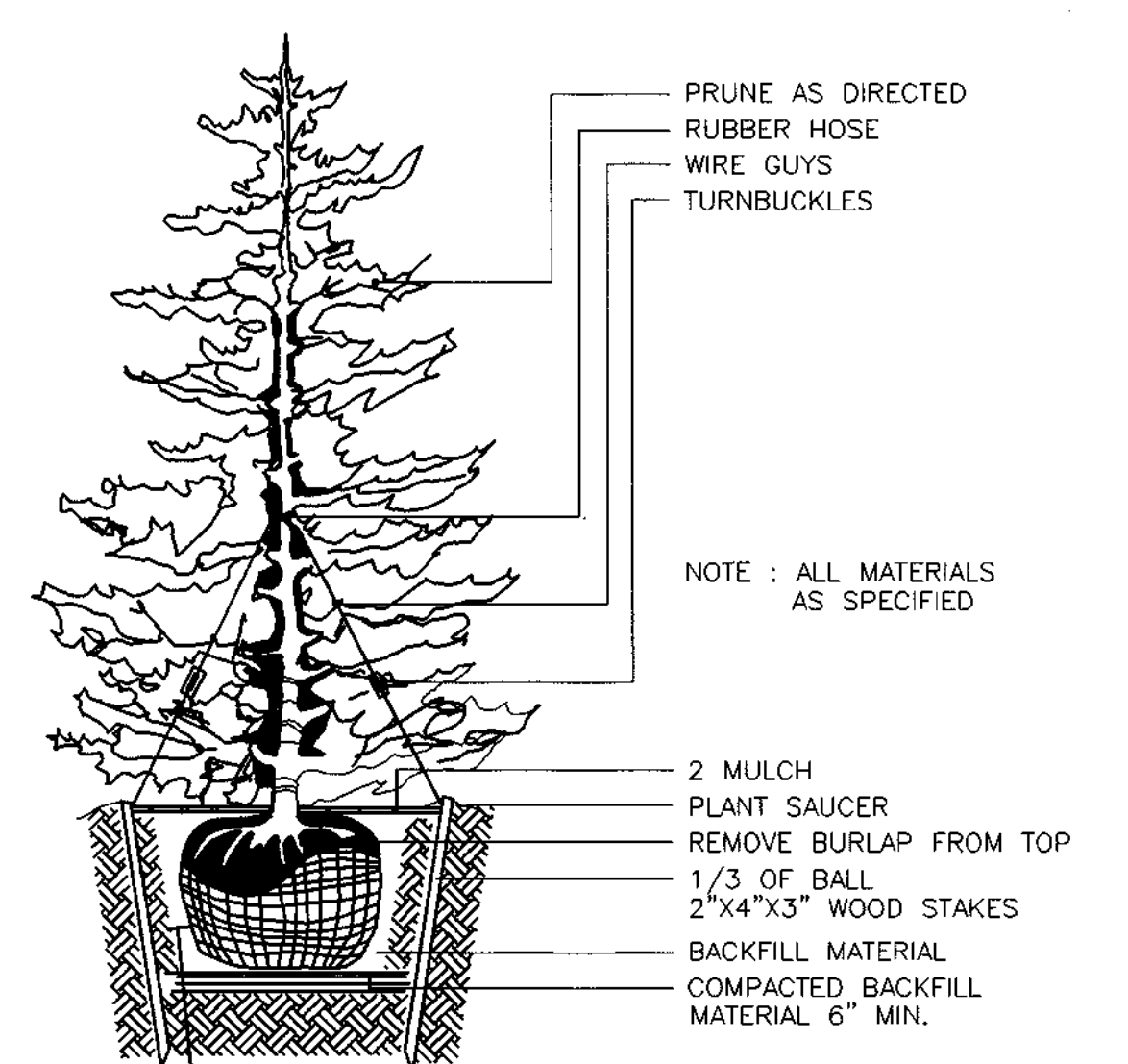
- LEGEND**
- EX. TREELINE
 - PROP. STREET TREES
 - PROP. SHADE TREES
 - PROP. EVERGREEN TREES
 - FLOODPLAIN
 - FOREST CONSERVATION EASEMENT

NOTE: A MIN. SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

PLAN
SCALE: 1" = 100'

PLANTING NOTES

- PLANTS, RELATED MATERIALS, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.
- ALL PLANT MATERIAL UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED AND HAVE A VIGOROUS ROOT SYSTEM. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, PLANTS FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUNSCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BOYERS AND ALL FORMS OF INFESTATION OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG, NO HELED-IN PLANTS OR PLANTS FROM COLD STORAGE WILL BE ACCEPTED.
- UNLESS OTHERWISE SPECIFIED, ALL PLANT MATERIAL SHALL CONFORM TO "AMERICAN STANDARD FOR NURSERY STOCK" ANSI Z60.1-1986, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INCLUDING ALL ADDENDA.
- UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATIONS SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" (HEREIN-AFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, SEPTEMBER, 1981, INCLUDING ALL ADDENDA.
- CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONTRACTORS AND "MIS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO UTILITIES AND MAY MAKE MINOR ADJUSTMENTS IN SPACING AND LOCATION OF PLANTING MATERIALS TO AVOID CONFLICTS WITH UTILITIES.
- PLANTING BED SHALL BE MULCHED WITH 3" OF SHREDDED HARDWOOD BARK MULCH. GROUND COVER BEDS SHALL BE MULCHED TO A DEPTH OF 2".
- ALL AREAS WITHIN THE CONTRACT LIMIT NOT COVERED BY BUILDING, PAVING, PLANTING BEDS OR OTHERWISE DESIGNATED ON THE PLANS SHALL BE SEEDED AND MULCHED OR SOODED IN ACCORDANCE WITH "1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PERMANENT SEEDING SPECIFICATIONS (SEE SHEET 6), INCLUDING ALL ADDENDA, AS DIRECTED BY THE OWNER.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL MATERIALS IN THE PROPER PLANTING SEASON FOR EACH PLANT TYPE. PLANTING MIX SHALL BE DONE AS FOLLOWS:
DECIDUOUS PLANTS - TWO PARTS TOP SOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE, ADD 3 LBS. OF STANDARD 10-10-10 FERTILIZER PER CUBIC YARD OF PLANTING MIX.
EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL, ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX.
- TOPSOIL SHALL CONFORM TO LANDSCAPE GUIDELINES.
- THIS PLAN IS INTENDED FOR LANDSCAPE PLAN ONLY. SEE OTHER PLAN SHEETS FOR INFORMATION ON GRADING, SEDIMENT CONTROL, LAYOUT, ETC.
- CONTRACTOR TO ADJUST PLANTINGS AS REQUIRED WITH PRIOR APPROVAL OF THE ENGINEER OR LANDSCAPE ARCHITECT.

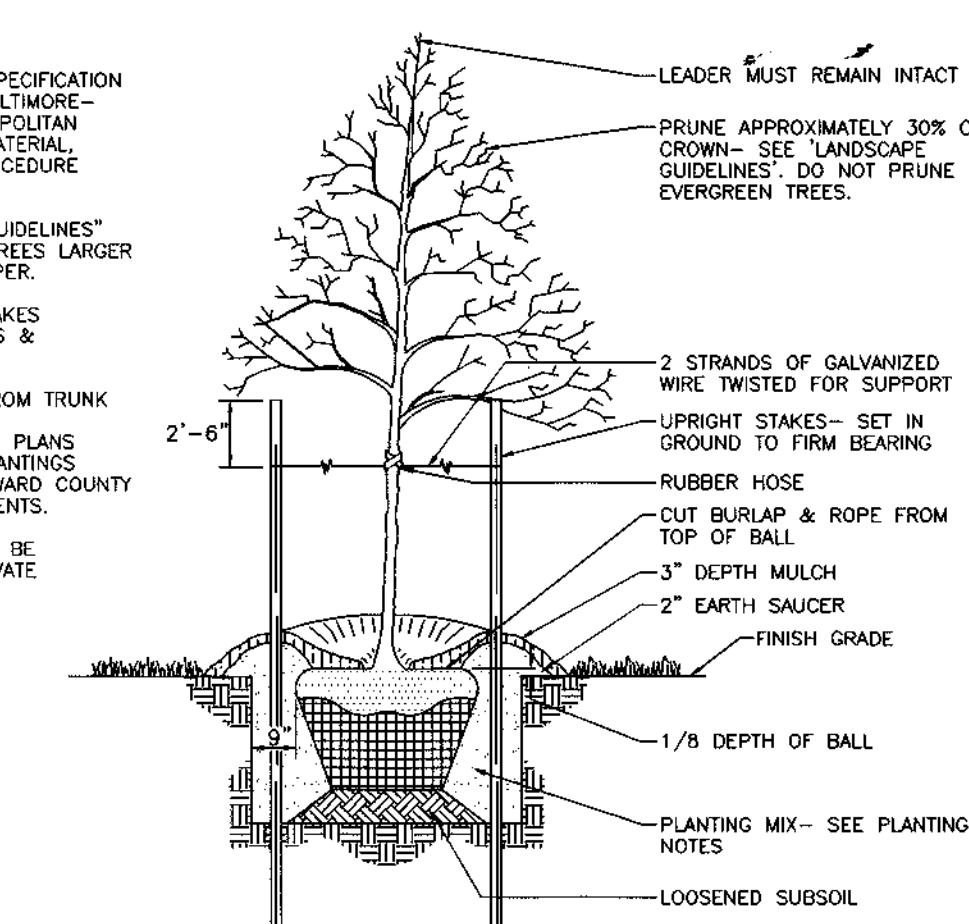


TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

OWNER/DEVELOPER
WOODFORDS EAST, LLC
10805 HICKORY RIDGE ROAD, SUITE 215
COLUMBIA, MD 21044
TEL. NO. (410)740-2100

NOTES

- SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
- SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
- PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.



TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Richard M. Davis
CHIEF, BUREAU OF HIGHWAYS
1-8-99
DATE

Cindy Hamilton
CHIEF, DIVISION OF LAND DEVELOPMENT
1/27/99
DATE

Mr. [Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION
1/12/99
DATE

NO.	REVISION	DATE

WOODFORDS GRANT III
LOTS 1-21 AND PRESERVATION PARCEL A
A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4 AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II
LANDSCAPE PLAN, NOTES AND DETAILS
REF: PLAT NO. 4131, VP 78-76, S-98-04, P-98-25
TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
ENGINEERS-SURVEYORS-PLANNERS
3891 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
Tel 410.461.5828 Fax 410.466.3888



DESIGN BY: J.C.O.
DRAWN BY: J.E.R.
CHECKED BY: R.H.V.
DATE: SEPTEMBER, 1998
SCALE: AS SHOWN
W.O. NO.: 87-47

8 SHEET 10
OF

FOREST TREE PROTECTION AND MANAGEMENT NOTES

1. Tree protection devices shall be installed prior to any grading or land clearing.
2. After the boundaries of the retention area have been staked and flagged and before any disturbance has taken place a pre-construction meeting with the Howard County Inspector is required.
3. No grading, storage of equipment, vehicles, equipment staging or dumping is permitted within forest conservation easement areas.
4. Provide maintenance to tree protection devices and signage to maintain their integrity throughout the duration of the project.
5. Attachment of signs or any other objects to trees is prohibited.
6. Root pruning will be performed with rotary ditching equipment or vibratory knife as conditions warrant.
7. Any significant changes made to the forest conservation plan shall be made with the prior consent of the Howard County Inspector.
8. No burial of discarded material is permitted within forest conservation and planting areas.
9. No open burning within 100ft. Of wooded areas is permitted.
10. Post Construction Phase
 - a. Inspect existing trees around perimeter of site for signs of root or trunk damage and excessive soil compaction.
 - b. Remove dead or dying trees and evaluate for hazard tree removal
 - c. All temporary forest protection devices will be removed after construction.
 - d. Following completion of construction, prior to use, the county inspector shall inspect the entire site for compliance with this forest conservation plan.

* A licensed arborist or forester should be retained for this service as needed.

NARRATIVE

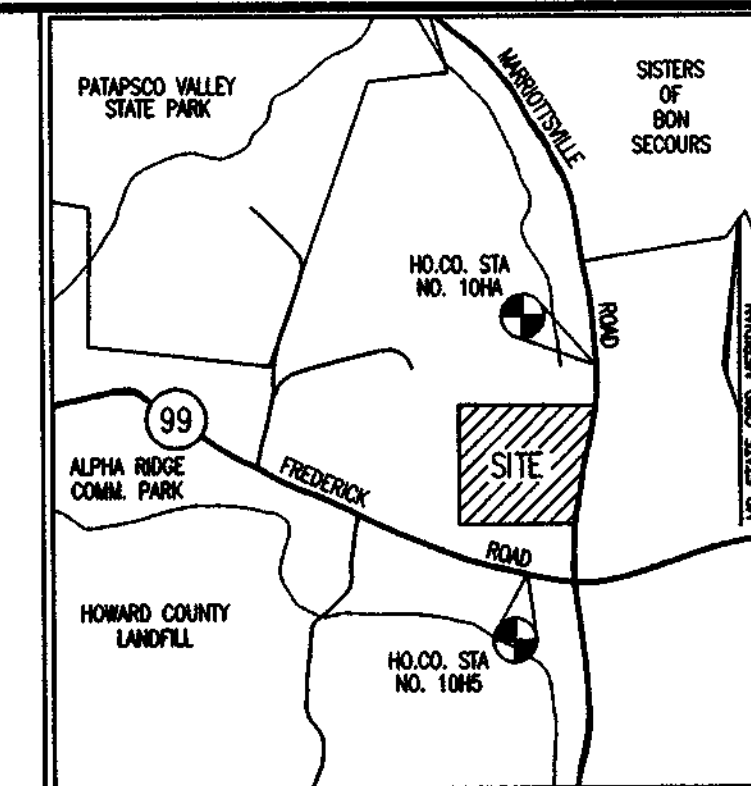
The preliminary forest conservation plan was prepared in accordance with the Howard County Forest Conservation Manual and the 1991 Forest Conservation Act.

The existing site consists of 40.6 acres of which 0.8 acres is currently forested. The site contains 1.1 acres of 100 year floodplain and 15.3 acres in preservation parcels (the land use on a portion of parcel A will remain unchanged) to be deducted from these figures to obtain a net tract area of 24.2 acres. The proposed plan will retain the existing 0.4 acres of forested area. The afforestation requirement is 4.0 acres and will be provided offsite. The offsite location for the afforestation areas is on Lot 7 and on Parcel F of Woodfords Grant I. SEE SHEET 10 OF 10, BY OTHERS.

FOREST CONSERVATION SUMMARY
 Net Tract Area: 24.2 ac.
 Existing Forest Cover: 0.8 ac.
 Forest to be Retained: 0.8 ac.
 Afforestation Required: 4.0 ac.
 Afforestation to be provided offsite.

LEGEND

- Edge Existing Woodland
- Limit of Disturbance
- Tree Protection Fence



VICINITY MAP
SCALE: 1"=2000'

FOREST CONSERVATION WORKSHEET

	Acres (1/10 ac.)
1. Basic Site Data	
Gross Site Area	40.6
Area Within 100 Yr. Floodplain	1.1
Area Within Ag. Use or Preservation Parcel	15.3
Net Tract Area	24.2
Land Use Category	
2. Information for Calculations	
A. Net Tract Area	24.2
B. Reforestation Threshold (25%xA)	6.1
C. Afforestation Minimum (20%xA)	4.8
D. Existing Forest on Net Tract Area	0.8
E. Forest Areas to be Cleared	0.0
F. Forest Areas to be Retained	0.8
3. Afforestation Calculations	
A. Net Tract Area	24.2
C. Afforestation Minimum (20%xA)	4.8
D. Existing Forest on Net Tract Area	0.8
E. Forest Area to be Cleared	0.0
F. Forest Area to be Retained	0.8

No clearing below the minimum
TOTAL AFFORESTATION REQUIRED (C-D) 4.0

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton 1/27/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Robert Williams 1/25/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNER/DEVELOPER
 WOODFORD'S EAST L.L.C.
 18085 HICKORY RIDGE ROAD, SUITE 215
 COLUMBIA, MD. 21044

WOODFORDS GRANT III
 LOTS 1-19 AND PRESERVATION PARCELS A AND B
 A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4
 AND LOT WOODFORDS GRANT II
FOREST CONSERVATION PLAN

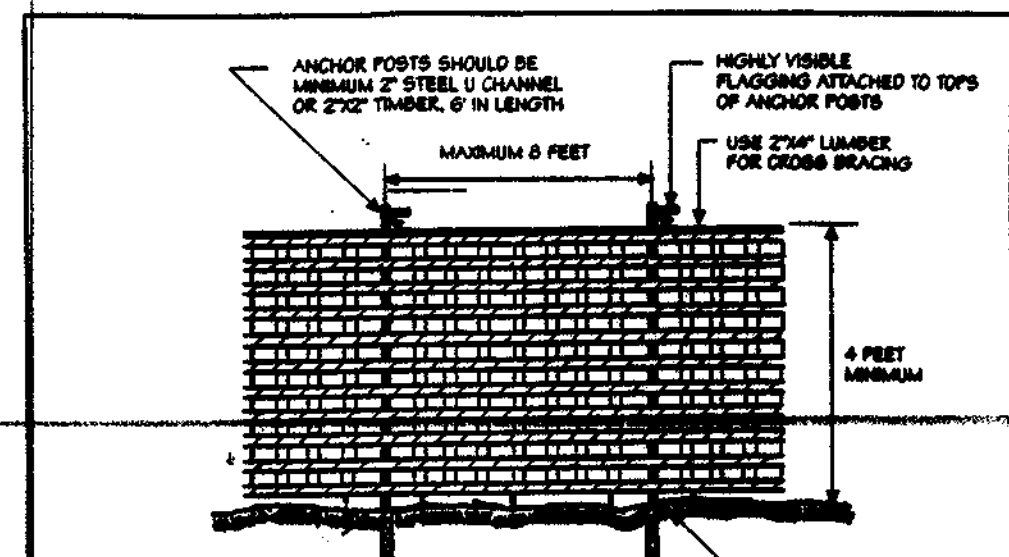
TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22 REF: PLAT NO. 4131, VP 78-76
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
 ENGINEERS-SURVEYORS-PLANNERS
 3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
 Tel 410.461.5828 Fax 410.465.3966

DESIGN BY: _____
 DRAWN BY: _____
 CHECKED BY: _____
 DATE: JANUARY, 1999
 SCALE: 1"=100'
 W.O. NO.: 97-47

CONSTRUCTION SEQUENCE

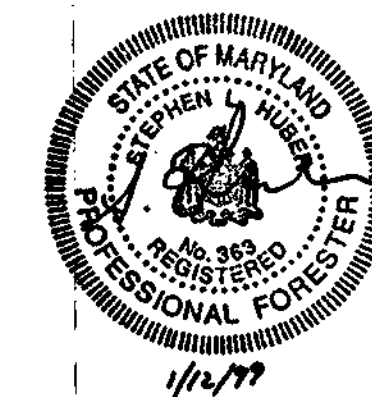
1. Obtain grading permit.
2. Conduct pre-construction meeting with developers representative and Howard Co Sediment Control Inspector.
3. Install tree protection devices and signage.
4. Perform root pruning with trenching equipment along the disturbed limits. Trenching for installation of silt fence is adequate where used.
5. Clear within limits of disturbance taking care to directionally fell trees away from those to be saved. Inspect forest edge to determine additional removal of danger trees and others not likely to survive post construction.
6. Grade for and complete all structural site improvements.
7. Install off-site reforestation plantings on Woodford's Grant Section I, Parcel F, in accordance with notes and details provided.
8. Conduct post construction meeting with developers representative and Howard County Inspector.
9. Remove temporary tree protection fencing.
10. Inspect and maintain reforestation plantings for a 2 year period.



- Notes:
1. Black orange or blue plastic mesh fence for forest protection devices, only.
 2. Boundaries of Retention Area will be established as part of the forest conservation plan review process.
 3. Boundaries of Retention Area should be staked and flagged prior to installing device.
 4. Avoid damage to critical root zones. Do not damage or sever large roots when treating roots.
 5. Protection signs are required. See Figure C-4.
 6. Device should be maintained throughout construction.

Plastic Mesh Tree Protection Fence Figure C-5

NO.	REVISION	DATE
1	REVISE STORM DRAIN PIPE FROM RCP TO HDPE	2/2/99
	REVISION	DATE



EXPLORATION RESEARCH, INC.
 ENVIRONMENTAL CONSULTANTS
 8318 FORREST STREET
 HISTORIC ELLICOTT CITY, MARYLAND 21043
 PHONE: (410) 750-1150 FAX: (410) 750-7350

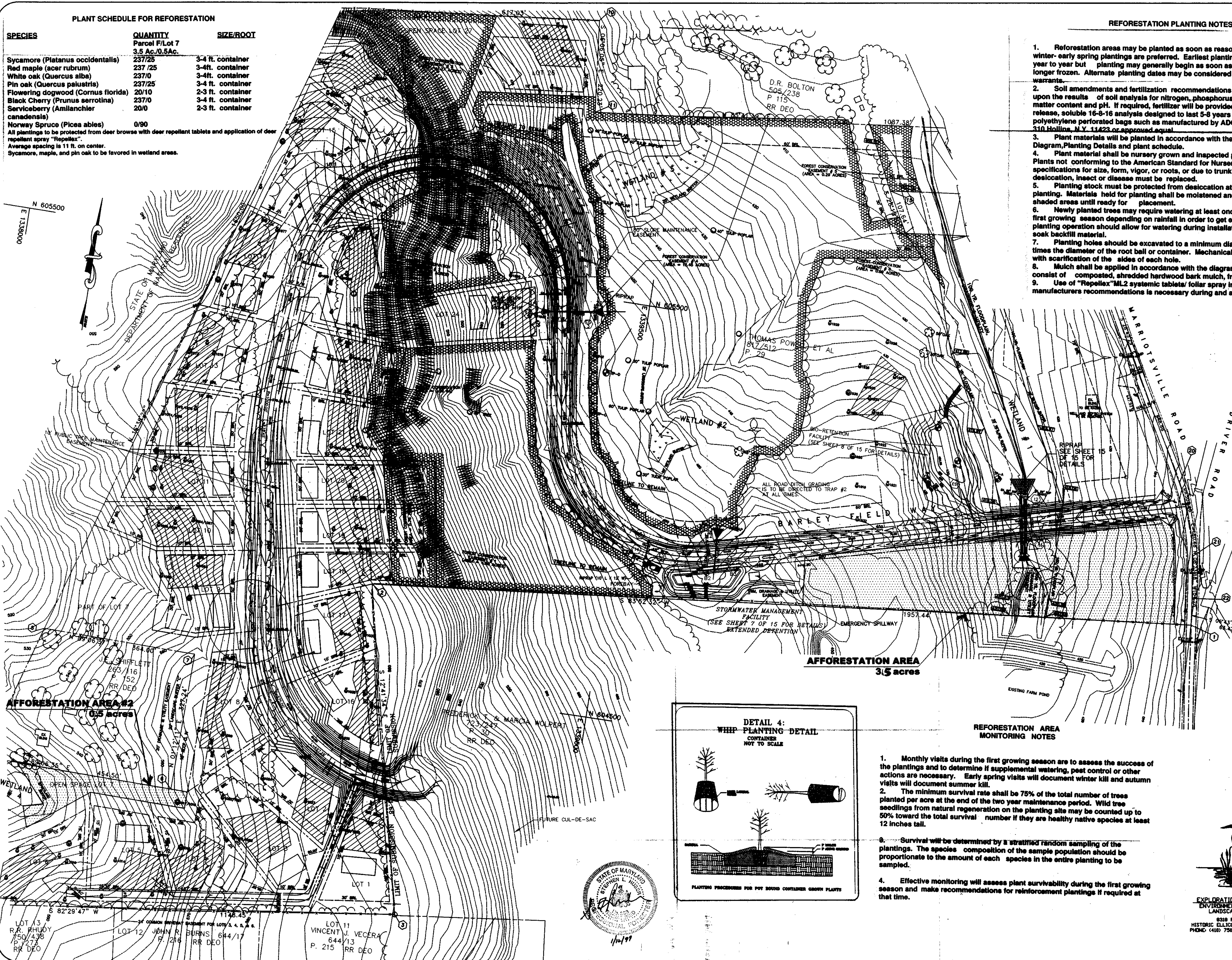
PLANT SCHEDULE FOR REFORESTATION

SPECIES	QUANTITY	SIZE/ROOT
Sycamore (<i>Platanus occidentalis</i>)	237/25	3-4 ft. container
Red maple (<i>Acer rubrum</i>)	237/25	3-4ft. container
White oak (<i>Quercus alba</i>)	237/0	3-4ft. container
Pin oak (<i>Quercus palustris</i>)	237/25	3-4 ft. container
Flowering dogwood (<i>Cornus florida</i>)	20/10	2-3 ft. container
Black Cherry (<i>Prunus serotina</i>)	237/0	3-4 ft. container
Serviceberry (<i>Amlanchier canadensis</i>)	20/0	2-3 ft. container
Norway Spruce (<i>Picea abies</i>)	0/90	

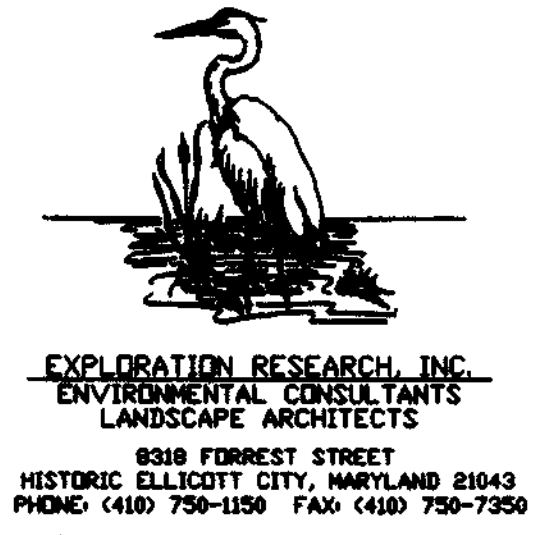
All plantings to be protected from deer browse with deer repellent tablets and application of deer repellent spray "Repellex".
Average spacing is 11 ft. on center.
Sycamore, maple, and pin oak to be favored in wetland areas.

