

**GENERAL NOTES:**

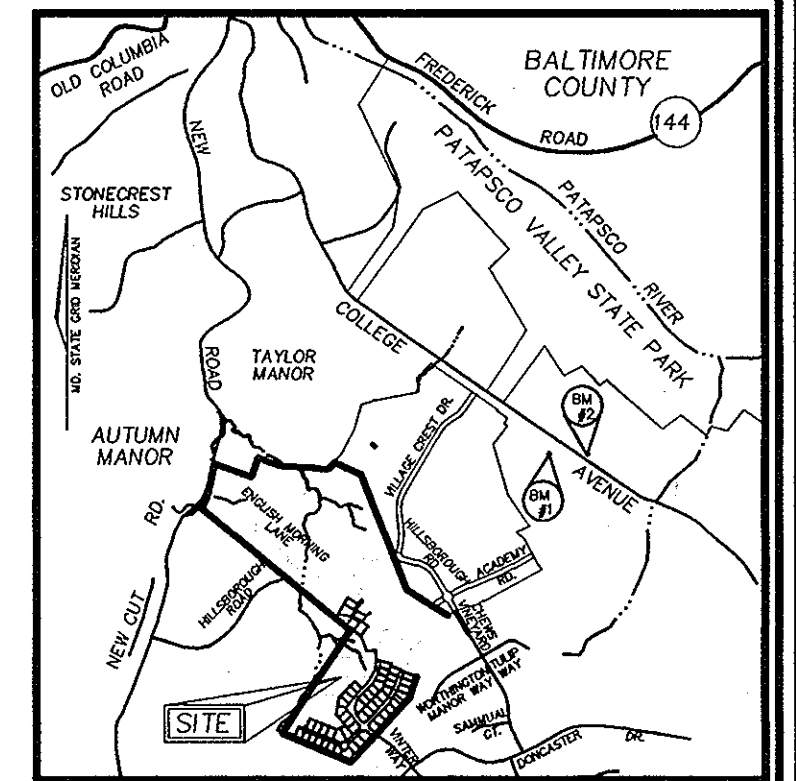
- LOCATION: TAX MAPS 25 & 31, BLOCKS 20 & 2, P/O PARCEL 98  
 2ND ELECTION DISTRICT  
 EXISTING ZONING: R-ED  
 TOTAL AREA OF SITE: 83.27 AC.±  
 AREA OF PHASE 6 SUBMISSION: 24.40 AC. (R-ED)  
 AREA OF PROPOSED BUILDABLE LOTS: 12.84 AC.  
 AREA OF PROPOSED ROAD RIGHT OF WAY: 1.9 AC  
 OPEN SPACE TABULATIONS: 8.66 AC.  
 AREA OF 100 YEAR FLOODPLAIN ON SITE : 0.00 AC.  
 NUMBER OF LOTS/PARCELS PROPOSED: 59 BUILDABLE  
 LIMIT OF DISTURBANCE FOR PHASE 6 PLAN SUBMISSION: 16.23 AC±
- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
  - DEED REFERENCE: L. 370 / F. 376
  - PROJECT BACKGROUND:  
 LOCATION: TAX MAP 25, GRID 20 AND TAX MAP 31, GRID 2, P/O PARCEL 98  
 2ND ELECTION DISTRICT  
 ZONING: R-ED  
 TOTAL PARCEL AREA: 83.27 AC.± PHASE #6 : 24.40 AC  
 NUMBER OF PROPOSED LOTS: 59 BUILDABLE  
 APPLICABLE DPZ FILE NUMBERS: S-98-18, PB-336 (APPROVED 6/16/99), P-00-07, F-01-60 (PHASE 1), F-01-206 (PHASE 2), F-02-170 (PHASE 3), P-03-07 (PHASE 4), P-04-12 (PHASE 5), F-05-019 (PHASE 5), SDP-06-33 (PHASE 5), P-06-006, F-06-077, F-06-172.
  - THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PERFORMED BY VOGEL & ASSOCIATES, INC. DATED NOVEMBER, 1998.
  - THE TOPOGRAPHY SHOWN HEREON IS BASED ON AERIAL PHOTOGRAMMETRIC BY WINGS AERIAL MAPPING COMPANY, INC. DATED MARCH 1995.
  - COORDINATE DATUM IS BASED ON THE MARYLAND COORDINATE SYSTEM (NAD 83) AS PROJECTED BY THE FOLLOWING H.O.CO. GEODETIC CONTROL STATIONS: BM1- 3044005R & BM2- 3044004R
  - WATER AND SEWER FOR THIS PROJECT WILL BE PUBLIC. EXISTING WATER CONTRACT #14-4245-D & #14-3160-D WILL BE EXTENDED FROM VINTER WAY AND EX. ACADEMY RD, RESPECTIVELY. A SEWER LINE TO DRAIN TO NEW CUT ROAD WASTE WATER PUMPING STATION HAS BEEN CONSTRUCTED BY THE DEVELOPER AS CONTRACT #14-3855-D.
  - STORMWATER MANAGEMENT PROVIDED BY MICROPOOL EXTENDED DETENTION POND (P-1) AND UNDERGROUND GRAVEL TRENCH. FACILITIES ARE LOCATED IN OPEN SPACE LOT 151 AND WILL BE PRIVATELY OWNED BY HOA AND JOINTLY MAINTAINED BY HOA & HOWARD COUNTY PUBLIC WORKS.
  - THERE ARE NO WETLANDS WITHIN THIS PHASE BASED ON A WETLAND REPORT PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED SEPTEMBER 18, 2006.
