

SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE OF CHAPEL MANOR LANE
3	DRAINAGE AREA MAP, GRADING AND SEDIMENT CONTROL PLAN
4	DETAILS AND PROFILES
5	SEDIMENT CONTROL NOTES AND DETAILS
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7	LANDSCAPE NOTES AND TABULATIONS
8	RAINGARDEN DETAILS
9	FOREST CONSERVATION PLAN

ROADWAYS AND STORM DRAINS

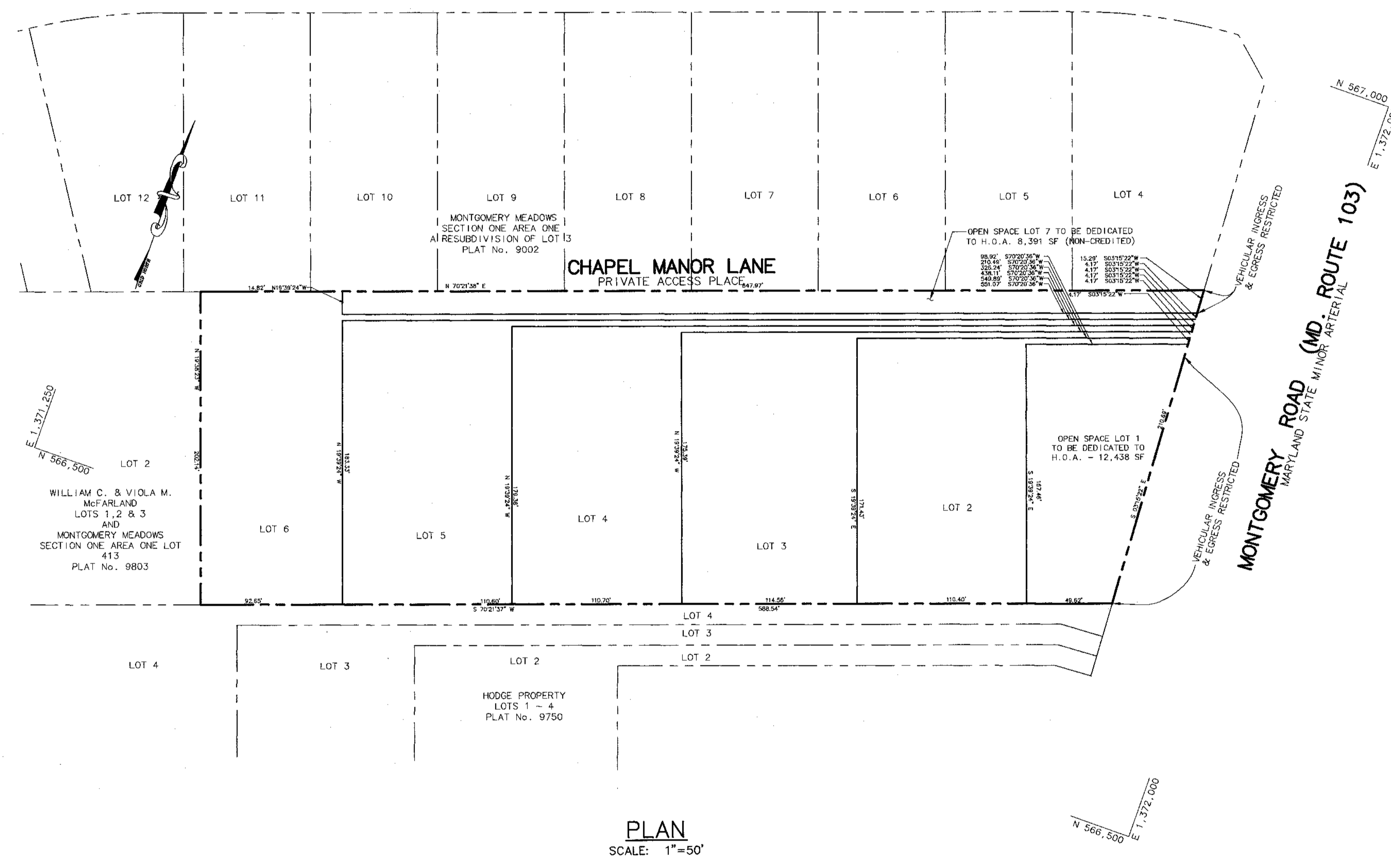
CHAPEL MANOR

LOTS 1-7

1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

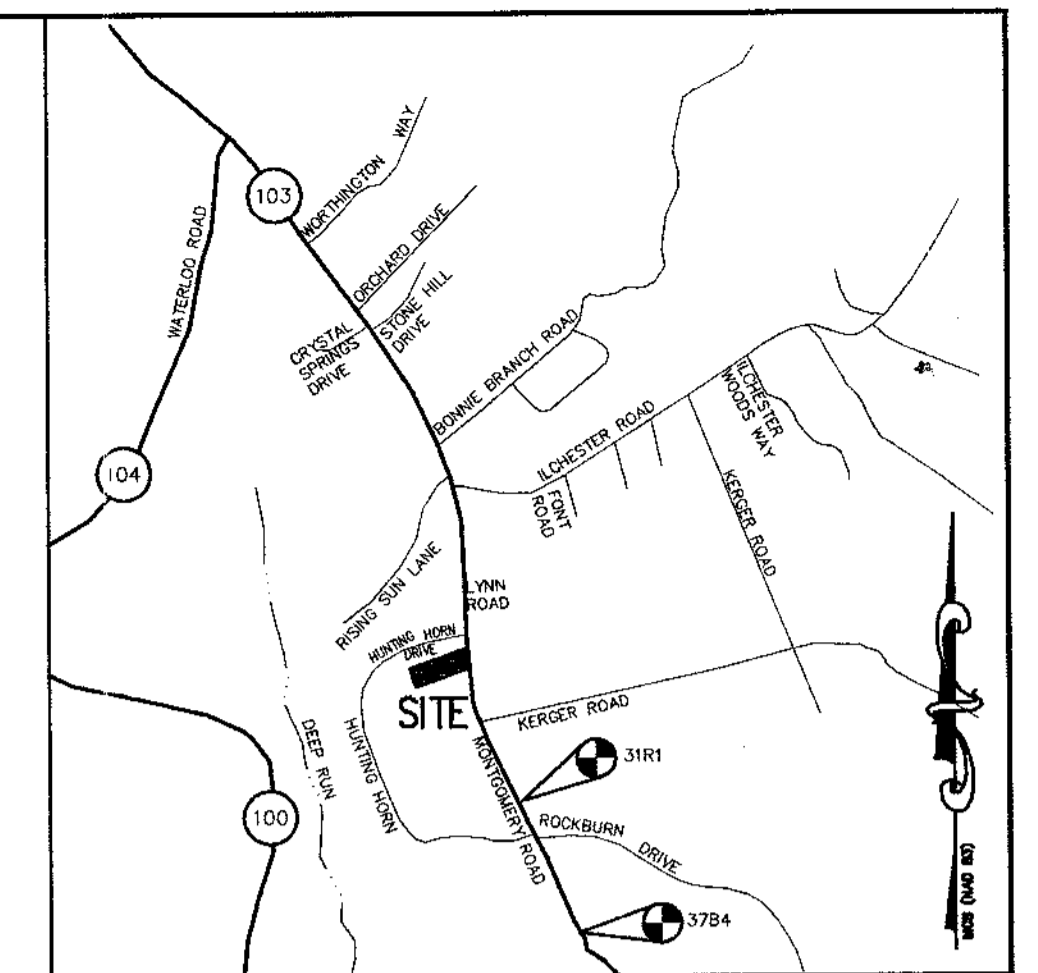
- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOL. IV "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION 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 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - 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.
 - STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS, (JANUARY 1998)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
 - THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD STUDY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST AND ASSOCIATES IN JULY, 2003.
 - THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 2744004 AND 2744005.
 - PUBLIC WATER WILL BE EXTENDED TO THE SITE FROM PUBLIC WATER LOCATED WITHIN MONTGOMERY ROAD CONTRACT 132-W.
 - SEWER DRAINAGE AREA: PATAPSCO. PUBLIC SEWER WILL BE EXTENDED TO THE SITE FROM PUBLIC SEWER LOCATED WITHIN MONTGOMERY ROAD CONTRACT 10-1215.
 - THE STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED BY THE DISCONNECTION OF ROOFTOP CREDIT SUPPLEMENTED BY RAINGARDENS AND THE GRASS CHANNEL CREDIT.
 - APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
 - NO WETLANDS EXIST ON SITE AS CERTIFIED BY PATTON HARRIS RUST & ASSOCIATES PER FIELD INVESTIGATION ON NOVEMBER 14, 2002.
 - THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP AND APPROVED DATED MAY 15, 2003.
 - A NOISE STUDY WAS PREPARED BY MARS GROUP AND APPROVED DATED AUGUST 2003.
 - THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY PATTON HARRIS RUST AND ASSOCIATES DATED MARCH 2003.
 - SUBJECT PROPERTY ZONED R-20 PER 02-02-04 COMPREHENSIVE ZONING PLAN.
 - ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
 - SEE DEPARTMENT OF PLANNING AND ZONING FILE NOS.: S-03-09, WP-03-96, P-04-003.
 - THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
 - PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
 - NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
 - ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
 - STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.e., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
 - PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
 - ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
 - ALL STREET CURB RETURNS SHALL HAVE 25' RADII UNLESS OTHERWISE NOTED.
 - ALL STREET LIGHTS SHALL BE LOCATED BETWEEN 2'-0" AND 4'-0" BEHIND FACE OF CURB.
 - TYPE AND NUMBER OF STREET TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS INCLUDING 20' CLEARANCE OF ANY STREET LIGHT AND SHALL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. BOND RELEASE IS CONTINGENT UPON SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING. CHANGES TO SPECIES MUST RECEIVE PRIOR APPROVAL FROM THE DIVISION OF LAND DEVELOPMENT.
 - THERE ARE TWO EXISTING PERMANENT STRUCTURES ON-SITE. THE EXISTING HOUSE ON LOT 3 WILL BE RETAINED. ALL OTHER STRUCTURES WILL BE REMOVED.
 - BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
 - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$10,500.00.
 - THIS PLAN SHALL BE SUBJECT TO COMPLIANCE WITH THE FIFTH EDITION OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND THE AMENDED ZONING REGULATIONS PER COUNCIL BILL 90-2001.
 - WP-03-96 - A REQUEST TO WAIVE SECTIONS 16.120(b)(4)(v) AND 16.121(e)(ii) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WHICH PROHIBITS ACCESS EASEMENTS FOR STORMWATER MANAGEMENT FACILITIES OR OPEN SPACE ON RESIDENTIAL LOTS AND WHICH REQUIRES OPEN SPACE LOTS TO HAVE 40' OF FRONTAGE ON A PUBLIC ROAD, RESPECTIVELY WAS APPROVED ON MARCH 5, 2003, SUBJECT TO THE FOLLOWING CONDITION:
 - A MAINTENANCE AGREEMENT FOR THE PRIVATE ACCESS PLACE SERVING LOTS 2-6 AND OPEN SPACE LOT 1 SHALL BE RECORDED WITH THE FINAL PLAN.
 - RAINGARDENS ARE PRIVATELY OWNED AND MAINTAINED BY THE OWNER OF EACH INDIVIDUAL LOT.
 - STORMWATER MANAGEMENT PRACTICES SHALL BE VERIFIED FOR CAPACITY AT THE SITE PLAN STAGE BASED ON ACTUAL LOT GRADING.
 - THE FOREST CONSERVATION OBLIGATION FOR THE PROPOSED SITE DEVELOPMENT WILL BE MET BY AFFORESTATION ON 0.28 ACRES OF THE SITE. SURETY WILL BE POSTED IN THE AMOUNT OF \$6,068.40 (12,198.80 SF X \$0.50). A FEE-IN-LIEU IN THE AMOUNT OF \$3,920.4 (7,840.8 SF X \$0.50/SF) WILL BE PAID FOR THE REMAINING 0.18 ACRES OF OBLIGATION.



BENCH MARK

CONTROL STATION 31R1
ELEVATION 401.748
N 565,303.465
E 1,372,517.678

CONTROL STATION 37B4
ELEVATION 402.115
N 563,928.548
E 1,373,109.059



SITE TABULATION

EXISTING ZONING	R-20
GROSS AREA OF PROPERTY	3.0625 AC (133,403 SF)
AREA IN 100 YR. FLOODPLAIN	0.00 AC
AREA OF STEEP SLOPE	0.00 AC
AREA OF RIGHT-OF-WAY DEDICATION	0.00 AC
NET TRACT AREA	3.0625 AC (133,403 SF)
AREA OF PROPOSED BUILDABLE LOTS	2.3745 AC
MINIMUM LOT SIZE SELECTED	18,000 SF
AREA OF REQUIRED OPEN SPACE (10% OF NET)	0.3063 AC (13,342 SF)
AREA OF PROVIDED OPEN SPACE:	
CREDITED	0.3070 AC (13,373 SF)
NON-CREDITED (LOT 7)	0.1875 AC (8,168 SF)
TOTAL PROVIDED	0.4945 AC (21,540 SF)
NUMBER OF BUILDABLE LOTS	5 INCLUDING (ONE EXISTING HOUSE TO REMAIN)
NUMBER OF OPEN SPACE LOTS	2
PROPOSED WATER AND SEWER	PUBLIC

Contract # 14-4172-D

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Cindy Hamilton 12/21/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Christopher J. Reid 12/21/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION

OWNER	DEVELOPER
WILLIAM MCFARLAND, JR. TRUST VIOLA MCFARLAND TRUST 5386 MONTGOMERY ROAD ELLCOTT CITY, MD 21043	CORNERSTONE HOLDINGS, LLC ATTN: BRIAN BOY 9691 NORFOLK AVENUE LAUREL, MARYLAND 20723 410-792-2565

PROJECT			
CHAPEL MANOR LOTS 1-7			
AREA	TAX MAP 31	PARCEL 192	ZONED R-20
1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND			

TITLE SHEET

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.

PHRA

8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

11-16-04
DATE

CHECKED BY: C.J.R.

DESIGNED BY: A.C.R.

DRAWN BY: DAM

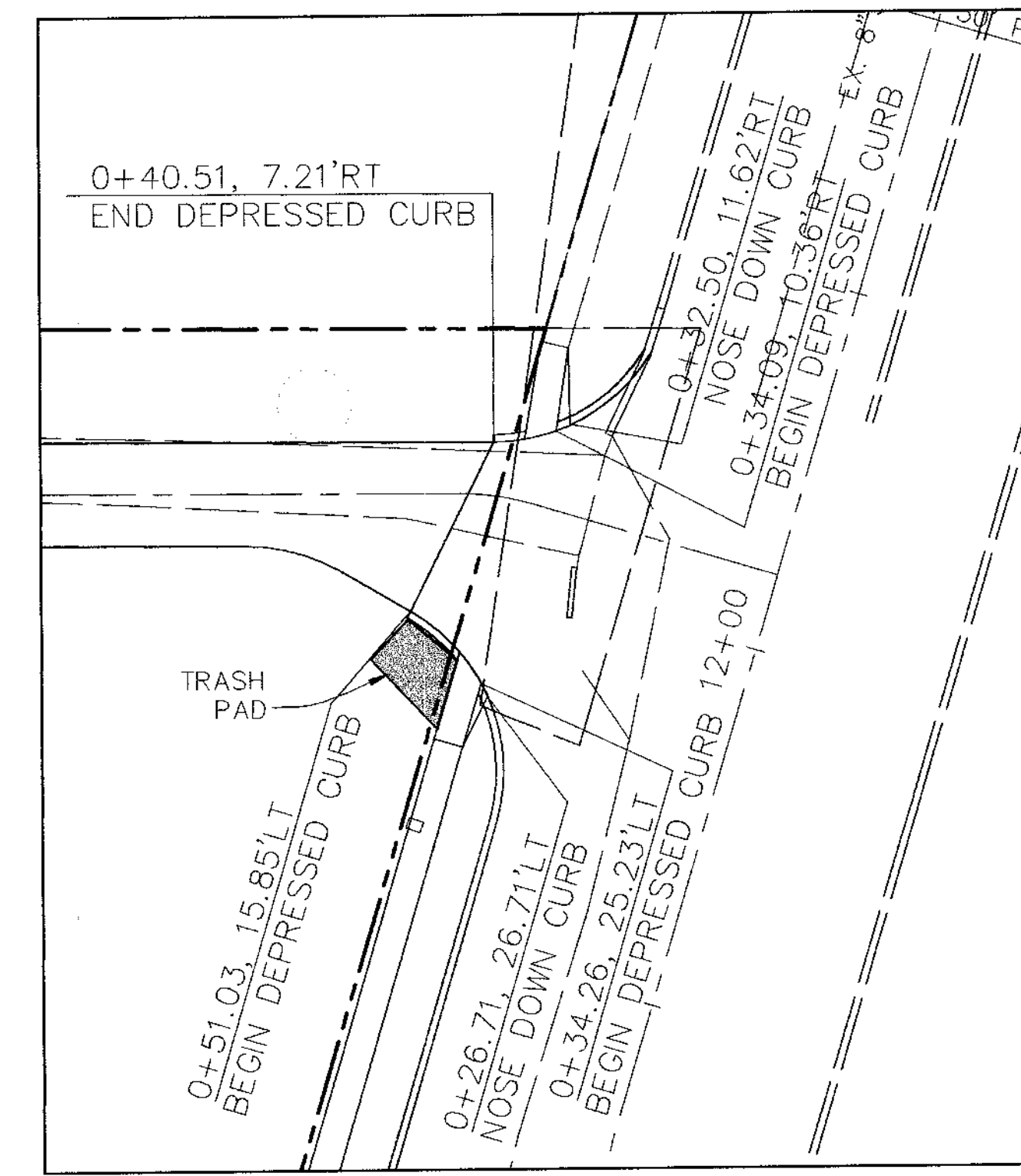
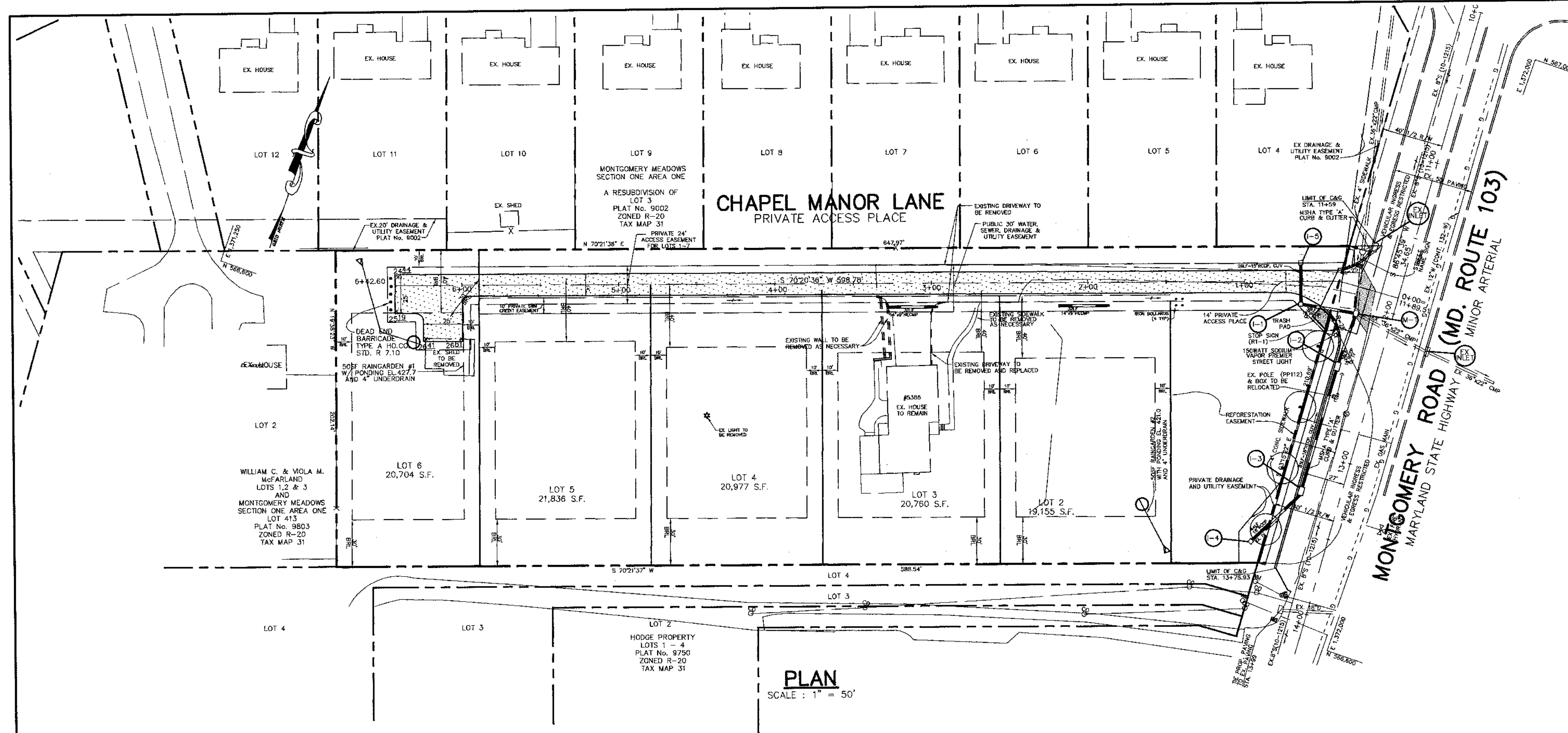
PROJECT NO: 11818 RD1.DWG