REFORESTATION PLANTING NOTES

1. Reforestation areas may be planted as soon as reasonable to do so. Late winter-early spring plantings are preferred. Earliest planting dates will vary from year to year but planting may generally begin as soon as the ground is no longer frozen. Alternate planting dates may be considered as condition warrants.
2. Soil amendments and fertilization recommendations will be made based upon the results of soil analysis for nitrogen, phosphorus, potassium, organic matter content and pH. If required, fertilizer will be provided using a slow release, soluble 16-8-16 analysis designed to last 5-8 years contained in polyethylene perforated bags such as manufactured by ADCO Works, P.O. Box 310 Hollis, N.Y. 11423 or approved equal.
3. Plant materials will be planted in accordance with the Planting Distribution Diagram, Planting Details and plant schedule.
4. Plant material shall be nursery grown and inspected prior to planting. Plants not conforming to the American Standard for Nursery Stock specifications for size, form, vigor, or roots, or due to trunk wounds, breakage, desiccation, insect or disease must be replaced.
5. Planting stock must be protected from desiccation at all times prior to planting. Materials held for planting shall be moistened and placed in cool shaded areas until ready for placement.
6. Newly planted trees may require watering at least once per week during the first growing season depending on rainfall in order to get established. The initial planting operation should allow for watering during installation to completely soak backfill material.
7. Planting holes should be excavated to a minimum diameter of 2.5 to 3 times the diameter of the root ball or container. Mechanical angering is preferred with scarification of the sides of each hole.
8. Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of wood alcohol.
9. Use of "Repellex" ML2 systemic tablets/ foliar spray in accordance with manufacturers recommendations is necessary during and after plant installation.



- REFORESTATION AREA MONITORING NOTES
1. Monthly visits during the first growing season are to assess the success of the plantings and to determine if supplemental watering, pest control or other actions are necessary. Early spring visits will document winter kill and autumn visits will document summer kill.
 2. The minimum survival rate shall be 75% of the total number of trees planted per acre at the end of the two year maintenance period. Wild tree seedlings from natural regeneration on the planting site may be counted up to 50% toward the total survival number if they are healthy native species at least 12 inches tall.
 3. Survival will be determined by a stratified random sampling of the plantings. The species composition of the sample population should be proportionate to the amount of each species in the entire planting to be sampled.
 4. Effective monitoring will assess plant survivability during the first growing season and make recommendations for reinforcement plantings if required at that time.



FOR AFFORESTATION ON LOT 7 AND PARCEL F WOODFORDS GRANT I ONLY
VOGEL & ASSOCIATES
ENGINEERS SURVEYORS PLANNERS
3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
Tel. 410.461.8828 Fax. 410.465.3986

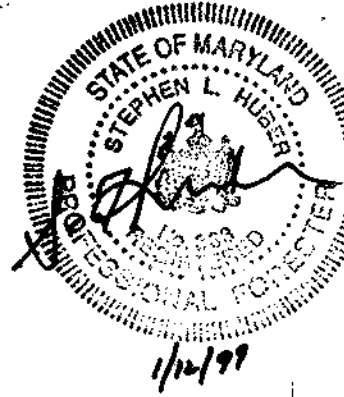
MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Field Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0236 Bait. (301) 621-5521 Wash. (410) 997-0238 Fax.

WOODFORDS GRANT III
LOTS 1-21 AND PRESERVATION PARCEL A
WOODFORDS GRANT
LOTS 1 THRU 30 AND PARCEL "A"
TAX MAP 10 - PARCELS 27, 29 & 151 - BLOCK 15 & 16
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
AFFORESTATION PLAN

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 1/29/97
DATE: 1/25/99
DATE: 1/25/99

Project	JAN 1998	date
Illustration	97003	SH
CFB	CFB	scale
1"=100'		approval

REVISION #1 - JUNE 1997	description	date
NO.	revisions	NO.



SHEET INDEX

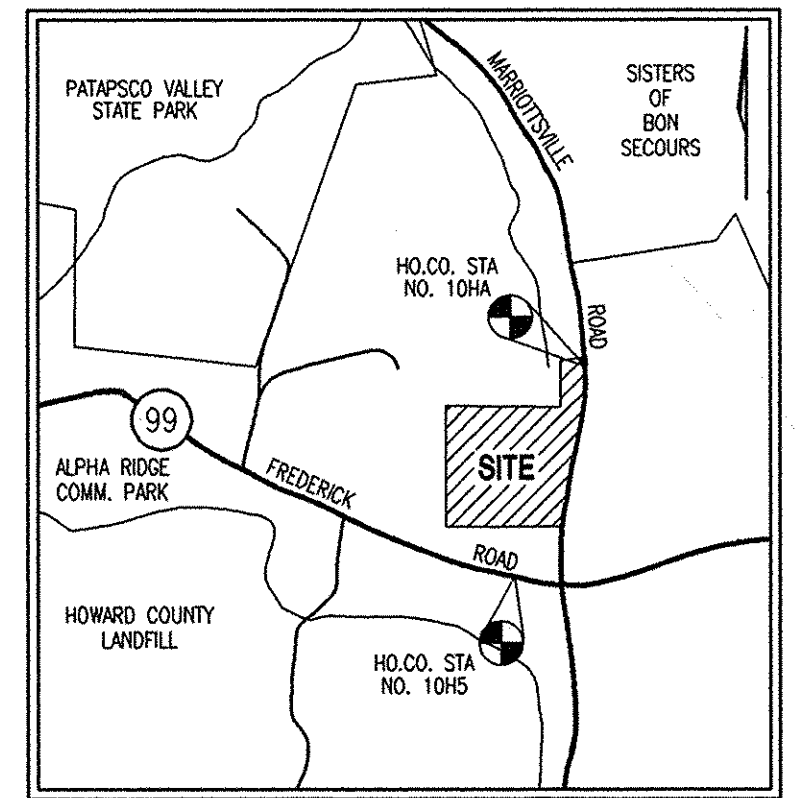
1	COVER SHEET
2	ROAD CONSTRUCTION PLAN
3	ROAD CONSTRUCTION PROFILE
4	GRADING AND SEDIMENT CONTROL PLAN
5	STORM DRAIN DRAINAGE AREA MAP AND SOILS MAP
6	STORM DRAIN PROFILES AND STORM WATER MANAGEMENT POND DETAILS
7	SEDIMENT CONTROL NOTES & DETAILS STORM WATER MANAGEMENT DETAILS
8	LANDSCAPE PLAN, NOTES AND DETAILS
9	FOREST CONSERVATION PLAN
10	AFFORESTATION PLAN

WOODFORDS GRANT III

LOTS 1 THRU 21 & PRESERVATION PARCEL 'A'

FINAL ROAD CONSTRUCTION PLANS

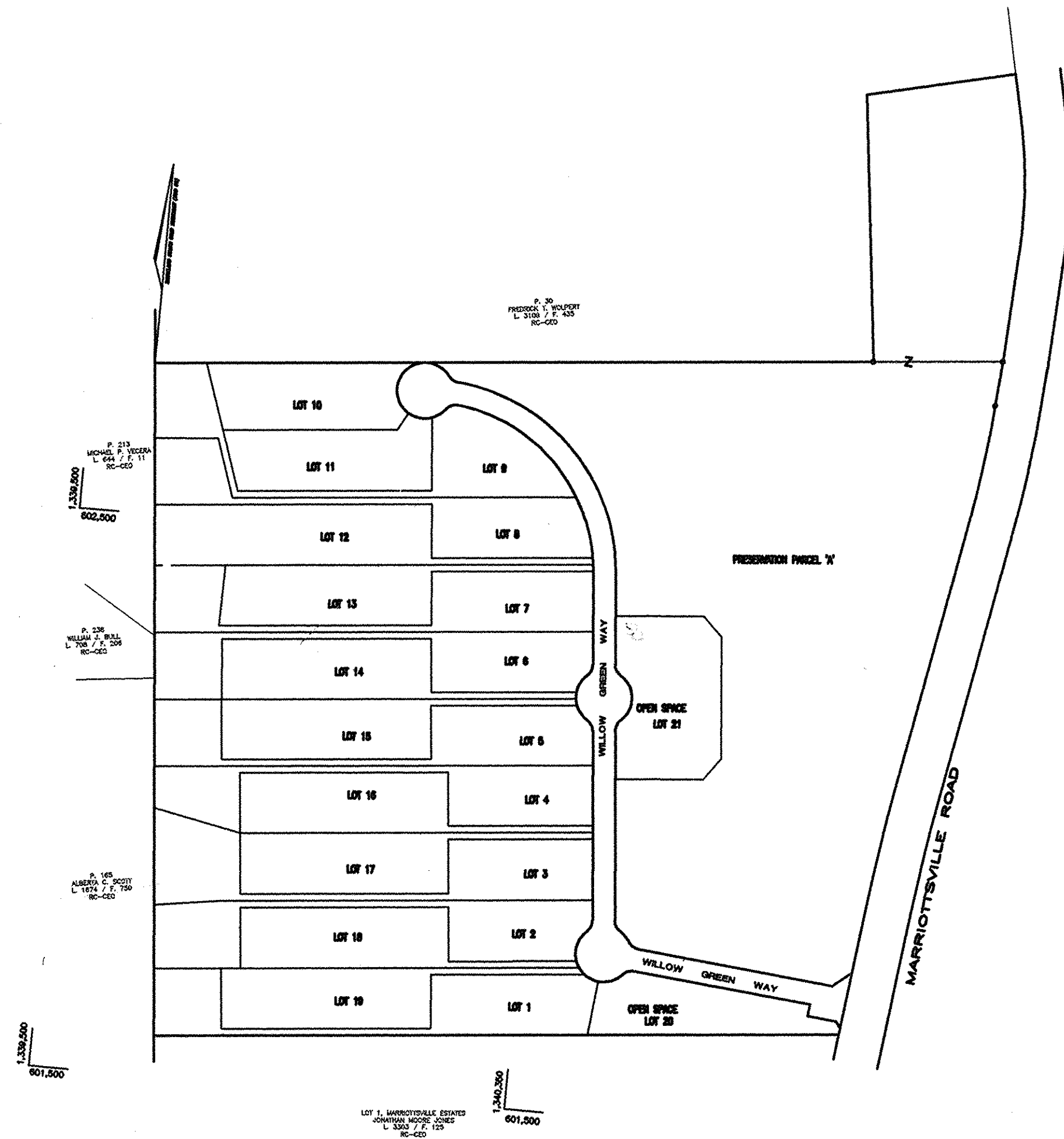
HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1" = 2000'

GENERAL NOTES

- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- PROJECT BACKGROUND
LOCATION: TAX MAP 10, 3RD ELECTION DISTRICT
ZONING: RC-CEO
TOTAL AREA: 40.63 ACRES
NUMBER OF PROPOSED LOTS: 19 BUILDABLE
2 OPEN SPACE
1 NON-BUILDABLE PRESERVATION PARCEL
- THE PROJECT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED BY MARKS AND VOGEL ASSOC. IN OCTOBER OF 1997.
- THE TOPOGRAPHY SHOWN HEREON IS BASED ON AERIAL PHOTOGRAMETRIC SURVEY AT 2 FEET CONTOUR INTERVAL PERFORMED BY POTOMAC AERIAL SURVEYS ON OCTOBER, 1997.
- COORDINATE DATUM IS BASED ON THE MARYLAND COORDINATE SYSTEM (MAD 83) AS PROJECTED BY THE FOLLOWING HO.CO. GEODETIC CONTROL STATIONS:
10H5 N:601,201.871, E:1,339,637.669
10H4 N:601,206.654, E:1,340,912.336
- WATER FOR THIS PROJECT WILL BE PUBLIC (EX. 12" WATER ALONG RTE 99 CONTRACT NO. 44-3480-D).
- EXISTING WATER LINE LOCATION ALONG RTE 99 IS BASED ON COUNTY DRAWINGS.
- STORMWATER MANAGEMENT (2 YR. AND 10 YR) TO BE PROVIDED FOR THE PROPOSED ROAD ONLY. WATER QUALITY TO BE PROVIDED BY EXTENDED DETENTION OF THE 1 YR. STORM. POND HAZARD CLASSIFICATION 'A'. THE FACILITY WILL BE PRIVATELY OWNED AND JOINTLY MAINTAINED.
- THE LOCATION OF THE WETLANDS, AND WATERS OF THE U.S. ARE PROVIDED BY EXPLORATION RESEARCH, INC.
- THE FLOODPLAIN SHOWN HEREON IS BASED ON A STUDY BY MARKS & VOGEL ASSOCIATES, INC.
- FOREST STAND DELINEATION PLAN PREPARED BY EXPLORATION RESEARCH, INC.
- APFO TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP, INC. APPROVED ON SEPT 11, 1997.
- THERE ARE NO STEEP SLOPES ON SITE THAT ARE CONTIGUOUS TO 20,000 sq.ft.
- A NOISE STUDY IS NOT REQUIRED FOR THIS SITE.
- ALL LANDSCAPING REQUIREMENTS AS SET FORTH IN THE LANDSCAPE MANUAL SHALL BE COMPLIED WITH.
- MARRIOTTSVILLE ROAD IS A SCENIC ROAD.
- THE PURPOSE OF PRESERVATION PARCEL 'A' IS TO PRESERVE PASTURES AND EXISTING ENVIRONMENTALLY SENSITIVE AREAS.
- NO DISTURBANCE SHALL OCCUR WITHIN THE WETLANDS, THE WATERS OF THE U.S., 100 YEAR FLOODPLAIN OR THE RESPECTIVE BUFFERS, EXCEPT AS SHOWN FOR THE NECESSARY ROAD CROSSING. ALL STATE AND FEDERAL PERMITS SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL/CEMETERY LOCATIONS ON SITE.
- PRIVATE SEWERAGE EASEMENTS OF 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL ARE SHOWN ON THIS PLAN. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS INTO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
- OPEN SPACE LOTS 20 AND 21 TO BE DEDICATED TO THE HOMEOWNERS ASSOCIATION.
- NON-BUILDABLE PARCEL A TO BE PRIVATELY OWNED.
- MDE JOINT PERMIT TRACKING NUMBER 199862822



PLAN

SCALE: 1" = 200'

OWNER/DEVELOPER

WOODFORDS EAST, LLC
10805 HICKORY RIDGE ROAD, SUITE 215
COLUMBIA, MD. 21044
TEL. NO. (410)740-2100

NO.	REVISION	DATE

WOODFORDS GRANT III
LOTS 1-21 AND PRESERVATION PARCEL A
A RESUBDIVISION OF MARRIOTTSVILLE ESTATES, LOTS 2-4
AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II
COVER SHEET
REF: PLAT NO. 4131, VP 78-76, S-98-04, P-98-25
TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND



3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
Tel 410.461.5828 Fax 410.465.3866

	DESIGN BY: J.C.O.	1 SHEET OF 10
	DRAWN BY: J.E.R.	
	CHECKED BY: R.H.V.	
	DATE: SEPTEMBER, 1998	
	SCALE: AS SHOWN	
W.O. NO.: 97-47		

TRAFFIC SIGN SCHEDULE

MUTCD TYPE	DESCRIPTION	LOCATION
R1-1	'STOP' SIGN 30" X 30" OCTAGON	SW CORNER OF WILLOW GREEN WAY & MARRIOTTSVILLE ROAD
R2-1	'SPEED LIMIT 25 MPH' SIGN 24" X 30" RECTANGLE	STA. 1+50 ADJ. TO WESTBOUND WILLOW GREEN WAY STA. 8+15 ADJ. TO SOUTHBOUND WILLOW GREEN WAY
W3-1a	'STOP AHEAD' SIGN (DIAGRAMMATIC) 36" X 36" DIAMOND	STA. 1+50 ADJ. TO EASTBOUND WILLOW GREEN WAY
R4-7	'KEEP RIGHT' SIGN 24" X 30" RECTANGLE	STA. 12+90 ON WILLOW GREEN WAY MEDIAN, NORTHBOUND STA. 13+14 ON WILLOW GREEN WAY MEDIAN, SOUTHBOUND

SEE SHEET 2 OF 10 FOR ROUNDABOUT SIGN TYPE AND LOCATIONS.

STREET LIGHT LOCATION

CENTERLINE STATION	CENTERLINE OFFSET
0+38	23' R
4+79	20' R
9+36	20' R
12+95	0
16+45	0

NOTE:
A MIN. SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
ALL STREET LIGHTS TO BE 100-WATT TRADITIONAIRE HPS VAPOR POST TOP FIXTURE ON A 14' BLACK FIBERGLASS POLE.

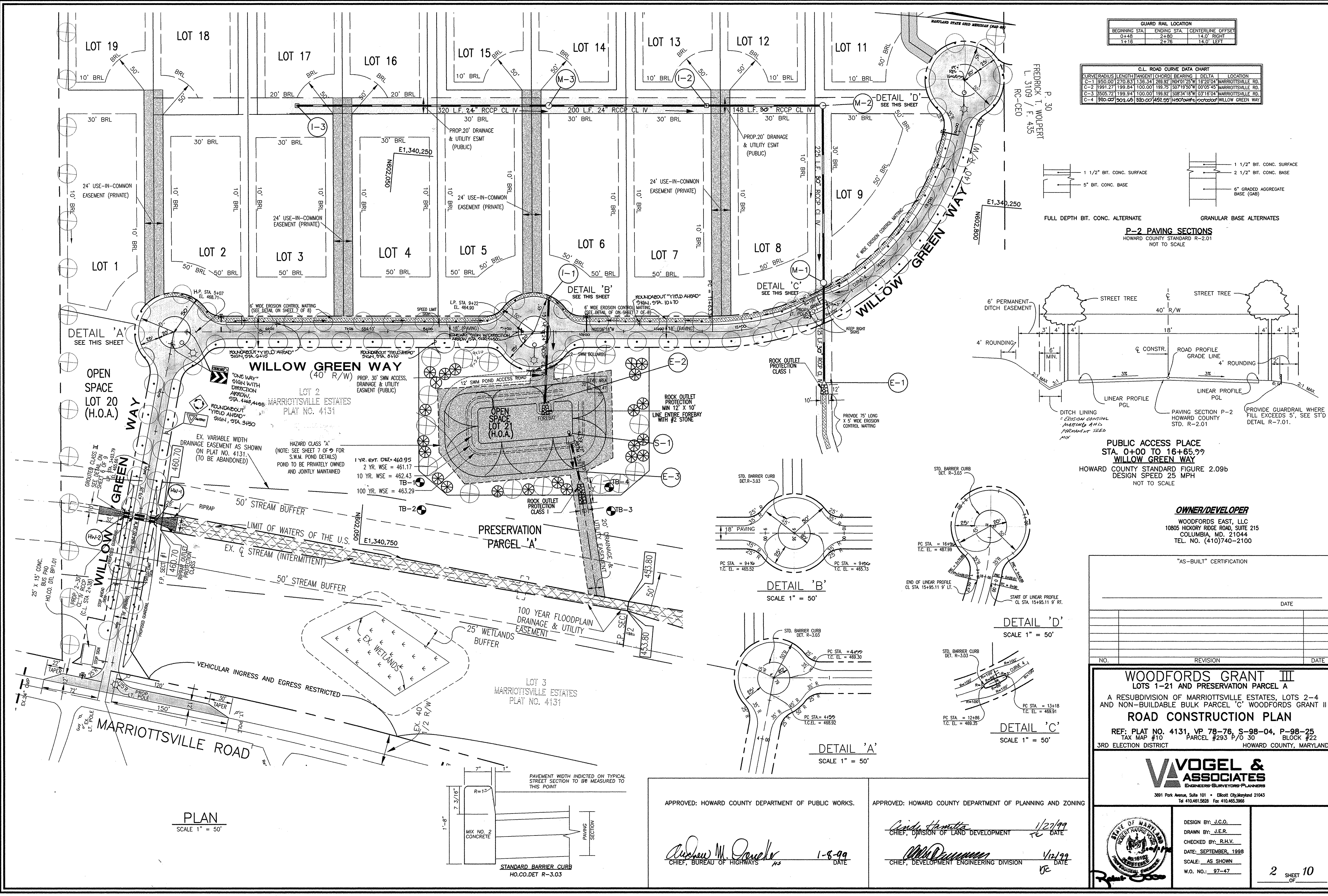
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Daniels 1-8-99
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

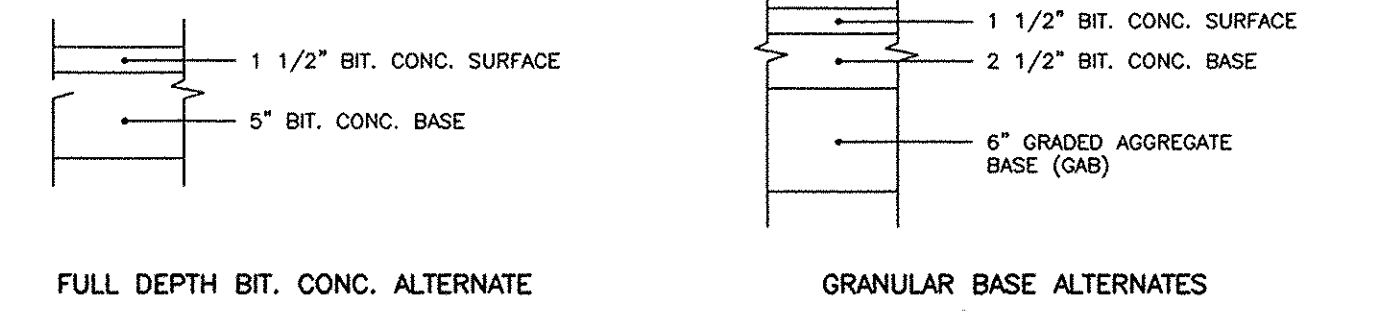
Cindy Hanotta 1/27/99
CHIEF, DIVISION OF LAND DEVELOPMENT