  - THERE IS NO FLOODPLAIN LOCATED WITHIN THIS PHASE.
  - FOREST CONSERVATION PLAN PREPARED BY EXPLORATION RESEARCH, INC. DATED OCTOBER, 1999 FOR THE ENTIRE SITE. FOREST STAND DELINEATION PLAN PREPARED BY CHESAPEAKE ENVIRONMENTAL, DATED MARCH 1995 AND APPROVED S-98-18. THE FOREST CONSERVATION OBLIGATIONS FOR THE ENTIRE SUBDIVISION OF WORTHINGTON FIELDS, PHASE 1-6, HAS BEEN MET BY PROVIDING 20.32 ACRES OF RETENTION IN PHASE 1/F-01-060. A FEE IN LIEU PAYMENT OF \$8,799.12 FOR THE ABANDONMENT OF 8,799.12 SQ.F./0.202 ACRE OF PARTS OF FCE'S 1 AND 5 IN PHASE 1 PER F-06-077, 6.19 ACRES OF RETENTION IN PHASE 6/F-07-002, FOR A TOTAL OF 26.308 ACRES OF RETENTION PROVIDED. FOREST CONSERVATION SURETY IN THE AMOUNT OF \$ 53,927.28 HAS BEEN POSTED FOR THE 6.19 ACRES OF RETENTION PROVIDED IN PHASE 6 AS A PART OF THE DEVELOPER'S AGREEMENT FOR F-07-002/PHASE 6.
  - A TRAFFIC STUDY FOR THIS SITE WAS PREPARED BY THE TRAFFIC GROUP, INC., DATED JUNE 8, 1998, APPROVED UNDER S-98-18.
  - THERE ARE NO EXISTING STEEP SLOPES WITHIN THIS PHASE.
  - A NOISE STUDY IS NOT REQUIRED FOR THIS SITE.
  - ALL LANDSCAPING REQUIREMENTS AS SET FORTH IN THE LANDSCAPE MANUAL SHALL BE COMPLIED WITH.
  - SEDIMENT AND EROSION CONTROL WILL BE PROVIDED FOR THIS SITE.
  - THIS PROPERTY IS LOCATED IN THE WORTHINGTON SCHOOL DISTRICT.
  - TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL/CEMETARY LOCATIONS ON SITE.
  - A FINANCIAL SURETY FOR THE REQUIRED PERIMETER LANDSCAPING WILL BE POSTED . . . AS A PART OF THE FUTURE SITE DEVELOPMENT PLAN IN THE AMOUNT OF \$13,950.00. STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$33,000.00 TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE REQUIRED 110 PUBLIC STREET TREES. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING PROVIDED PER THE LANDSCAPE MANUAL TO BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$14,100.00 FOR THE REQUIRED 41 SHADE TREES AND THE REQUIRED 12 EVERGREEN TREES.
  - A FINANCIAL SURETY FOR THE REQUIRED STREET TREES WILL BE POSTED AS A PART OF THE DEVELOPER'S AGREEMENT . . . IN THE AMOUNT OF \$33,000.
  - REFERENCE PLANNING BOARD CASE PB-336 FOR APPROVAL OF THIS DEVELOPMENT WITHIN THE R-ED DISTRICT ON JUNE 16, 1999 SUBJECT TO THE FOLLOWING CONDITIONS:  