DATE: NOVEMBER 17, 2004

SCALE: AS SHOWN

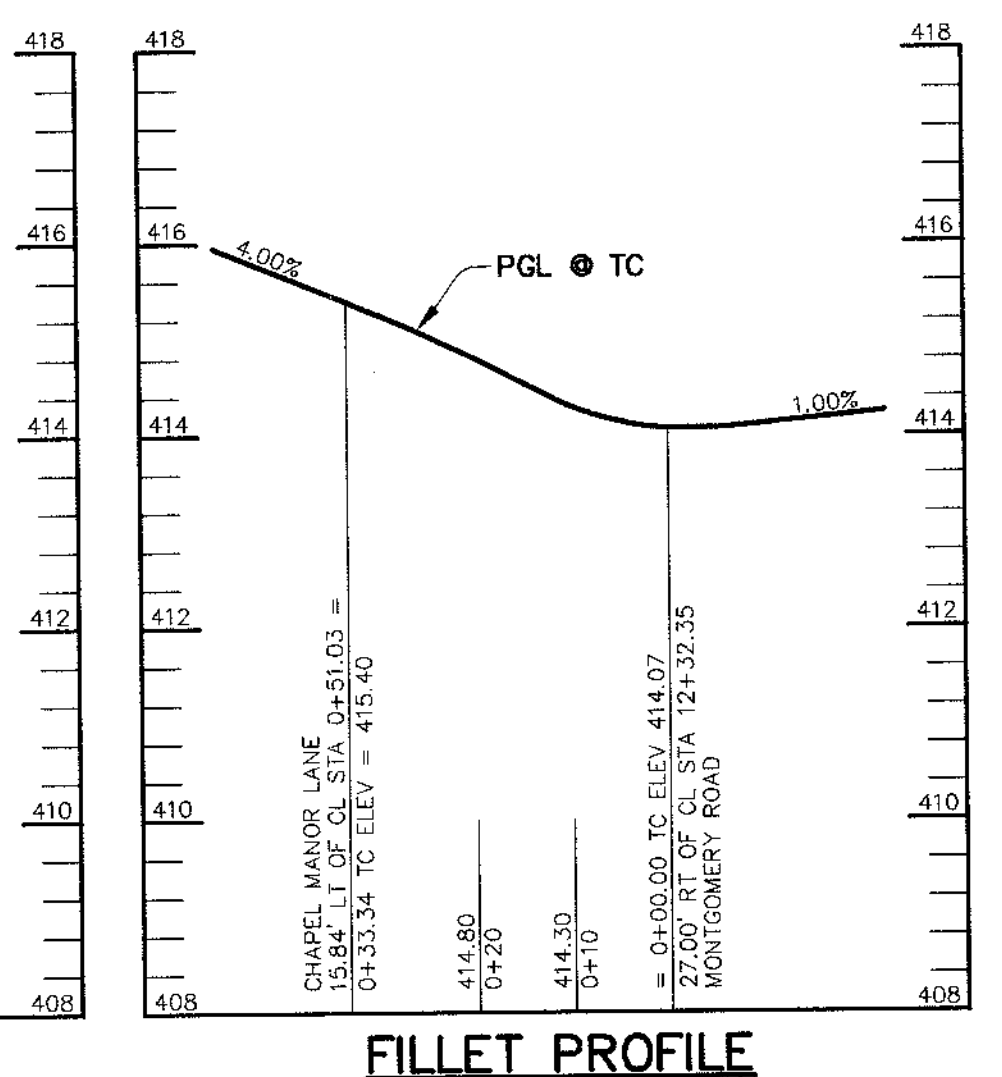
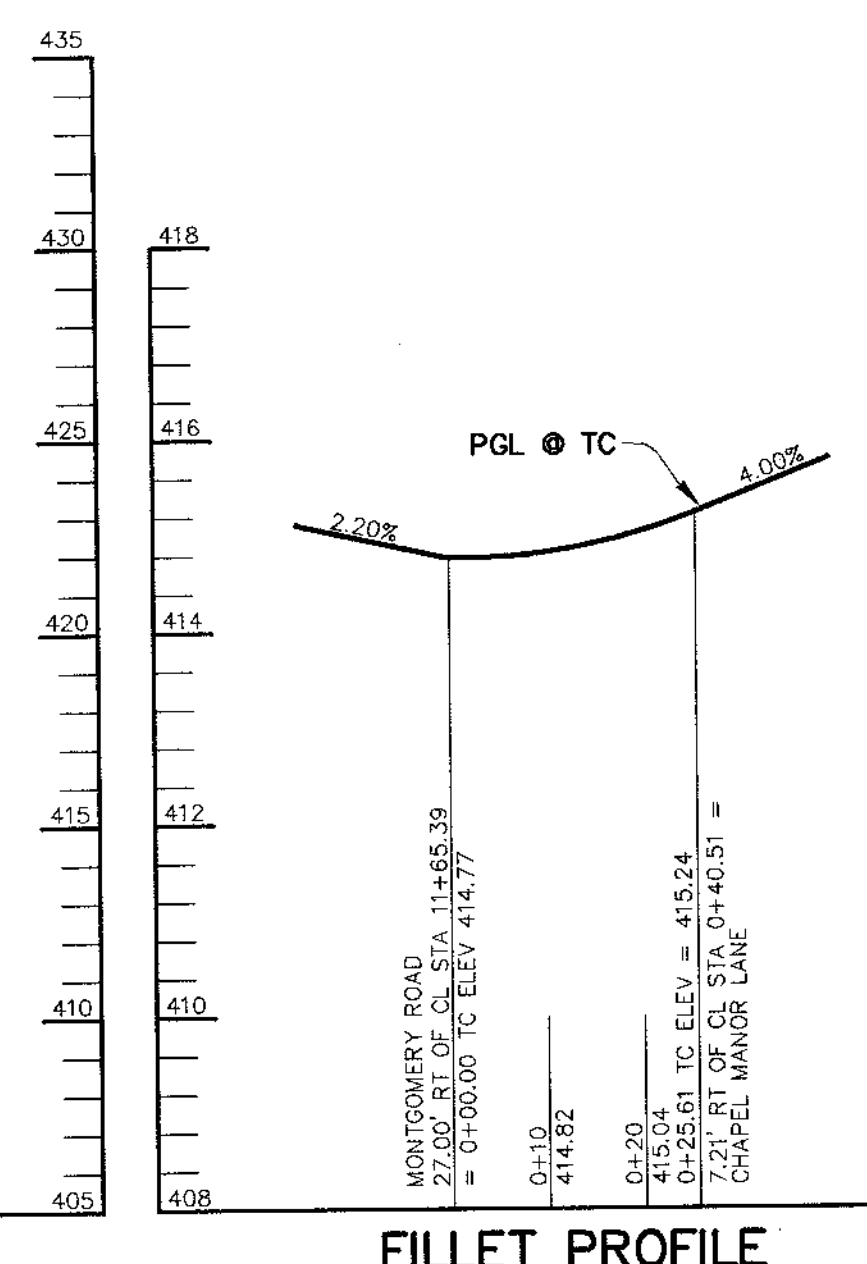
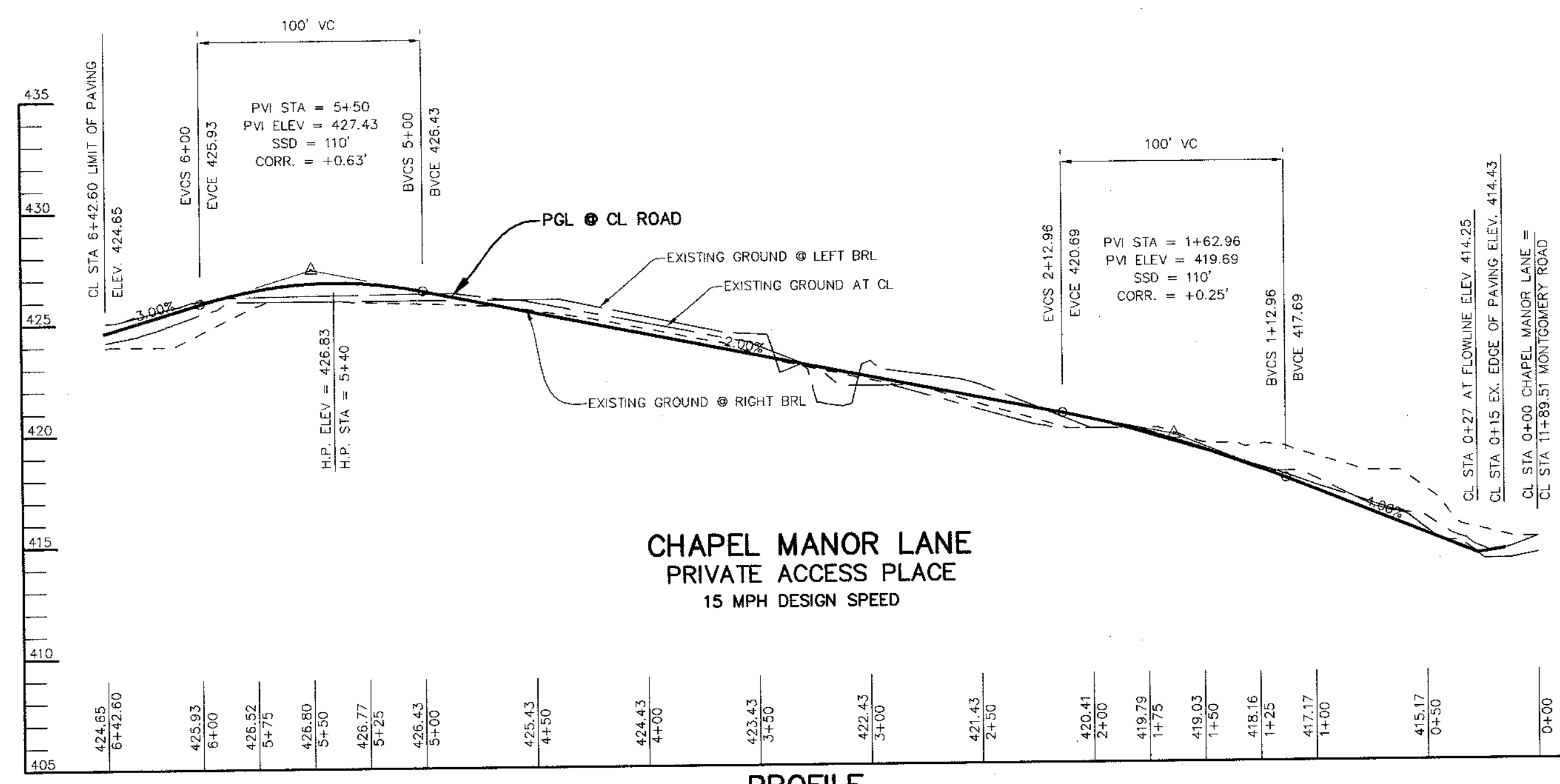
DRAWING NO. 1 OF 9

CHRISTOPHER J. REID #19949



LEGEND

PROPERTY LINE AND RIGHT OF WAY	---
EXISTING STORM DRAIN	==== 15"D
PROPOSED STORM DRAIN	==== 15"D
OVERHEAD WIRES	—OHW—
EXISTING TREELINE	~~~~~
PROPOSED TREELINE	~~~~~
EXISTING TREE	⊗
PROPOSED ELEVATION	13'±
SETBACK LINES	---
P-2 PAVING	▨
PAVING TO BE REMOVED	▨
SIDEWALK	▨
EXISTING WATER	— —
PROPOSED WATER	— —
EXISTING CURB	---
PROPOSED CURB	---
EXISTING BUILDING	▭
PROPOSED BUILDING	▭
MSHA PAVING	▨



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Howard 12/21/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Christopher J. Reid 12/21/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO.	REVISION
OWNER	DEVELOPER
PROJECT	
AREA	
TITLE	
DATE	
DESIGNED BY	
DRAWN BY	
PROJECT NO.	
DATE	
SCALE	
DRAWING NO.	

WILLIAM McFARLAND, JR. TRUST
VIOLA McFARLAND TRUST
5386 MONTGOMERY ROAD
ELLICOTT CITY, MD 21043

CORNERSTONE HOLDINGS, LLC
ATTN: BRIAN BOY 9691
NORFOLK AVENUE LAUREL,
MARYLAND 20723
410-792-2565

CHAPEL MANOR
LOTS 1-7

TAX MAP 31 PARCEL 192 ZONED R-20
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

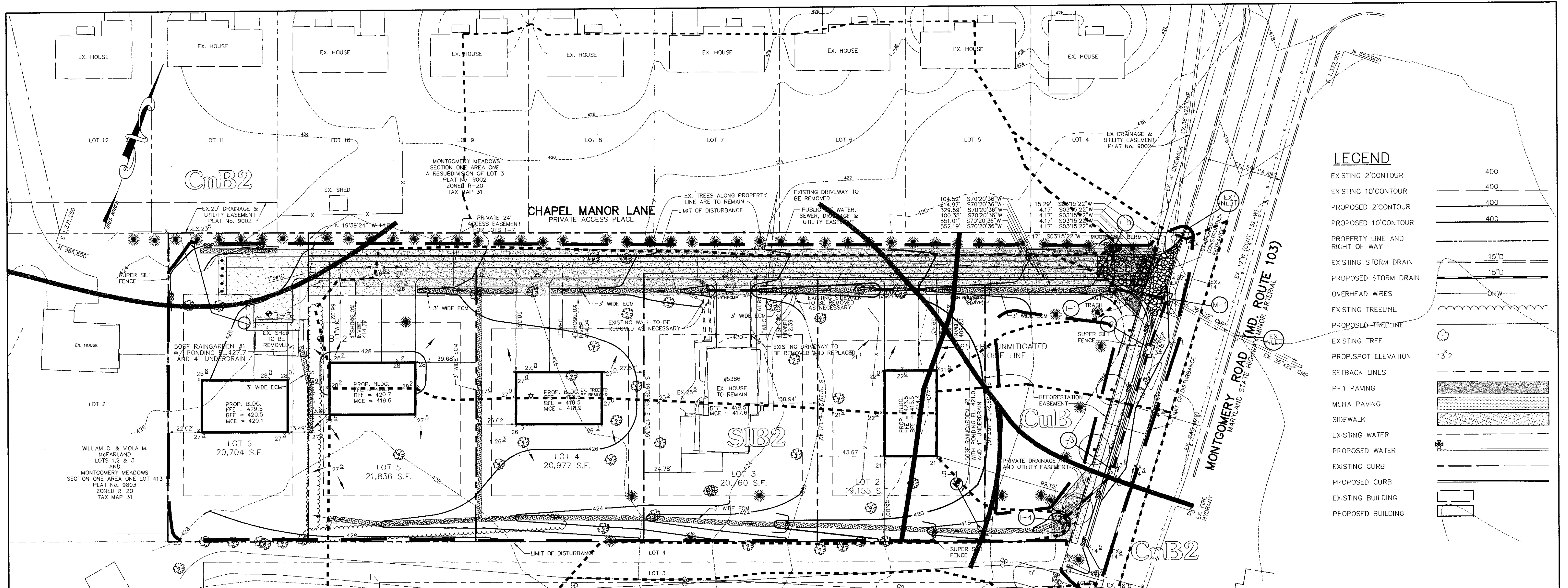
PLAN AND PROFILE OF
CHAPEL MANOR LANE

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

11.16.04
DATE

STATE OF MARYLAND
PROFESSIONAL ENGINEER
CHRISTOPHER J. REID #19949

CHECKED BY: CRJ/RS.
DESIGNED BY: AKLBM.
DRAWN BY: DAM
PROJECT NO: 11818
RD2.DWG
DATE: NOVEMBER 17, 2004
SCALE: AS SHOWN
DRAWING NO. 2 OF 9



LEGEND

EXISTING 2' CONTOUR	400
EXISTING 10' CONTOUR	400
PROPOSED 2' CONTOUR	400
PROPOSED 10' CONTOUR	400
PROPERTY LINE AND RIGHT OF WAY	
EXISTING STORM DRAIN	15" D
PROPOSED STORM DRAIN	15" D
OVERHEAD WIRES	OHW
EXISTING TREELINE	
PROPOSED TREELINE	
EXISTING TREE	
PROP. SPOT ELEVATION	13' x 2
SETBACK LINES	
P-1 PAVING	
MSHA PAVING	
SIDEWALK	
EXISTING WATER	
PROPOSED WATER	
EXISTING CURB	
PROPOSED CURB	
EXISTING BUILDING	
PROPOSED BUILDING	

DRAINAGE DATA

INLET NOS.	AREA IN ACRES	C FACTOR	PERCENT IMPERVIOUS
I-1	1.00	0.39	43
I-2	0.21	0.27	52
I-3	0.47	0.34	26
I-4	1.15	0.23	25
I-5	1.22	0.28	11

SOILS CHART

MAP SYMBOL	NAME	STRUCTURAL LIMITATIONS DWELLINGS	EROSION HAZARD	HYDRIC	SLOPE (%)
CnB2	CHILLUM-FAIRFAX LOAMS	SLIGHT	MODERATE	NO	1-5%
CuB	COMUS SILT LOAM	SLIGHT	LOCAL ALLUVIUM	NO*	3-8%
SIB2	SASSAFRAS LOAM	SLIGHT	MODERATE	NO	1-5%

* SOIL MAY CONTAIN HYDRIC INCLUSIONS

DRAINAGE AREA SUMMARY TABLE

	DRAINAGE AREA (AC)	WQv (CF)	Rev (CF)	Cpv (AC-FT)	Qp 1 (CFS)	Qp 10 (CFS)	Qp 100 (CFS)	COMMENTS
STUDY POINT 1	1.43	1779	462	N/A	1.14	4.62	4.62	ROOFTOP DISCONNECTION CREDIT & GRASS CHANNEL CREDIT
STUDY POINT 2	1.18	898	234	N/A	0.61	3.09	3.09	ROOFTOP RUNOFF DISCONNECTION CREDIT
STUDY POINT 3	0.63	751	195	N/A	0.33	2.63	2.63	ROOFTOP DISCONNECTION CREDIT & GRASS CHANNEL CREDIT

THE ROOFTOP RUNOFF DISCONNECTION CREDITS AND GRASS CHANNEL CREDIT WILL PROVIDE FOR THE REQUIRED WQv AND REV. TWO RAINGARDENS HAVE BEEN PROVIDED ON LOTS 2 AND LOT 6 TO ACCOUNT FOR A ROOFTOP DISCONNECT LENGTH OF LESS THAN THE REQUIRED 75'. Cpv IS NOT REQUIRED ON THIS SITE BECAUSE THE PROPOSED 1-YEAR STORM DISCHARGE IS LESS THAN 2 CFS FOR EACH DRAINAGE AREA.

NOTE: RAINGARDEN DESIGN AND DETAILS WILL BE PROVIDED ON THESE PLANS. RAINGARDEN CONSTRUCTION WILL BE PERFORMED AT SDP PHASE.

LEGEND

SOIL LINES	---
INLET DRAINAGE AREA DIVIDE	- - - - -
STABILIZED CONSTRUCTION ENTRANCE	XXXXXX
LIMIT OF DISTURBANCE	---
SUPER SILT FENCE	SSF
EROSION CONTROL MATTING	XXXXXX

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

B. D. Boy 11-16-04
DEVELOPER DATE

BY THE ENGINEER :

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

Ch. J. Rao 11-16-04
ENGINEER DATE

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

Jim Myers / us 11/30/04
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Christopher J. Reid 11/30/04
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Howard County 12/21/04
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Christopher J. Reid 12/21/04
CHIEF, DEVELOPMENT & ENGINEERING DIVISION DATE

REVISION

DATE	NO.	REVISION

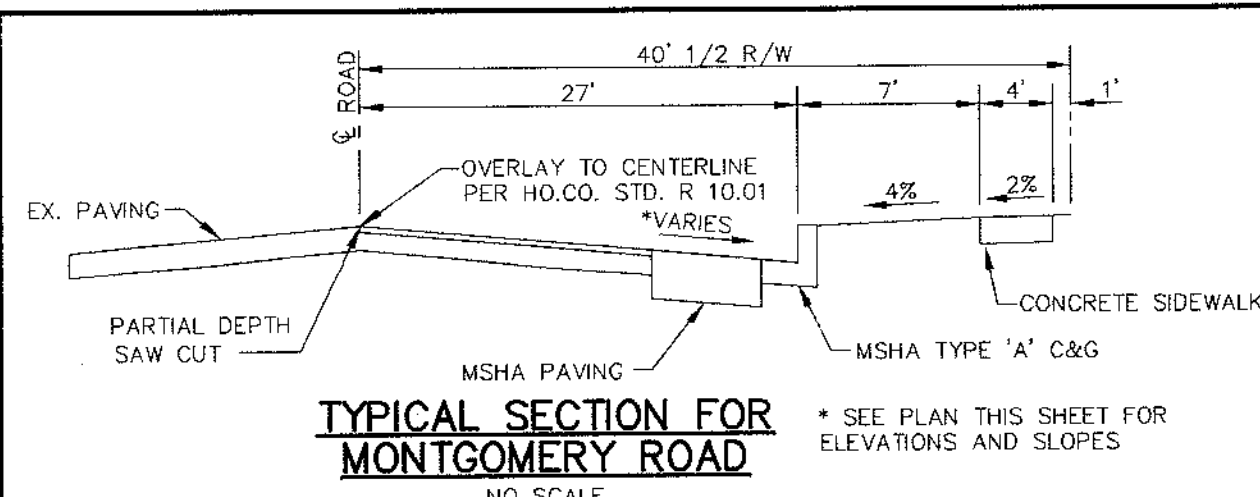
OWNER: WILLIAM McFARLAND, JR. TRUST, VIOLA McFARLAND TRUST, 5386 MONTGOMERY ROAD, ELLICOTT CITY, MD 21043
DEVELOPER: CORNERSTONE HOLDINGS, LLC, ATTN: BRIAN BOY 9691 NORFOLK AVENUE LAUREL, MARYLAND 20723, 410-792-2565

PROJECT: CHAPEL MANOR LOTS 1-7
AREA: TAX MAP 31, PARCEL 192, ZONED R-20, 1st ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

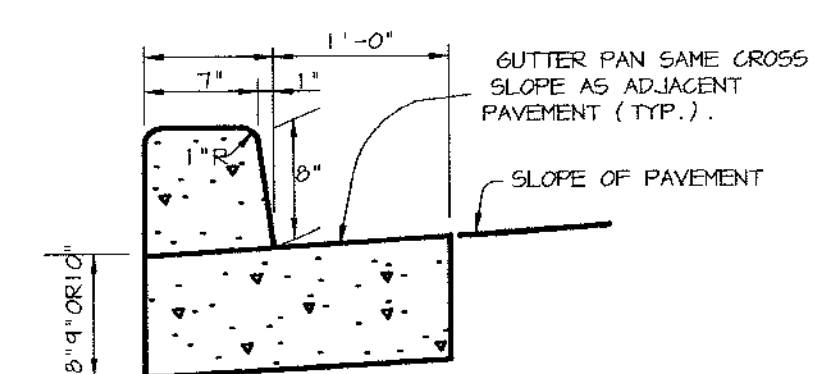
TITLE: DRAINAGE AREA MAP, GRADING AND SEDIMENT CONTROL PLAN

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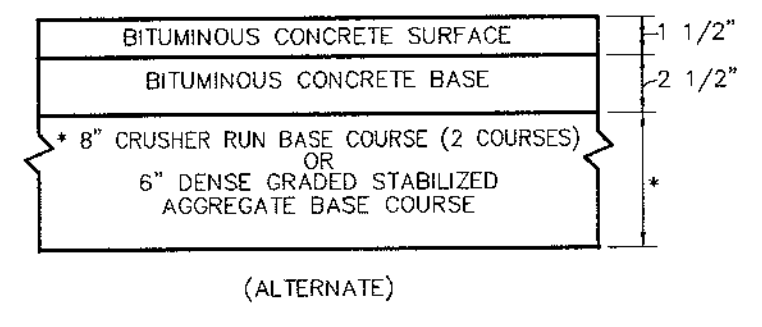
11-16-04 DATE
CHECKED BY : C.J.R.
DESIGNED BY : A.C.R.
DRAWN BY : DAM
PROJECT NO: 11818 RD3.DWG
DATE: NOVEMBER 17, 2004
SCALE: 1"=30'
DRAWING NO. 3 OF 9