William J. ... 1/2/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION

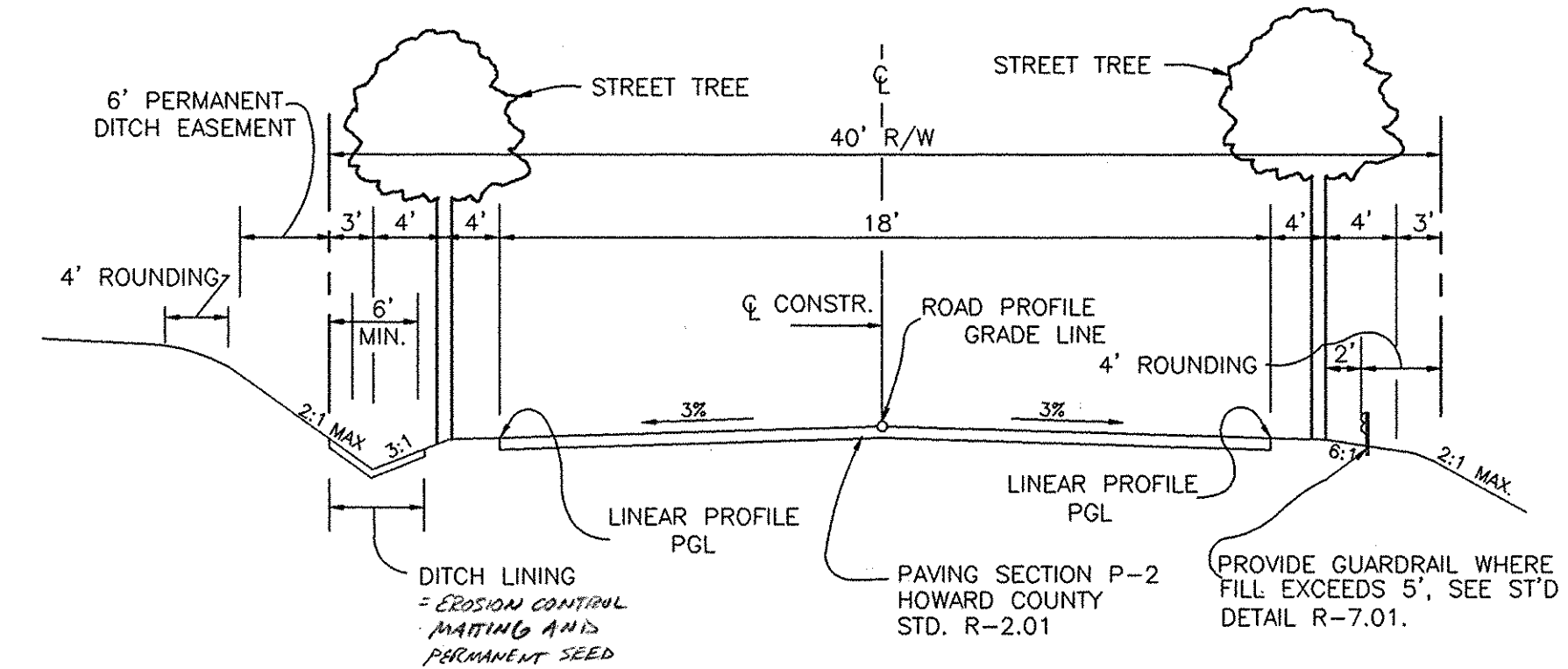


GUARD RAIL LOCATION		
BEGINNING STA.	ENDING STA.	CENTERLINE OFFSET
0+48	2+80	14.0' RIGHT
1+16	2+76	14.0' LEFT

C.L. ROAD CURVE DATA CHART							
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA	LOCATION
C-1	950.00'	270.83'	136.34'	269.92'	N04°01'25"W	167°04'	MARRIOTTVILLE RD.
C-2	1991.27'	1199.84'	100.00'	199.78'	S07°19'50"W	070°05'45"	MARRIOTTVILLE RD.
C-3	3505.72'	198.94'	100.00'	198.92'	S58°34'18"W	03°18'04"	MARRIOTTVILLE RD.
C-4	920.00'	302.68'	330.00'	459.59'	N45°02'00"W	102°02'00"	WILLOW GREEN WAY



P-2 PAVING SECTIONS
HOWARD COUNTY STANDARD R-2.01
NOT TO SCALE



PUBLIC ACCESS PLACE
STA. 0+00 TO 16+65.99
WILLOW GREEN WAY
HOWARD COUNTY STANDARD FIGURE 2.09b
DESIGN SPEED 25 MPH
NOT TO SCALE

OWNER/DEVELOPER
WOODFORDS EAST, LLC
10805 HICKORY RIDGE ROAD, SUITE 215
COLUMBIA, MD. 21044
TEL. NO. (410)740-2100

"AS-BUILT" CERTIFICATION		
DATE		
NO.	REVISION	DATE

WOODFORDS GRANT III
LOTS 1-21 AND PRESERVATION PARCEL A
A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4
AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II
ROAD CONSTRUCTION PLAN
REF: PLAT NO. 4131, VP 78-76, S-98-04, P-98-25
TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
ENGINEERS-SURVEYORS-PLANNERS
3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
Tel 410.461.5628 Fax 410.465.3966

DESIGN BY: J.C.O.
DRAWN BY: J.E.R.
CHECKED BY: R.H.V.
DATE: SEPTEMBER, 1998
SCALE: AS SHOWN
W.O. NO.: 97-47

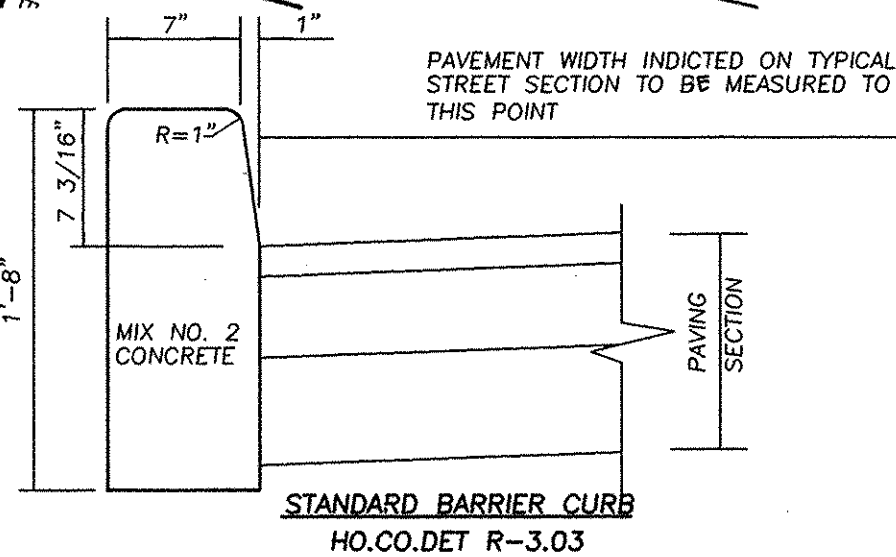


APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Senko
CHIEF, BUREAU OF HIGHWAYS
1-8-99
DATE

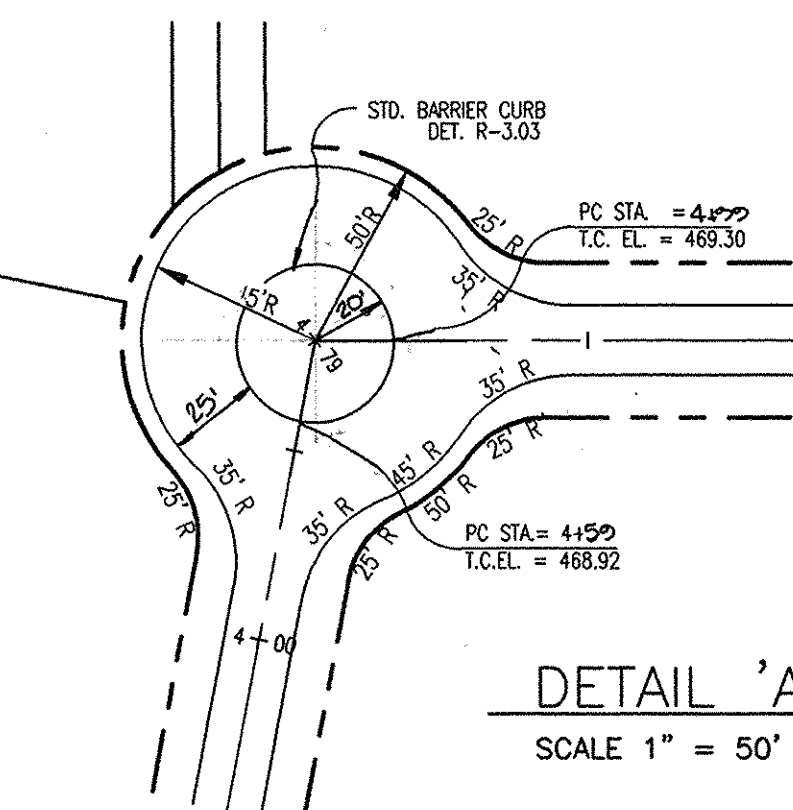
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Cindy Hamlett
CHIEF, DIVISION OF LAND DEVELOPMENT
1/21/99
DATE
William D. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
1/21/99
DATE



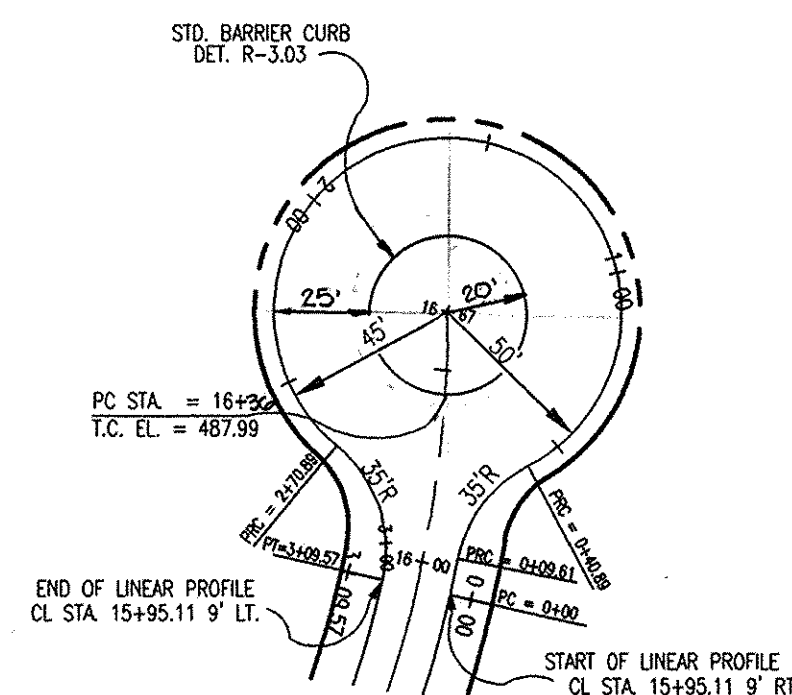
PLAN
SCALE 1" = 50'

DETAIL 'B'
SCALE 1" = 50'

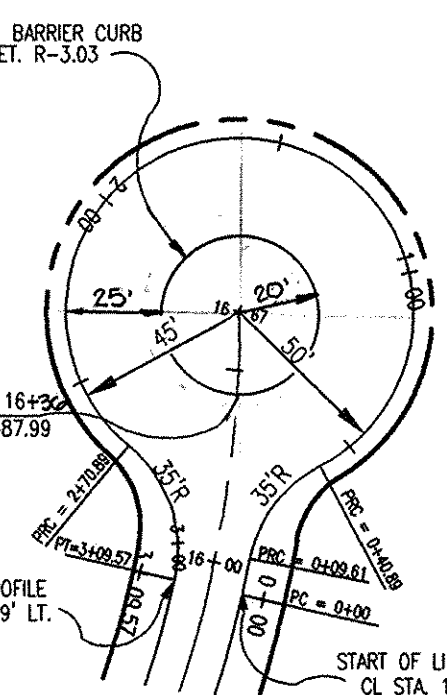


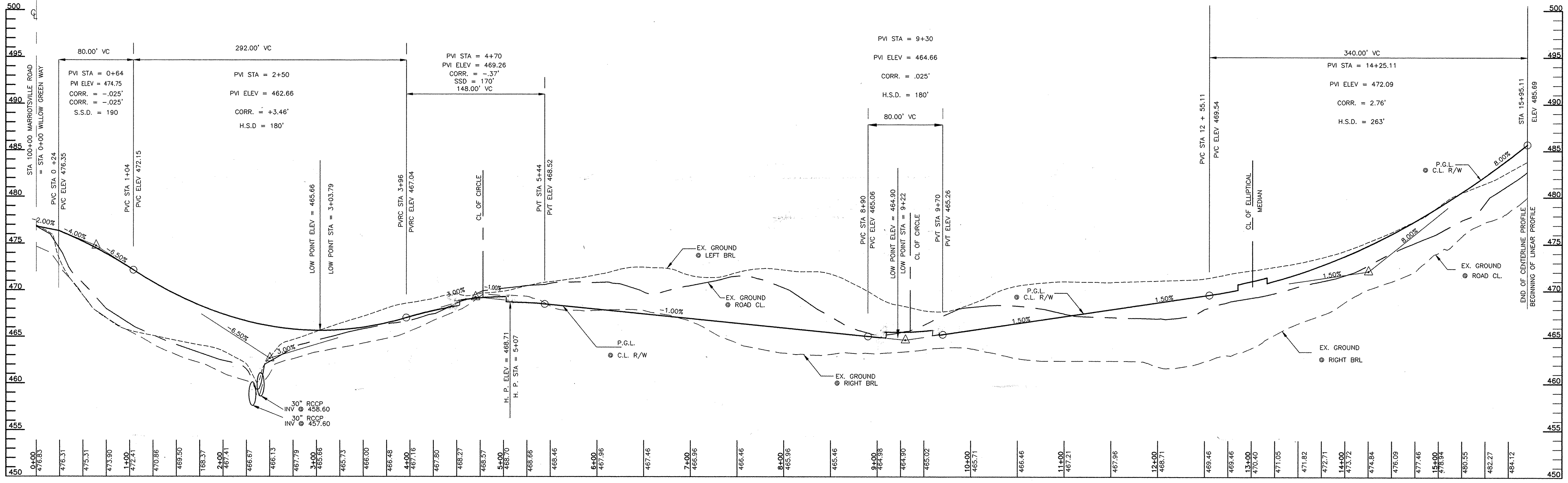
DETAIL 'A'
SCALE 1" = 50'

DETAIL 'D'
SCALE 1" = 50'



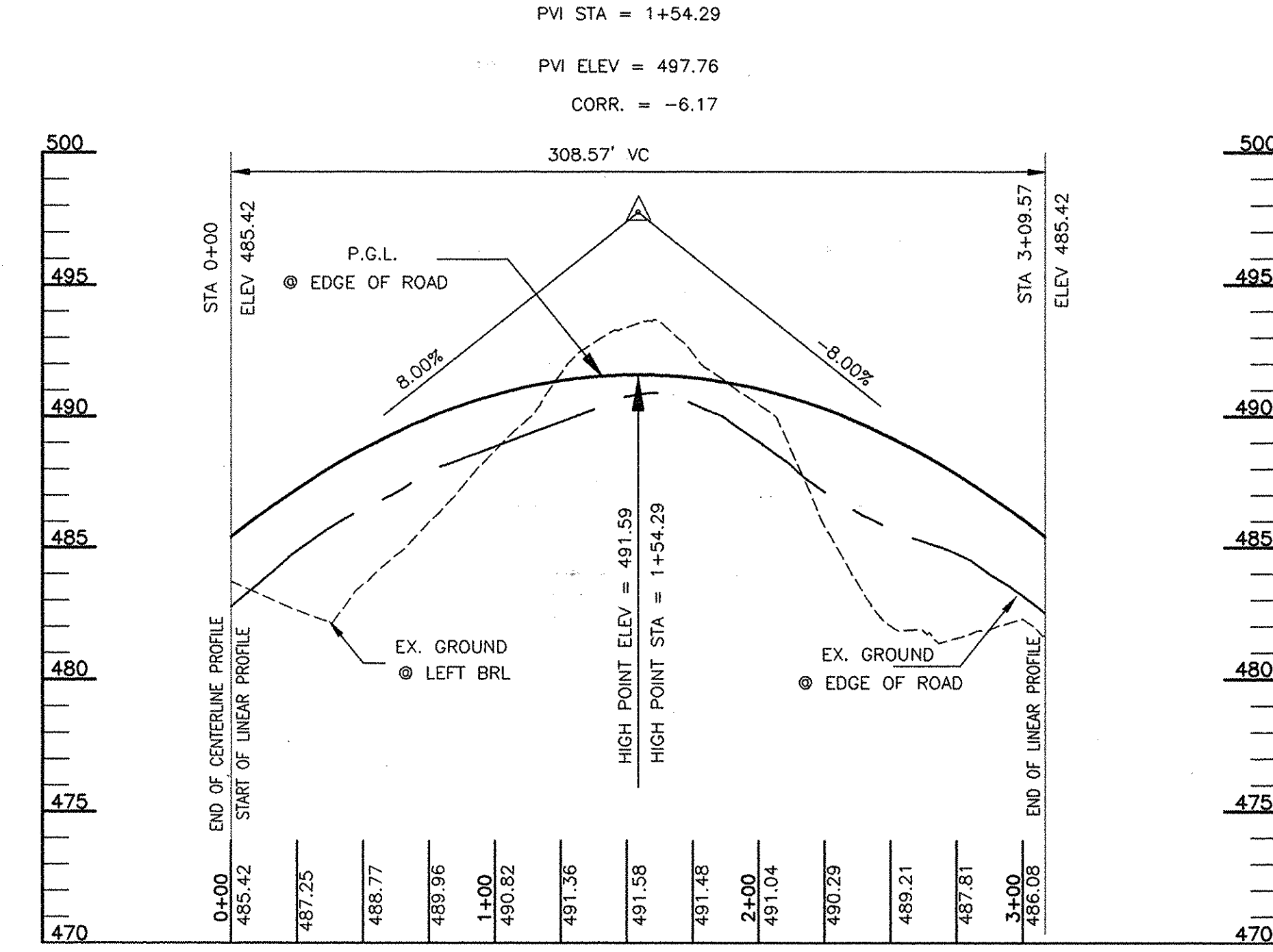
DETAIL 'C'
SCALE 1" = 50'





**WILLOW GREEN WAY
PUBLIC ACCESS PLACE
PROFILE**

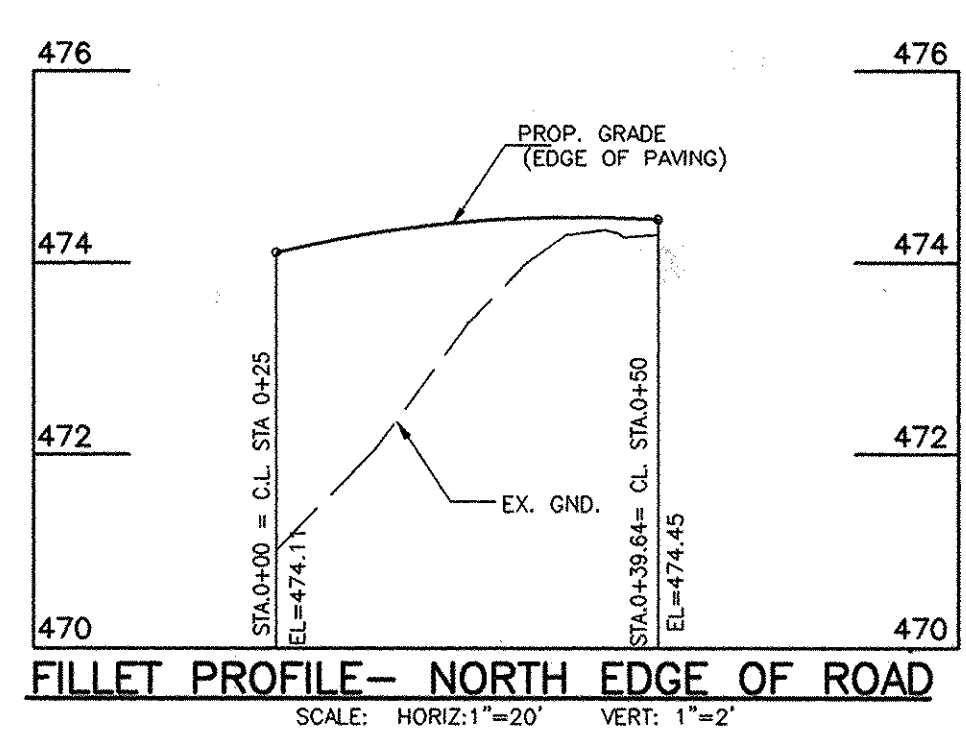
DESIGN SPEED 25 MPH
SCALE: 1" = 50' (HOR.)
1" = 5' (VERT.)



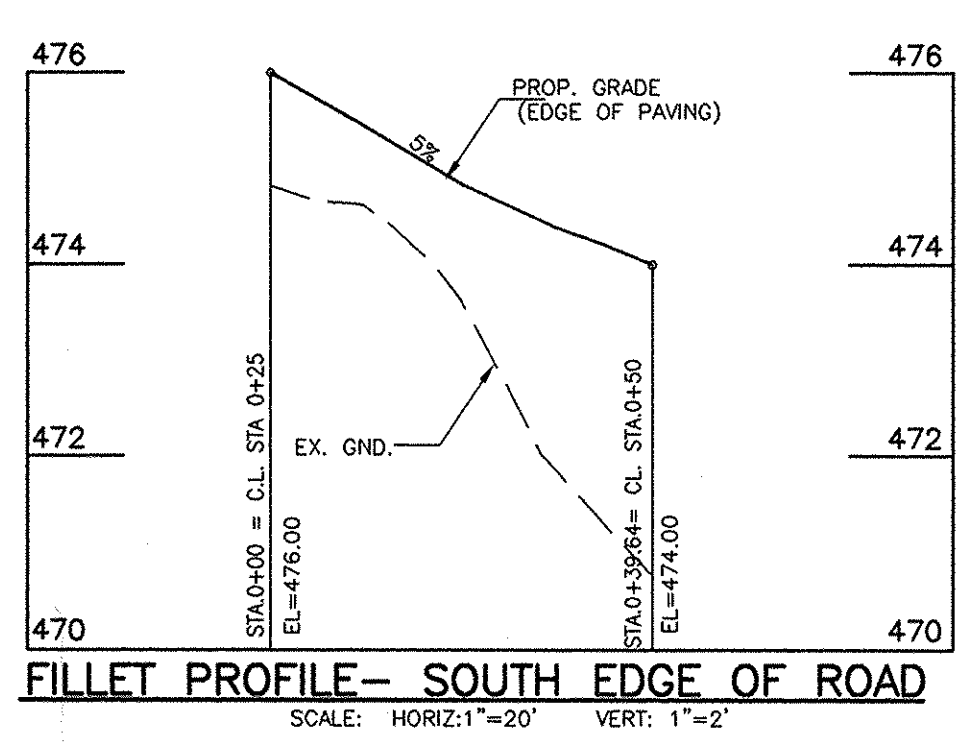
**WILLOW GREEN WAY
PUBLIC ACCESS PLACE
LINEAR PROFILE**

DESIGN SPEED 25 MPH
SCALE: 1" = 50' (HOR.)
1" = 5' (VERT.)