 1. COMPLIANCE WITH THE SUBDIVISION REVIEW COMMITTEE COMMENTS FOR SKETCH PLAN S-98-19.  
 2. THE DEVELOPERS SHALL PROVIDE PEDESTRIAN ACCESS FROM THIS SUBDIVISION TO THE ADJACENT WORTHINGTON ELEMENTARY SCHOOL SITE.
  - THIS PLAN AND PROJECT ARE GRANDFATHER TO THE FOURTH EDITION OF THE HOWARD COUNTY SUBDIVISION AND DEVELOPMENT REGULATIONS BECAUSE S-98-18 RECEIVED SIGNATURE APPROVAL PRIOR TO 11/15/01.
  - PUBLIC WATER AND/OR SEWER ALLOCATION FOR THIS DEVELOPMENT IS SUBJECT TO SECTION 18.1228 OF THE HOWARD COUNTY CODE. ALLOCATION WILL BE MADE AT THE TIME OF FINAL PLAN APPROVAL.
  - STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL.
  - IN ADDITION TO THE SWM FACILITIES INCLUDED WITH THIS PLAN, WORTHINGTON FIELDS VI, REFERENCED WORTHINGTON FIELDS PHASE I (F-01-60) AND WORTHINGTON PHASE V (F-05-019).
  - THE LIMIT OF DISTURBANCE SHOWN OF THIS PLAN HAS BEEN CLEARED IN ACCORDANCE WITH THE HOWARD COUNTY FOREST HARVESTING PERMIT PROCESS. THE DEVELOPER IS SUBJECT TO THE CONDITIONS OF THE EXECUTED DECLARATION OF INTENT PER (GP-06-59).
  - THIS PLAN IS IN ACCORDANCE WITH APPROVED SKETCH PLAN S-98-18. NOTE THAT THE 4.42 ACRE (3.23 AC. AFTER DEDICATION TO ROADS) FOR ZONED NON-BUILDABLE PARCEL A IS NOW PART OF VILLAGE CREST SUBDIVISION. FOREST CONSERVATION FOR THAT PARCEL IS PROVIDED IN VILLAGE CREST F-02-47.
  - THIS PROJECT IS LOCATED IN THE WORTHINGTON ELEMENTARY SCHOOL DISTRICT AND THE ELLICOTT MILLS MIDDLE SCHOOL DISTRICT. AS A CONSEQUENCE OF THE COUNCIL'S APPROVAL OF RESOLUTION 96-2003\*, THE 30 UNITS COMPRISING PHASE V HAVE NOW PASSED THE AFFO TEST FOR OPEN SPACE REGION PROPOSAL HAS BEEN ENDORSED BY DEPARTMENT OF PLANNING & ZONING BY LETTER DATED JUNE 26, 2003 AND HAD GRANTED 30 TENTATIVE HOUSING UNIT ALLOCATIONS FOR THE YEAR 2006 (PHASE V) AND 59 FOR THE YEAR 2007 (PHASE VI).
  - IN ACCORDANCE WITH APPROVED PB-366 AND S-98-18, THIS INCLUDES A STATEMENT THAT FOREST CONSERVATION OBLIGATIONS CAN BE MET BY RETENTION OF FOREST STANDS EQUAL TO OR ABOVE THE BREAK-EVEN-POINT. TOTAL RETENTION AREA=26.47 AC. WHICH IS ABOVE THE BREAK-EVEN-POINT AT 23.28 AC. PER THE SKETCH PLAN EXHIBIT THAT WAS SUBMITTED AT PLANNING BOARD.