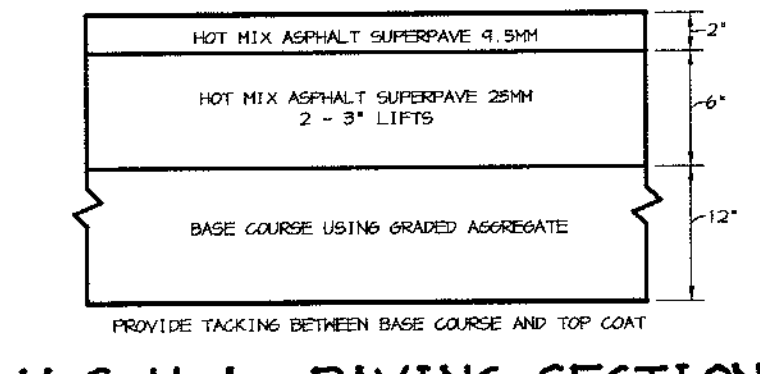
TYPICAL SECTION FOR MONTGOMERY ROAD
NO SCALE
* SEE PLAN THIS SHEET FOR ELEVATIONS AND SLOPES



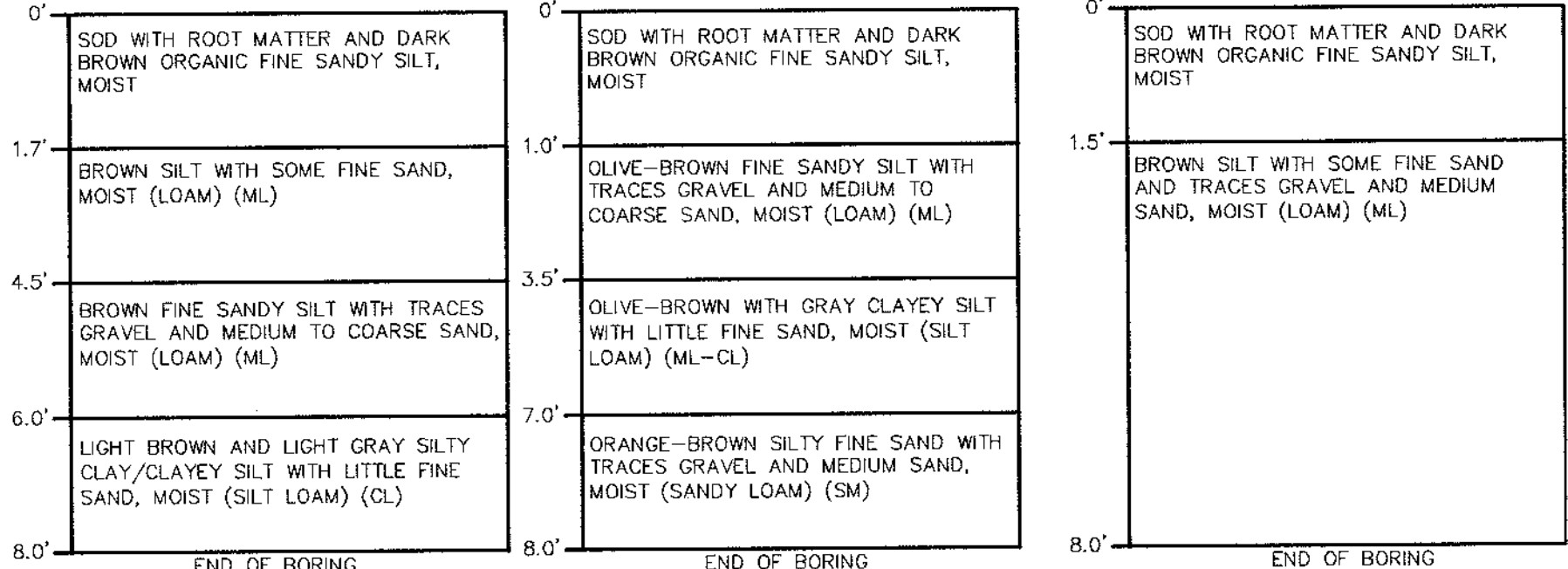
M.S.H.A. TYPE 'A' CURB AND GUTTER
NO SCALE



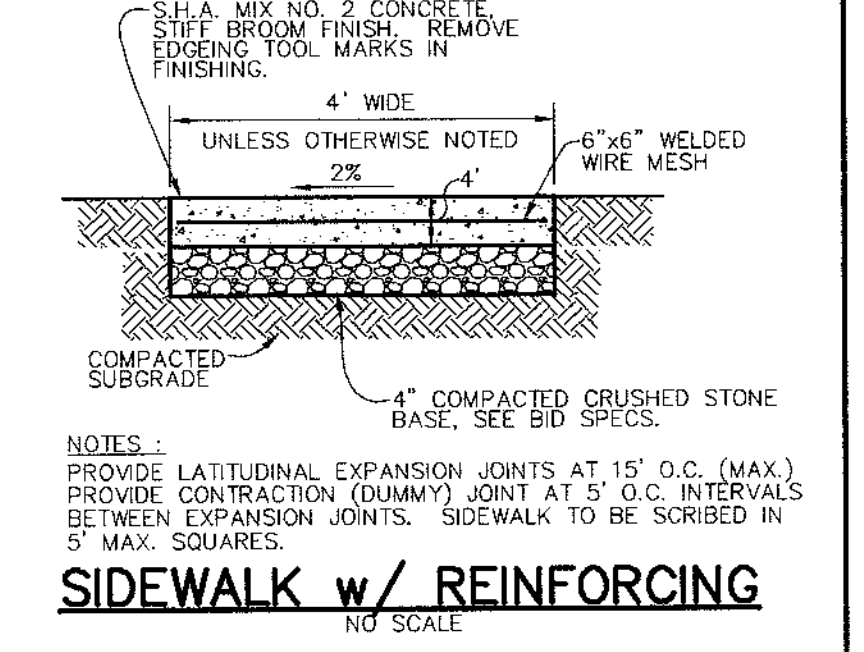
P-2 PAVING
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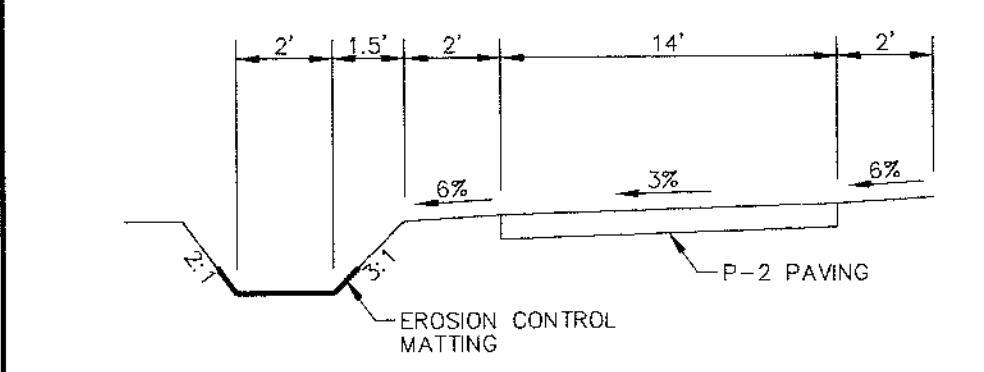
M.S.H.A. PAVING SECTION
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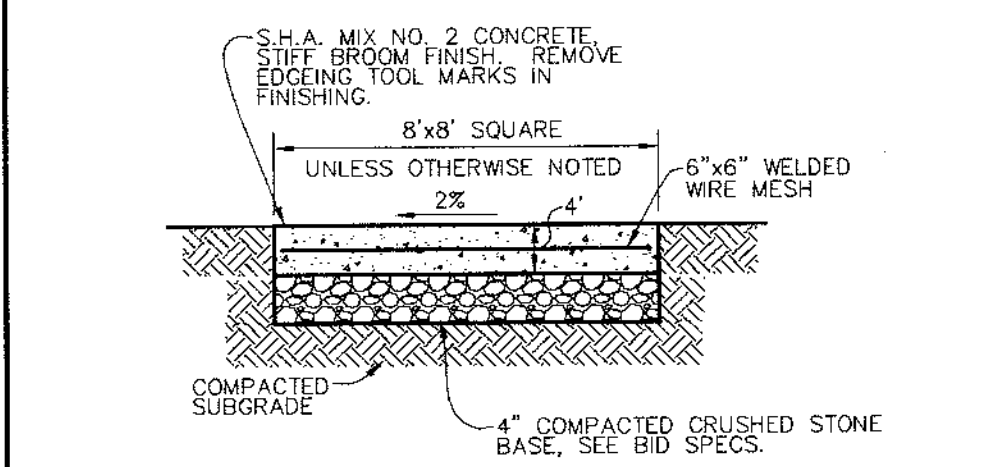
BORING B-1 BORING B-2 BORING B-3
NO SCALE



SIDEWALK w/ REINFORCING
NO SCALE



TYPICAL SECTION FOR PRIVATE ACCESS PLACE
NO SCALE



TRASH PAD DETAIL
NO SCALE

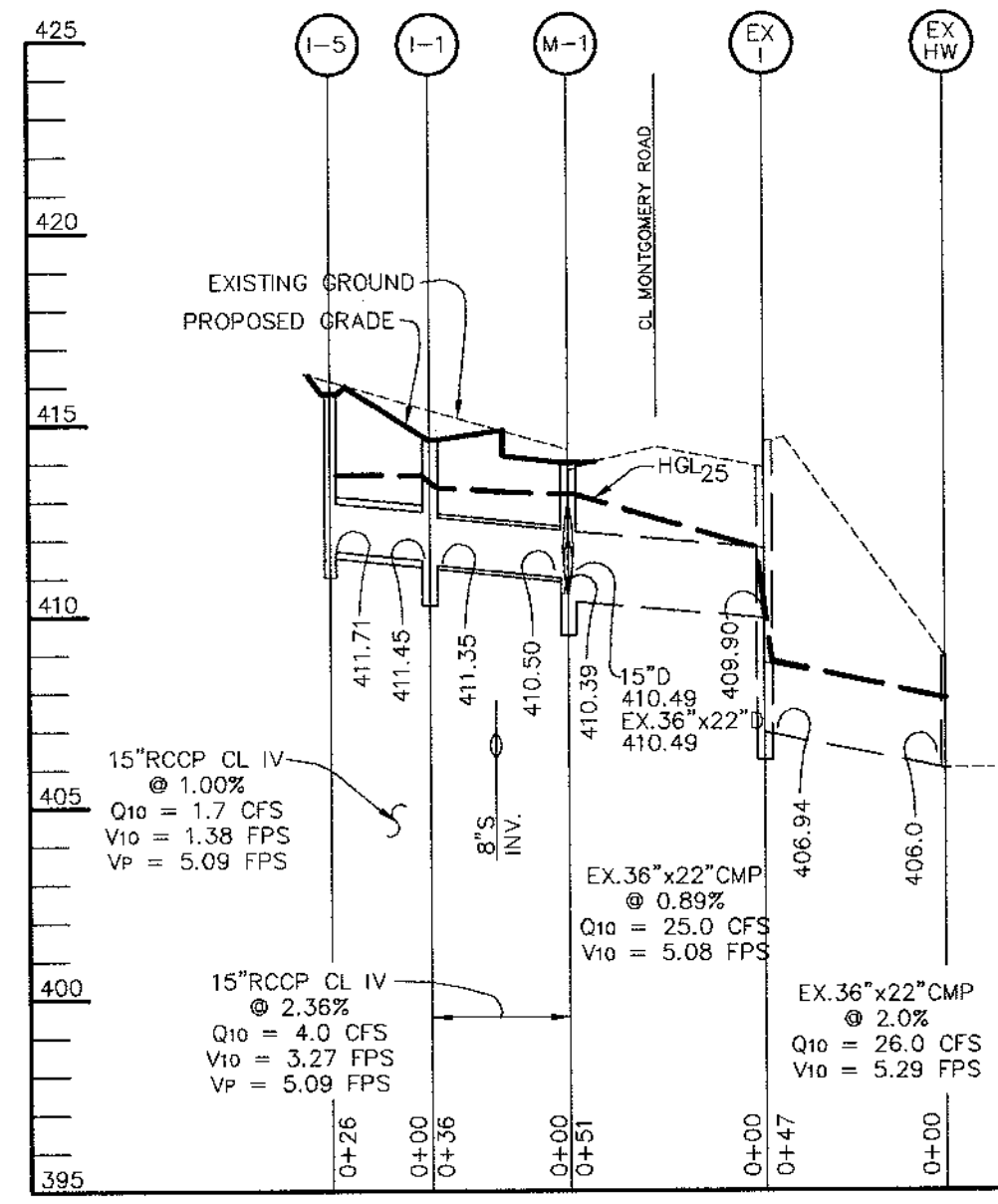
PIPE SCHEDULE

PIPE LENGTH	SIZE	TYPE
225'	15"	RCCP, CL IV

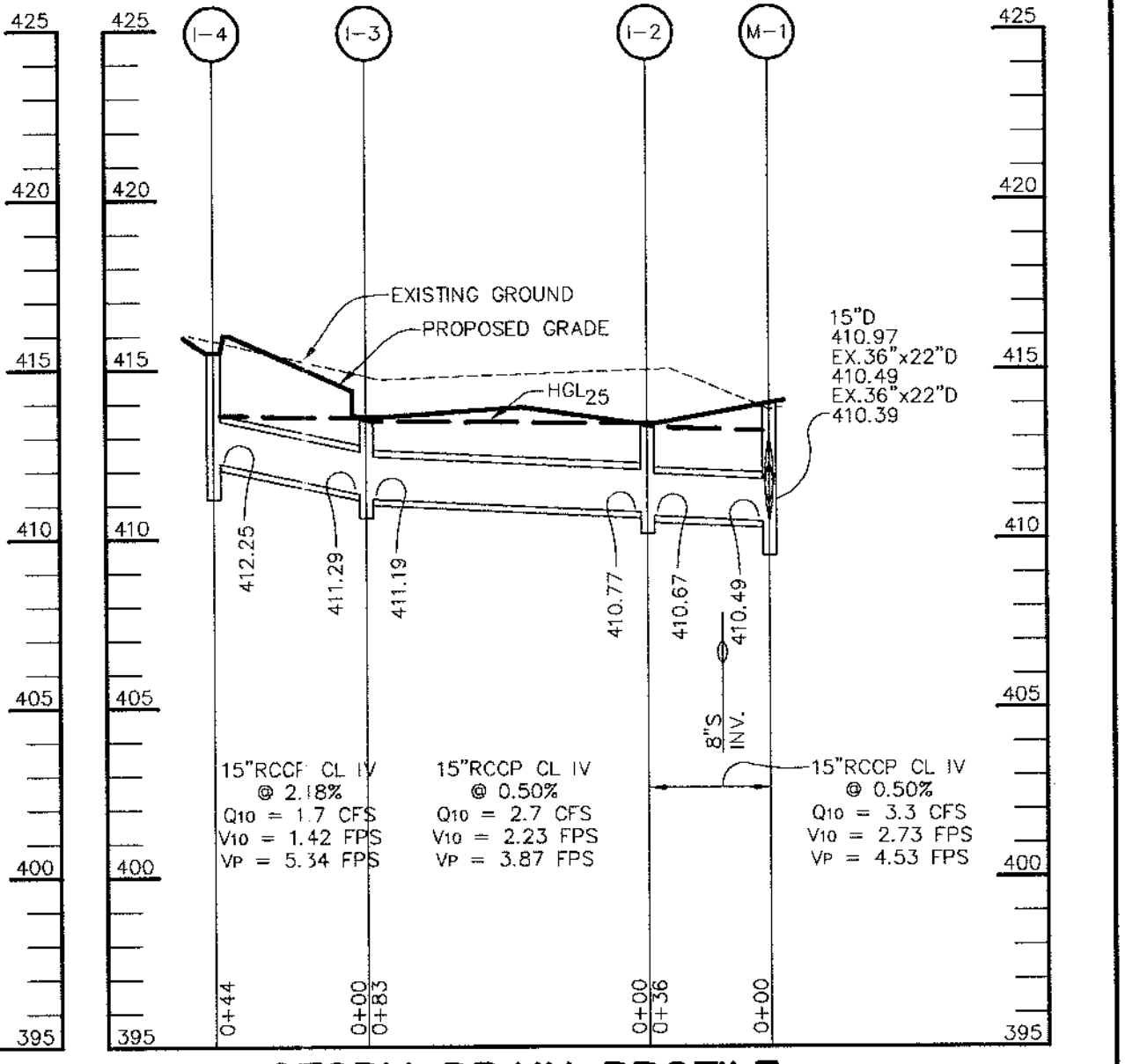
STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	'S'	N 566803 E 1371910	411.45 (15")	411.35 (15")	414.6	HOCO STD. DETAIL SD-4.22
I-2	'S' COMB	N 566773.13 E 1371943.94	410.77 (15")	410.67 (15")	414.07	MSHA STD. DETAIL 379.04
I-3	'S' COMB	N 566690.27 E 1371948.63	411.29 (15")	411.19 (15")	414.27	MSHA STD. DETAIL 379.04
I-4	'S'	N 566649 E 1371931	-	412.25 (15")	415.5	HOCO STD. DETAIL SD-4.22
I-5	'S'	N 566828 E 1371902	-	411.71 (15")	415.6	HOCO STD. DETAIL SD-4.22
M-1	48" SQUARE SHALLOW	N 566809 E 1371945	410.50 (15") 410.49 (15") 410.49 (36"x22")	410.39 (36"x22")	414.0	MSHA STD. DETAIL 383.00

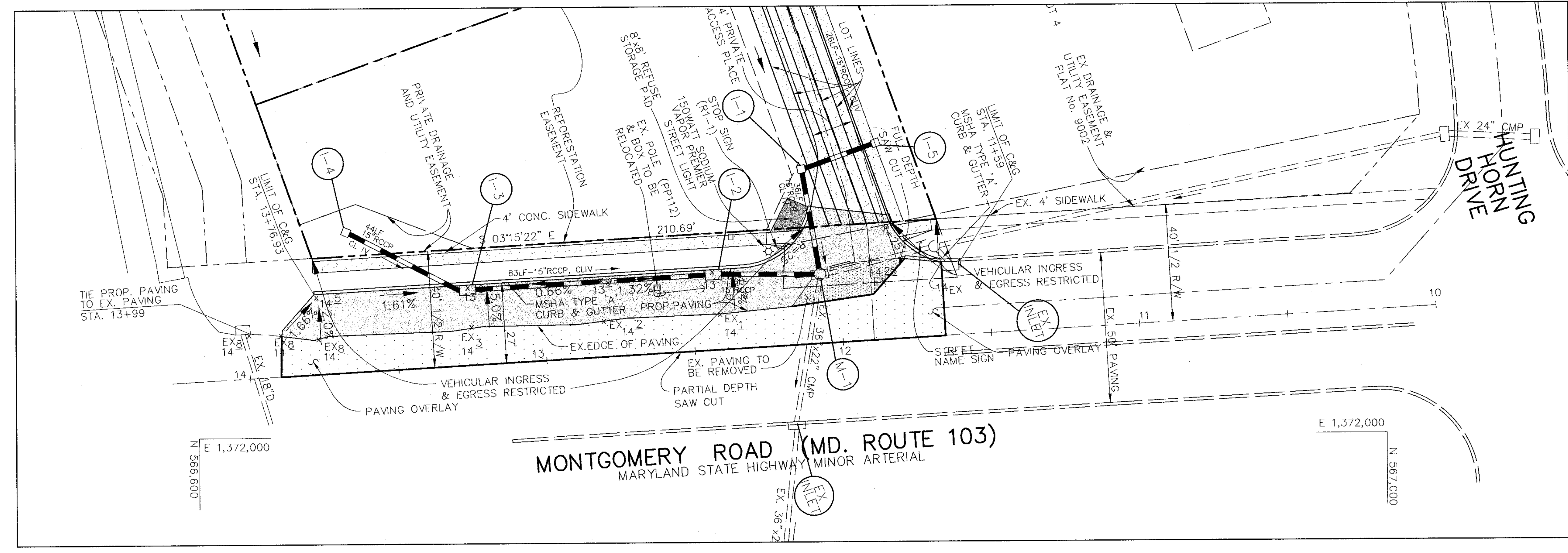
NOTES: LOCATION OF 'S' INLETS AND MAN-HOLES IS AT CENTER OF TOP COVER
LOCATION OF 'S' COMBINATION INLETS IS AT TOP FACE OF CURB AT CENTER OF STRUCTURE



STORM DRAIN PROFILE



STORM DRAIN PROFILE



ROAD WIDENING PLAN
SCALE: 1" = 20'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 [Signature] CHIEF, DIVISION OF LAND DEVELOPMENT 12/21/04 DATE
 [Signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/21/04 DATE