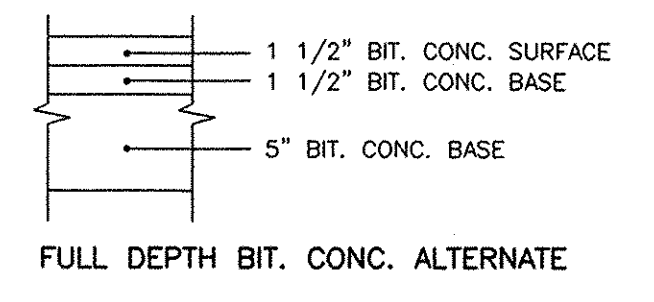
OWNER/DEVELOPER
WOODFORDS EAST, LLC
10805 HICKORY RIDGE ROAD, SUITE 215
COLUMBIA, MD. 21044
TEL. NO. (410)740-2100



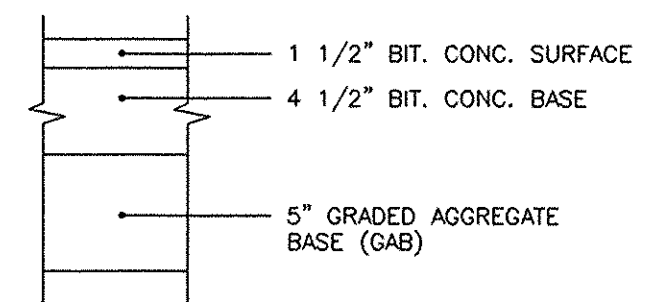
FILLET PROFILE - NORTH EDGE OF ROAD
SCALE: HORIZ: 1"=20' VERT: 1"=2'



FILLET PROFILE - SOUTH EDGE OF ROAD
SCALE: HORIZ: 1"=20' VERT: 1"=2'

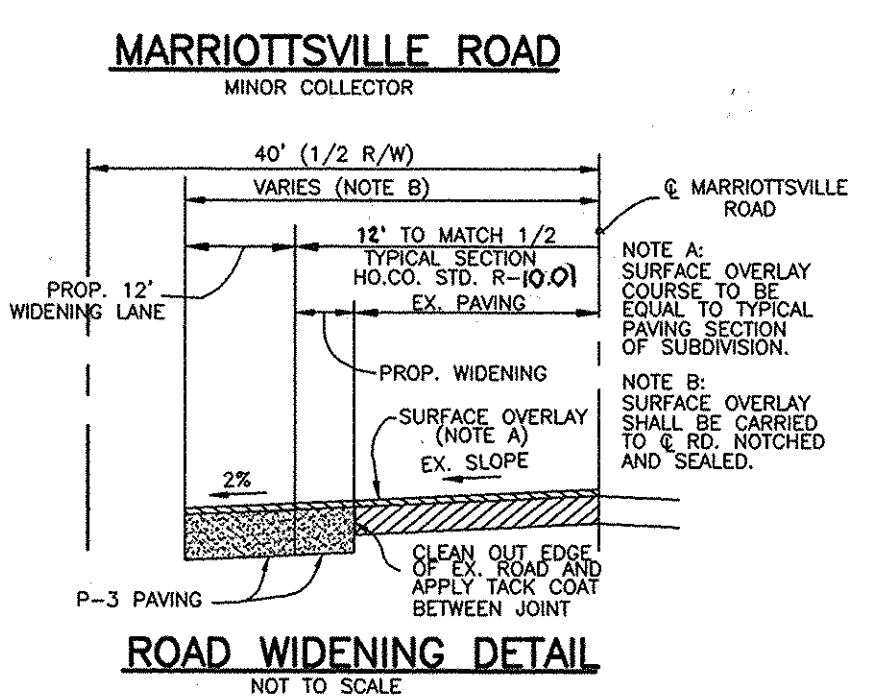


FULL DEPTH BIT. CONC. ALTERNATE



**GRANULAR BASE ALTERNATES
MARIOTTVILLE ROAD**

**P-3 PAVING SECTION
NOT TO SCALE**



**ROAD WIDENING DETAIL
NOT TO SCALE**

WOODFORDS GRANT III
LOTS 1-21 AND PRESERVATION PARCEL A
A RESUBDIVISION OF MARIOTTVILLE ESTATES, LOTS 2-4
AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II
ROAD CONSTRUCTION PROFILE
REF: PLAT NO. 4131, VP 78-76, S-98-04, P-98-25
TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
ENGINEERS/SURVEYORS/PLANNERS
3891 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
Tel 410.461.8228 Fax 410.465.3966



DESIGN BY: J.C.O.
DRAWN BY: J.E.R.
CHECKED BY: R.H.V.
DATE: SEPTEMBER, 1998
SCALE: AS SHOWN
W.O. NO.: 97-47

"AS-BUILT" CERTIFICATION		
NO.	REVISION	DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Robert M. Demele 1-9-99
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Cindy Hamlett 1/23/99
CHIEF, DIVISION OF LAND DEVELOPMENT
Michael D. ... 1/12/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION

OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT DETENTION FACILITY

ROUTINE MAINTENANCE

1. FACILITY WILL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERE WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (WD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

LEGEND

- EX. 10' CONTOUR
- EX. 2' CONTOUR
- PROP. SHADE TREES
- PROP. EVERGREEN TREES
- PROP. STREET TREES
- EX. FENCE
- SWM BORING LOCATIONS
- LOD - LIMIT OF DISTURBANCE
- EARTH DIKE
- SILT FENCE
- PROP. 10' CONTOUR
- PROP. 2' CONTOUR
- FLOODPLAIN
- FOREST CONSERVATION EASEMENT
- SOIL EROSION MATTING
- STABILIZED CONSTRUCTION ENTRANCE

OWNER/DEVELOPER
 WOODFORDS EAST, LLC
 10805 HICKORY RIDGE ROAD, SUITE 215
 COLUMBIA, MD, 21044
 TEL. NO. (410)740-2100

"AS-BUILT" CERTIFICATION
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS APPROVED PLANS AND SPECIFICATIONS.

ROBERT H. VOGEL, P.E. NO. 16193 DATE
 CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

NO.	REVISION	DATE

WOODFORDS GRANT III
 LOTS 1-21 AND PRESERVATION PARCEL A
 A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4
 AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II

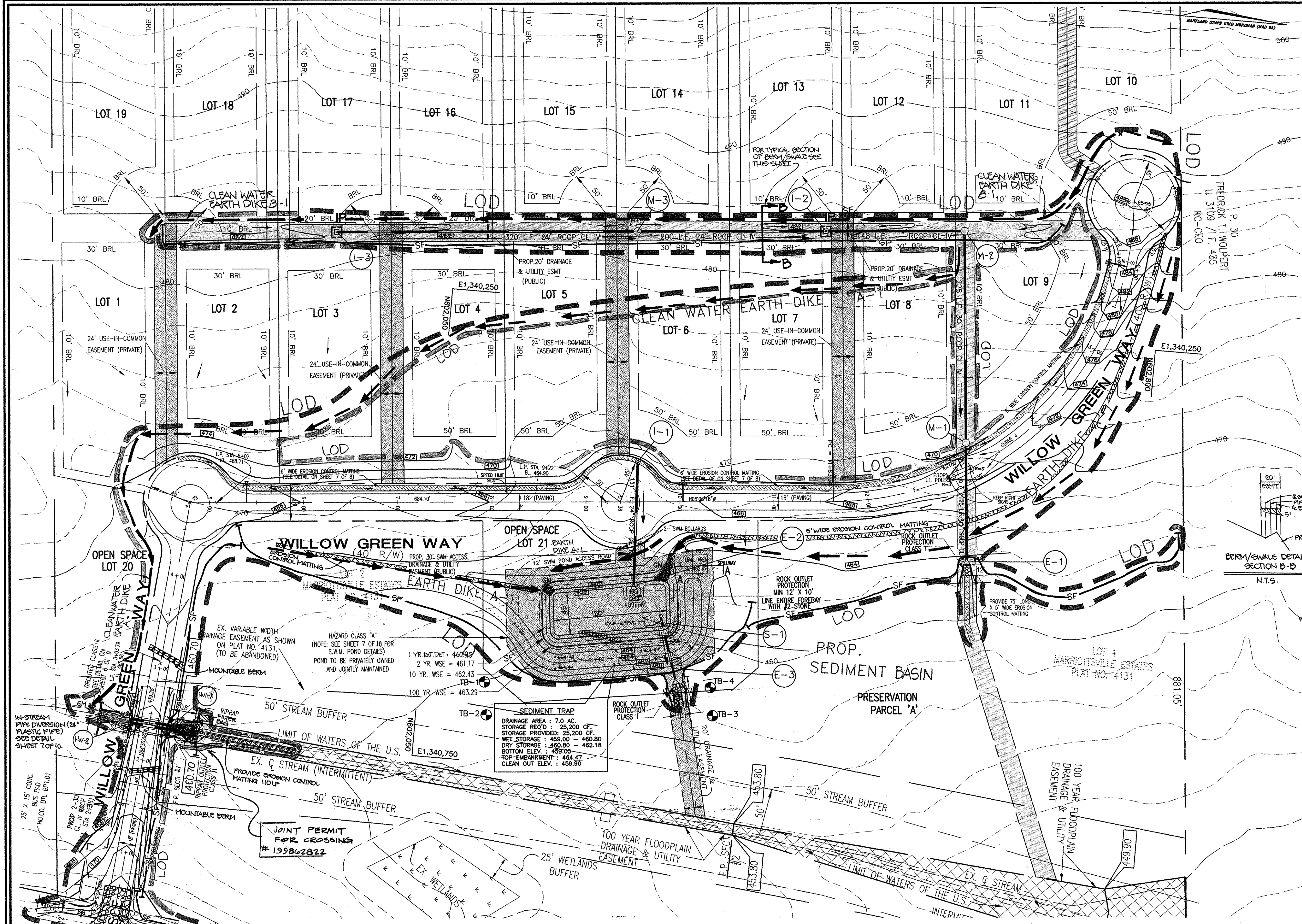
GRADING & SEDIMENT CONTROL PLAN

REF: PLAT NO. 4131, VP 78-76, S-98-04, P-98-25
 TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
 ENGINEERS/SURVEYORS/PLANNERS
 3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
 Tel 410.461.5828 Fax 410.465.3996

DESIGN BY: J.C.O.
 DRAWN BY: J.E.R.
 CHECKED BY: R.H.V.
 DATE: SEPTEMBER, 1998
 SCALE: 1" = 50'
 W.O. NO.: 97-47

4 SHEET OF 10



ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Signature: Robert H. Vogel
 DATE: 10/1/98

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Signature: Michael Pfeiffer
 DATE: 11/25/98

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Signature: Cheryl Smith
 DATE: 1/5/98

Signature: Jeffery...
 DATE: 1/5/98

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Signature: Andrew M. P...
 DATE: 1-9-99

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature: Guido Hamilton
 DATE: 1/27/99

Signature: ...
 DATE: 1/2/99

MARRIOTTVILLE ROAD

25' x 15' CONC. BUS PAD, 10" CO. DIL BR/LOT

IN-STREAM PIPE DIVERSION (24" PLASTIC PIPE) SEE DETAIL SHEET TOP 10.

PROVIDE EROSION CONTROL MATTING 110' W

EX. Q. STREAM (INTERMITTENT)

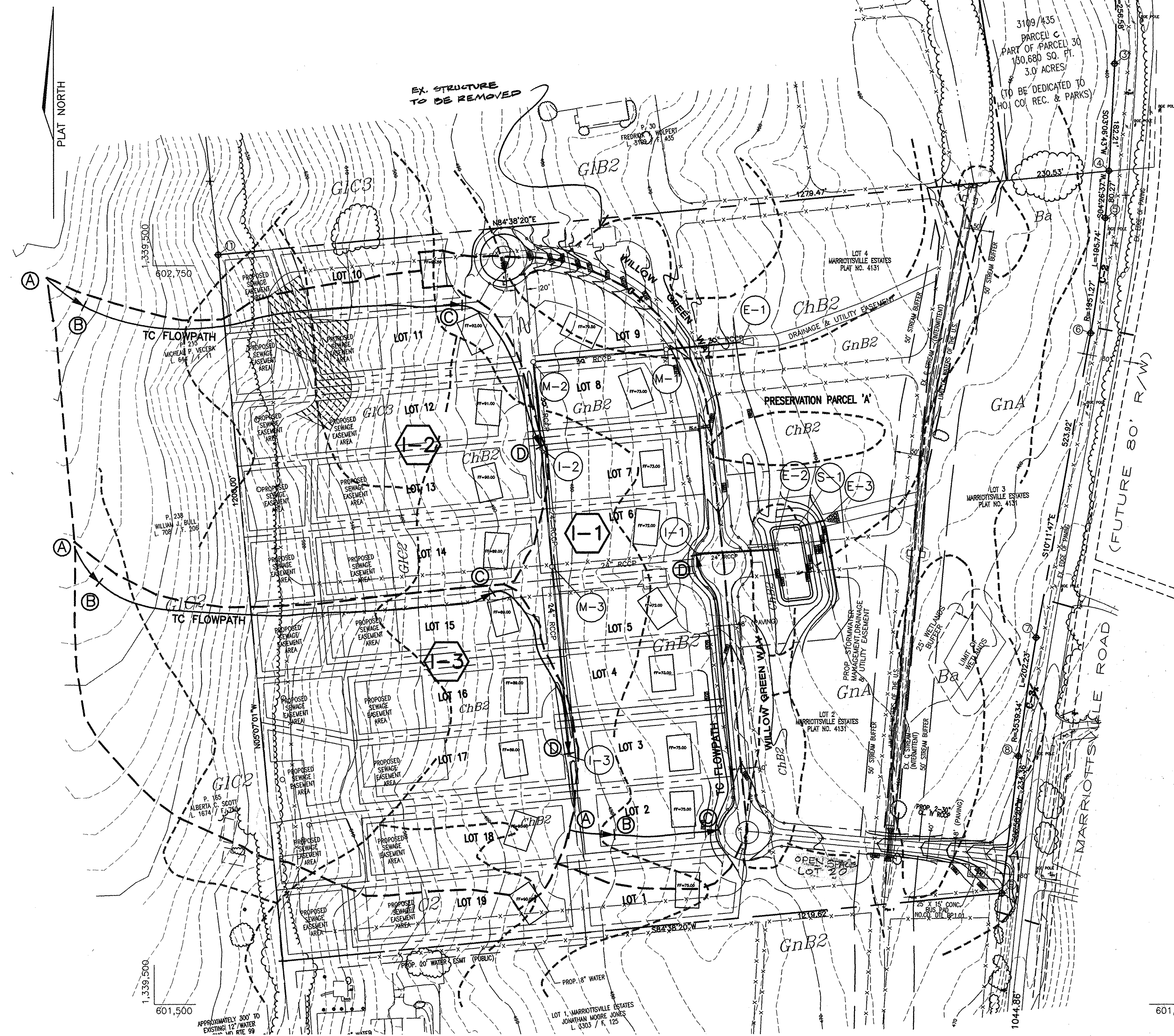
100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT

DRAINAGE AREA TABULATIONS					
NO.	AREA	'C'	% IMP.	SOIL TYPE	ZONE
I-1	7.30 AC.	0.31	16%	C&B	RR
I-2	9.67 AC.	0.22	3%	B	RR
I-3	9.00 AC.	0.23	4%	B	RR

* DRAINAGE AREAS ARE BASED ON ULTIMATE LOT GRADING

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	TYPE
*Ba	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	D
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
GnA	GLENVILLE SILT LOAM, 0 TO 3 PERCENT SLOPES, MODERATELY ERODED	C
ChB2	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
ChC2	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B
G1B2	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
G1C2	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
G1C3	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B

NOTE:
 * DESIGNATED AS A SOIL CONTAINING HYDRIC CONDITIONS.
 - HOWARD SOIL SURVEY, MAP NUMBER 9



LEGEND	
	EX. 10' CONTOUR
	EX. 2' CONTOUR
	EX. FENCE
	SOILS DIVIDE
	EX. TREELINE
	15% - 24.9% STEEP SLOPES
	SEPTIC EASEMENT

OWNER/DEVELOPER
 WOODFORDS EAST, LLC
 10805 HICKORY RIDGE ROAD, SUITE 215
 COLUMBIA, MD. 21044
 TEL. NO. (410)740-2100

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Amels
 CHIEF, BUREAU OF HIGHWAYS
 1-8-99 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

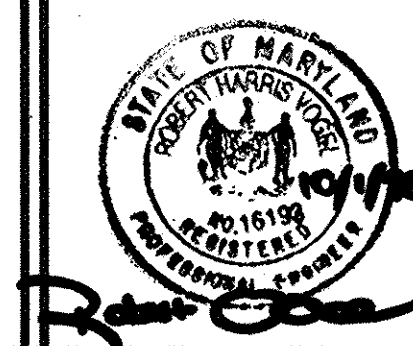
Cindy Hamilton
 CHIEF, DIVISION OF LAND DEVELOPMENT
 1/27/99 DATE

John D. Williams
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 1/12/99 DATE