# FINAL ROAD CONSTRUCTION PLAN

# WORTHINGTON FIELDS - PHASE 6

## LOTS 90-148 AND OPEN SPACE LOT 149, 150 & 151

## A RESUBDIVISION OF NON-BUILDABLE PARCEL 'B-4', PHASE 5 HOWARD COUNTY, MARYLAND

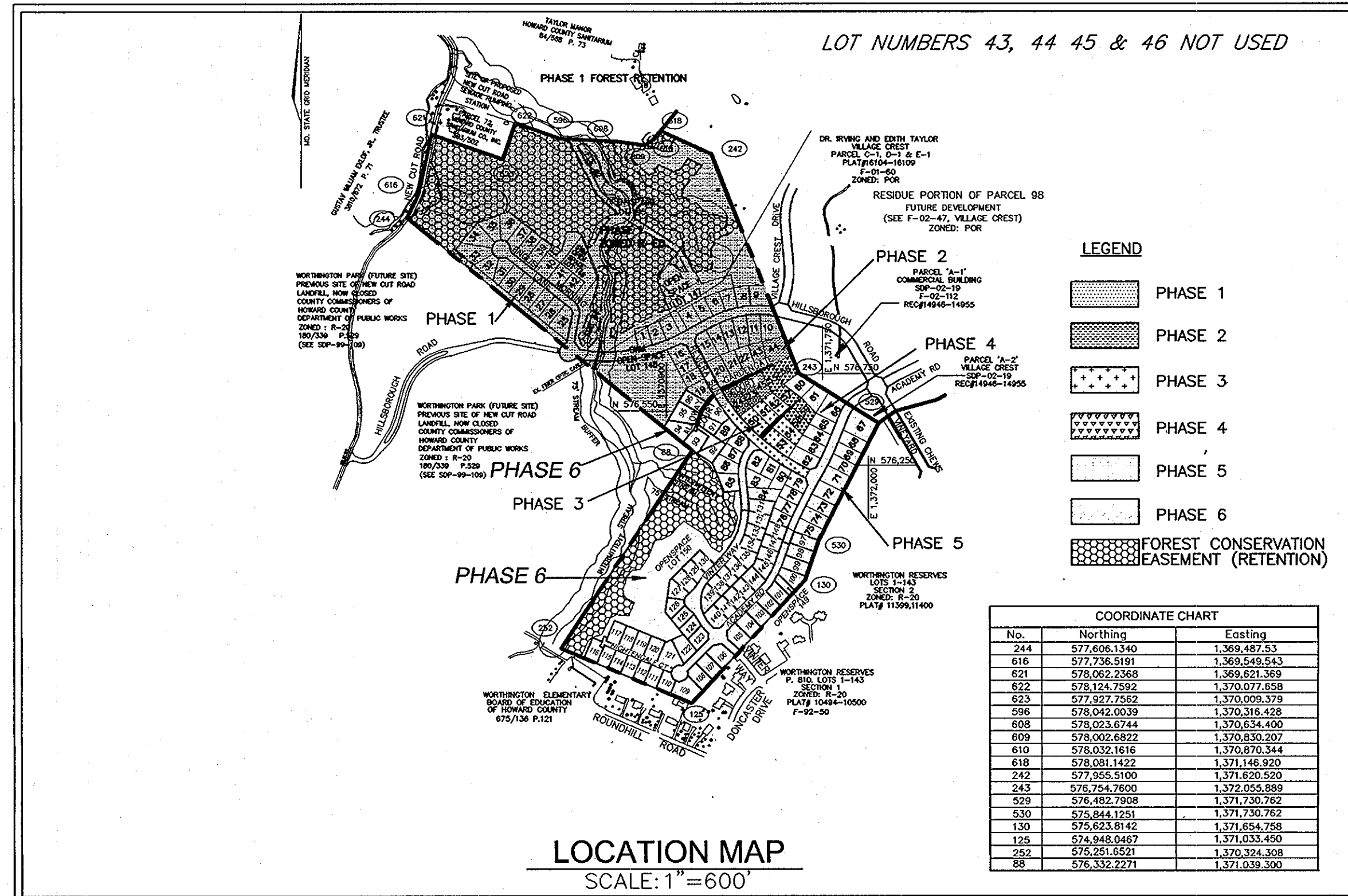


VICINITY MAP  
 SCALE: 1"=2000'  
**BENCHMARKS**

BENCHMARK NO. 1: COUNTY CONTROL #3044005R  
 3/4" REBAR 0.8' BELOW SURFACE  
 N. 578233.92, E. 1373142.33  
 ELEV. = 374.389  
 ELEV. = -362.575

BENCHMARK NO. 2: COUNTY CONTROL #3044004R  
 3/4" REBAR 0.6' BELOW SURFACE  
 N. 578128.03, E. 1373460.71

ADC MAP COORDINATES:  
 N: 577,000  
 E: 860,000  
 ADC MAP PAGE: 12 & 16  
 ADC MAP GRID: H-13



**SHEET INDEX**

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9 OF 18	GRADING, SEDIMENT & EROSION CONTROL DETAILS
10 OF 18	STORM DRAIN DRAINAGE AREA MAP
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17 OF 18	LANDSCAPE, FOREST CONSERVATION GRADING, SEDIMENT & EROSION CONTROL PLAN
18 OF 18	LANDSCAPE AND FOREST CONSERVATION PLAN AND DETAILS

- THE HOA SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE SIDEWALK IN FRONT OF OPEN SPACE LOTS 150 & 151.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC/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 OF 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 (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COURTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (12 GAUGE)- 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- THE HOME OWNERS ASSOCIATION SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE SIDEWALK IN FRONT OF OPEN SPACE LOTS 150 AND 151.
- EXISTING UTILITIES ARE BASED ON CONTRACT # 14-4245-D & CONT.#14-3160-D.
- PRIVATE EASEMENTS SHOWN ON THIS PLAN ARE TO MAINTAINED BY THE HOA.