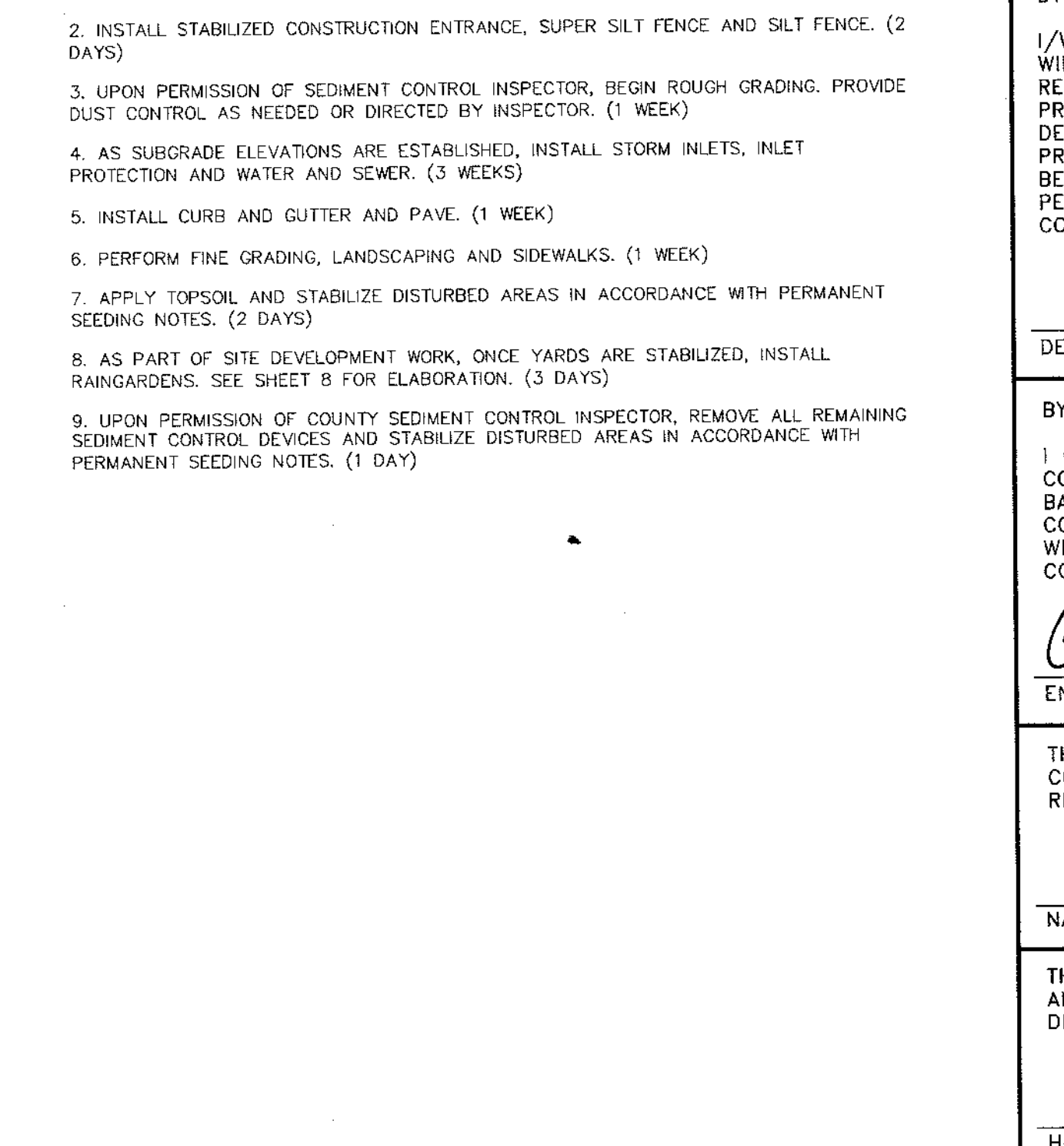
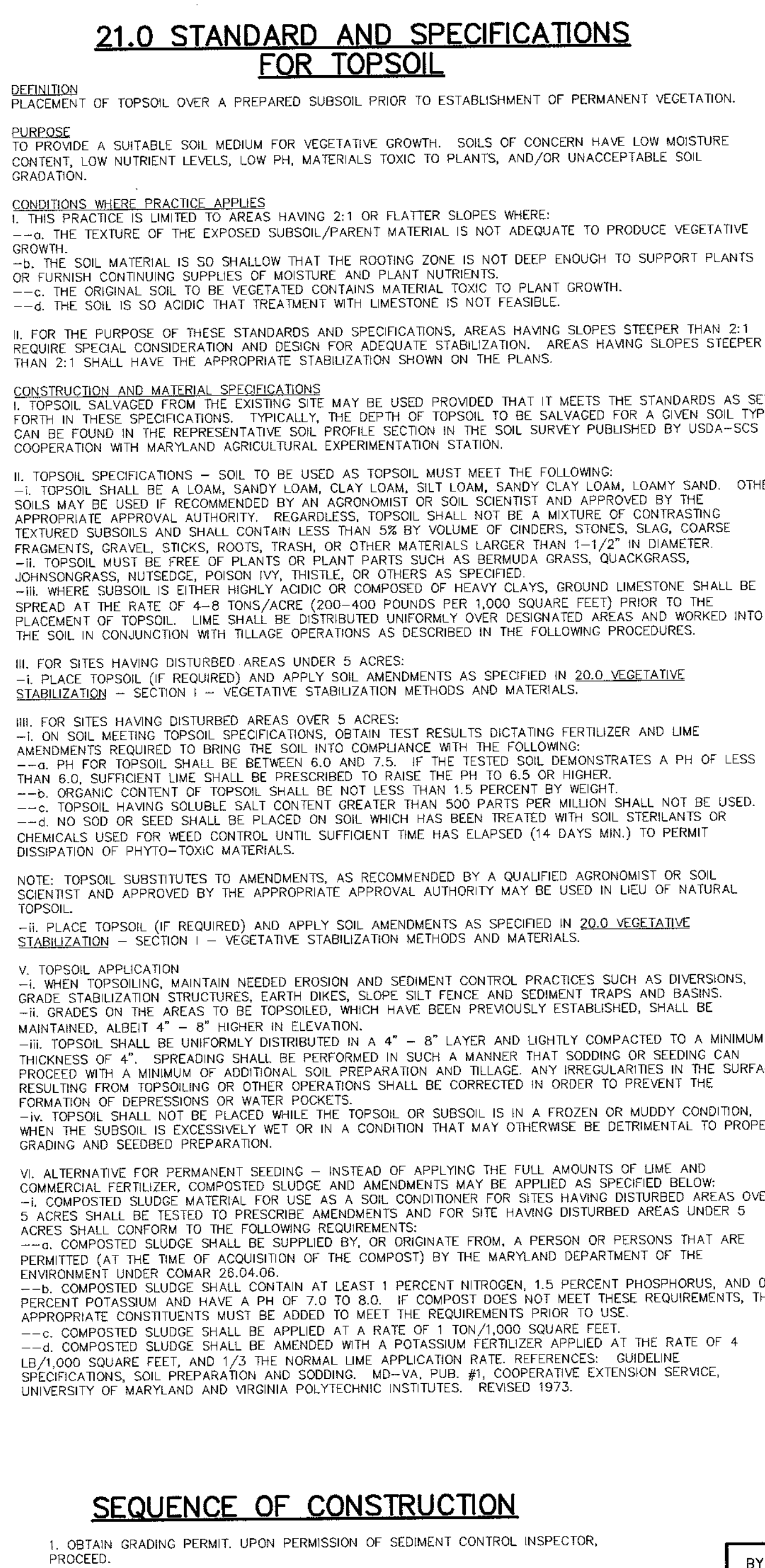
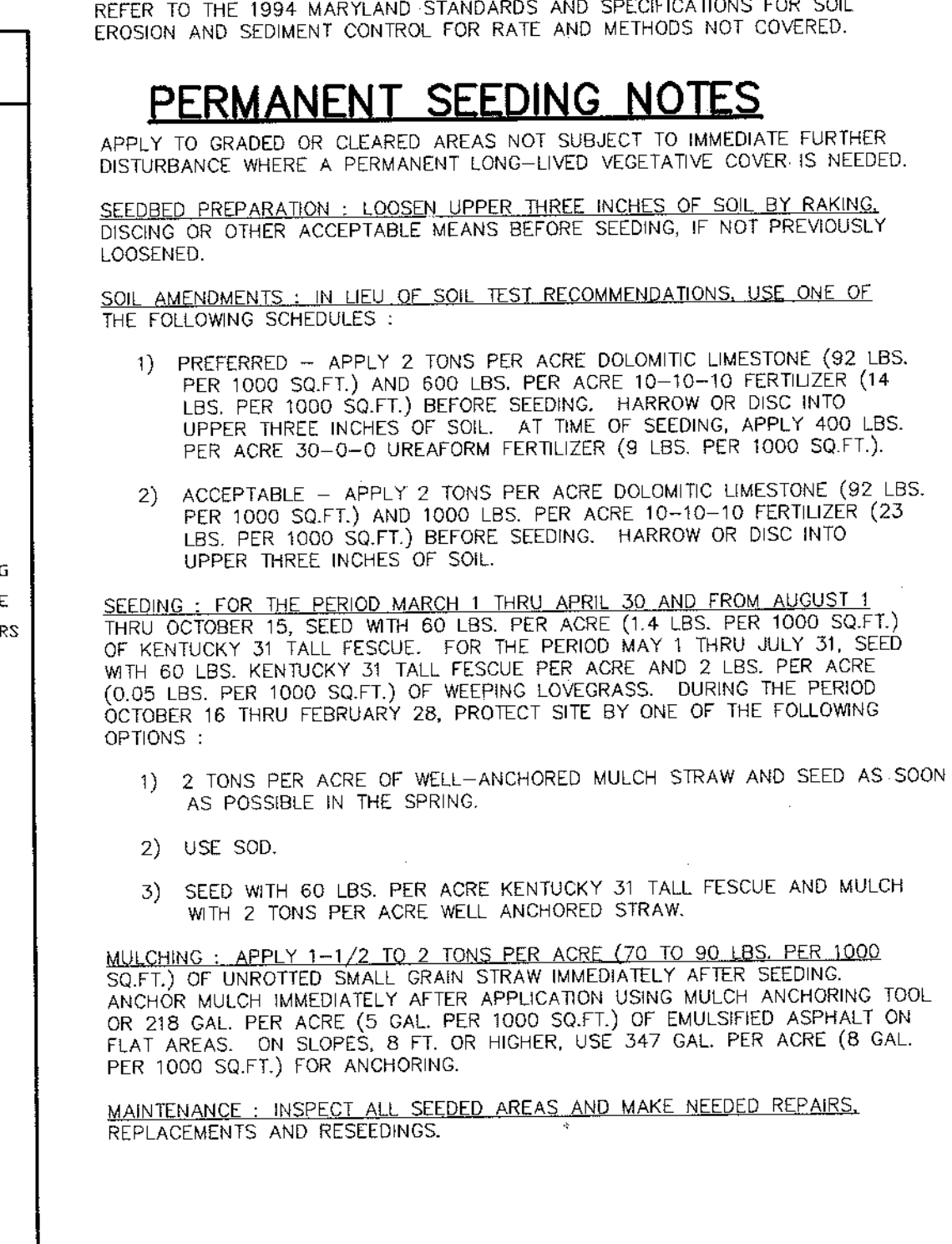
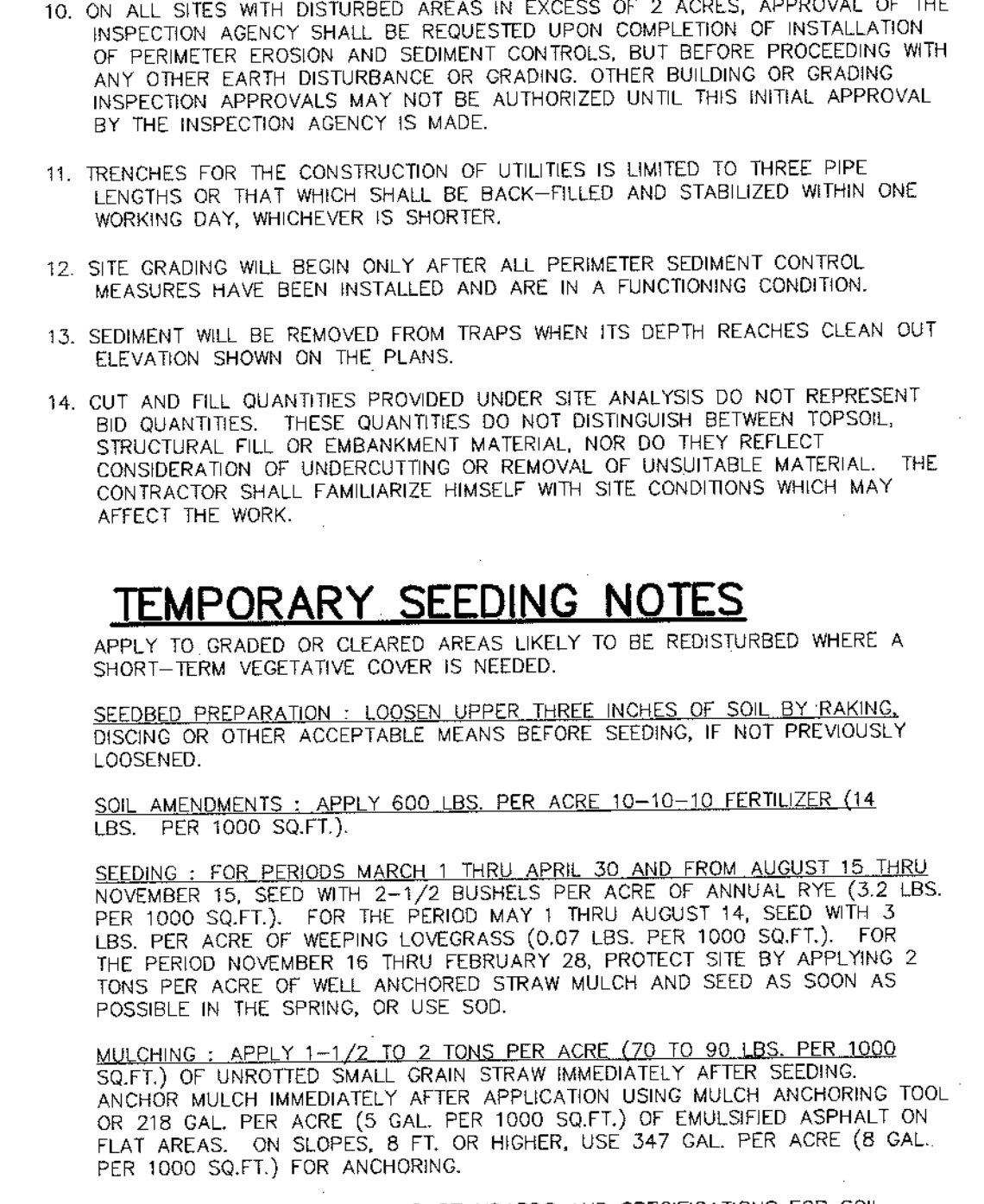
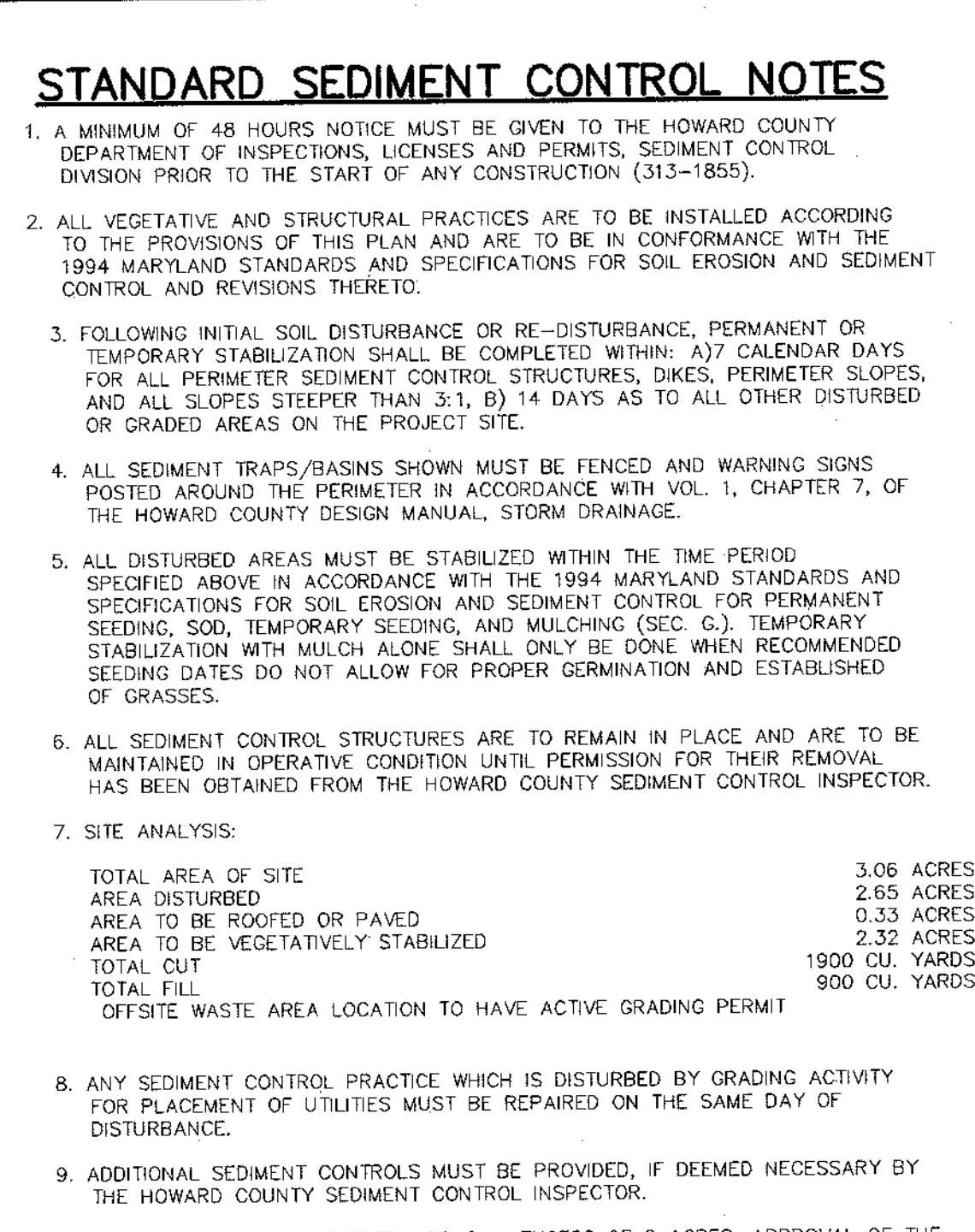
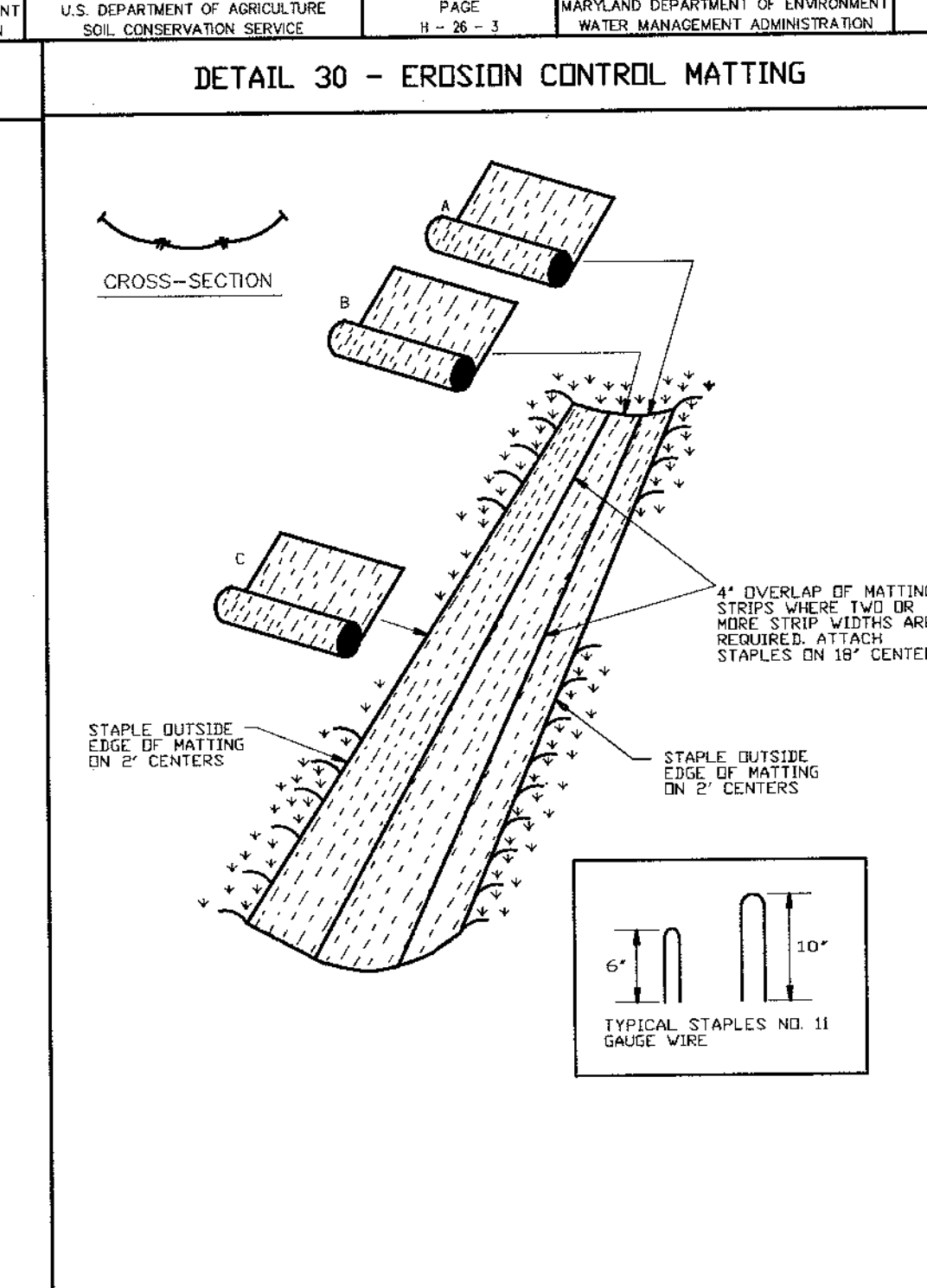
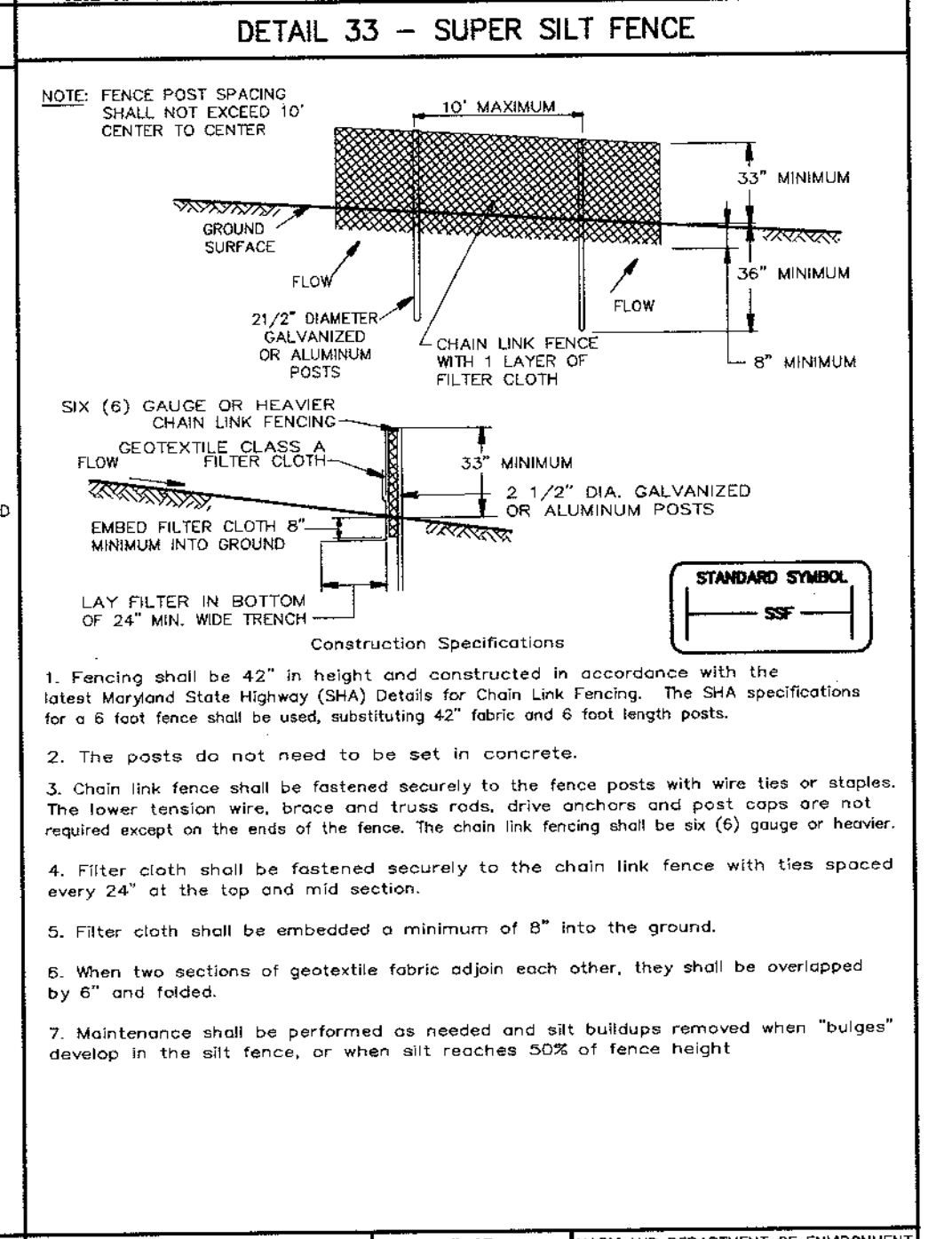
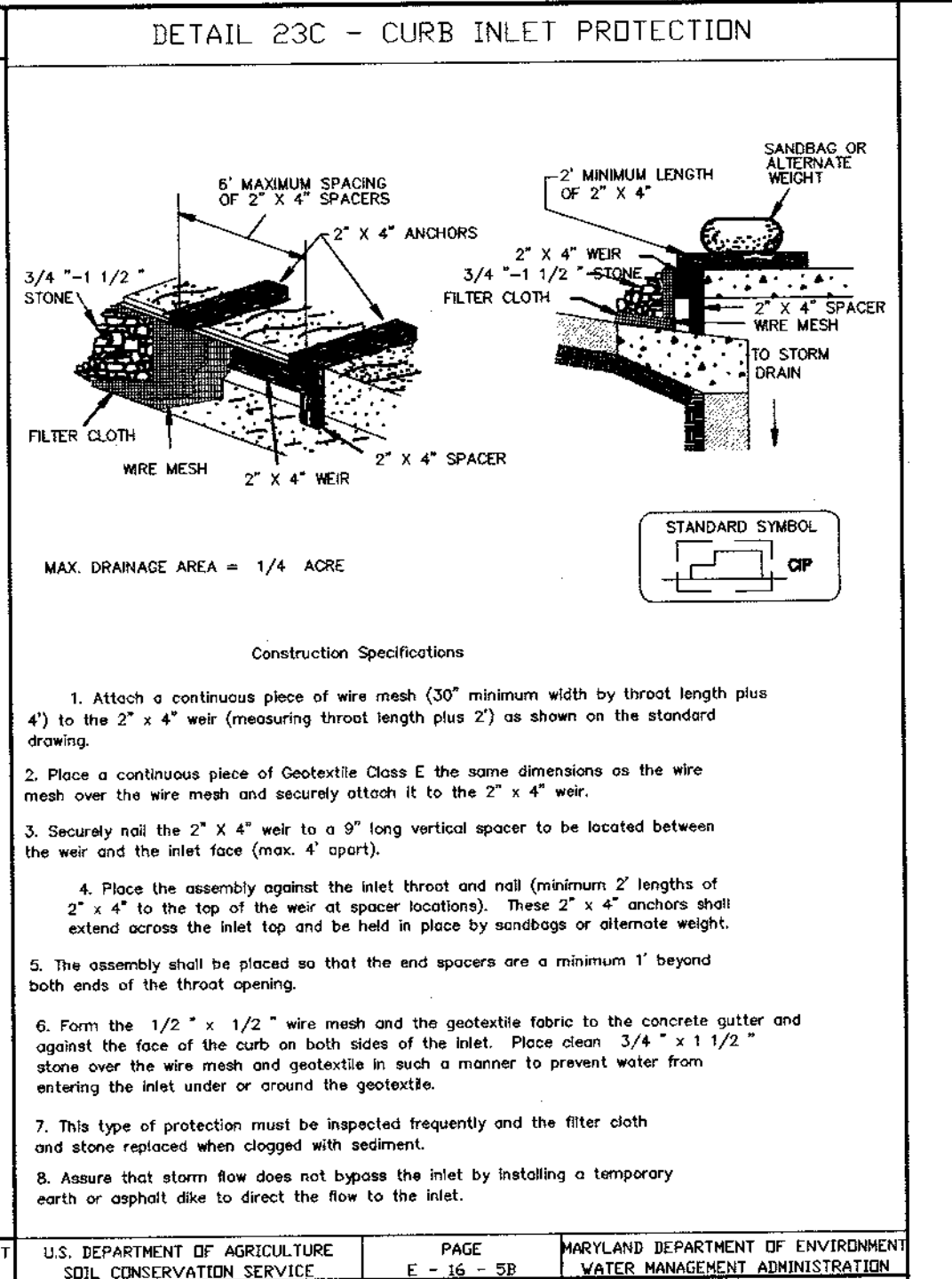