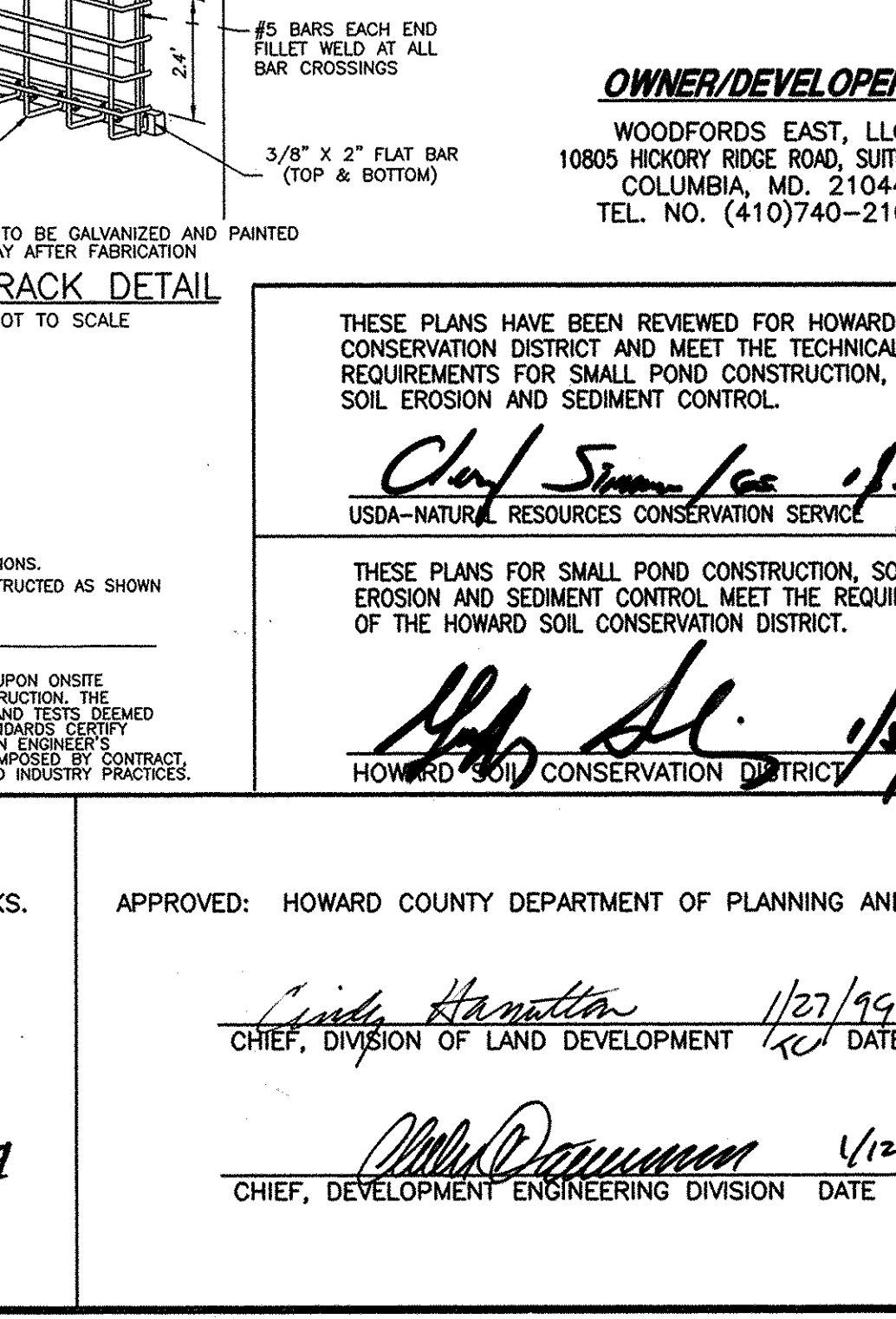
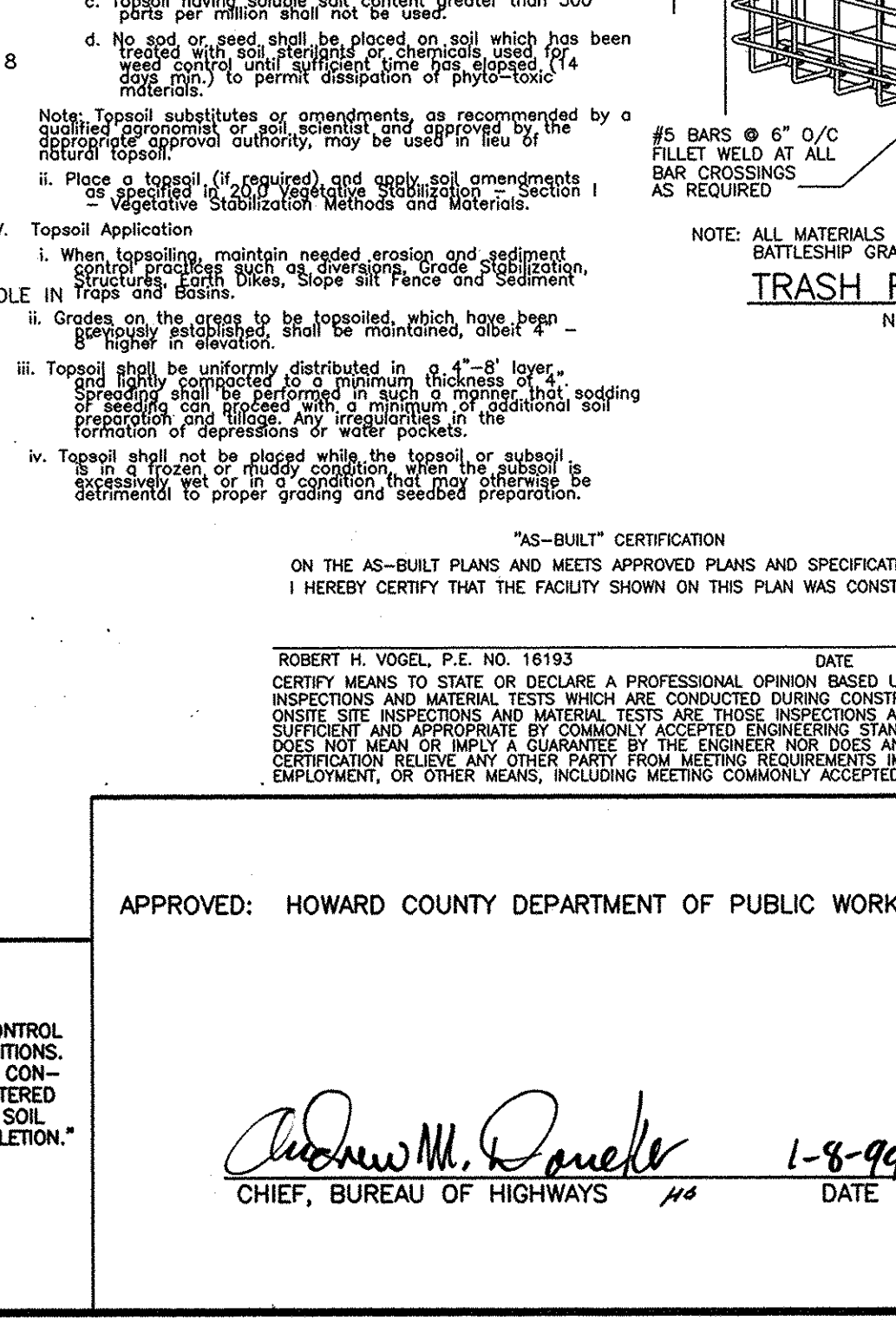
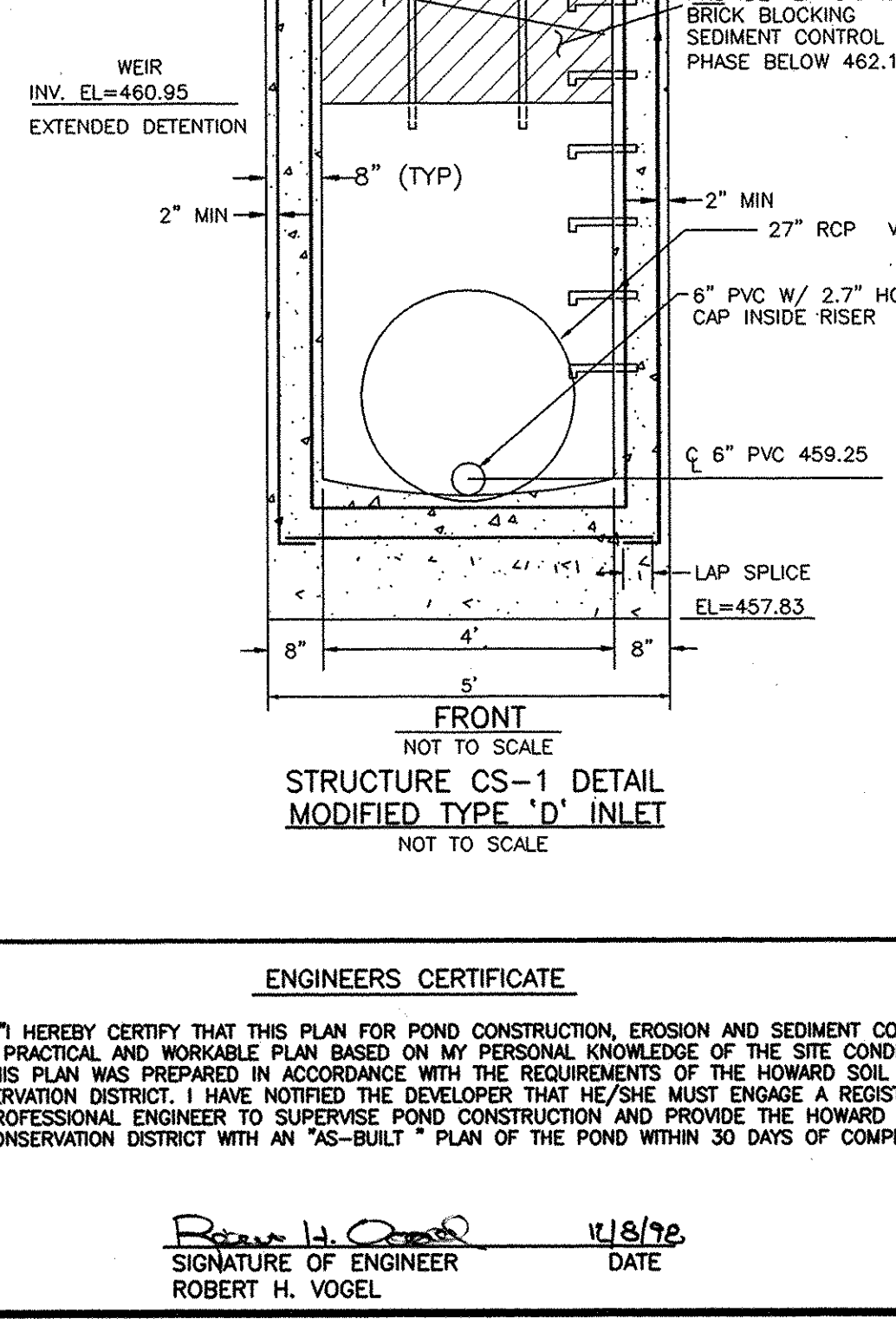
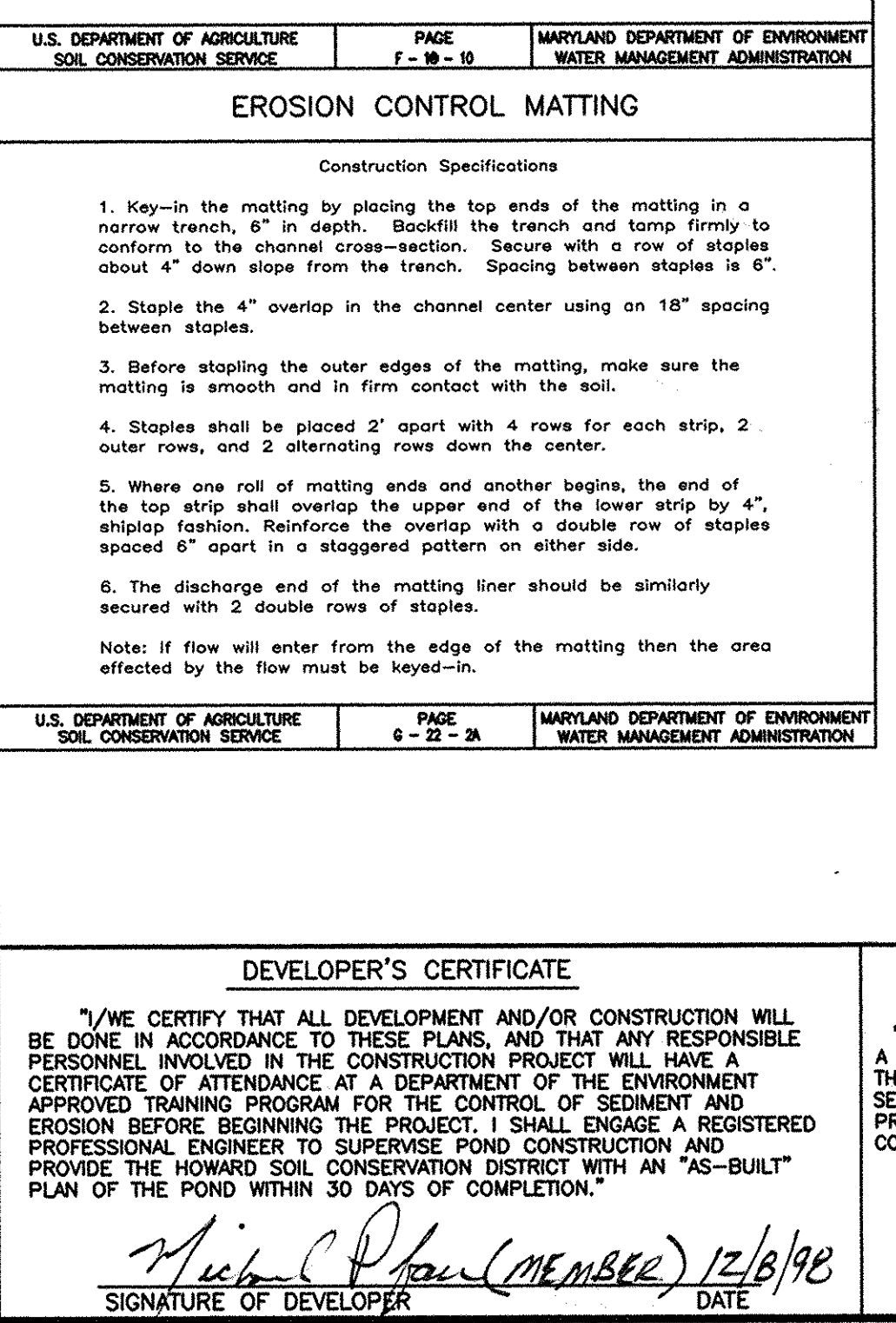
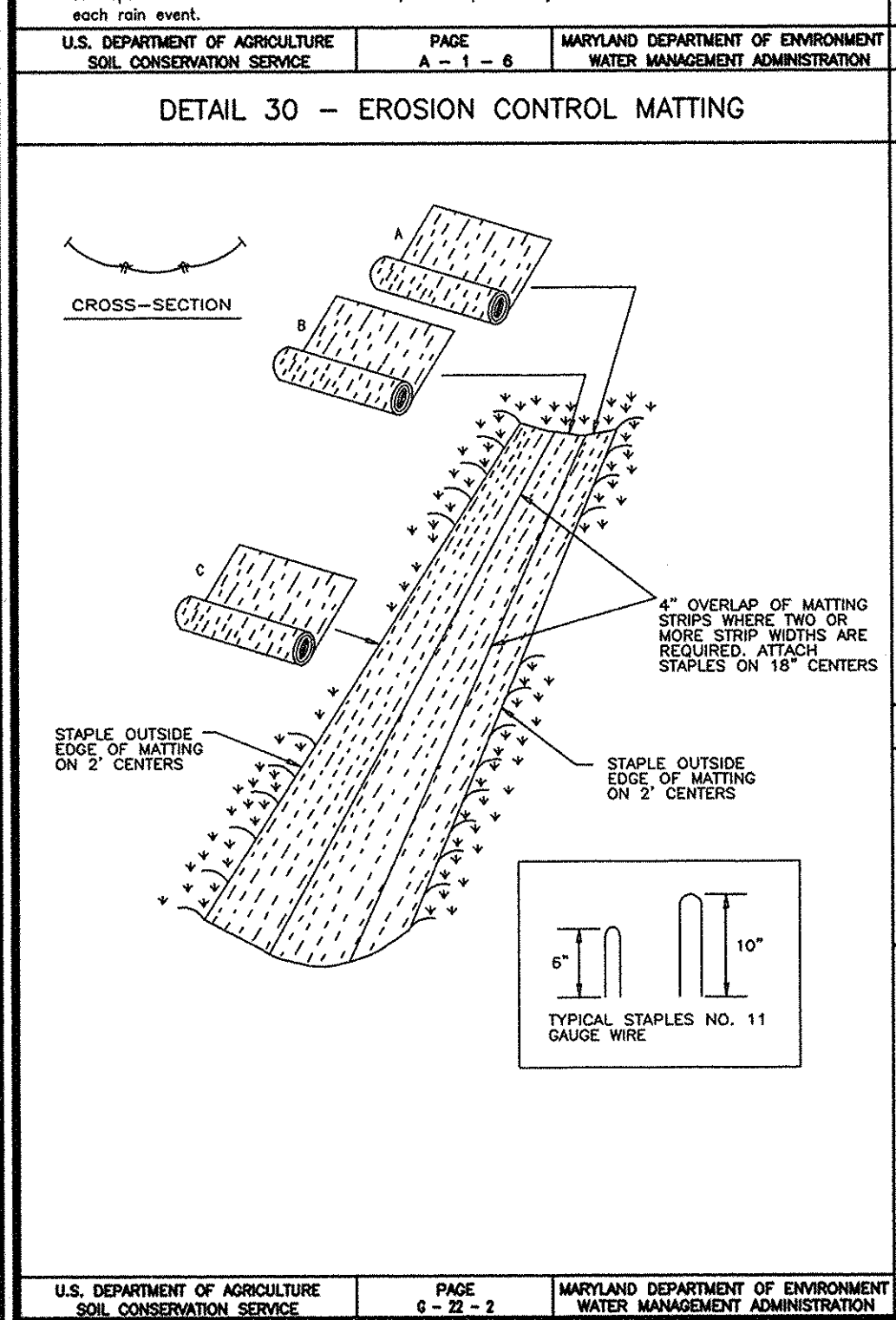
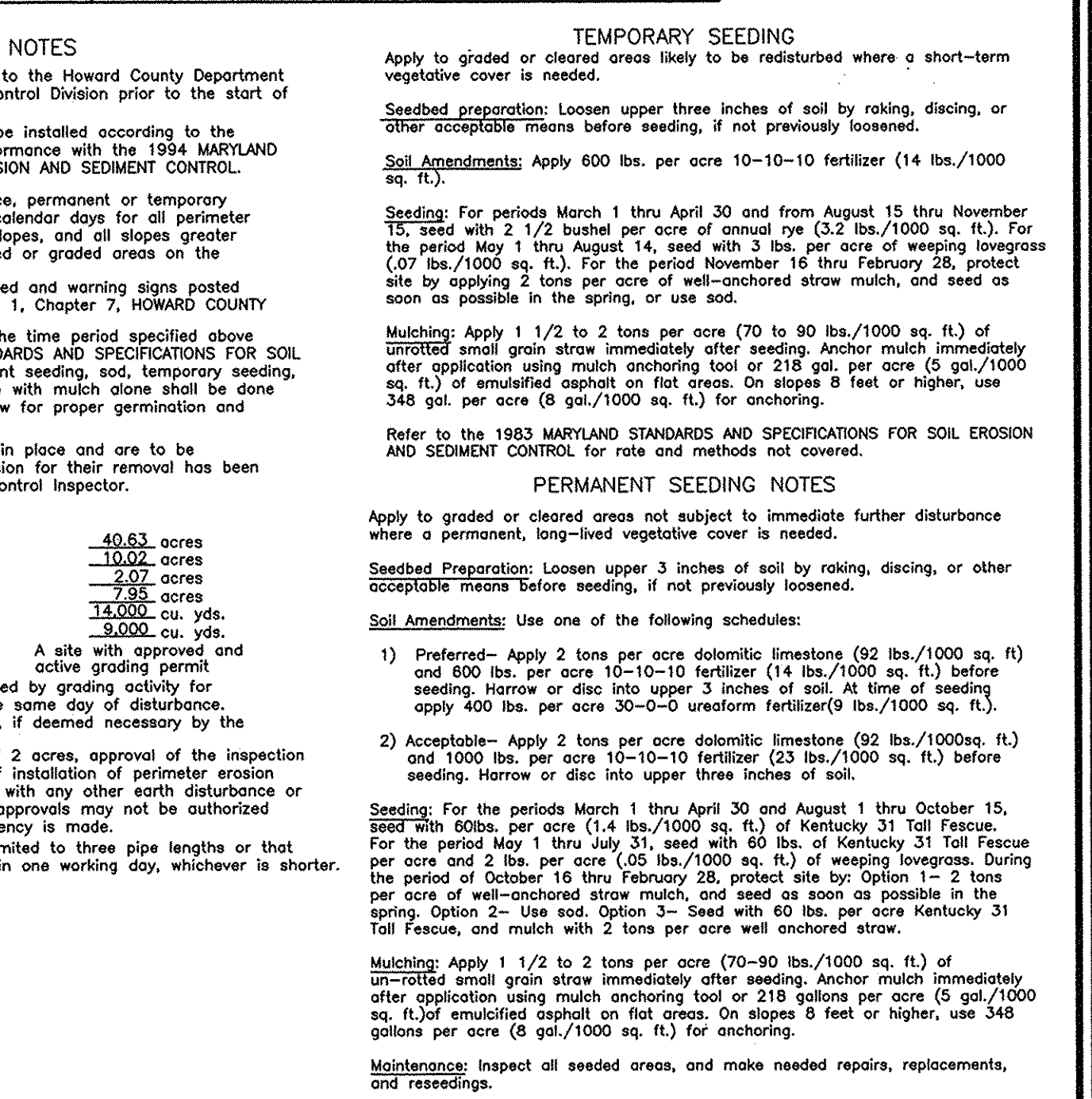
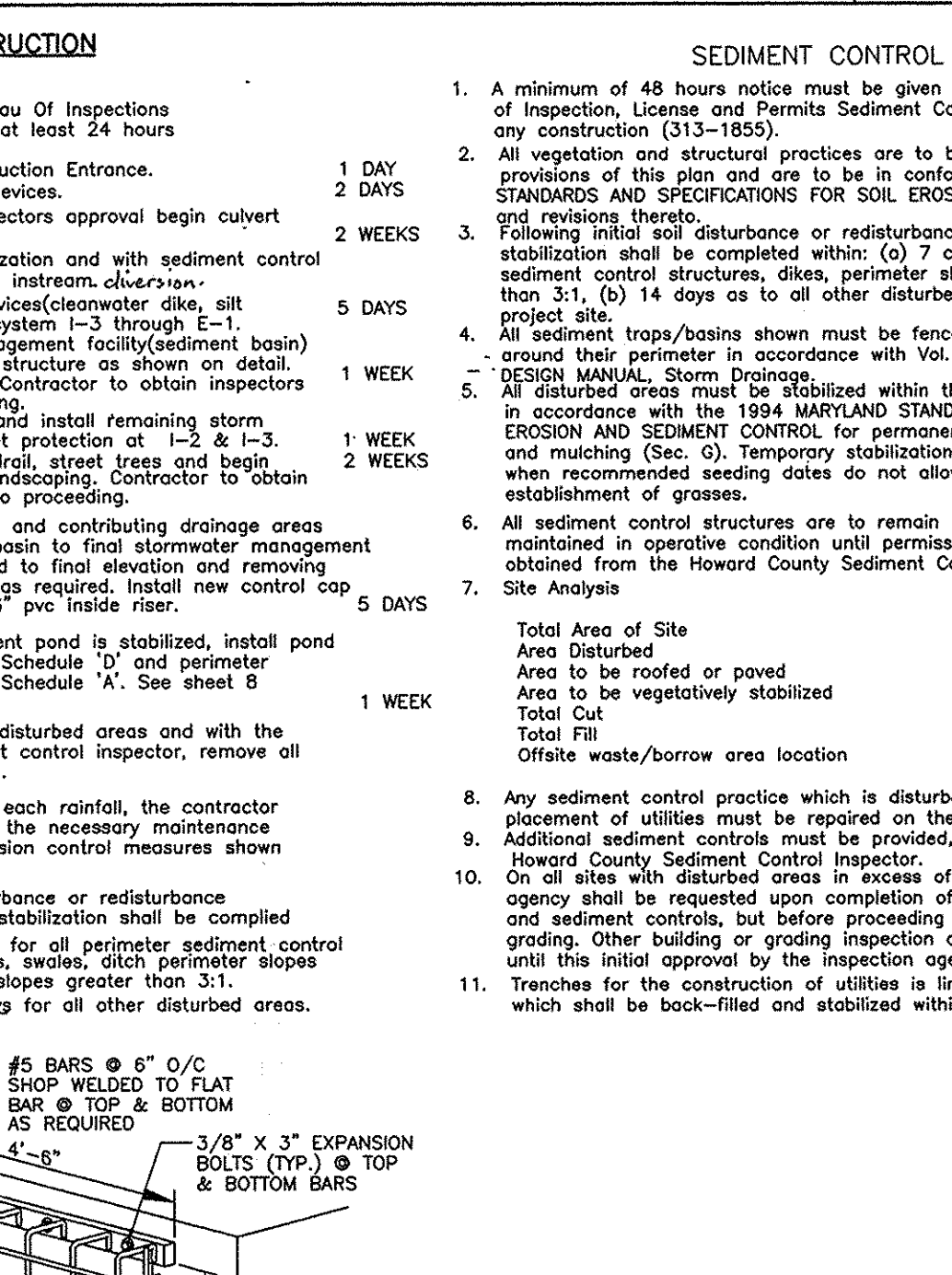
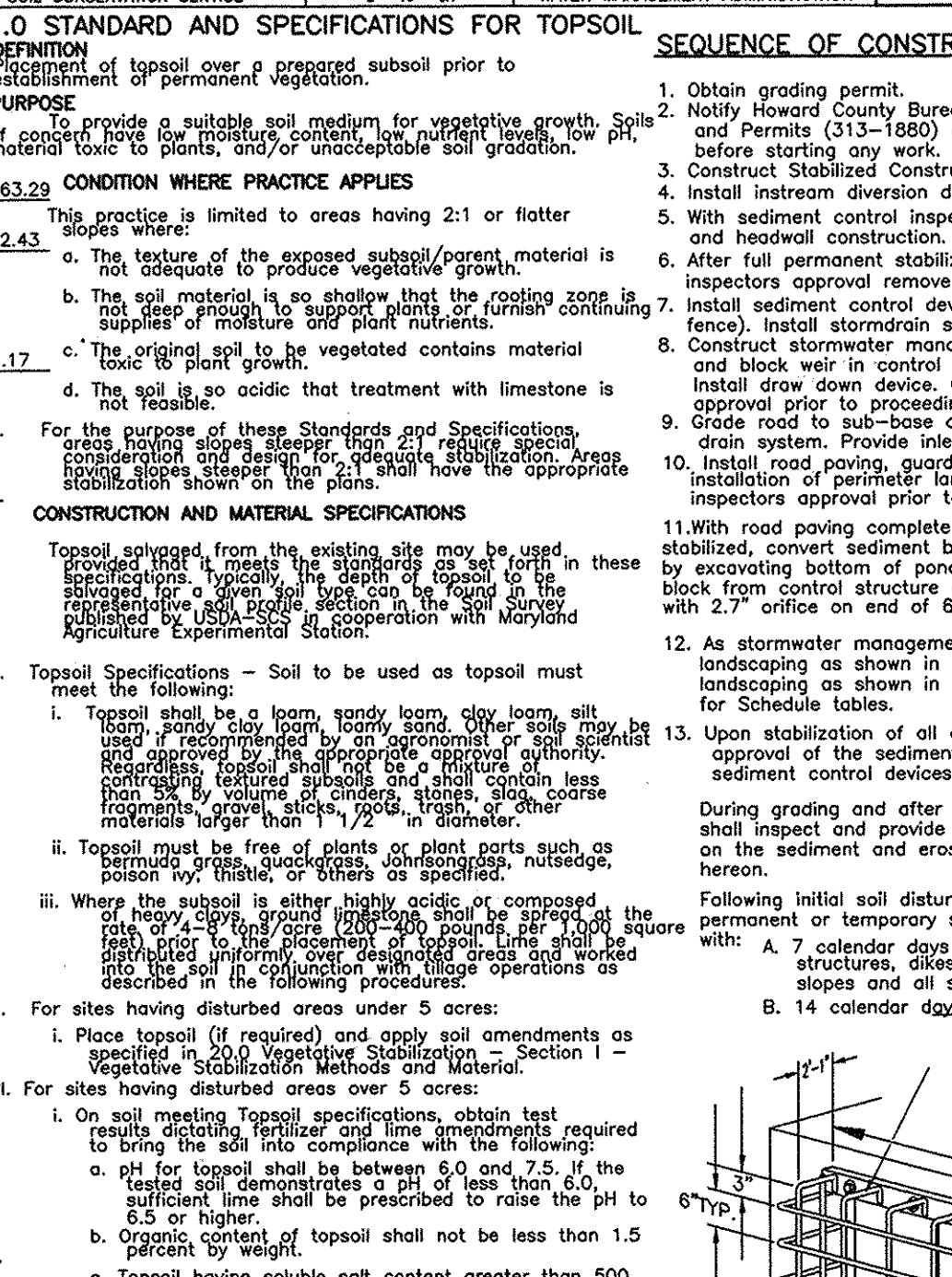
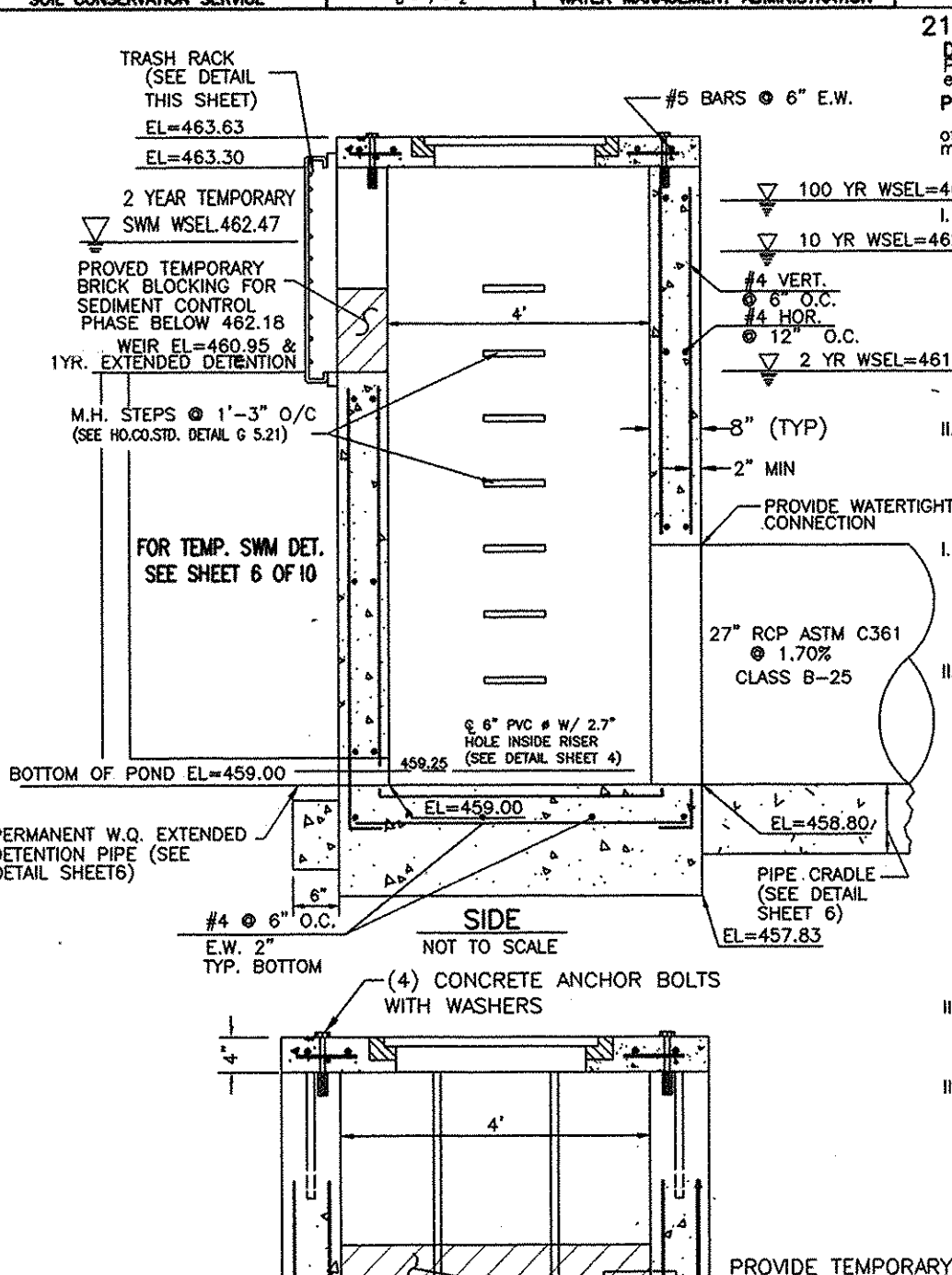