**OPEN SPACE TABULATION**

PHASE	TOTAL AREA	REQUIRED OPEN SPACE*	PROVIDED CREDITED OPEN SPACE	PROVIDED NON-CREDITED OPEN SPACE	TOTAL PROVIDED OPEN SPACE	OPEN SPACE IN RESERVE	REQ. REC. OPEN SPACE*	PROV. REC. OPEN SPACE	REC. O.S. IN RESERVE
TOTAL SUBDIVISION	83.27 AC.	20.82 AC.	-	-	-	-	0.83 AC.	-	-
1 (F-01-60)	46.05 AC.	11.51 AC.	32.49 AC. (39%)	0.54 AC.	33.03 AC.	21.52 AC.	0.24 AC.	1.01 AC.	0.77 AC.
2 (F-01-206)	0.89 AC.	0.22 AC.	0.00 AC.	0.00 AC.	0.00 AC.**	21.30 AC.	0.02 AC.	0.00** AC.	0.75 AC.
3 (F-02-170)	2.06 AC.	0.52 AC.	0.00 AC.	0.00 AC.	0.00 AC.**	20.78 AC.	0.03 AC.	0.00** AC.	0.72 AC.
4 (F-03-207)	1.20 AC.	0.30 AC.	0.00 AC.	0.00 AC.	0.00 AC.**	20.48 AC.	0.03 AC.	0.00** AC.	0.69 AC.
5 (F-05-019)	8.67 AC.	2.17 AC.	0.00 AC.	0.00 AC.	0.00 AC.**	18.31 AC.	0.17 AC.	0.00** AC.	0.52 AC.
6 (F-07-002)	24.40 AC.	6.10 AC.	9.66 AC.	0.00 AC.	9.66 AC.**	12.21 AC.	0.34 AC.	0.00** AC.	0.18 AC.
TOTAL	83.27 AC.	20.82 AC.	42.15 AC.	0.54 AC.	42.69 AC.	12.21 AC.	0.83 AC.	1.01 AC.	0.18 AC.

\*REQUIRED OPEN SPACE CALCULATED FOR THE ENTIRE R-ED PORTION OF THE SUBDIVISION AS 25% OF GROSS AREA. (83.27 AC. X 25% = 20.82 AC.) REQUIRED RECREATIONAL OPEN SPACE CALCULATED AS 250 SF PER D.U. (144 D.U. X 250 SF = 36,000 SF OR 0.83 AC)

\*\*REQUIRED OPEN SPACE AND REQUIRED RECREATIONAL OPEN SPACE FOR THE ENTIRE SUBDIVISION PROVIDED UNDER WORTHINGTON FIELDS PHASE 1, PLAT NO. 14946-14955.

**DENSITY TABULATION**

PHASE	TOTAL SUBDIVISION AREA (GROSS AREA)	FLOODPLAIN	STEEP SLOPES	NET AREA	UNITS ALLOWED	UNITS PROPOSED	TOTAL UNITS REMAINING
TOTAL	RECORDED (PHASED)	1.62 AC.	8.36 AC.	73.29 AC.	146 D.U.	144 D.U.**	-
1 (F-01-60)	83.27 (46.05)	0.00 AC.	0.00 AC.	4.42 AC.	N/A	N/A	-
2 (F-01-206)	37.23 (0.89)	0.00 AC.	0.00 AC.	0.89 AC.	2 D.U.	3 D.U.	99 D.U.
3 (F-02-170)	36.34 (2.06)	0.00 AC.	0.00 AC.	2.06 AC.	4 D.U.	5 D.U.	94 D.U.
4 (F-03-207)	34.27 (1.20)	0.00 AC.	0.00 AC.	1.20 AC.	2 D.U.	5 D.U.	89 D.U.
5 (F-05-019)	33.07 (8.67)	0.00 AC.	0.00 AC.	8.67 AC.	17 D.U.	30 D.U.	59 D.U.
6 (F-07-002)	24.40	0.00 AC.	0.00 AC.	24.40 AC.	49 D.U.	59 D.U.	0 D.U.
TOTAL	83.27	1.62 AC.	8.36 AC.	44.63 AC.	146 D.U.	144 D.U.	0 D.U.

\*THE POR ZONED AREA RECORDED AS NON-BUILDABLE PARCEL 'A' (3.23 AC.) ON WORTHINGTON FIELDS PHASE 1, PLAT NO. 14946-14955, HAS SUBSEQUENTLY BEEN RESUBDIVIDED TO CREATE VILLAGE CREST, PARCELS A-1, A-2 AND NON-BUILDABLE PARCEL A-3 AND RECORDED AS PLAT NO. 15359. THE REMAINING PORTION OF THE POR ZONED AREA (1.19 AC.) HAS BEEN DESIGNATED TO HOWARD COUNTY, MARYLAND, FOR THE PURPOSE OF A PUBLIC ROAD AS PER WORTHINGTON FIELDS PHASE 1, PLAT NO. 14946-14955.

\*\*MAXIMUM ALLOWABLE DENSITY OF 144 UNITS APPROVED UNDER S-98-18.