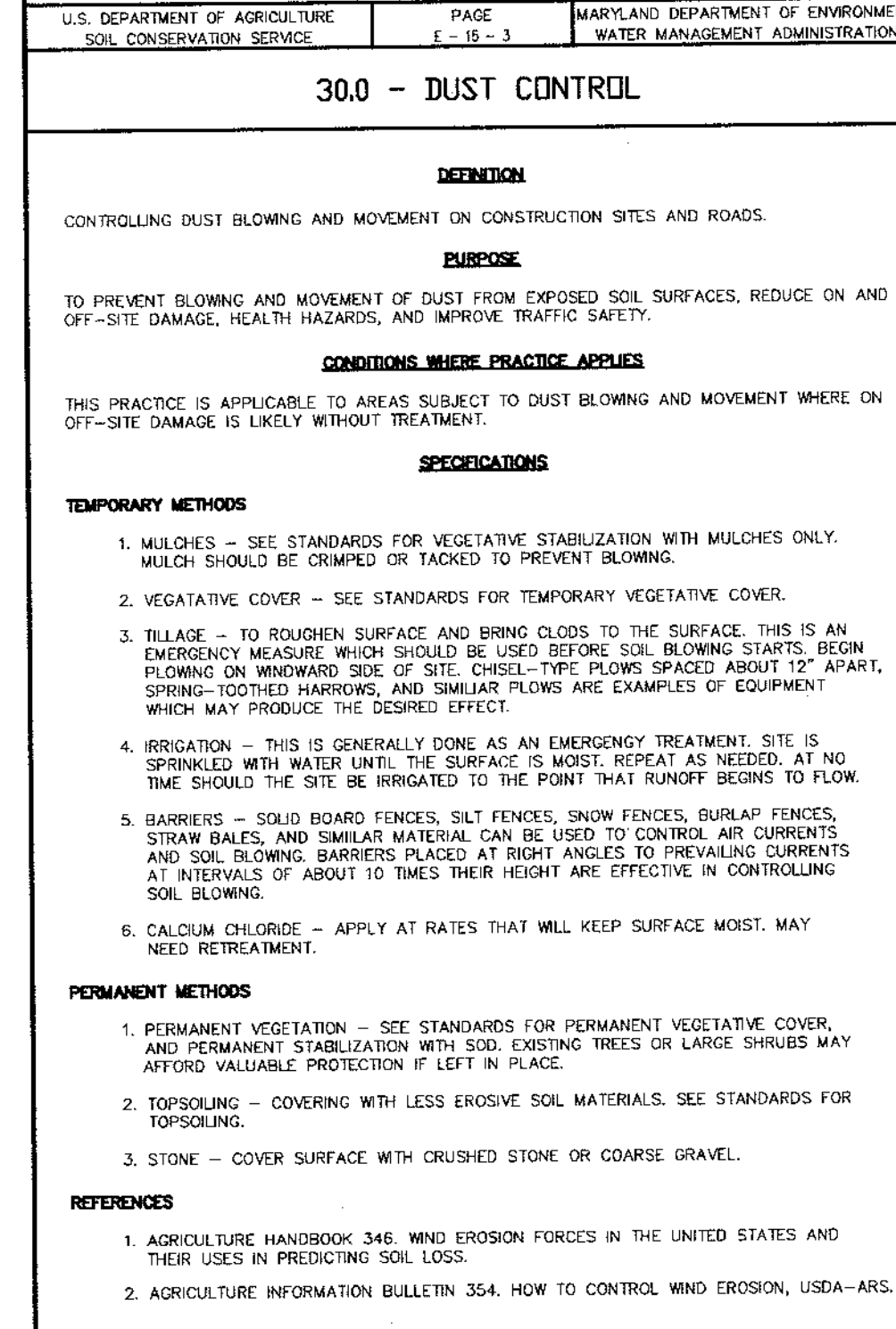
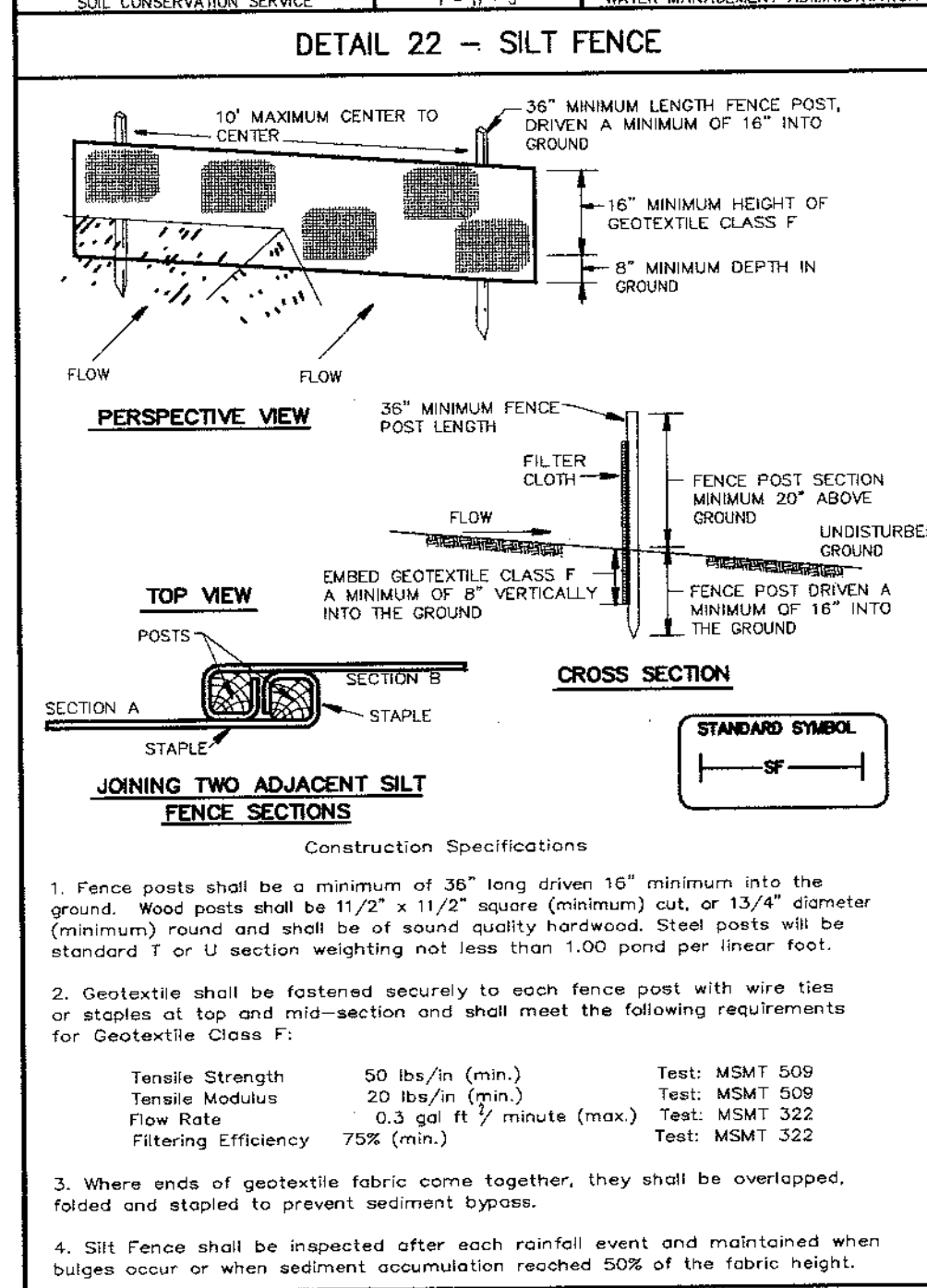
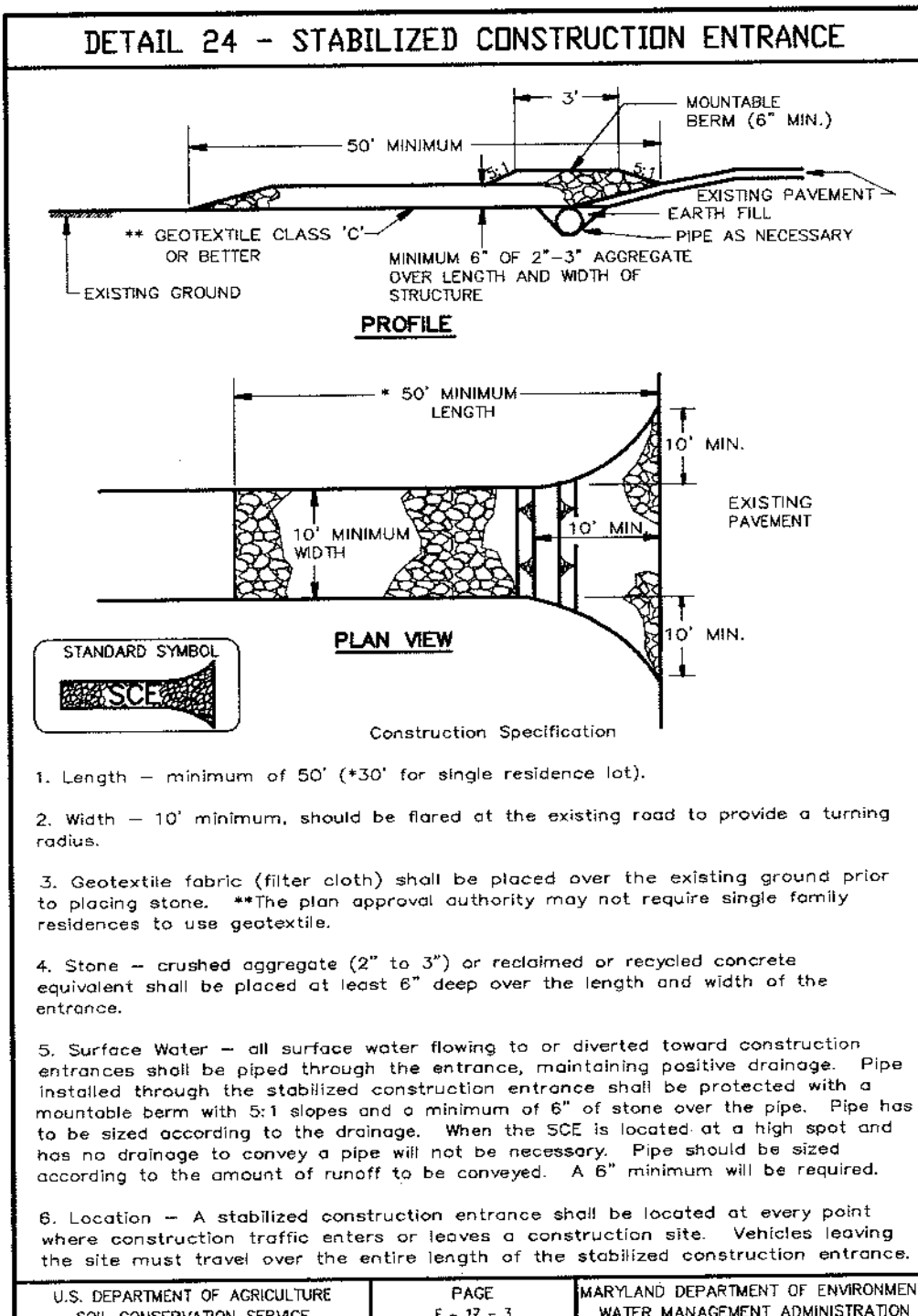
DATE NO.	REVISION
OWNER	DEVELOPER
WILLIAM McFARLAND, JR. TRUST VIOLA McFARLAND TRUST 5386 MONTGOMERY ROAD ELLICOTT CITY, MD 21043	CORNERSTONE HOLDINGS, LLC ATTN: BRIAN BOY 9691 NORFOLK AVENUE LAUREL MARYLAND 20723 410-792-2565