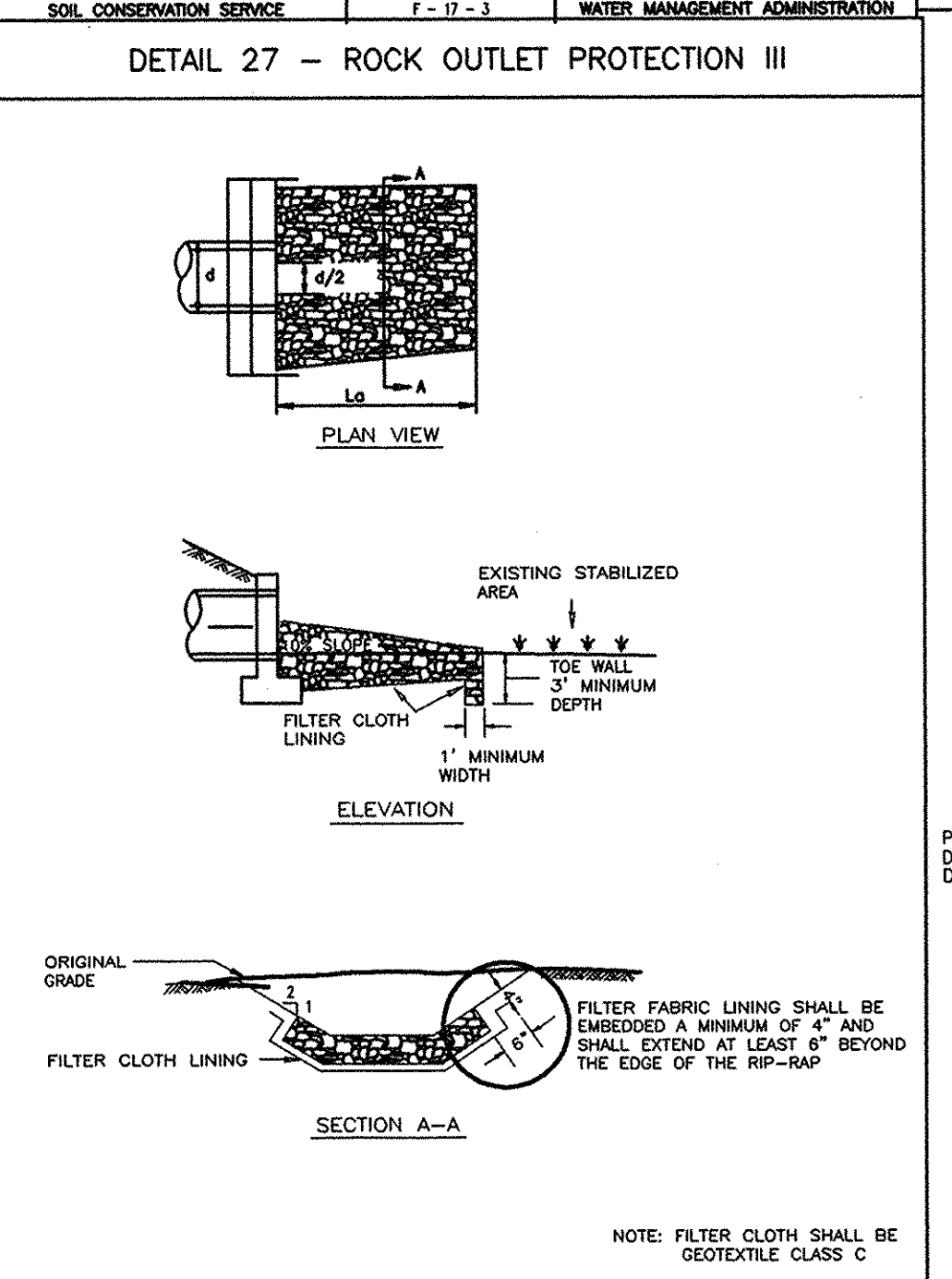
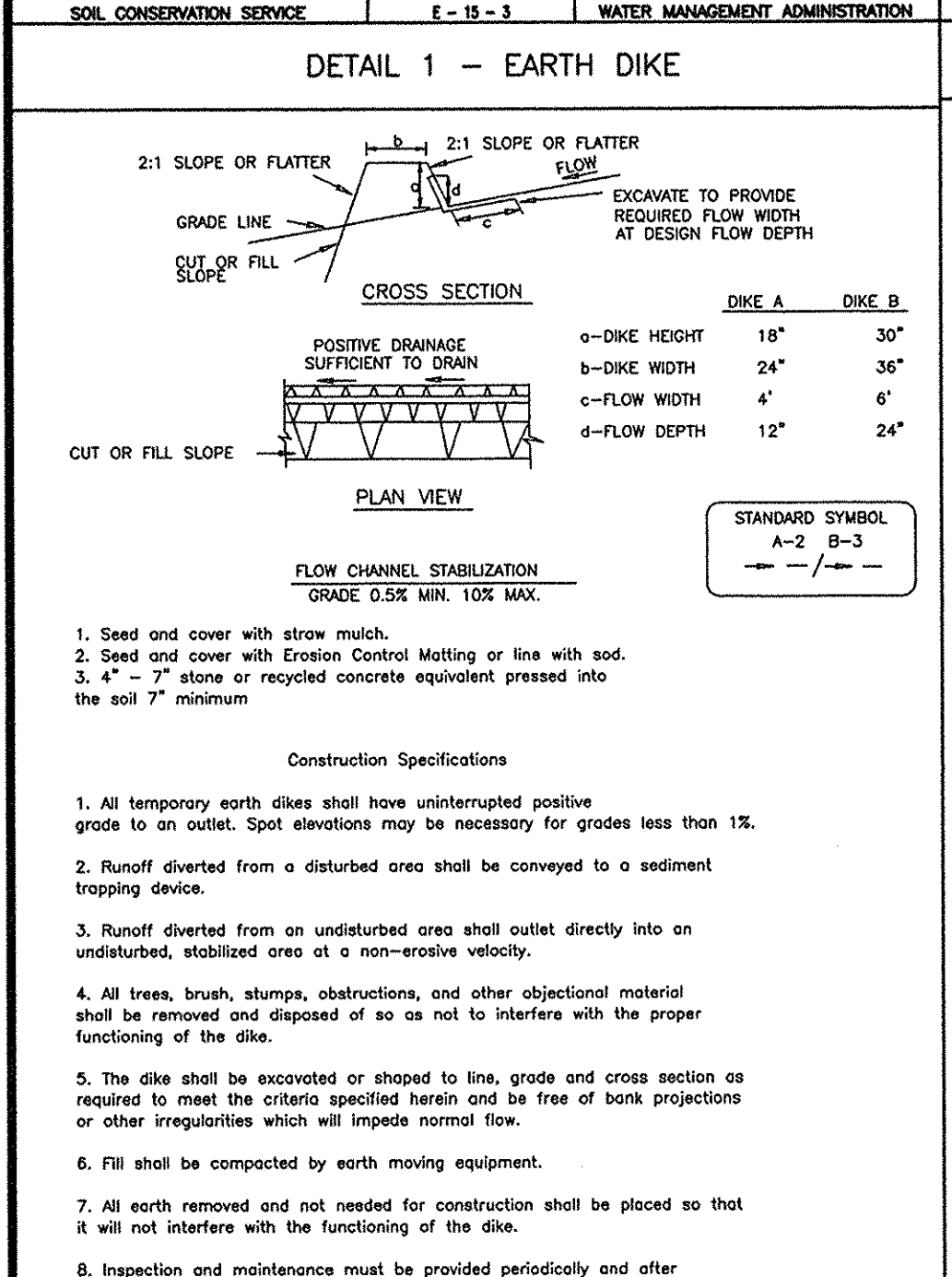
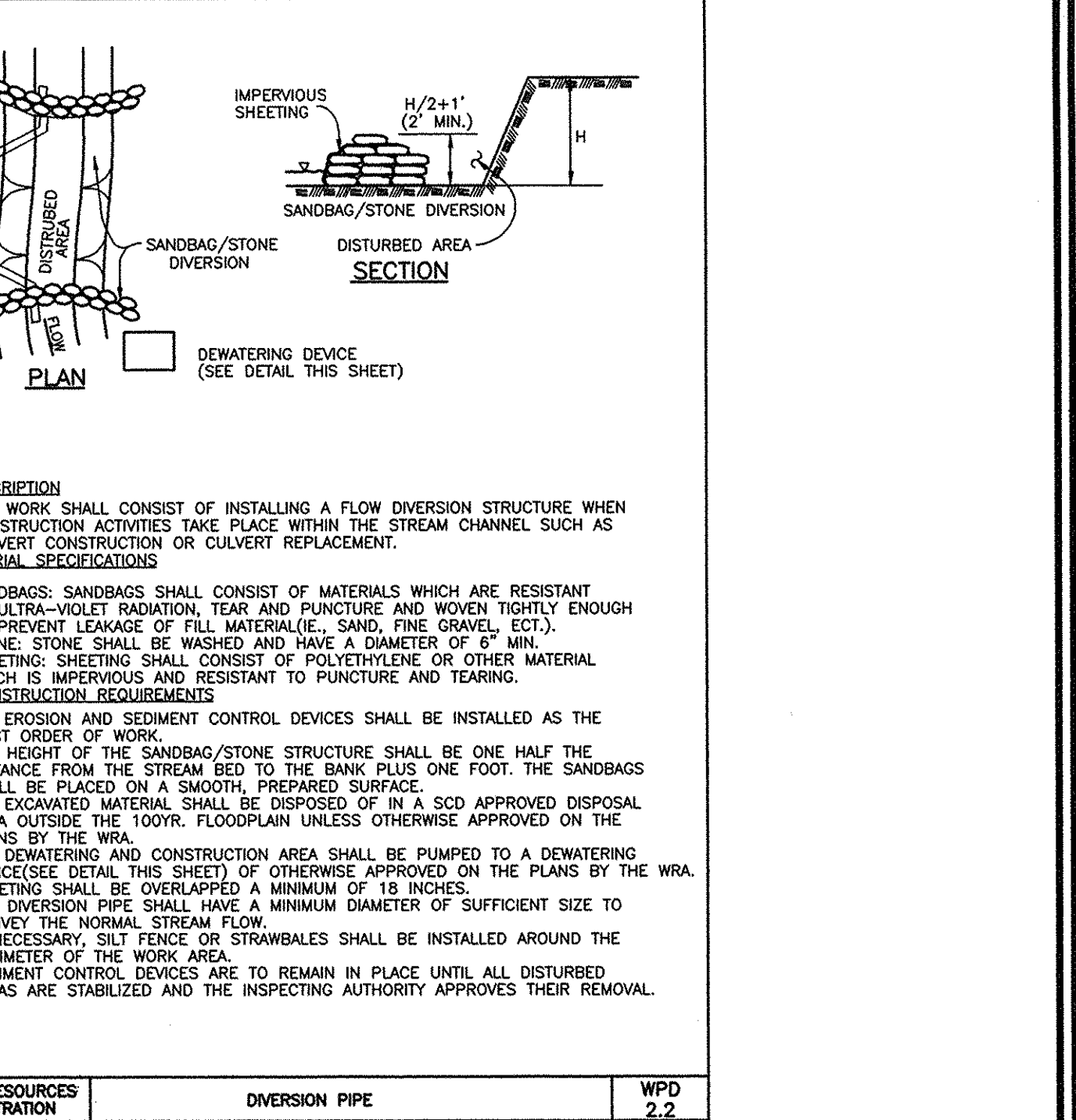
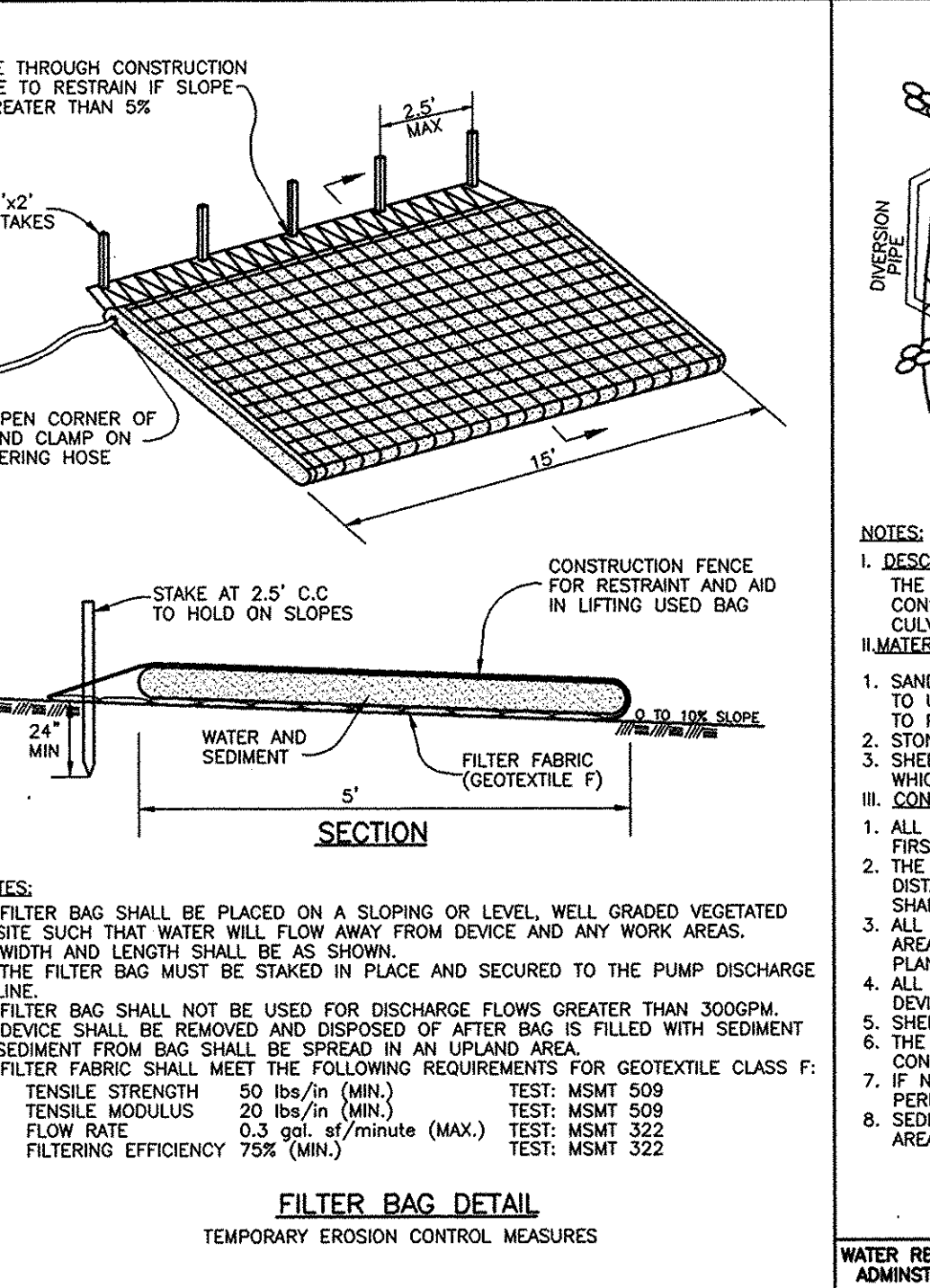
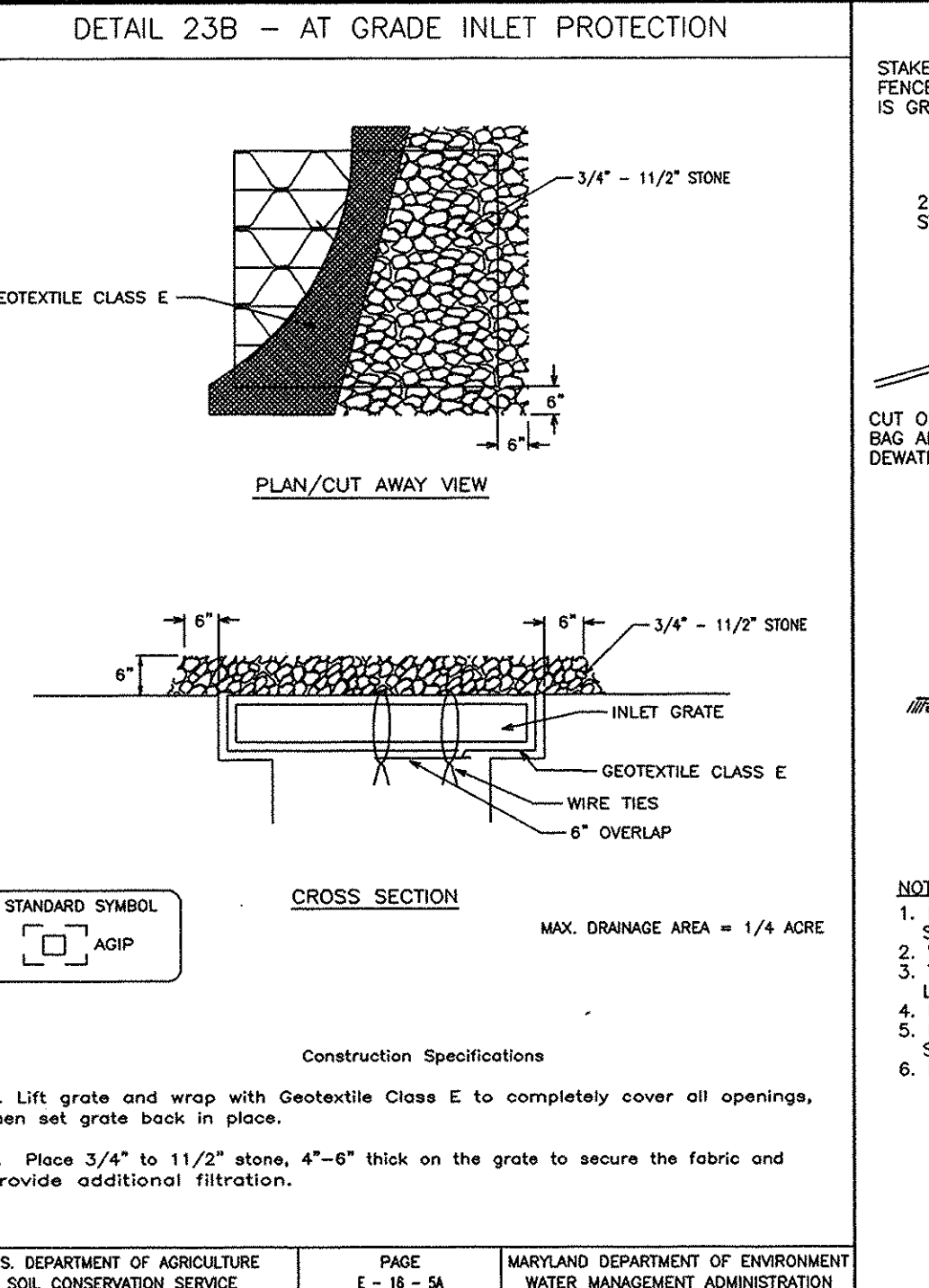
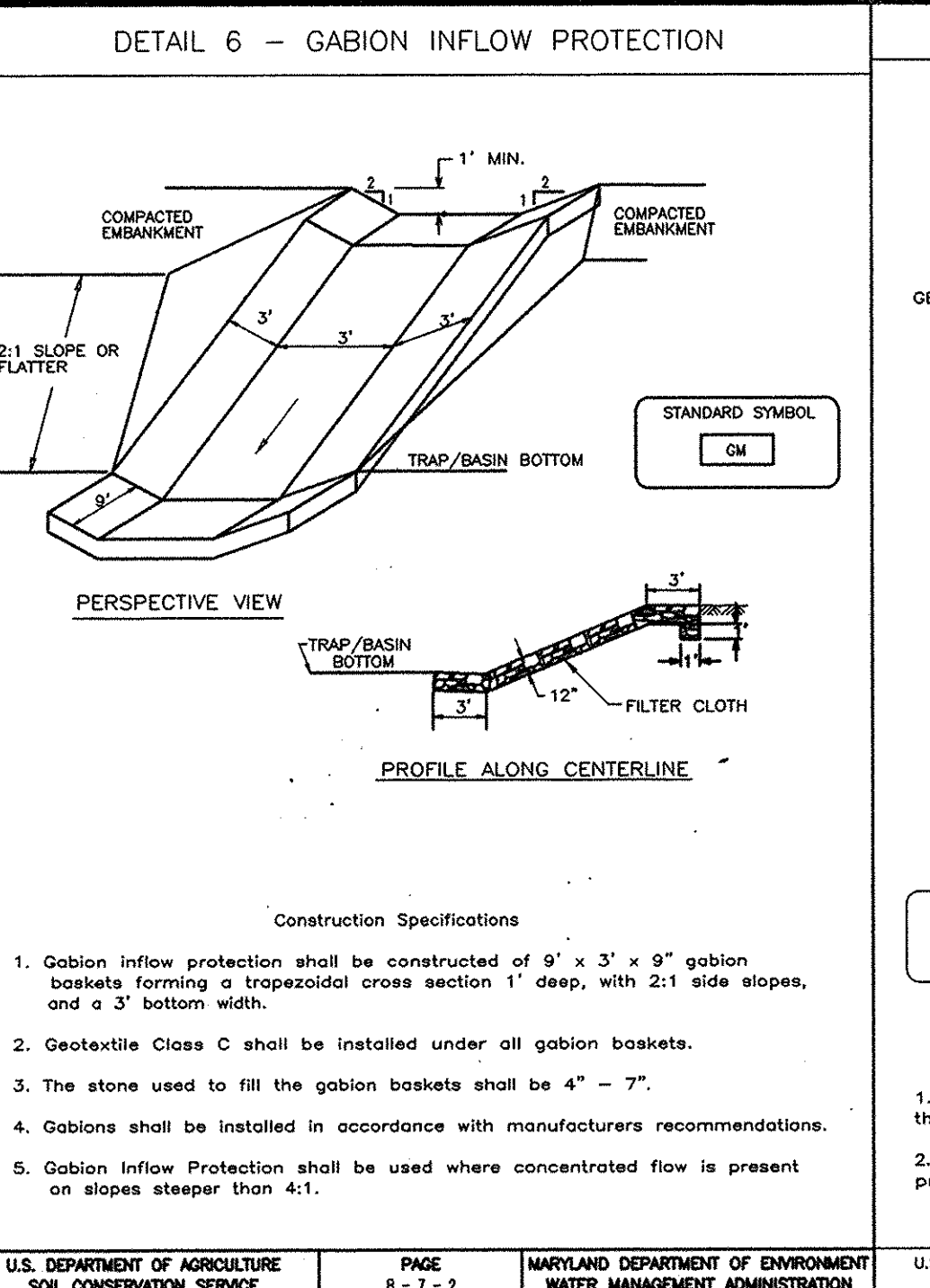
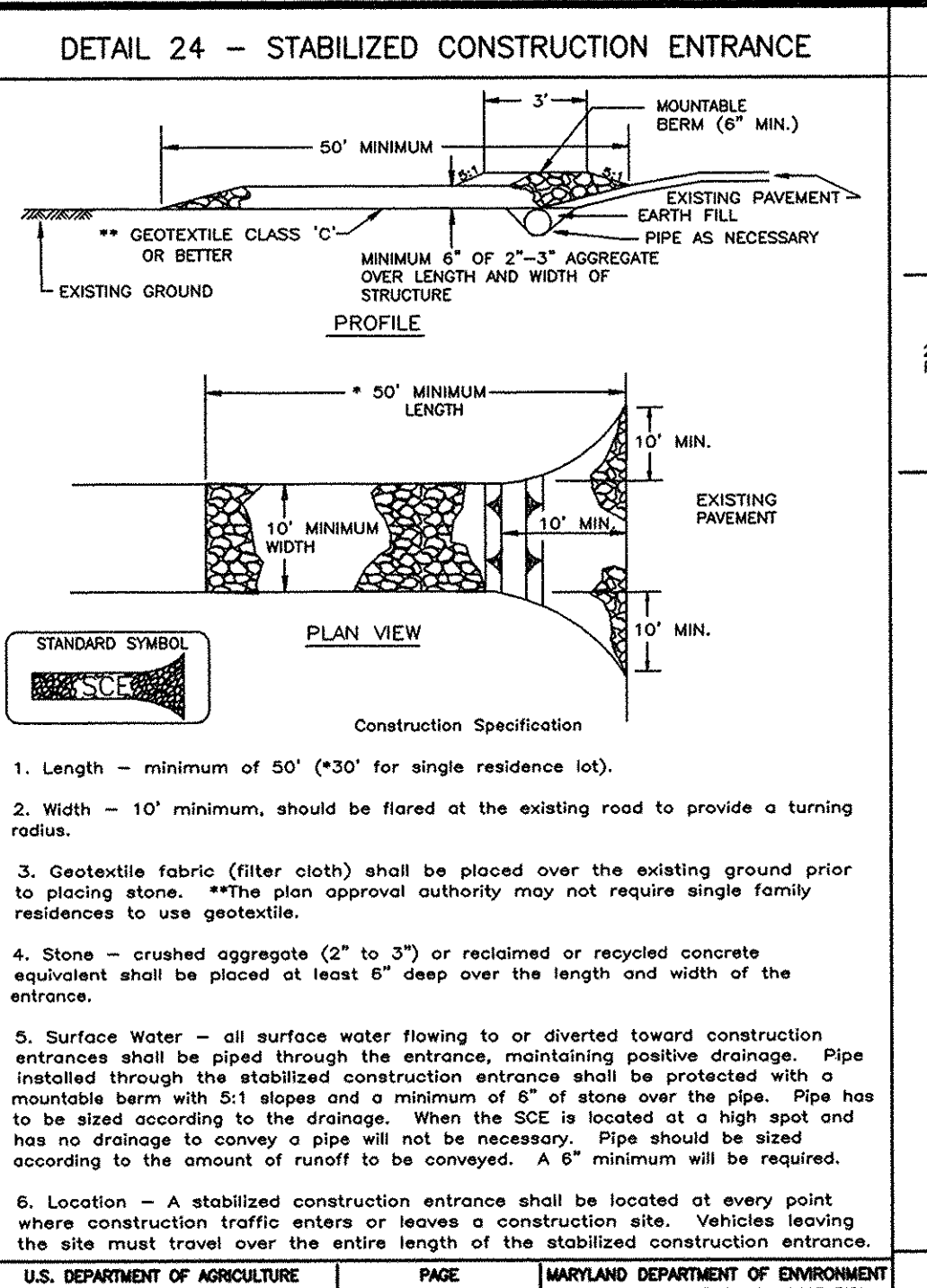
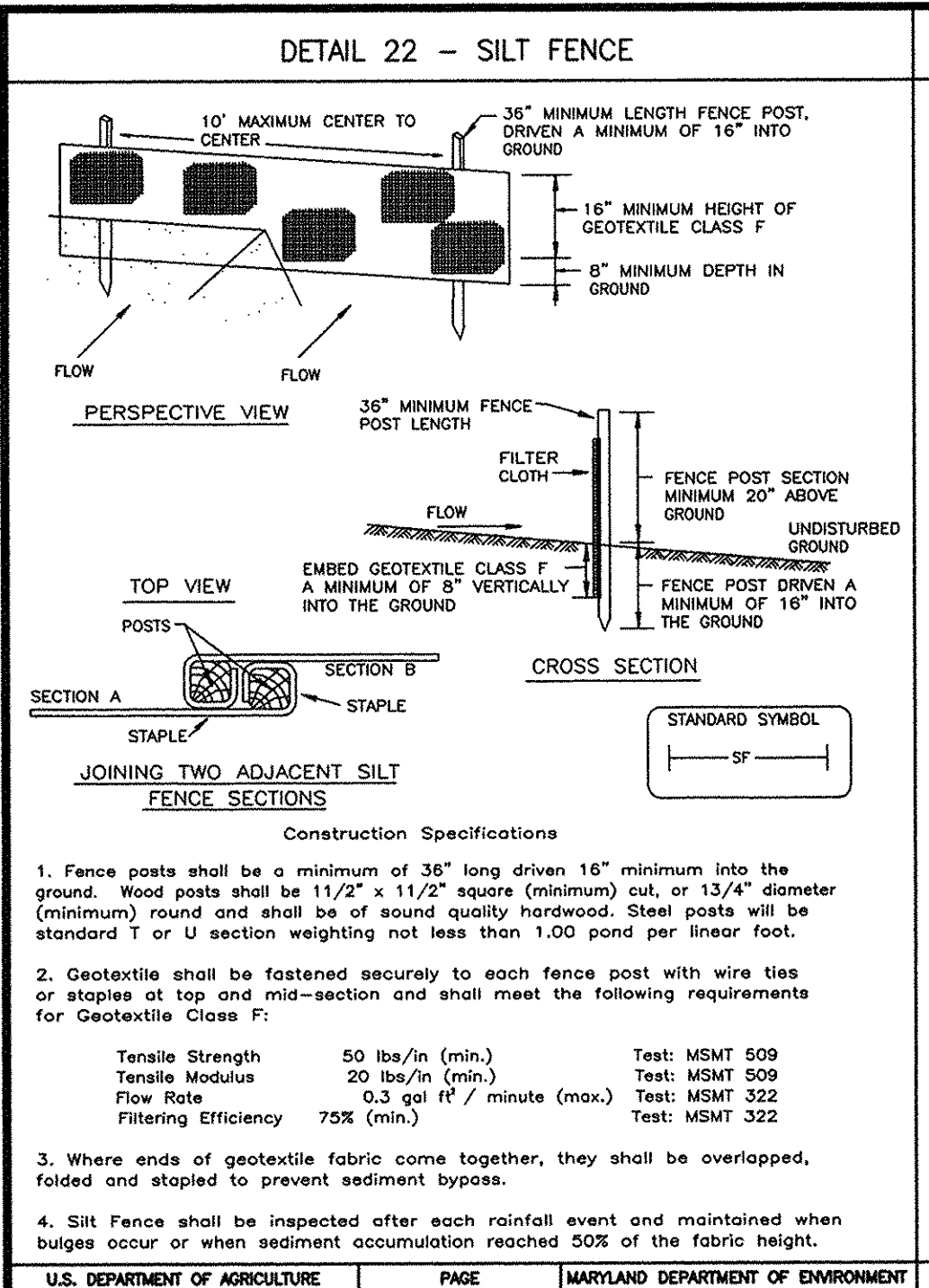
NO.	REVISION	DATE