**FOREST CONSERVATION TABULATION (LAND USE: HDR)**

PHASES	F-01-60	F-01-206	F-02-170	P-03-07	F-04-012	F-07-002	ENTIRE SITE
TOTAL TRACT AREA	46.05 AC	0.89 AC	2.06 AC	1.20 AC	8.87 AC	24.20 AC	83.27 AC
FLOODPLAIN	1.62 AC	0	0.00 AC	0	0	0	1.62 AC
NET TRACT AREA	44.43 AC	0.89 AC	2.06 AC	1.20 AC	8.87 AC	24.20 AC	81.65 AC
AFFORESTATION THRESHOLD -15%	6.66 AC	0.13 AC	0.31 AC	0.18 AC	1.30 AC	3.66 AC	12.25 AC
REFORESTATION THRESHOLD -20%	8.89 AC	0.18 AC	0.41 AC	0.24 AC	1.73 AC	4.88 AC	16.33 AC
EX. NET TRACT FOREST AREA	31.37 AC	0	0	0	0	19.73 AC	51.10 AC
BREAK EVEN POINT	13.38 AC	NA	NA	NA	NA	7.85 AC	23.28 AC
RET. W. NO MITIGATION	13.38 AC	0	0	0	0	7.85 AC	23.28 AC
CLEARING W. MITIGATION	22.48 AC	0	0	0	0	11.88 AC	27.82 AC
FOREST TO BE CLEARED	11.05 AC	0	0	0	0	13.54 AC	24.58 AC
FOREST TO BE RETAINED	20.32 AC	0	0	0	0	6.19 AC	26.308 AC
REFOREST FOR FOREST CLEARED ABOVE THRESHOLD	2.76 AC	0	0	0	0	3.38 AC	6.14 AC
REFOREST FOR FOREST CLEARED BELOW THRESHOLD	0.00 AC	0	0	0	0	0	0
CREDIT FOR RETENTION ABOVE THRESHOLD	11.43 AC	0	0	0	0	1.31 AC	10.19 AC
TOTAL REFORESTATION REQUIRED	0	0	0	0	0	0	0
TOTAL AFFORESTATION REQUIRED	NA	0.13 AC.	0.31 AC.	0.18 AC.	1.3 AC.	NA	1.92**
TOTAL FOREST REQUIRED	0	0.13 AC.	0.31 AC.	0.18 AC.	1.3 AC.	0	0**
PLANNING PROVIDED	0	0**	0**	0**	0**	0	0**

0.202 AC. OF RETENTION IN PHASE 1 ABANDONED PER F-06-077.

\*\* THE ATTESTATION OBLIGATION FOR PHASES 2-5 IS BEING OFFSET BY RETENTION ON PHASE 1 AND 6.

THE FOREST CONSERVATION ACT FOR THE WORTHINGTON FIELDS DEVELOPMENT, PHASES 1-6 HAVE BEEN MET THROUGH THE RETENTION OF 26.308 ACRES OF ONSITE FOREST. THIS RETENTION INCLUDES 20.118 ACRES OF FOREST ON PHASE 1 AND 6.198 ACRES ON PHASE 6. THE ORIGINAL FCP FOR THE PROJECT INCLUDED AN ADDITIONAL 0.202 ACRES OF RETENTION ON PHASE 1 AND 5. THESE EASEMENTS HAVE BEEN ABANDONED PER F-06-077. A FEE-IN-LIEU PENALTY WAS PAID AS PART OF THIS ABANDONMENT PROCESS.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
  
 Chief, Bureau of Highways 143  
 Date: 6-19-07

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
  
 Chief, Division of Land Development  
 Date: 6/23/07

Chief, Development Engineering Division  
 Date: 6/21/07

**AS-BUILT CERTIFICATION**

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

SIGNATURE:   
 PE NO: 16193  
 DATE: 12/25/14

**COVER SHEET**  
**WORTHINGTON FIELDS, PHASE 6**  
 LOTS 90-148 AND OPENSPACE LOT 149, 150 & 151  
 A RESUBDIVISION OF NON-BUILDABLE PARCEL B-4, PHASE 5 PARCEL P/O '98' HOWARD COUNTY, MARYLAND

TAX MAP 25 BLOCK 20  
 2ND ELECTION DISTRICT

REF.: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1), P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172, P-06-006, P-02-07, F-03-207 (PHASE 4), P-04-12, F-05-019, SDP-06-33 (PHASE 5)

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET  
 ELLICOTT CITY, MD 21043  
 TEL: 410.461.7666  
 FAX: 410.461.8961