PROJECT: **CHAPEL MANOR LOTS 1-7**
 AREA: TAX MAP 31 PARCEL 192 ZONED R-20
 1st ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DETAILS AND PROFILES

Patton Harris Rust & Associates, pc
 Engineers, Surveyors, Planners, Landscape Architects.
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

11-16-04 DATE	CHECKED BY: C.J.R.
[Signature]	DESIGNED BY: A.C.R.
[Signature]	DRAWN BY: DAM
[Signature]	PROJECT NO: 11818 RD4.DWG
[Signature]	DATE: NOVEMBER 17, 2004
[Signature]	SCALE: AS SHOWN
[Signature]	DRAWING NO. 4 OF 9



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

William J. McFarland, Jr. 10/21/04
CHIEF, DIVISION OF LAND DEVELOPMENT

William J. McFarland, Jr. 12/21/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE NO.	REVISION
	OWNER
	DEVELOPER
	PROJECT
	AREA
	TITLE
	DATE
	CHECKED BY
	DESIGNED BY
	DRAWN BY
	PROJECT NO.
	DATE
	SCALE
	DRAWING NO.

BY THE DEVELOPER: I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE OF 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

B. D. By 11/16/04
DEVELOPER

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

Christopher J. Reid 11/16/04
ENGINEER

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

Jim Myers 11/30/04
NATURAL RESOURCES CONSERVATION SERVICE

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

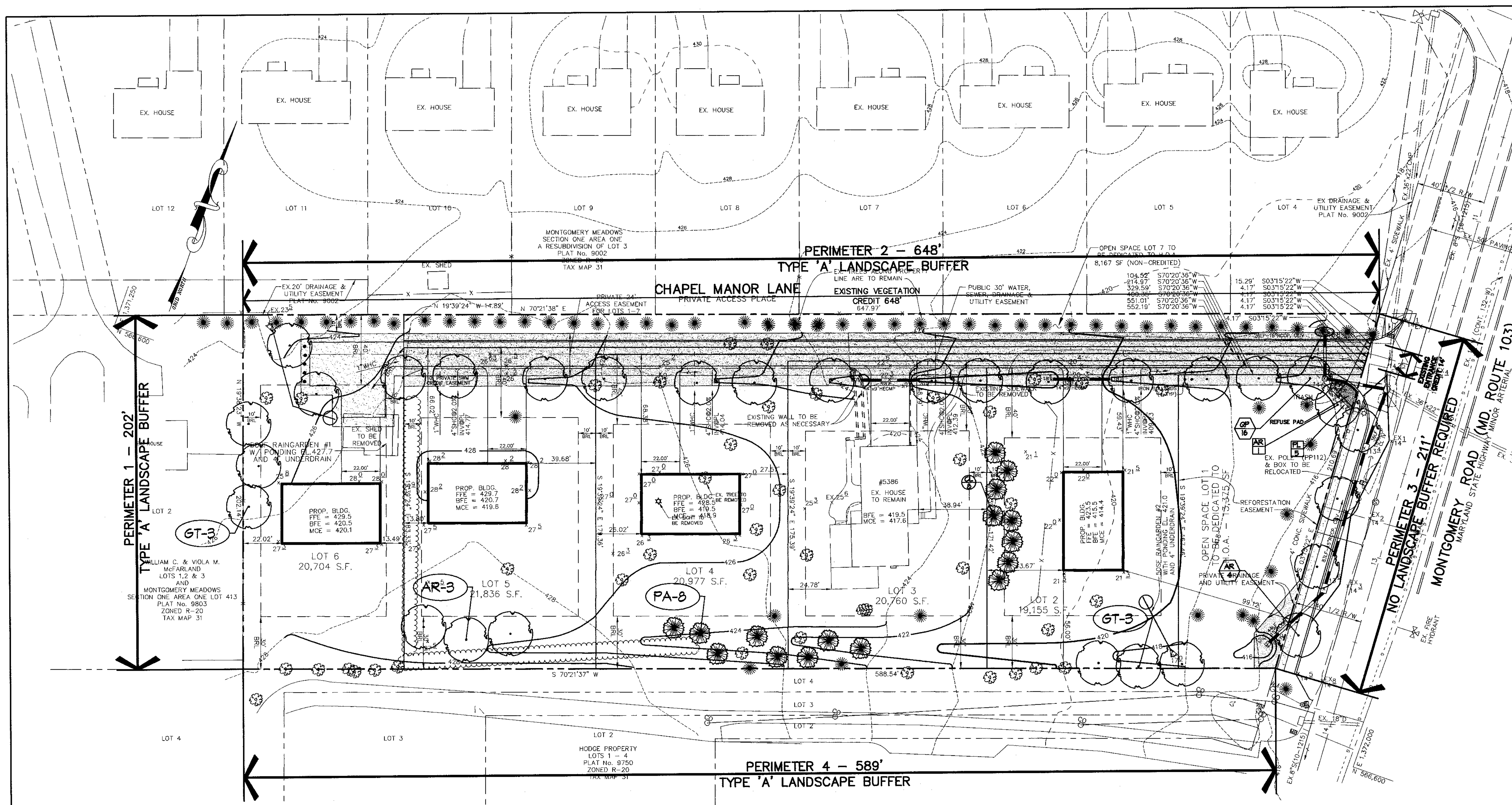
Christopher J. Reid 11/30/04
HOWARD SOIL CONSERVATION DISTRICT

Christopher J. Reid 119949
ENGINEER

William J. McFarland, Jr. 11/16/04
DEVELOPER

11/16/04
DATE

CHECKED BY: C.J.R.
DESIGNED BY: A.C.R.
DRAWN BY: DAM
PROJECT NO. 11818
RDS.DWG
DATE: NOVEMBER 17, 2004
SCALE: AS SHOWN
DRAWING NO. 5 OF 9



LEGEND	
PROPERTY LINE	
CONTOUR LINES	
EX. BUILDING	
PROP. SHADE TREE	
PROP. EVERGREEN TREE	
PERIMETER LANDSCAPE REQUIREMENT	
STREET TREE LANDSCAPE REQUIREMENT	
REFUSE PAD LANDSCAPE REQUIREMENT	
PROPOSED LOT 2 LANDSCAPING	
PERIMETER LANDSCAPE EDGE LIMITS	

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Howard County Department of Planning and Zoning
 CHIEF, DIVISION OF LAND DEVELOPMENT 12/21/04 DATE

Scott R. Wolford
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 12/21/04 DATE

DATE	NO.	REVISION
OWNER	WILLIAM McFARLAND, JR. TRUST VIOLA McFARLAND TRUST 5386 MONTGOMERY ROAD ELLICOTT CITY, MD 21043	DEVELOPER CORNERSTONE HOLDINGS, LLC ATTN: BRIAN BOY 9691 NORFOLK AVENUE LAUREL, MARYLAND 20723 410-792-2565

PROJECT
CHAPEL MANOR
LOTS 1-7

AREA TAX MAP 31 PARCEL 192 ZONED R-20
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN
NOTES AND TABULATIONS

Patton Harris Rust & Associates, pc
 Engineers. Surveyors. Planners. Landscape Architects.
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

11-16-04
DATE

CHECKED BY : P.J.S.
 DESIGNED BY: K.L.M.
 DRAWN BY: DAM
 PROJECT NO: 11818
 RD6.DWG
 DATE: NOVEMBER 17, 2004
 SCALE: 1"=30'
 DRAWING NO. 6 OF 9

SCOTT R. WOLFORD #797

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**STREET TREE CALCULATIONS
CHAPEL MANOR LANE***

LENGTH= 1,340'	1316'/40'	33 LARGE TREES
TOTAL TREES REQUIRED	33 LARGE TREES	
TOTAL TREES PROVIDED	16 LARGE TREES**	

NOTE: STREET TREES BONDED WITH LANDSCAPE PLANTINGS AND STORM WATER MANAGEMENT PLANTINGS.

** LANDSCAPE TREES ALONG PRIVATE ACCESS PLACE.

*** CREDIT TAKEN FOR EXISTING LARGE EVERGREENS LOCATED NORTH OF PROPOSED ACCESS PLACE. IF EVERGREENS ARE REMOVED DURING CONSTRUCTION THEY ARE TO BE REPLACED IN KIND OR WITH DLD APPROVED STREET TREE.

**STREET TREE CALCULATIONS
MONTGOMERY ROAD***

LENGTH= 166'	166'/40'	4 LARGE TREES
TOTAL TREES REQUIRED	4 LARGE TREES	
TOTAL TREES PROVIDED	4 LARGE TREES	

NOTE: STREET TREES BONDED WITH LANDSCAPE PLANTINGS AND STORM WATER MANAGEMENT PLANTINGS.

SCHEDULE A - PERIMETER LANDSCAPE EDGE

PERIMETER	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES		
	3	REFUSE PAD	1	2	4
LANDSCAPE TYPE	NONE	D	A	A	A
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	211'±	24'±	202'±	648'±	589'±
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	YES 648'±	NO
CREDIT FOR DRIVE ENTRANCES (YES, NO, LINEAR FEET)	YES 14'	NO	NO	NO	NO
LINEAR FEET REMAINING	197'±	24'±	202'±	0	589'±
CREDIT FOR WALL, FENCE, OR BERM (YES/NO/LINEAR FEET)	NO	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED					
SHADE TREES	0	1	3	11	10
EVERGREEN TREES	0	2	0	0	0
SHRUBS	0	0	0	0	0
NUMBER OF PLANTS PROVIDED					
SHADE TREES	0	1	3	0	6
EVERGREEN TREES	0	0	0	0	0
ORNAMENTAL TREES	0	0	0	0	0
SHRUBS	0	5*	0	0	0

SUBSTITUTION NOTES:
REFUSE PAD: 5 SHRUBS WERE SUBSTITUTED FOR 2 EVERGREEN TREES AS REQUESTED BY HOWARD COUNTY.
PERIMETER 4: 6 SHRUBS WERE SUBSTITUTED FOR 4 SHADE TREES.

PERIMETER PLANT LIST

SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
AR	3	Acer rubrum 'Red Sunset' Red Sunset Red Maple	2.5"-3" cal.	B4B	Plant as shown
GT	6	Gleditsia triacanthos 'Inermis' Texas Honey Locust	2.5"-3" cal.	B4B	Plant as shown
PA	8	Platanus occidentalis Norway Spruce	6"-8" ht.	B4B	Plant as shown

STREET TREE PLANT LIST

SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
AR	4	Acer rubrum 'Red Sunset' Red Sunset Red Maple	2.5"-3" cal.	B4B	Plant as shown
QP	16	Quercus phellos Willow Oak	2.5"-3" cal.	B4B	Plant as shown

LOT 2 PLANT LIST

SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
GL	8	Xyprassocyparis leylandii Leyland Cypress	5'-6" ht.	B4B	Plant as shown

REFUSE PAD PLANT LIST

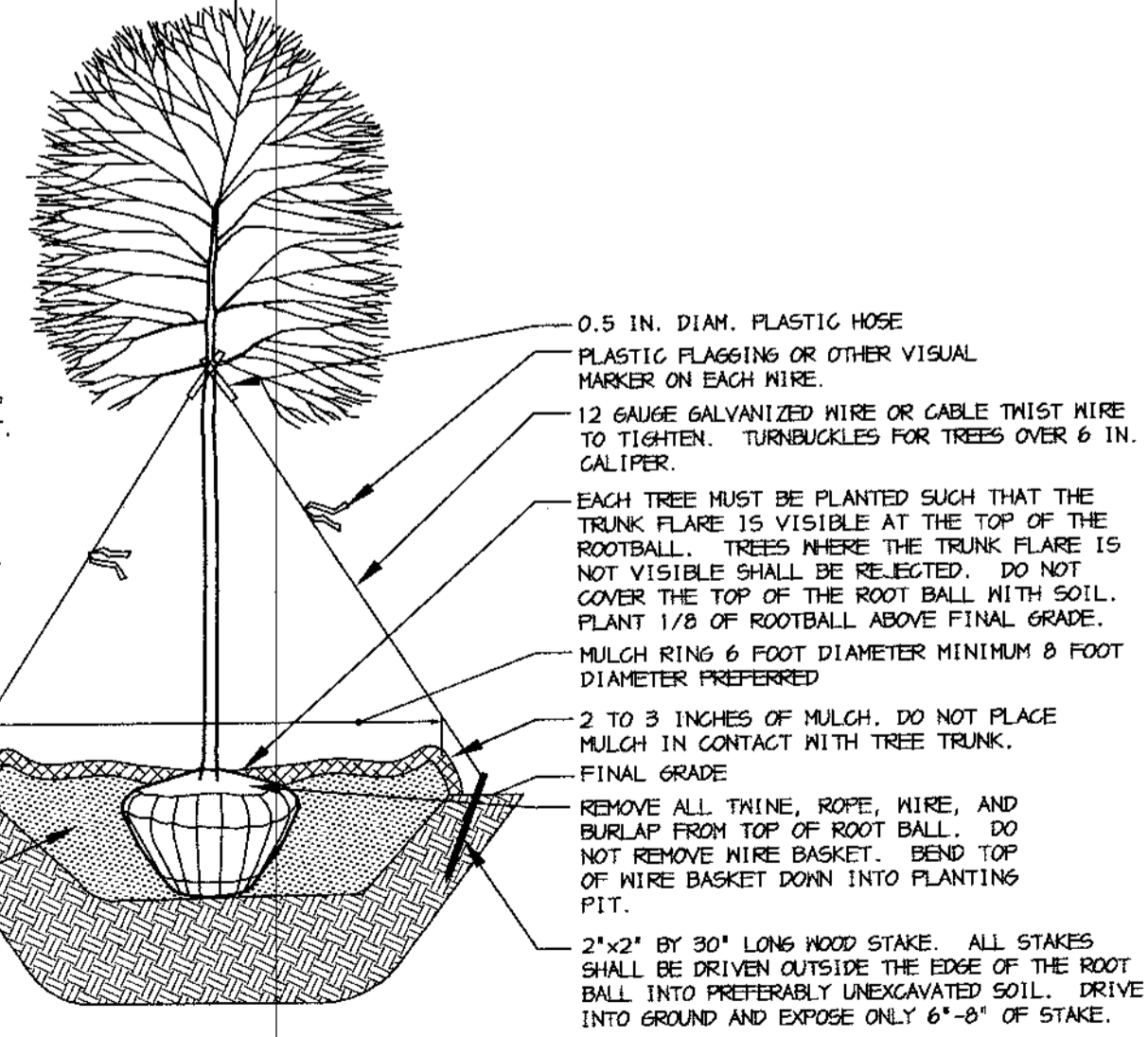
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
AR	1	Acer rubrum 'Red Sunset' Red Sunset Red Maple	2.5"-3" cal.	B4B	Plant as shown
PL	5	Prunus laurocerasus 'Ottol' Ottol Lutyken Cherry Laurel	2'-2.5' ht.	B4B	Plant as shown

PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description, as given on the plans and as described herein. Where discrepancies exist between Standards & Guidelines referenced within these specifications and the Howard County Landscape Manual, the latter takes precedence.
- All plant material, unless otherwise specified, that is not nursery grown, uniformly branched, does not have a vigorous root system, and does not conform to the most recent edition of the American Association of Nurserymen (AAN) Standards will be rejected. Plant material that is not healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable infestations will be rejected. 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 be rejected. All B & B plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.
- Unless otherwise specified, all general conditions, planting operations, details and planting specifications shall conform to the most recent edition of the "Landscape Specification Guidelines by the Landscape Contractors Association of MD, DC, & VA", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects.
- Contractor shall guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section on the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
- Contractor shall be responsible for notifying all relevant and appropriate utility companies, utility contractors, and "Miss Utility" a minimum of 48 hours prior to the beginning of any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Major changes will require the approval of the landscape architect. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- Protection of existing vegetation to remain shall be accomplished via the temporary installation of 4 foot high snow fence at the drip line, see detail.
- Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant Pinus strobus or Xcupressocyparis leylandii between November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.
- Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.
- Bid shall be based on actual site conditions. No extra payment shall be made for work arising from actual site conditions differing from those indicated on drawings and specifications.
- Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.
- All shrubs and groundcover areas shall be planted in continuous planting beds, prepared as specified, unless otherwise indicated on plans. (See Specification 13). Beds to be mulched with minimum 2" and maximum 3" of composted, double-shredded hardwood mulch throughout.
- Positive drainage shall be maintained on planting beds (minimum 2 percent slope).
- Bed preparation shall be as follows: Till into a minimum depth of 6" 1 yard of Compro or Leafgro per 200 SF of planting bed, and 1 yard of topsoil per 100 SF of bed. Add 3 lbs of standard 5-10-5 fertilizer per cubic yard of planting mix and till. Ericaceous plants (Azaleas, Rhododendrons, etc.); top dress after planting with iron sulfate or comparable product according to package directions. Taxus baccata 'Repandens' (English weeping yew); Top dress after planting with 1/4 to 1/2 cup lime each.
- Planting mix: For trees not in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.
- Weed & insect control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. For tree planting, apply a pre-emergent on top of soil and root ball before mulching. Caution: For areas to be planted with a ground cover, be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated. Maintain the mulch weed-free for the extent of the warranty period. Under no circumstances is a pesticide containing chlorpyrifos to be used as a means of pest control.
- Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. At a minimum, water unplanted plant material daily and as necessary to avoid desiccation.
- Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.

NOTES:

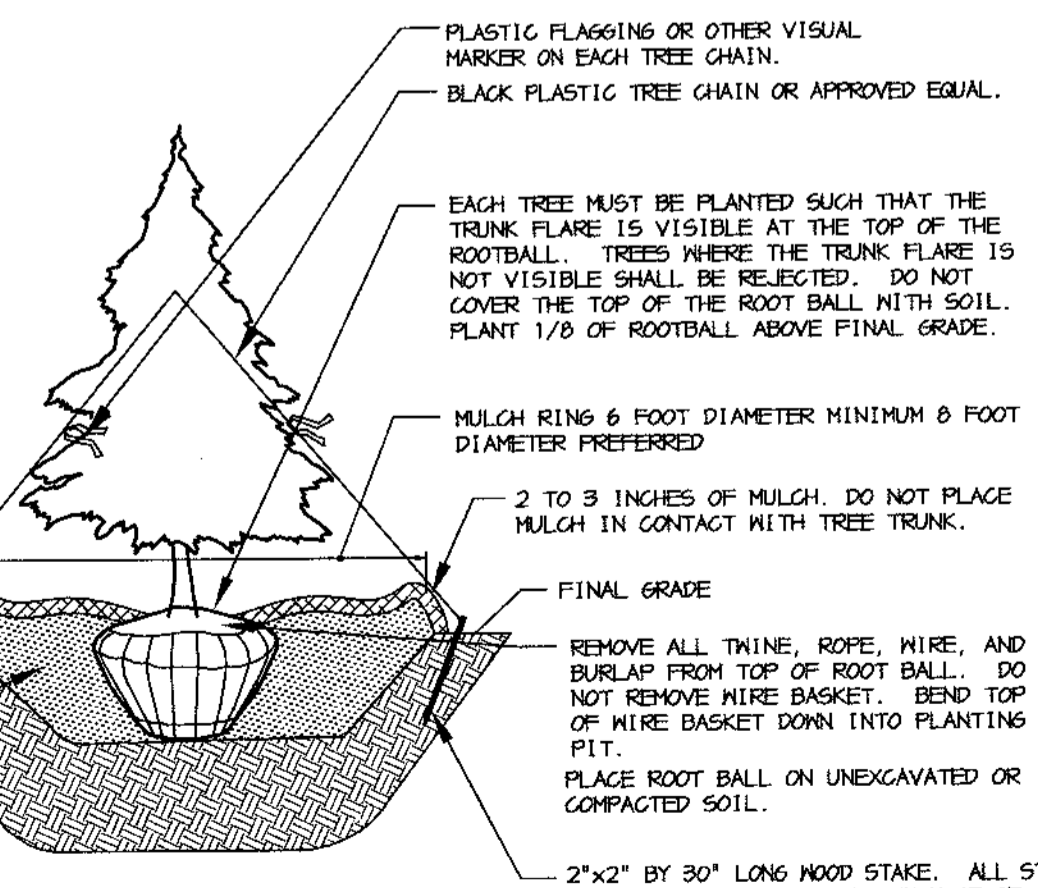
- DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LINES, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR THINGS AND LATERAL BRANCHES MAY BE PRUNED, HOWEVER, DO NOT REMOVE THE TERMINAL ENDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
- STAKE TREES AS SHOWN.
- DIG PLANTING PIT THICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5".
- PLACE ROOT BALL ON UNEXCAVATED OR COMPACTED SOIL.
- TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5 IN. OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.
- TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.
- INSTALL THREE GUY WIRES PER TREE, SPACED EVENLY AROUND THE TRUNK.
- ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 0.5 IN. REMOVE STAKES AFTER ONE YEAR.
- CONSTRUCT 3" SAUCER ALL AROUND PLANTING HOLE. FLOOD WITH WATER THICE WITHIN 24 HOURS.
- BACKFILL WITH PLANTING MIX (SEE PLANTING SPECIFICATIONS) TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOT BALL DOES NOT SHIFT.



DECIDUOUS B4B TREE PLANTING DETAIL (TREES 3" CAL. OR LARGER)
NOT TO SCALE

NOTES:

- SELECT ONLY NURSERY STOCK WITH A SINGLE LEADER UNLESS OTHERWISE SPECIFIED ON PLAN. PLANTS WITH CO-DOMINANT, MISSING, OR DAMAGED LEADERS SHALL BE REJECTED.
- STAKE TREES AS SHOWN.
- DIG PLANTING PIT THICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5".
- CONSTRUCT 3" SAUCER ALL AROUND PLANTING HOLE. FLOOD WITH WATER THICE WITHIN 24 HOURS.
- BACKFILL WITH PLANTING MIX (SEE PLANTING SPECIFICATIONS) TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOT BALL DOES NOT SHIFT.
- REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM TOP OF ROOT BALL. DO NOT REMOVE WIRE BASKET. BEND TOP OF WIRE BASKET DOWN INTO PLANTING PIT.
- PLACE ROOT BALL ON UNEXCAVATED OR COMPACTED SOIL.
- 2"x2" BY 30' LONG WOOD STAKE. ALL STAKES SHALL BE DRIVEN OUTSIDE THE EDGE OF THE ROOT BALL INTO PREFERABLY UNEXCAVATED SOIL. DRIVE INTO GROUND AND EXPOSE ONLY 6"-8" OF STAKE.



EVERGREEN B4B TREE PLANTING DETAIL
NOT TO SCALE

GENERAL 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 LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$10,500.00.
LOT 2 SURETY IS \$2100 FOR 3 SHADE TREES @ \$300/TREE AND 8 EVERGREEN TREES @ \$150/TREE.
LOT 4 SURETY IS \$1200 FOR 8 EVERGREEN TREES.
LOT 5 AND LOT 6 SURETY IS \$900 FOR 3 SHADE TREES.
THE 16 PRIVATE ACCESS PLACE TREES RESULT IN A \$4800 SURETY.
TRA5H PAD SCREENING INVOLVES 1 SHADE TREE AND 2 EVERGREENS FOR ASURETY OF \$600.00.
THE 4 MONTGOMERY ROAD STREET TREES ARE PART OF ROAD BOND UNDER DEVELOPER AGREEMENT.
3. THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.
- AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD. REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN MAY RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THE LANDSCAPING SHOWN 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 GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

B-D Boy
SIGNATURE 11-16-04
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Collins
CHIEF, DIVISION OF LAND DEVELOPMENT 12/21/04
DATE

Bob Downum
CHIEF, DEVELOPMENT ENGINEERING DIVISION 12/21/04
DATE

DATE	NO.	REVISION
OWNER	DEVELOPER	
WILLIAM McFARLAND, JR. TRUST VIOLA McFARLAND TRUST 5386 MONTGOMERY ROAD ELLCOTT CITY, MD 21043	CORNERSTONE HOLDINGS, LLC BRIAN BOY 9691 NORTOLK AVENUE LAUREL, MARYLAND 20723 410-792-2565	

PROJECT: CHAPEL MANOR LOTS 1-7

AREA: TAX MAP 31 PARCEL 192 ZONED R-20
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: LANDSCAPE PLAN NOTES AND TABULATIONS

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

11-16-04 DATE

CHECKED BY: P.J.S.

DESIGNED BY: K.L.M.