WOODFORDS GRANT III
 LOTS 1-21 AND PRESERVATION PARCEL A
 A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4
 AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II
**STORM DRAIN DRAINAGE AREA
 AND SOILS MAP**
 REF: PLAT NO. 4131, VP 78-76; S-98-04, P-98-25
 TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
 ENGINEERS-SURVEYORS-PLANNERS
 3631 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
 Tel 410.461.5828 Fax 410.465.3988



DESIGN BY: J.C.O.
 DRAWN BY: J.E.R.
 CHECKED BY: R.H.V.
 DATE: SEPTEMBER, 1998
 SCALE: 1" = 100'
 W.O. NO.: 97-47



NO. _____ REVISION _____ DATE _____

WOODFORDS GRANT III

LOTS 1-21 AND PRESERVATION PARCEL A
A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4
AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II

SEDIMENT CONTROL NOTES AND DETAILS

STORM WATER MANAGEMENT DETAILS

REF: PLAN NO. 4131, VP 78-76, S-98-04, P-98-25
TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: J.C.O.
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DATE: SEPTEMBER, 1998
SCALE: AS SHOWN
W.O. NO.: 97-47

7 SHEET OF 10

3601 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
Tel 410.461.5028 Fax 410.463.3958

VOGEL & ASSOCIATES
ENGINEERS-SURVEYORS-PLANNERS

**SCHEDULE A
PERIMETER LANDSCAPE EDGE**

LANDSCAPE EDGE	1	2	3	4
LANDSCAPE TYPE	NONE	A	A	A
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1754	1219	1200	480
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	YES 750	YES 65
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED (BASED ON TOTAL PERIMETER) TYPE A	N/A	20	20	7
SHADE TREES (1:60)		0	0	0
EVERGREEN TREES		0	0	0
SHRUBS		0	0	0
NUMBER OF PLANTS PROVIDED (BASED ON TOTAL MINUS CREDIT) TYPE A	N/A	20	450LF	480
SHADE TREES (1:60)		0	0	0
EVERGREEN TREES		0	0	0
OTHER TREES (2:1 SUBSTITUTION)		0	0	0
SHRUBS (10:1 SUBSTITUTION)		0	0	0

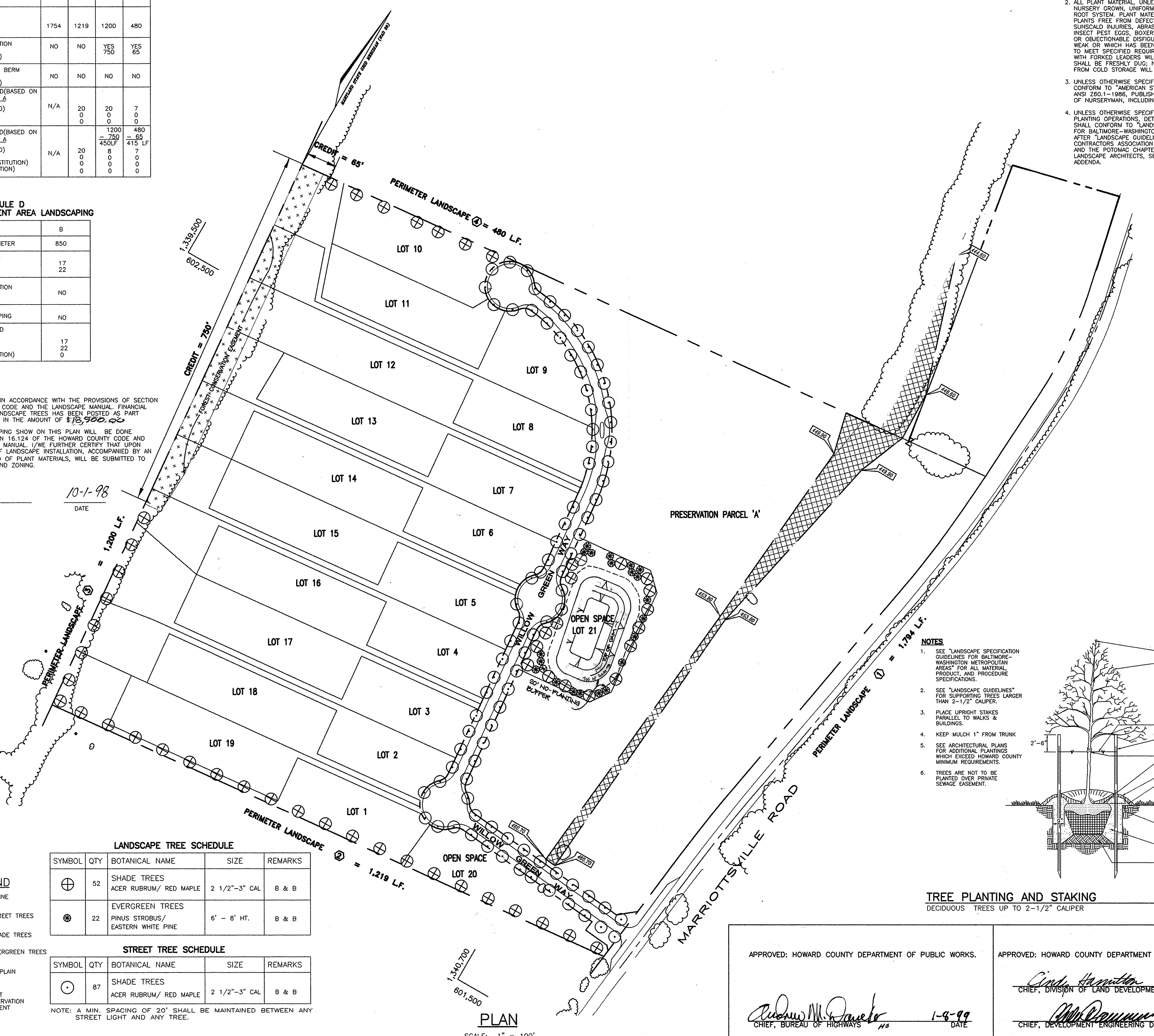
**SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING**

LANDSCAPE TYPE	B
TOTAL LINEAR FEET OF PERIMETER	850
NUMBER OF TREES REQUIRED	
SHADE TREES(1:50)	17
EVERGREEN TREES(1:40)	22
CREDIT FOR EXISTING VEGETATION LINEAR FEET	NO
CREDIT FOR OTHER LANDSCAPING	NO
NUMBER OF PLANTS PROVIDED (480-270=190LF)	
SHADE TREES(1:50)	17
EVERGREEN TREES(1:40)	22
SHRUBS(10:1 TREE SUBSTITUTION)	0

NOTES:
THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$10,900.00.
I/WE CERTIFY THAT THE LANDSCAPING SHOW ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEED OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

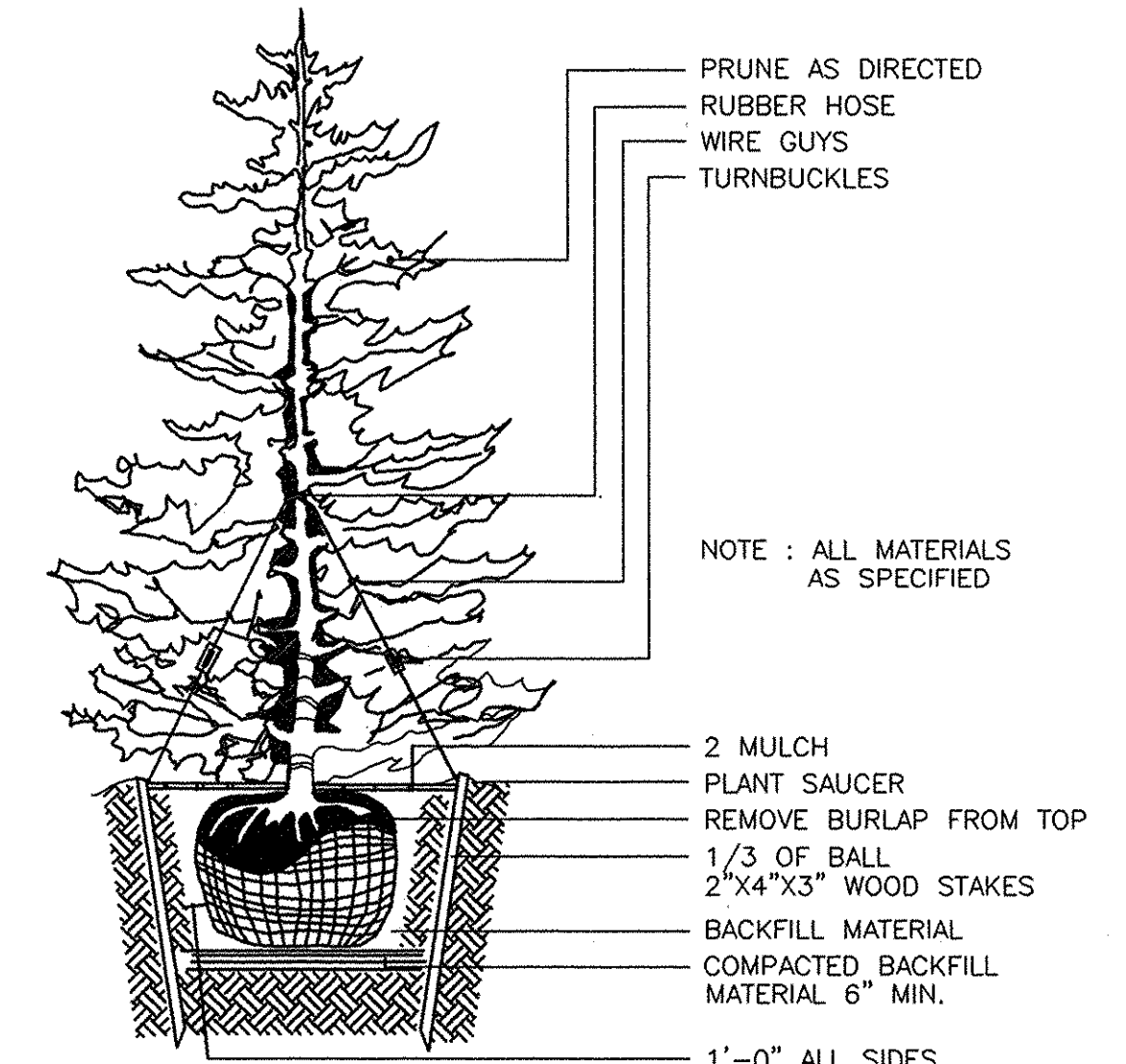
[Signature]
SIGNATURE OF DEVELOPER

10-1-98
DATE



PLANTING NOTES

- PLANTS, RELATED MATERIALS, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.
- ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED AND HAVE A VIGOROUS ROOT SYSTEM. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS PLANTS FREE FROM DEFECTS, DECAY, DISFIGURING INFECTIONS, SUNSCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BOXERS AND ALL FORMS OF INFESTATION OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HELED-IN PLANTS OR PLANTS FROM COLD STORAGE WILL BE ACCEPTED.
- UNLESS OTHERWISE SPECIFIED, ALL PLANT MATERIAL SHALL CONFORM TO "AMERICAN STANDARD FOR NURSERY STOCK" ANSI Z60.1-1986, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INCLUDING ALL ADDENDA.
- UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATIONS SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" (HEREIN-AFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, SEPTEMBER, 1981, INCLUDING ALL ADDENDA.
- CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONTRACTORS AND "MIS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO UTILITIES AND MAY MAKE MINOR ADJUSTMENTS IN SPACING AND LOCATION OF PLANTING MATERIALS TO AVOID CONFLICTS WITH UTILITIES.
- PLANTING BED SHALL BE MULCHED WITH 3" OF SHREDDED HARDWOOD BARK MULCH. GROUNDCOVER BEDS SHALL BE MULCHED TO A DEPTH OF 2".
- ALL AREAS WITHIN THE CONTRACT LIMIT NOT COVERED BY BUILDING, PAVING, PLANTING BEDS OR OTHERWISE DESIGNATED ON THE PLANS SHALL BE SEEDED AND MULCHED OR SODED IN ACCORDANCE WITH "1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PERMANENT SEEDING SPECIFICATIONS (SEE SHEET 8), INCLUDING ALL ADDENDA, AS DIRECTED BY THE OWNER.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL MATERIALS IN THE PROPER PLANTING SEASON FOR EACH PLANT TYPE.
PLANTING MIX SHALL BE DONE AS FOLLOWS:
DECIDUOUS PLANTS - TWO PARTS TOP SOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE, ADD 3 LBS. OF STANDARD 10-10-10 FERTILIZER PER CUBIC YARD OF PLANTING MIX.
EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL, ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX.
- TOPSOIL SHALL CONFORM TO LANDSCAPE GUIDELINES.
- THIS PLAN IS INTENDED FOR LANDSCAPE PLAN ONLY. SEE OTHER PLAN SHEETS FOR INFORMATION ON GRADING, SEDIMENT CONTROL, LAYOUT, ETC.
- CONTRACTOR TO ADJUST PLANTINGS AS REQUIRED WITH PRIOR APPROVAL OF THE ENGINEER OR LANDSCAPE ARCHITECT.

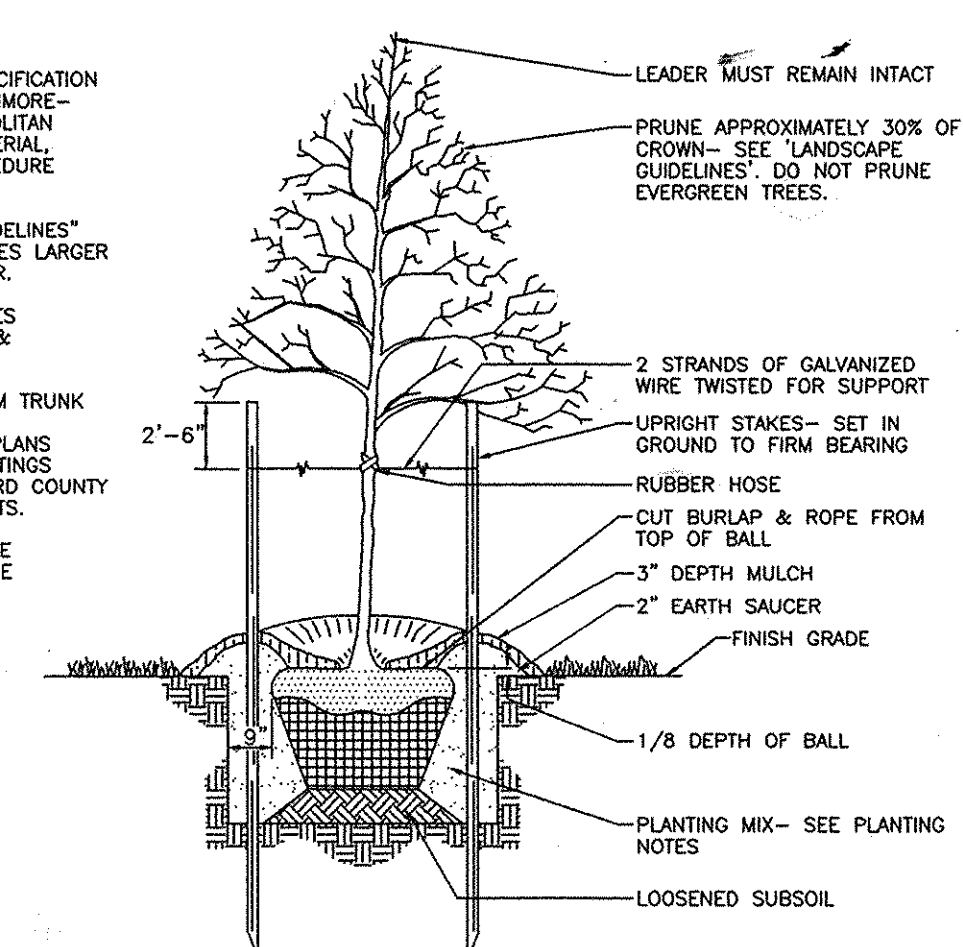


TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

OWNER/DEVELOPER
WOODFORDS EAST, LLC
10805 HICKORY RIDGE ROAD, SUITE 215
COLUMBIA, MD. 21044
TEL. NO. (410)740-2100

NOTES

- SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
- SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
- PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.



TREE PLANTING AND STAKING

DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE

LANDSCAPE TREE SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	SIZE	REMARKS
⊕	52	SHADE TREES ACER RUBRUM/ RED MAPLE	2 1/2"-3" CAL	B & B
⊗	22	EVERGREEN TREES PINUS STROBUS/ EASTERN WHITE PINE	6' - 8' HT.	B & B

STREET TREE SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	SIZE	REMARKS
⊕	87	SHADE TREES ACER RUBRUM/ RED MAPLE	2 1/2"-3" CAL	B & B

NOTE: A MIN. SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

- LEGEND**
- EX. TREELINE
 - PROP. STREET TREES
 - PROP. SHADE TREES
 - PROP. EVERGREEN TREES
 - FLOODPLAIN
 - FOREST CONSERVATION EASEMENT

PLAN
SCALE: 1" = 100'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[Signature]
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION

WOODFORDS GRANT III
LOTS 1-21 AND PRESERVATION PARCEL A
A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4 AND NON-BUILDABLE BULK PARCEL 'C' WOODFORDS GRANT II
LANDSCAPE PLAN, NOTES AND DETAILS

REF: PLAT NO. 4131, VP 78-76, S-98-04, P-98-25
TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL & ASSOCIATES
ENGINEERS-SURVEYORS-PLANNERS

3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043
Tel 410.461.5828 Fax 410.465.3988

DESIGN BY: J.C.O.
DRAWN BY: J.E.R.
CHECKED BY: R.H.V.
DATE: SEPTEMBER, 1998
SCALE: AS SHOWN
W.O. NO.: 97-47

8 SHEET 10
OF

FOREST TREE PROTECTION AND MANAGEMENT NOTES

1. Tree protection devices shall be installed prior to any grading or land clearing.
2. After the boundaries of the retention area have been staked and flagged and before any disturbance has taken place a pre-construction meeting with the Howard County Inspector is required.
3. No grading, storage of equipment, vehicles, equipment staging or dumping is permitted within forest conservation easement areas.
4. Provide maintenance to tree protection devices and signage to maintain their integrity throughout the duration of the project.
5. Attachment of signs or any other objects to trees is prohibited.
6. Root pruning will be performed with rotary ditching equipment or vibratory knife as conditions warrant.
7. Any significant changes made to the forest conservation plan shall be made with the prior consent of the Howard County Inspector.
8. No burial of discarded material is permitted within forest conservation and planting areas.
9. No open burning within 100ft. Of wooded areas is permitted.
10. Post Construction Phase
 - a. Inspect existing trees around perimeter of site for signs of root or trunk damage and excessive soil compaction.
 - b. Remove dead or dying trees and evaluate for hazard tree removal
 - c. All temporary forest protection devices will be removed after construction.
 - d. Following completion of construction, prior to use, the county inspector shall inspect the entire site for compliance with this forest conservation plan.