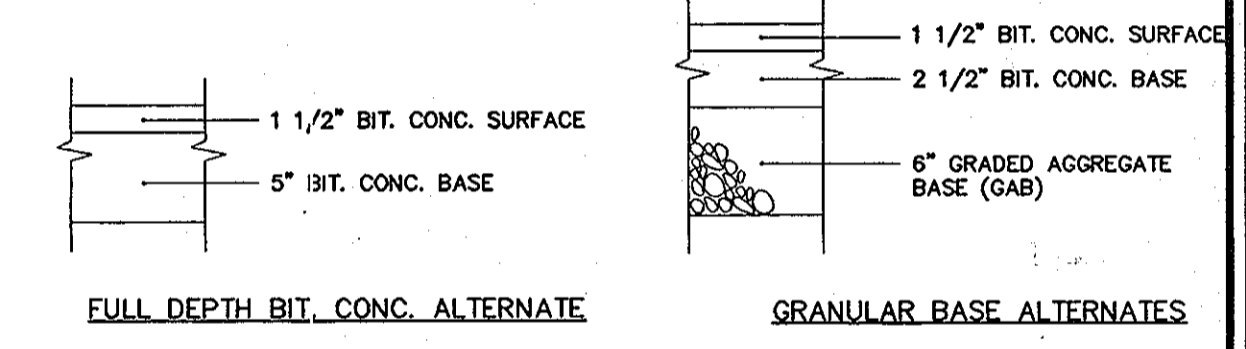
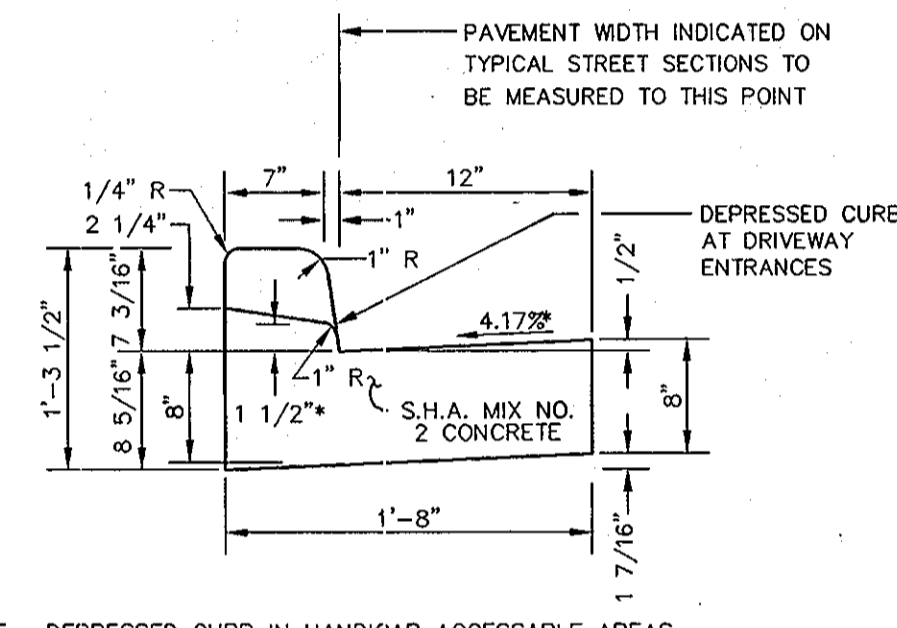