DRAWN BY: DAM

PROJECT NO: 11818
RD7.DWG

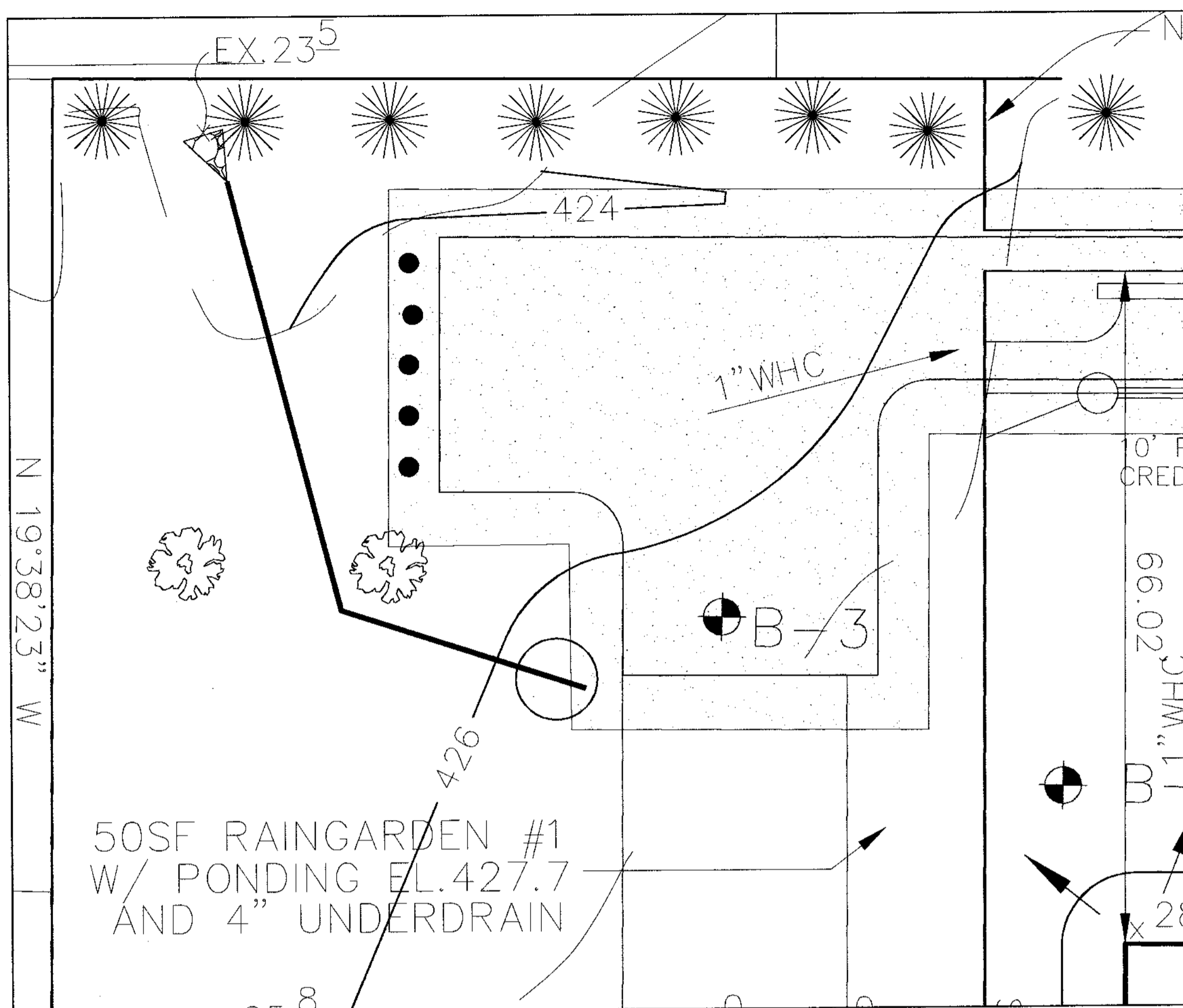
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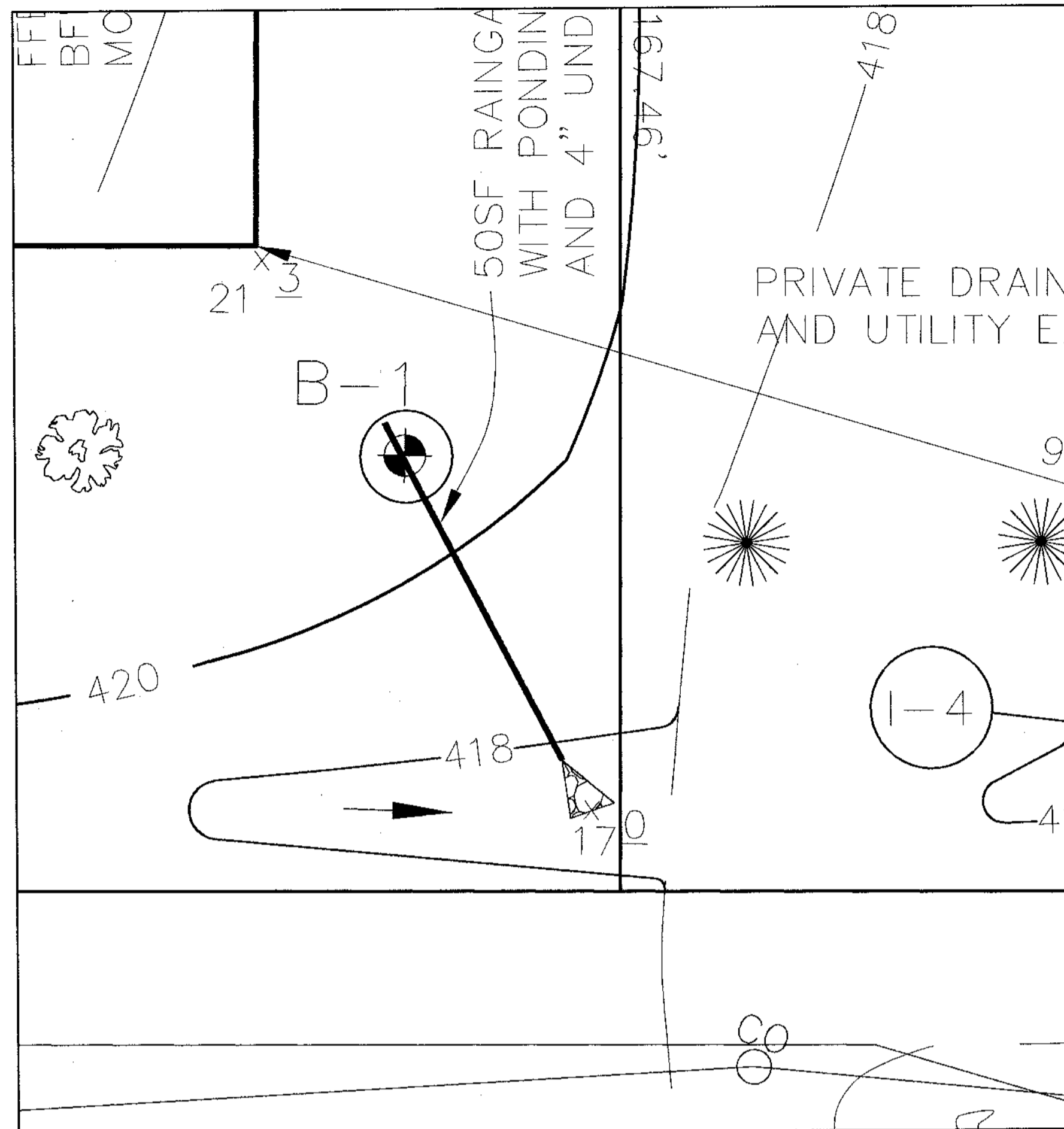
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STATE OF MARYLAND
SCOTT R. WOLFORD #797

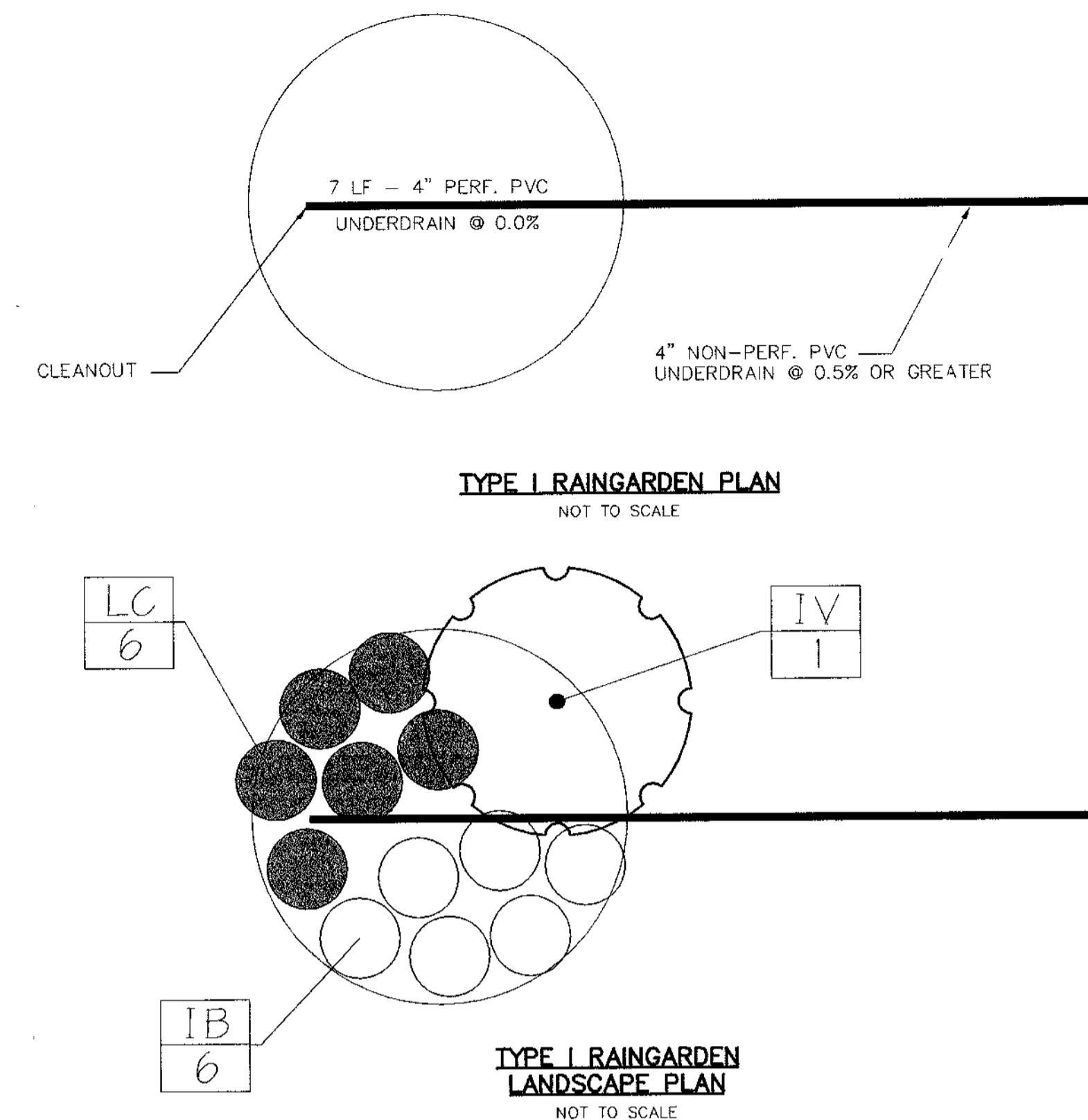
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SCALE: 1"=10'



SCALE: 1"=10'



MATERIAL SPECIFICATIONS FOR RAINGARDENS			
MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTING SOIL	SAND: 30% TO 60% SILT: 30% TO 55% CLAY: 0% TO 25%	N/A	USDA SOIL TYPES LOAMY SAND, SANDY LOAM, OR LOAM
MULCH	SHREDDED HARDWOOD	N/A	AGED SIX MONTHS MINIMUM
GEOTEXTILE	CLASS "C" (ASTM D-4751) GRAB TENSILE STRENGTH (ASTM D-4832) PUNCTURE RESISTANCE (ASTM D-4833)	N/A	USE AS NECESSARY BENEATH UNDERDRAINS ONLY.
GRAVEL	AASHTO M-43 #57 OR #57	3/8" TO 3/4"	
UNDERDRAIN PIPING	F 758, TYPE PS 28 OR AASHTO M-278 PVC, SDR 35, OR HDPE	4" RIGID SCHEDULE 40 PVC, SDR 35, OR HDPE	3/8" PERF. @ 6" ON CENTER, 4 HOLES PER ROW, MIN. OF 2" GRAVEL OVER PIPES. GRAVEL NOT NECESSARY BENEATH PIPES.

RAINGARDEN SPECIFICATIONS

PLANTING SOIL SHOULD BE SANDY LOAM, LOAMY SAND, OR A LOAM/SAND MIX AND SHOULD CONTAIN A MINIMUM 35 TO 60 % SAND BY VOLUME. THE CLAY CONTENT SHOULD BE LESS THAN 25%. THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. ONE SIMPLE METHOD OF FOR PRODUCING SUITABLE PLANTING SOIL IS TO MIX THREE PARTS OF COMMERCIALY AVAILABLE WASHED SAND WITH TWO PARTS TOPSOIL TO PRODUCE A HOMOGENEOUS SOIL. PLANTING SOIL SHOULD BE PLACED IN 12" TO 18" LAYERS TAHT ARE LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET) TO A DEPTH OF 2 1/2 FEET.

RAINGARDEN MULCH SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE SHREDDED HARDWOOD MULCH. THE MULCH SHOULD BE WELL AGED, UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS SUCH AS WEEDS OR ROOTS. GRASS CLIPPINGS ARE UNACCEPTABLE AS A MULCH MATERIAL. MULCH SHOULD BE APPLIED TO A MAXIMUM DEPTH OF THREE INCHES. RAINGARDENS SHOULD BE REMULCHED ON AN ANNUAL BASIS.

UNDERDRAINS SHALL CONSIST OF A 4" DIAMETER RIGID SCHEDULE 40 (OR SDR 35) PVC PIPE (SLOTTED HDPE IS ALSO ACCEPTABLE) THAT IS PERFORATED WITHIN THE RAINGARDEN. PERFORATIONS SHALL BE 3/8" WIDE MINIMUM AT 6" ON CENTER WITHA MINIMUM OF 4 HOLES PER ROW. UNDERDRAINS SHALL BE PLACED ON A 3' WIDE SECTION OF FILTER CLOTH (CLASS "C" GEOTEXTILE). THE PIPE IS PLACED NEXT, FOLLOWED BY THE GRAVEL BEDDING. THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. AT LEAST ONE OBSERVATION WELL/CLEANOUT MUST BE PROVIDED PER RAINGARDEN. A RODENT GUARD SHOULD BE INSTALLED AT THE DOWNSTREAM END OF UNDERDRAINS TO PREVENT MICE AND LARGER RODENTS FROM ENTRY. A TYPICAL RODENT GUARD CONSISTS OF A 3/8" HEX-HEAD BOLT THROUGH THE PIPE HORIZONTALLY. NUTS ARE PLACED ON BOTH THE INSIDE AND OUTSIDE OF THE PIPE.

RAINGARDENS SHALL NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

FOR PLANT INSTALLATION ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO THAT 1/8 OF THE BALL IS ABOVE THE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHOULD BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT (UPRIGHT) DURING THE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER SPECIFICATIONS.

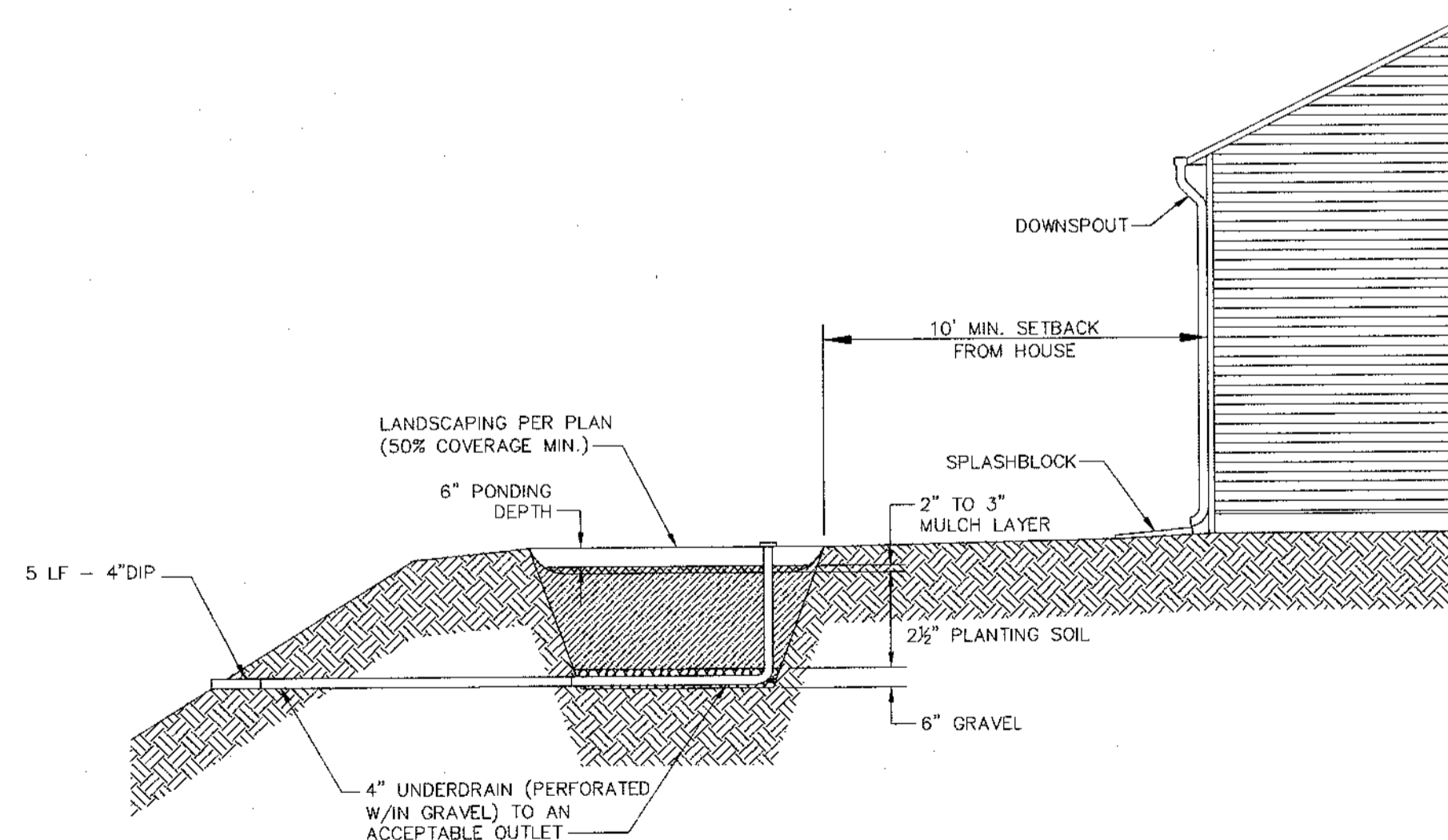
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE RAINGARDEN IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH IS USED TO AMEND THE SOIL.

SEQUENCE OF CONSTRUCTION

- SUBSEQUENT TO FINAL GRADING AND STABILIZATION OF LOT, EXCAVATE RAINGARDEN AREA TO PROPER DIMENSIONS.
- INSTALL GRAVEL ENVELOPE, GEOTEXTILE, UNDERDRAIN, AND OBSERVATION WELL.
- PLACE AND LOOSELY COMPACT PLANTING SOIL.
- INSTALL PLANTS AT PROPER DEPTH AND LOCATION ACCORDING TO PLANTING PLAN.
- MULCH THE SURFACE OF THE RAINGARDEN TO A THICKNESS OF 3".
- WATER AS NECESSARY.

RAINGARDEN PLANT LIST						
KEY	QTY PER GARDEN	SCIENTIFIC/COMMON NAME	SIZE	ROOT	SPACING	ZONE*
IV	1	ITEA VIRGINICA 'HENRY'S GARNET' VIRGINIA SNEETSPIRE	2.5'-3' HT.	CONT.	PLANT AS SHOWN	***
LC	6	LOBELIA CARDINALIS CARDINAL FLOWER	1 GAL.	CONT.	18" SPACING	1, (2, 3), 4
IB	6	IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS	1 GAL.	CONT.	18" SPACING	(1, 2), 3

RAINGARDEN LIST NOTES:
 * HYDROLOGIC ZONES ACCORDING TO APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.
 *** KNOWN TO TOLERATE INUNDATION AS WELL AS DRY AREAS ACCORDING TO DIRR, MICHAEL A., MANUAL OF WOODY LANDSCAPE PLANTS
 **** COMMONLY USED BIORETENTION SPECIES ACCORDING TO TABLE A.4 IN APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.



TYPE I RAINGARDEN PROFILE
NOT TO SCALE

RAINGARDEN SCHEDULE						
#	SIZE	TYPE	TOP EL. AT MULCH LAYER	4" PERF. PIPE INV.	4" PIPE OUTFALL INV.	4" NON-PERF. LINEAR FEET
1	8' DIAM.	I	427.2	424.0	423.5	100
2	8' DIAM.	I	420.5	417.25	417.0	30

BY THE DEVELOPER :
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 DEVELOPER: *B.D. By* DATE: 11-16-04

BY THE ENGINEER :
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 ENGINEER: *Chris J Reid* DATE: 11-16-04

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

NATURAL RESOURCES 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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Chief, Division of Land Development: *Linda Hand* DATE: 12/21/04
 Chief, Development Engineering Division: *John J. ...* DATE: 12/21/04

OWNER: WILLIAM McFARLAND, JR. TRUST
 VIOLA McFARLAND TRUST
 5386 MONTGOMERY ROAD
 ELLICOTT CITY, MD 21043

DEVELOPER: CORNERSTONE HOLDINGS, LLC
 ATTN: BRIAN BOY 9691
 NORFOLK AVENUE LAUREL,
 MARYLAND 20723
 410-792-2565

PROJECT: CHAPEL MANOR
 LOTS 1-7

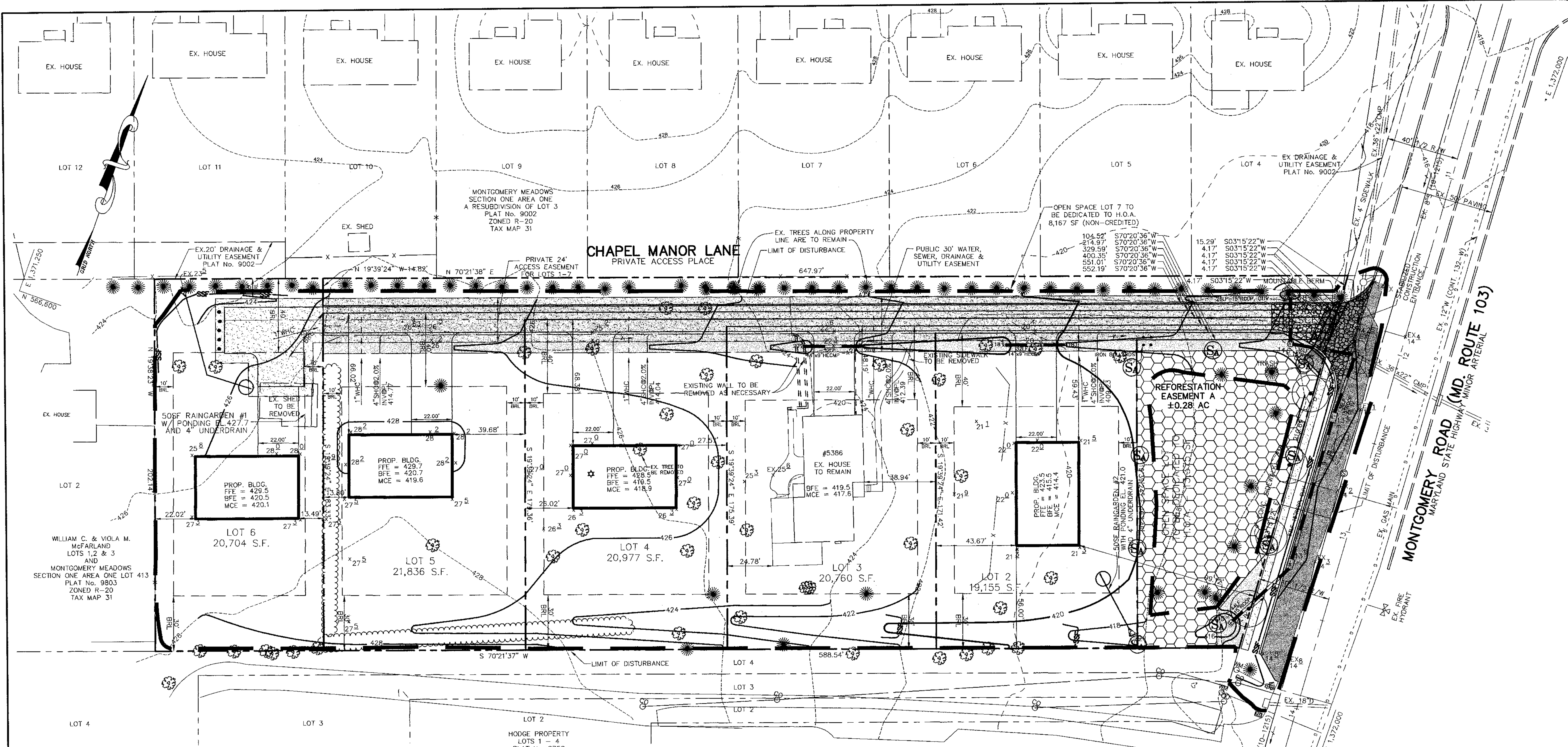
AREA: TAX MAP 31 PARCEL 192 ZONED R-20
 1st ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: RAINGARDEN DETAILS