* A licensed arborist or forester should be retained for this service as needed.

NARRATIVE

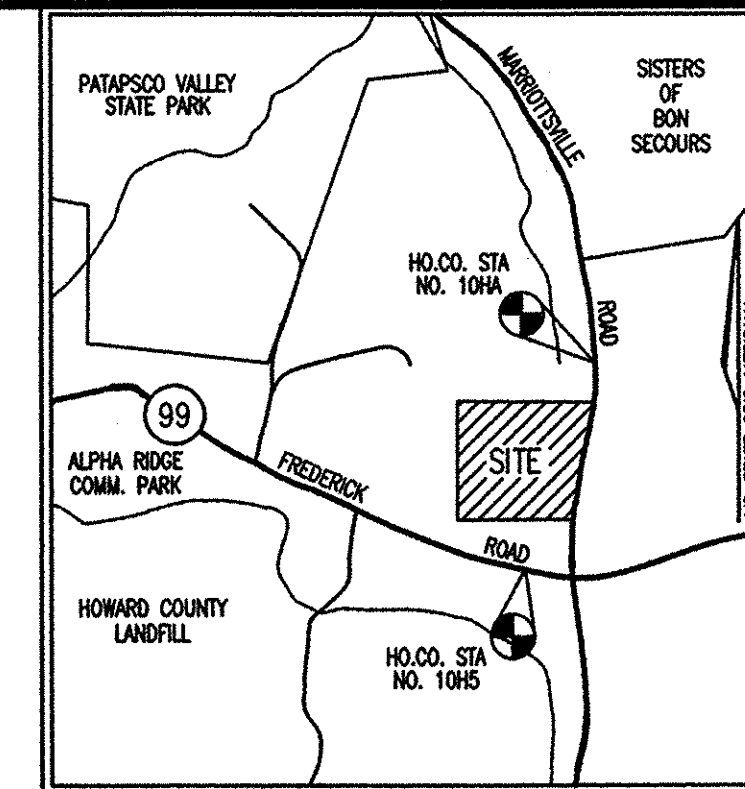
The preliminary forest conservation plan was prepared in accordance with the Howard County Forest Conservation Manual and the 1991 Forest Conservation Act.

The existing site consists of 40.6 acres of which 0.8 acres is currently forested. The site contains 1.1 acres of 100 year floodplain and 15.3 acres in preservation parcels (the land use on a portion of parcel A will remain unchanged) to be deducted from these figures to obtain a net tract area of 24.2 acres. The proposed plan will retain the existing 0.4 acres of forested area. The afforestation requirement is 4.0 acres and will be provided offsite. The offsite location for the afforestation areas is on Lot 7 and on Parcel F of Woodfords Grant I. See SHEET 10 OF 10, BY OTHERS.

FOREST CONSERVATION SUMMARY
 Net Tract Area: 24.2 ac.
 Existing Forest Cover: 0.8 ac.
 Forest to be Retained: 0.8 ac.
 Afforestation Required: 4.0 ac.
 Afforestation to be provided offsite.

LEGEND

- Edge Existing Woodland
- Limit of Disturbance
- Tree Protection Fence



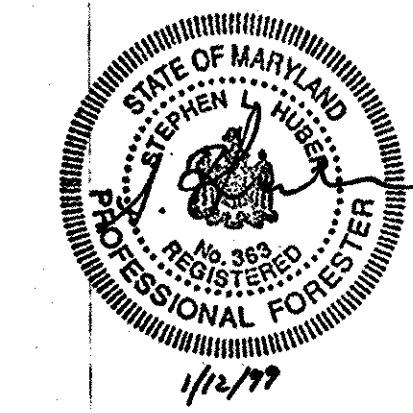
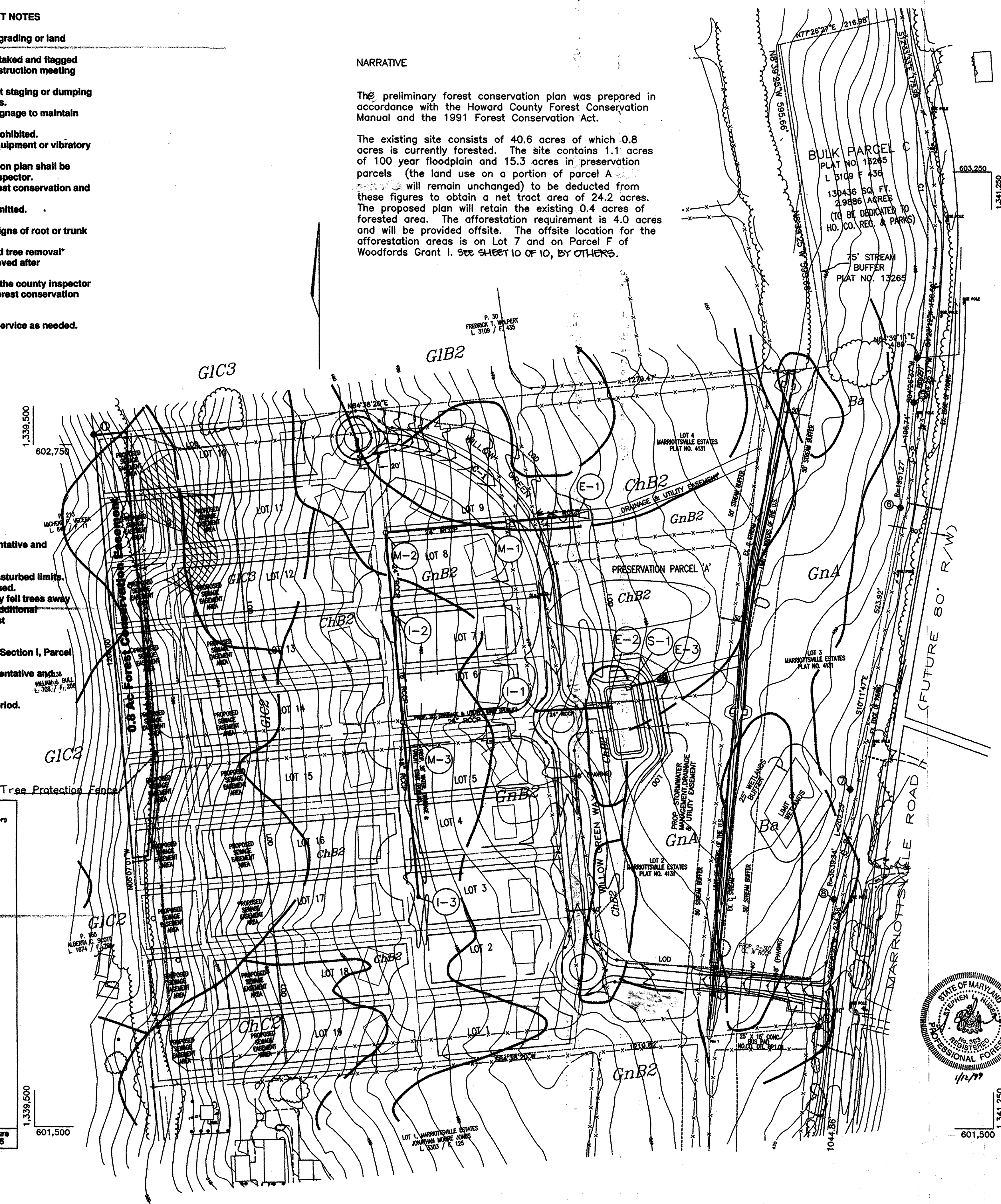
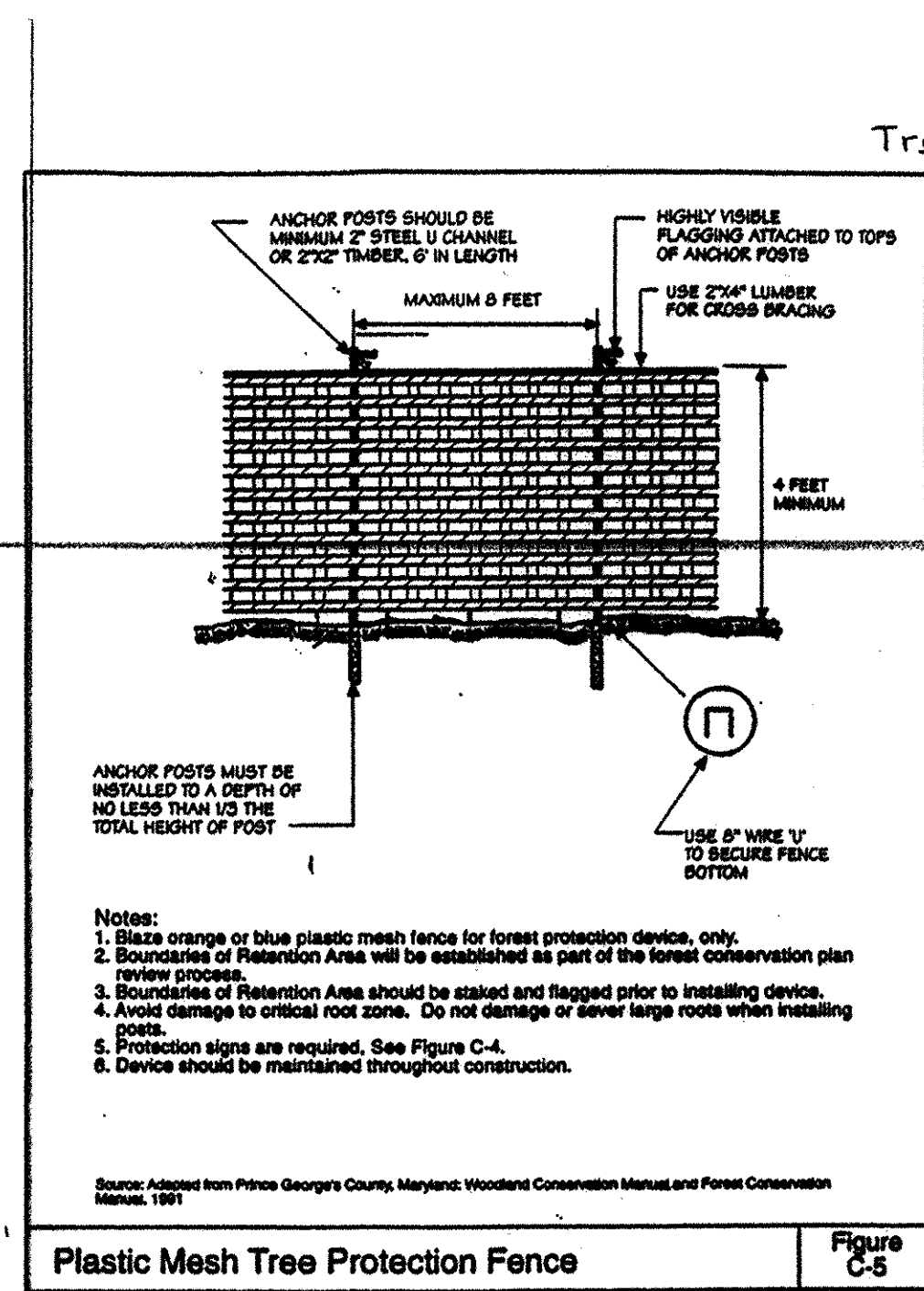
VICINITY MAP
SCALE: 1"=2000'

FOREST CONSERVATION WORKSHEET

	Acres (1/10 ac.)
1. Basic Site Data	
Gross Site Area	40.6
Area Within 100 Yr. Floodplain	1.1
Area Within Ag. Use or Preservation Parcel	15.3
Net Tract Area	24.2
Land Use Category	
2. Information for Calculations	
A. Net Tract Area	24.2
B. Reforestation Threshold (25%xA)	6.1
C. Afforestation Minimum (20%xA)	4.8
D. Existing Forest on Net Tract Area	0.8
E. Forest Areas to be Cleared	0.0
F. Forest Areas to be Retained	0.8
3. Afforestation Calculations	
A. Net Tract Area	24.2
C. Afforestation Minimum (20%xA)	4.8
D. Existing Forest on Net Tract Area	0.8
E. Forest Area to be Cleared	0.0
F. Forest Area to be Retained	0.8
No clearing below the minimum	
TOTAL AFFORESTATION REQUIRED (C-D)	4.0

CONSTRUCTION SEQUENCE

1. Obtain grading permit.
2. Conduct pre-construction meeting with developers representative and Howard Co Sediment Control Inspector.
3. Install tree protection devices and signage.
4. Perform root pruning with trenching equipment along the disturbed limits. Trenching for installation of silt fence is adequate where used.
5. Clear within limits of disturbance taking care to directionally fell trees away from those to be saved. Inspect forest edge to determine additional removal of danger trees and others not likely to survive post construction.
6. Grade for and complete all structural site improvements.
7. Install off-site reforestation plantings on Woodford's Grant Section I, Parcel F, in accordance with notes and details provided.
8. Conduct post construction meeting with developers representative and Howard County Inspector.
9. Remove temporary tree protection fencing.
10. Inspect and maintain reforestation plantings for a 2 year period.



EXPLORATION RESEARCH, INC.
 ENVIRONMENTAL CONSULTANTS
 8318 FORREST STREET
 HISTORIC ELLICOTT CITY, MARYLAND 21043
 PHONE: (410) 750-1150 FAX: (410) 750-7350

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development 1/2/99
 Chief, Development Engineering Division 1/2/99

OWNER/DEVELOPER
 WOODFORD'S EAST L.L.C.
 10805 HICKORY RIDGE ROAD, SUITE 215
 COLUMBIA, MD. 21044

WOODFORDS GRANT III
 LOTS 1-19 AND PRESERVATION PARCELS A AND B
 A RESUBDIVISION OF MARRIOTTVILLE ESTATES, LOTS 2-4
 AND LOT WOODFORDS GRANT II
FOREST CONSERVATION PLAN
 TAX MAP #10 PARCEL #293 P/O 30 BLOCK #22 REF: PLAT NO. 4131, VP 78-76
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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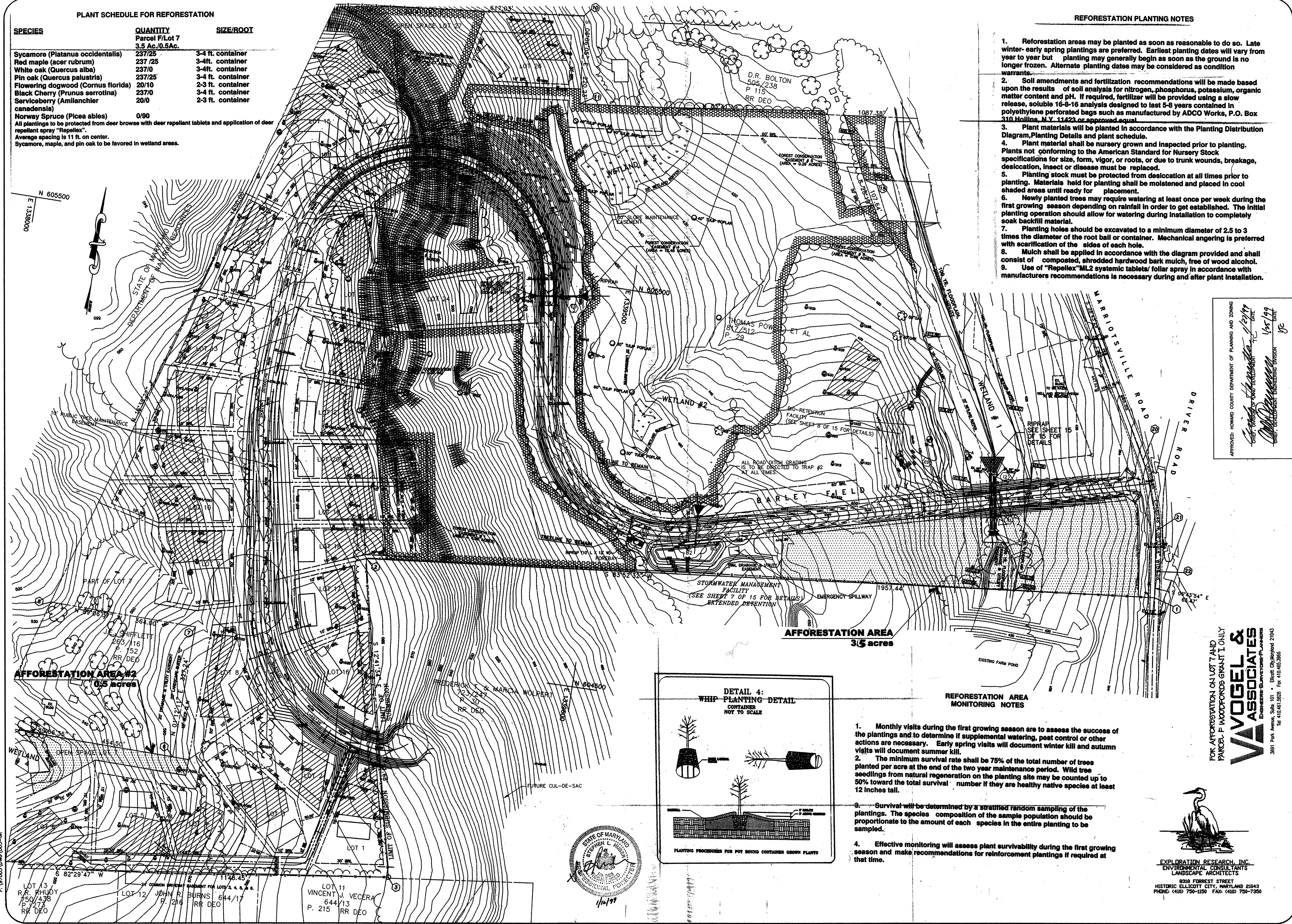
PLANT SCHEDULE FOR REFORESTATION

SPECIES	QUANTITY Parcel F/Lot 7 3.5 Ac./0.5Ac.	SIZE/ROOT
Sycamore (<i>Platanus occidentalis</i>)	237/25	3-4 ft. container
Red maple (<i>Acer rubrum</i>)	237 /25	3-4ft. container
White oak (<i>Quercus alba</i>)	237/0	3-4ft. container
Pin oak (<i>Quercus palustris</i>)	237/25	3-4 ft. container
Flowering dogwood (<i>Cornus florida</i>)	20/10	2-3 ft. container
Black Cherry (<i>Prunus serotina</i>)	237/0	3-4 ft. container
Serviceberry (<i>Amlanchier canadensis</i>)	20/0	2-3 ft. container
Norway Spruce (<i>Picea abies</i>)	0/90	

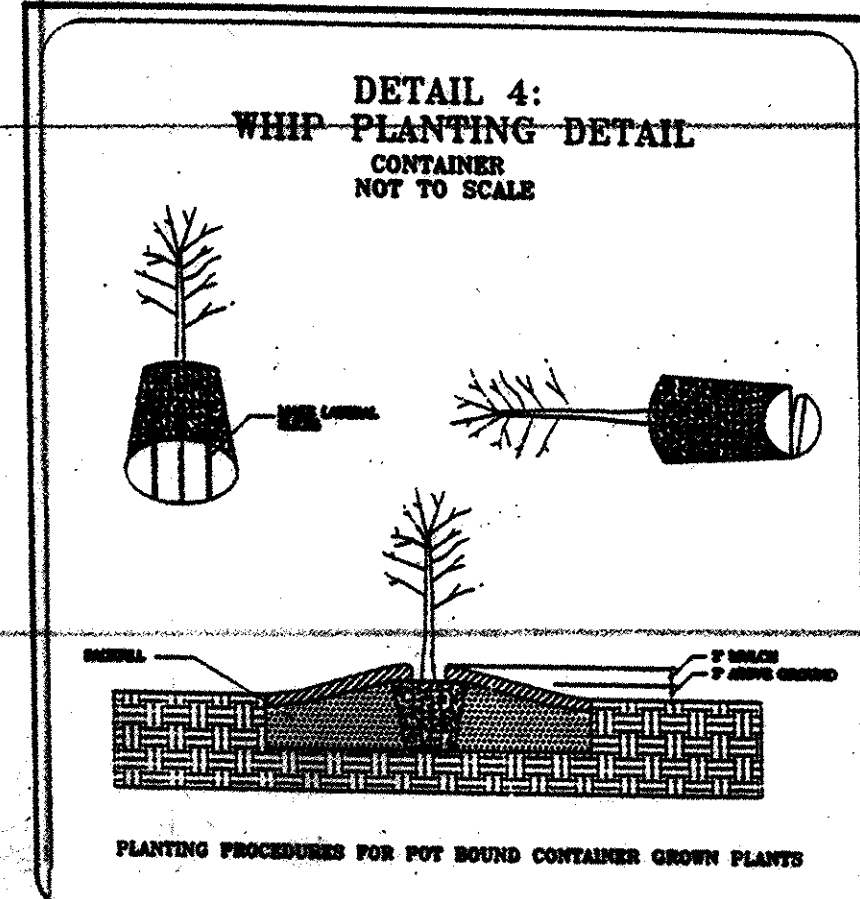
All plantings to be protected from deer browse with deer repellent tablets and application of deer repellent spray "Repelox".
Average spacing is 11 ft. on center.
Sycamore, maple, and pin oak to be favored in wetland areas.

REFORESTATION PLANTING NOTES

1. Reforestation areas may be planted as soon as reasonable to do so. Late winter-early spring plantings are preferred. Earliest planting dates will vary from year to year but planting may generally begin as soon as the ground is no longer frozen. Alternate planting dates may be considered as condition warrants.
2. Soil amendments and fertilization recommendations will be made based upon the results of soil analysis for nitrogen, phosphorus, potassium, organic matter content and pH. If required, fertilizer will be provided using a slow release, soluble 16-8-16 analysis designed to last 5-8 years contained in polyethylene perforated bags such as manufactured by ADCO Works, P.O. Box 310 Hollis, N.Y. 11423 or approved equal.
3. Plant materials will be planted in accordance with the Planting Distribution Diagram, Planting Details and plant schedule.
4. Plant material shall be nursery grown and inspected prior to planting. Plants not conforming to the American Standard for Nursery Stock specifications for size, form, vigor, or roots, or due to trunk wounds, breakage, desiccation, insect or disease must be replaced.
5. Planting stock must be protected from desiccation at all times prior to shading. Materials held for planting shall be moistened and placed in cool shaded areas until ready for placement.
6. Newly planted trees may require watering at least once per week during the first growing season depending on rainfall in order to get established. The initial planting operation should allow for watering during installation to completely soak backfill material.
7. Planting holes should be excavated to a minimum diameter of 2.5 to 3 times the diameter of the root ball or container. Mechanical angling is preferred with scarification of the sides of each hole.
8. Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of wood alcohol.
9. Use of "Repelox" ML2 systemic tablets/foliar spray in accordance with manufacturers recommendations is necessary during and after plant installation.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF ENGINEER: [Signature] DATE: 1/25/99
 CHIEF ENGINEER: [Signature] DATE: 1/25/99



- REFORESTATION AREA MONITORING NOTES
1. Monthly visits during the first growing season are to assess the success of the plantings and to determine if supplemental watering, pest control or other actions are necessary. Early spring visits will document winter kill and autumn visits will document summer kill.
 2. The minimum survival rate shall be 75% of the total number of trees planted per acre at the end of the two year maintenance period. Wild tree seedlings from natural regeneration on the planting site may be counted up to 50% toward the total survival number if they are healthy native species at least 12 inches tall.
 3. Survival will be determined by a stratified random sampling of the plantings. The species composition of the sample population should be proportionate to the amount of each species in the entire planting to be sampled.
 4. Effective monitoring will assess plant survivability during the first growing season and make recommendations for reinforcement plantings if required at that time.



FOR AFFORESTATION ON LOT 7 AND PARCEL F WOODFORDS GRANT I ONLY
AVOGEL & ASSOCIATES
 ENGINEERS SURVEYORS PLANNERS
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date	JAN 1999	approval
project	97003	scale
illustration	CPB	1"=100'

revision #1	JUNE 1997	description
revision #2		

WOODFORDS GRANT III
 LOTS 1-21 AND PRESERVATION PARCEL A
WOODFORDS GRANT
 LOTS 1 THRU 30 AND PARCEL "A"
 TAX MAP 10 - PARCELS 27, 29 & 151 - BLOCK 15 & 16
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
AFFORESTATION PLAN

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
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