Patton Harris Rust & Associates, pc
 Engineers, Surveyors, Planners, Landscape Architects.
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

DATE: 11-16-04
 CHECKED BY : C.J.R.
 DESIGNED BY: A.C.R.
 DRAWN BY: DAM
 PROJECT NO: 11818
 RDB.DWG
 DATE: NOVEMBER 17, 2004
 SCALE: AS SHOWN
 DRAWING NO. 8 OF 9

CHRISTOPHER J. REID #19949



FOREST CONSERVATION PROGRAM

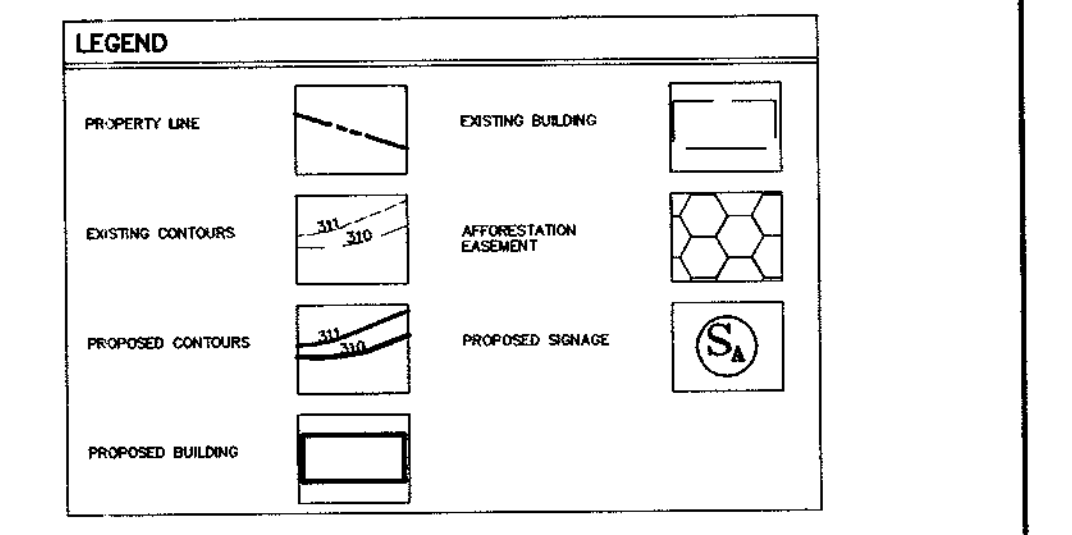
- OBJECTIVE: IT IS THE OBJECTIVE OF THE AFFORESTATION PORTION OF THE PROPOSED CHAPEL MANOR TO PLANT IN THE OPEN SPACE PARCELS, AND ESTABLISH FOREST IN THIS AREA.
- PRESERVATION: AFFORESTATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS.
- POST CONSTRUCTION MANAGEMENT PRACTICE: A TWO (2) YEAR POST-CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE PROBABILITY OF A HIGH SURVIVAL RATE INCLUDES THE FOLLOWING:
 - MAINTENANCE OF SIGNS, FENCES AND TREE PROTECTION DEVICES TO PREVENT UNWARRANTED INTRUSIONS AND DAMAGE.
 - CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.
 - ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.

GENERAL NOTES:

- THE SITE IS LOCATED ON MONTGOMERY ROAD. THE SITE CONSISTS OF ONE LOT WHICH IS 2.876 ACRES.
- BOUNDARY AND TOPOGRAPHIC INFORMATION IS FROM A FIELD SURVEY PREPARED BY PATTON HARRIS RUST & ASSOCIATES.
- THE SOILS ON SITE ARE CHILLUM FERRUGINOUS CLAY (C22), COMBINE S1 (COMBINE UNIT C19) AND SASSAFRAS LOAM (MAPPING UNIT S12). ACCORDING TO THE SOIL SURVEY FOR HOWARD COUNTY, MARYLAND, STEEP SLOPES ARE NOT PRESENT ON THE SITE.
- THE SITE IS ZONED R-20 (RESIDENTIAL - 20,000 SF LOTS).
- THE SITE IS LOCATED IN THE PATAPSCO WATERSHED, PATAPSCO RIVER LOWER N. BRANCH SUBWATERSHED.
- NO STREAMS OR FLOODPLAINS ARE LOCATED ON SITE.
- THERE ARE NO EXISTING FOREST STANDS LOCATED ON SITE.
- THE SITE HAS A FOREST CONSERVATION THRESHOLD OF 20% AND AN AFFORESTATION THRESHOLD OF 15%.
- NO CEMETERIES OR HISTORIC STRUCTURES ARE LOCATED ON-SITE.
- NO RARE, THREATENED, OR ENDANGERED PLANTS OR CRITICAL HABITATS WERE OBSERVED IN THE FIELD.
- THE FSD, DATED MARCH 6, 2003, HAS BEEN PREPARED BY PATTON HARRIS RUST & ASSOCIATES IN CONSULTATION WITH THIS PROJECT. FIELD WORK FOR THIS INVENTORY WAS CONDUCTED IN NOVEMBER, 2002 BY GRIFFIN HUBBARD, ENVIRONMENTAL TECHNICIAN OF PATTON HARRIS RUST & ASSOCIATES, INC.
- THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.
- THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.
- THE FOREST CONSERVATION OBLIGATION FOR THE PROPOSED SITE DEVELOPMENT WILL BE MET BY AFFORESTATION ON 0.28 ACRES OF THE SITE. SURVEY WILL BE POSTED IN THE AMOUNT OF \$1,000.00 (X \$0.50) FEE. IN LIEU OF THE AMOUNT OF \$3,920.40 (X \$0.50) FEE. THE REMAINING 0.18 ACRES OF OBLIGATION.
- EXISTING TREES WITHIN THE AFFORESTATION AREA ARE TO REMAIN.

FOREST CONSERVATION SEQUENCE OF OPERATIONS

- From the beginning any grading operations on this site or on a respective lot, there shall be a preconstruction meeting held at the site which is to include the Contractor and representative from Patton Harris Rust & Associates, Inc. The Howard County Department of Planning and Zoning (DPZ) and the owner will be notified by the Contractor as to the time and place of the field meeting, should they wish to send a representative. The purpose of the meeting will be to review the approved FOP and to field verify the correct Lines of Disturbance (LOD).
- After site grading, stormwater management construction and parking lot construction have been completed, reforestation can begin. Planting shall follow specifications of right.
- Upon completion of planting, a 2 year (24 month) maintenance and replacement period shall begin, as noted in the specifications.



Howard County Forest Conservation Worksheet

Project Name: Chapel Manor
County File #: 100 year Floodplain
Date: April 5, 2004

Net Tract Area

A. Total Tract Area = 3.06 Acres
B. 100 year Floodplain = 0.00
C. Net Tract Area = (A-B-C) = 3.06

Land Use Category: Residential - Suburban

D. Afforestation Threshold (Net Tract Area X .15%) = 0.46
E. Conservation Threshold (Net Tract Area X .20%) = 0.61

Existing Forest Cover

F. Existing Forest Cover (F) - Conservation Threshold (E), Otherwise G = 0
G. Area of Forest Above Conservation Threshold = 0.00

Break Even Point

H. Break Even (Amount of forest that must be retained so that no mitigation is required)
(1) If the area of forest above the Conservation Threshold (G) is greater than zero, then H = (0.2 X) the area of forest above Conservation Threshold (G) + the Conservation Threshold (E)
(2) If the area of forest above the Conservation Threshold (G) is equal to zero, then H = Existing Forest Cover (F)

I. Forest Clearing Permitted Without Mitigation
I = Existing Forest Cover (F) - Break Even Point (H) = 0.00

Proposed Forest Clearing

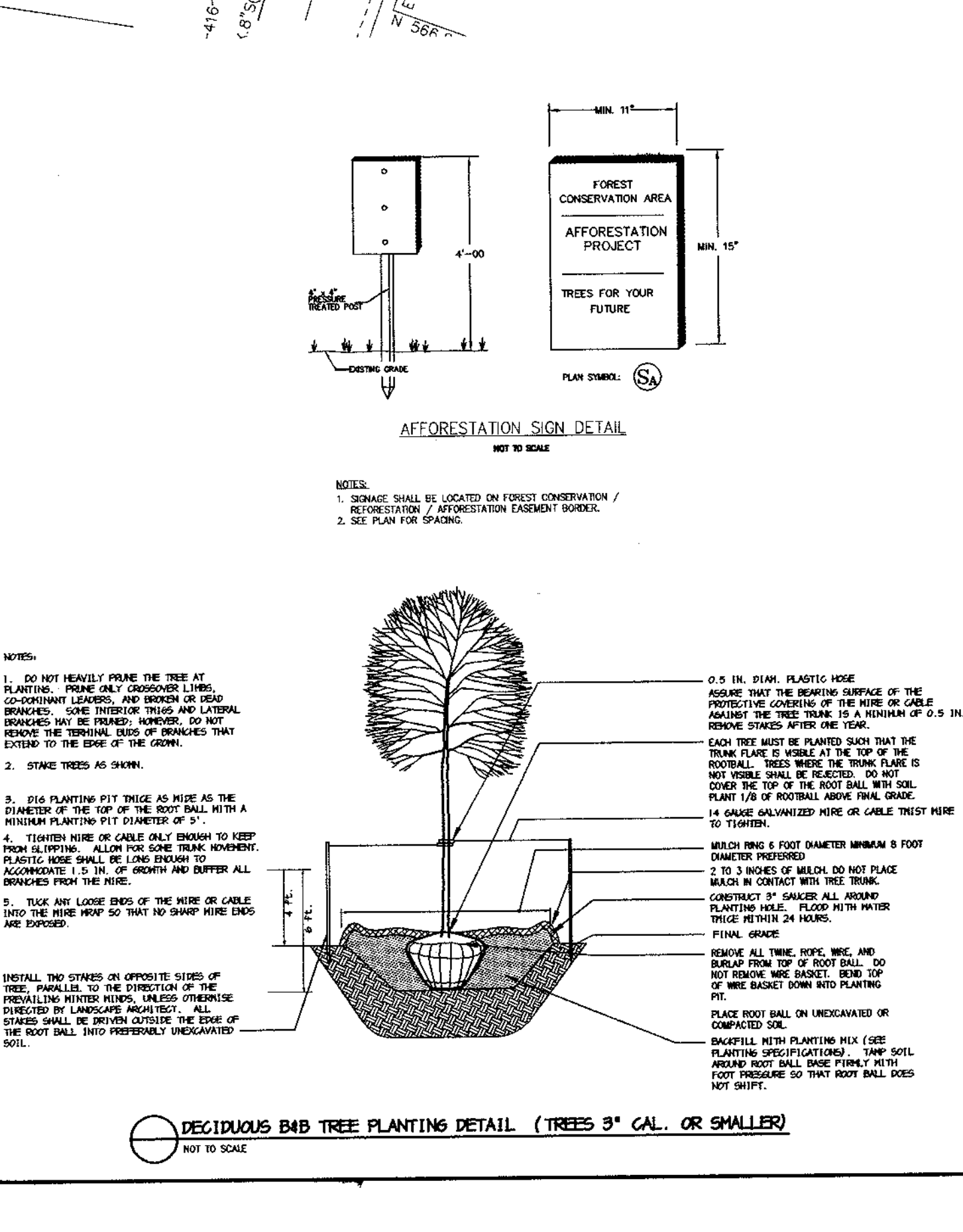
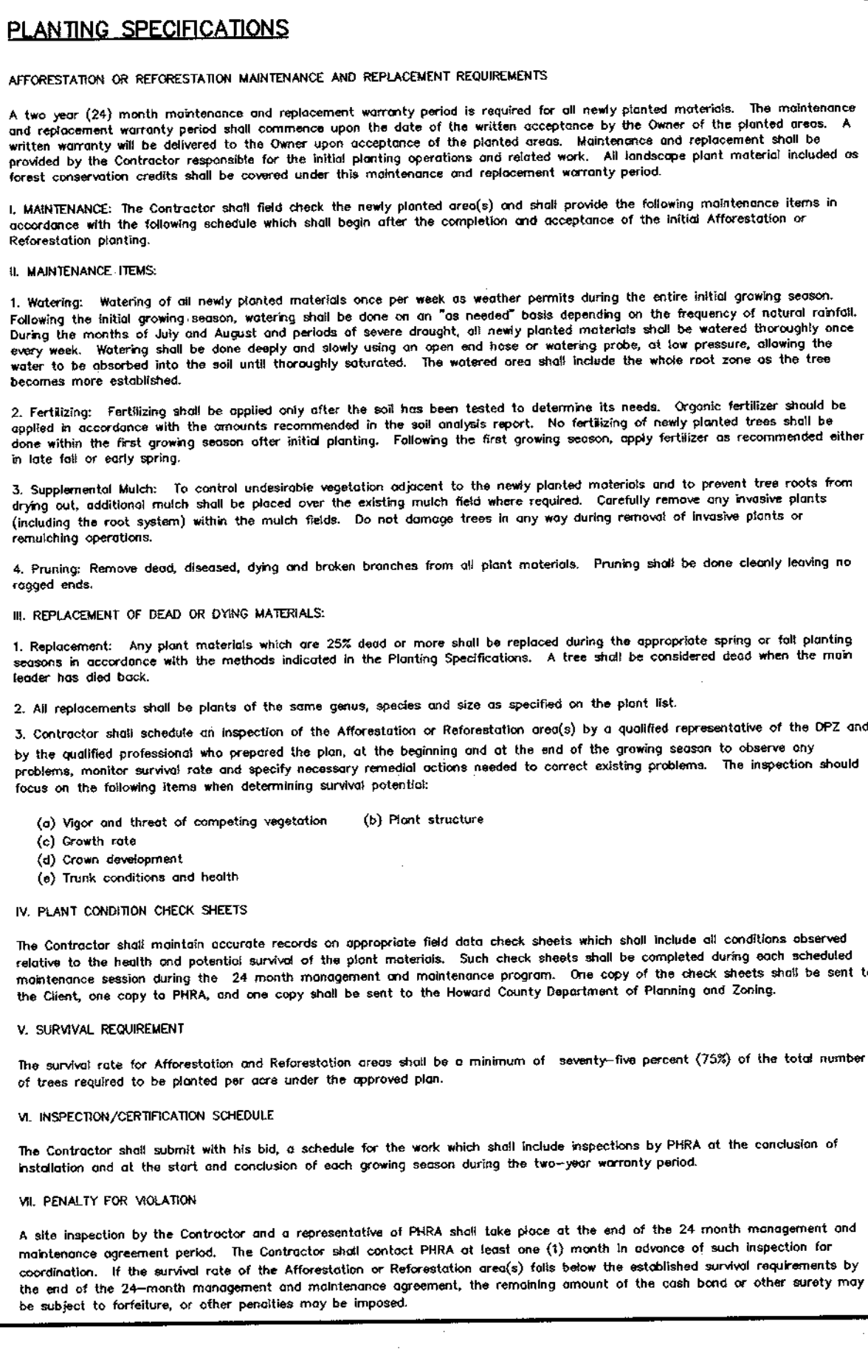
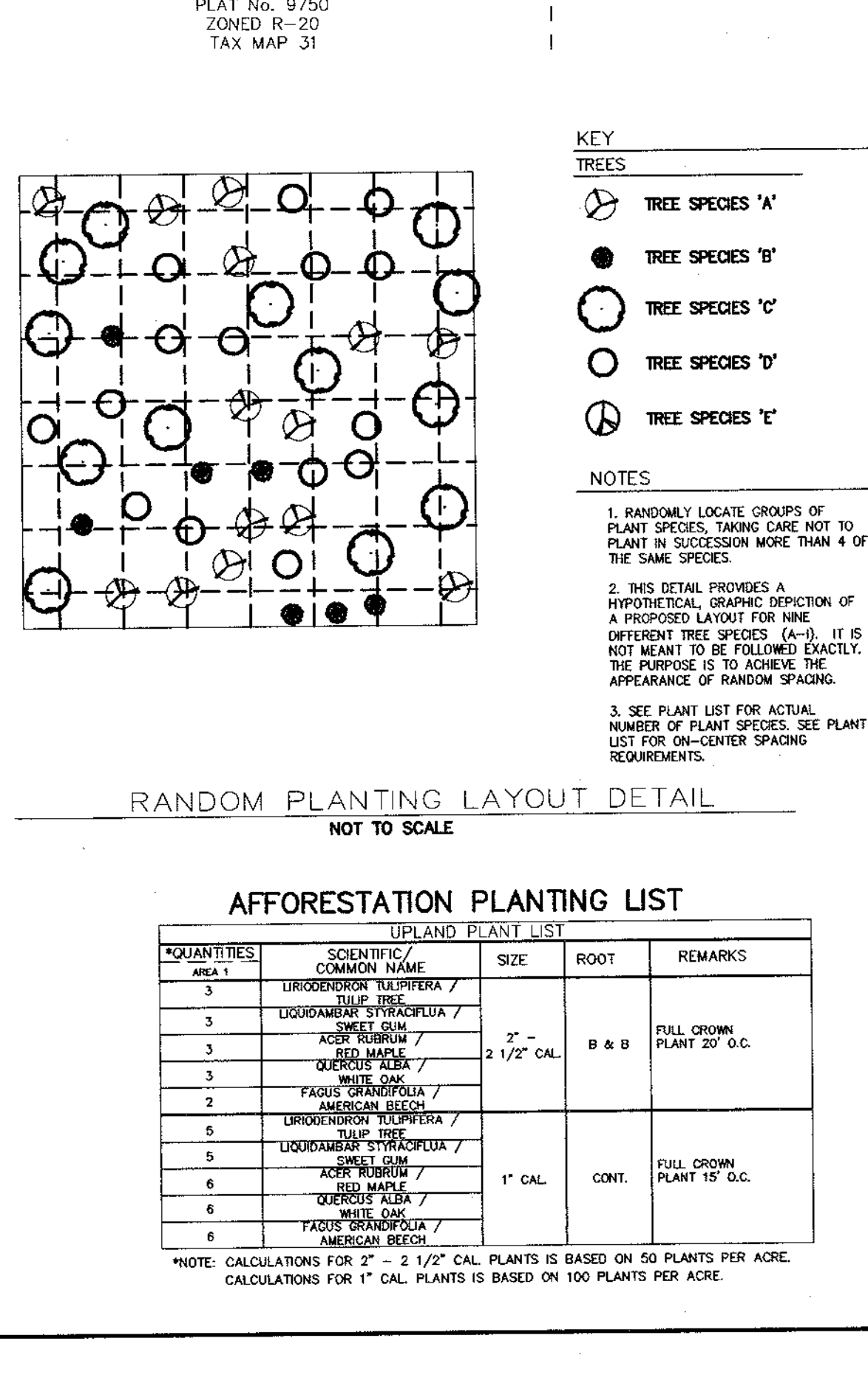
J. Total Area of Forest to be Cleared = 0.00
K. Total Area of Forest to be Retained = 0.00
L. Existing Forest Cover (F) - forest to be cleared (J) = 0.00

Planting Requirements

M. If the Total Area of Forest to be Cleared (K) is at or above the Break Even Point (H), no planting is required and no further calculations are necessary (L=0, M=0, N=0, P=0).
If not, calculate the planting requirement below:
L. Reforestation for Clearing Above the Conservation Threshold
(1) If the total area of forest to be retained (K) is greater than the Conservation Threshold (E), then L = the area of forest to be cleared (J) X 0.25 or
(2) If the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then L = area of forest above Conservation Threshold (G) X 0.25
N. Reforestation for Clearing Below the Conservation Threshold
(1) If Existing Forest Cover (F) is greater than Conservation Threshold (E) and the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then M = 2.0 X (the Conservation Threshold (E) - the forest to be retained (K))
(2) If Existing Forest (F) is less than or equal to the Conservation Threshold (E), then M = 2.0 X Forest to be cleared (J)

O. Credit for Retention Above the Conservation Threshold
If the area of forest to be retained (K) is greater than the Conservation Threshold (E), then N = K - E

P. Total Reforestation Required P = L + M - N = 0.00
Q. Total Afforestation Required
(1) If Existing Forest Cover (F) is less than the Afforestation Threshold (D) then Q = the Afforestation Threshold (D) - Existing Forest Cover (F)
(2) Total Planting Requirement R = P + Q = 0.46



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Chief, Division of Land Development
10/21/04 DATE

Chief, Development Engineering Division
12/21/04 DATE

DATE	NO.	REVISION

OWNER: WILLIAM MCFARLAND, JR. TRUST
VIOLA MCFARLAND TRUST
5386 MONTGOMERY ROAD
ELLCOTT CITY, MD 21043

DEVELOPER: CORNERSTONE HOLDINGS, LLC
ATTN: BRIAN BOY 9691
NORFOLK AVENUE LAUREL, MARYLAND 20723
410-792-2565

PROJECT: CHAPEL MANOR LOTS 1-7

AREA: TAX MAP 31 PARCEL 192 ZONED R-20
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: FOREST CONSERVATION PLAN

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centro Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

11-16-04 DATE

CHECKED BY: P.J.S.

DESIGNED BY: K.L.M.

DRAWN BY: DAM

PROJECT NO: 11818 RD9.DWG

DATE: NOVEMBER 17, 2004

SCALE: 1"=30'

DRAWING NO. 9 OF 9

STATE OF MARYLAND
SCOTT R. WOLFORD #797