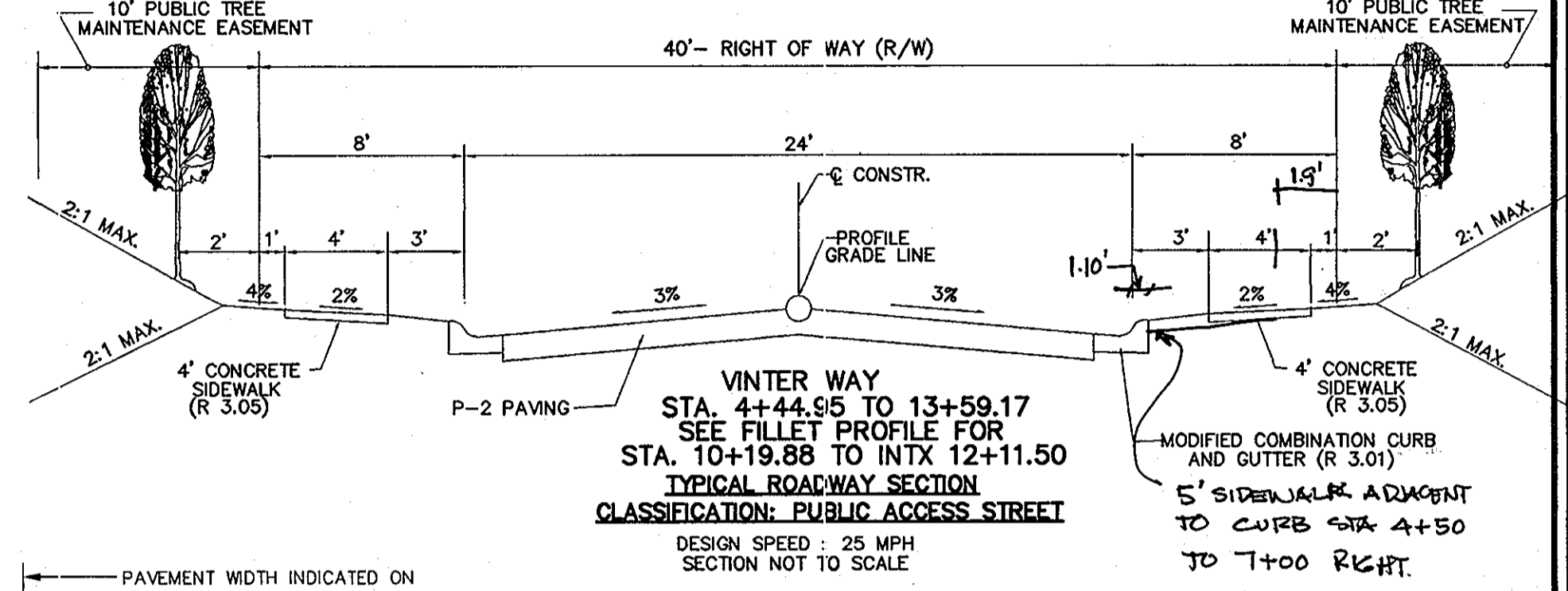
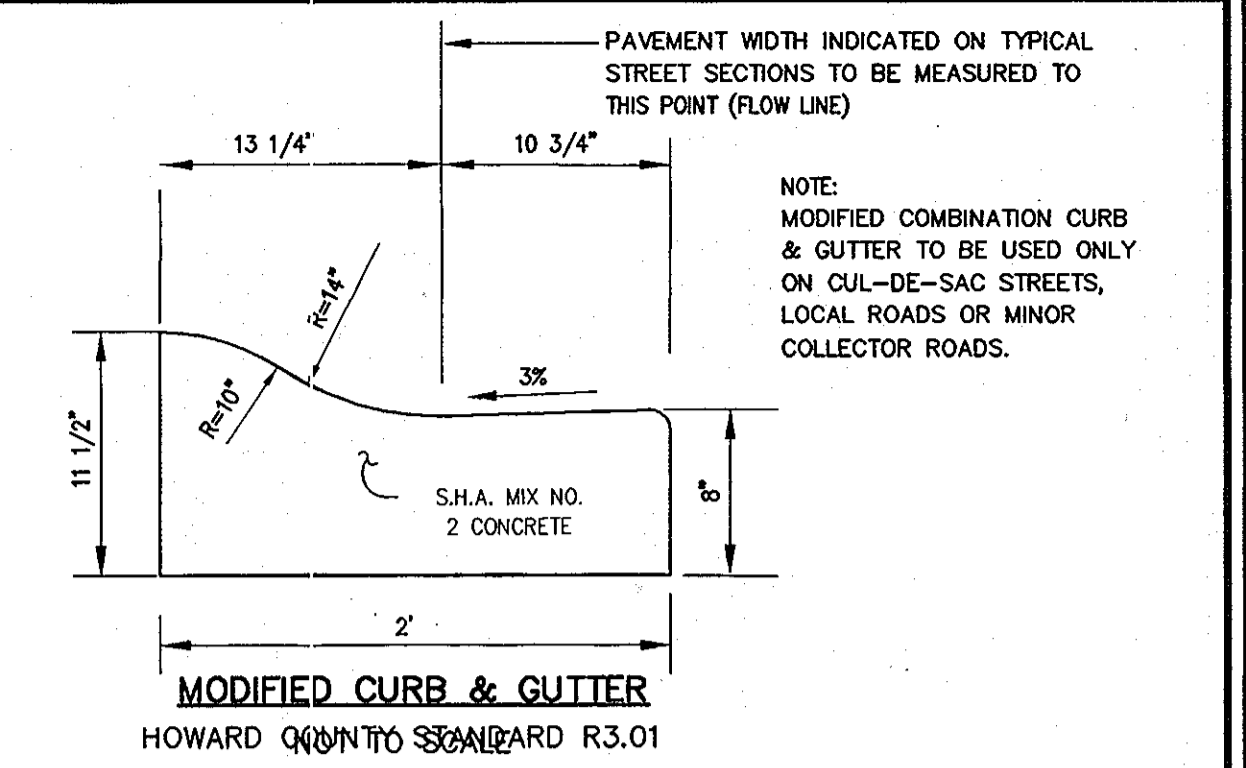
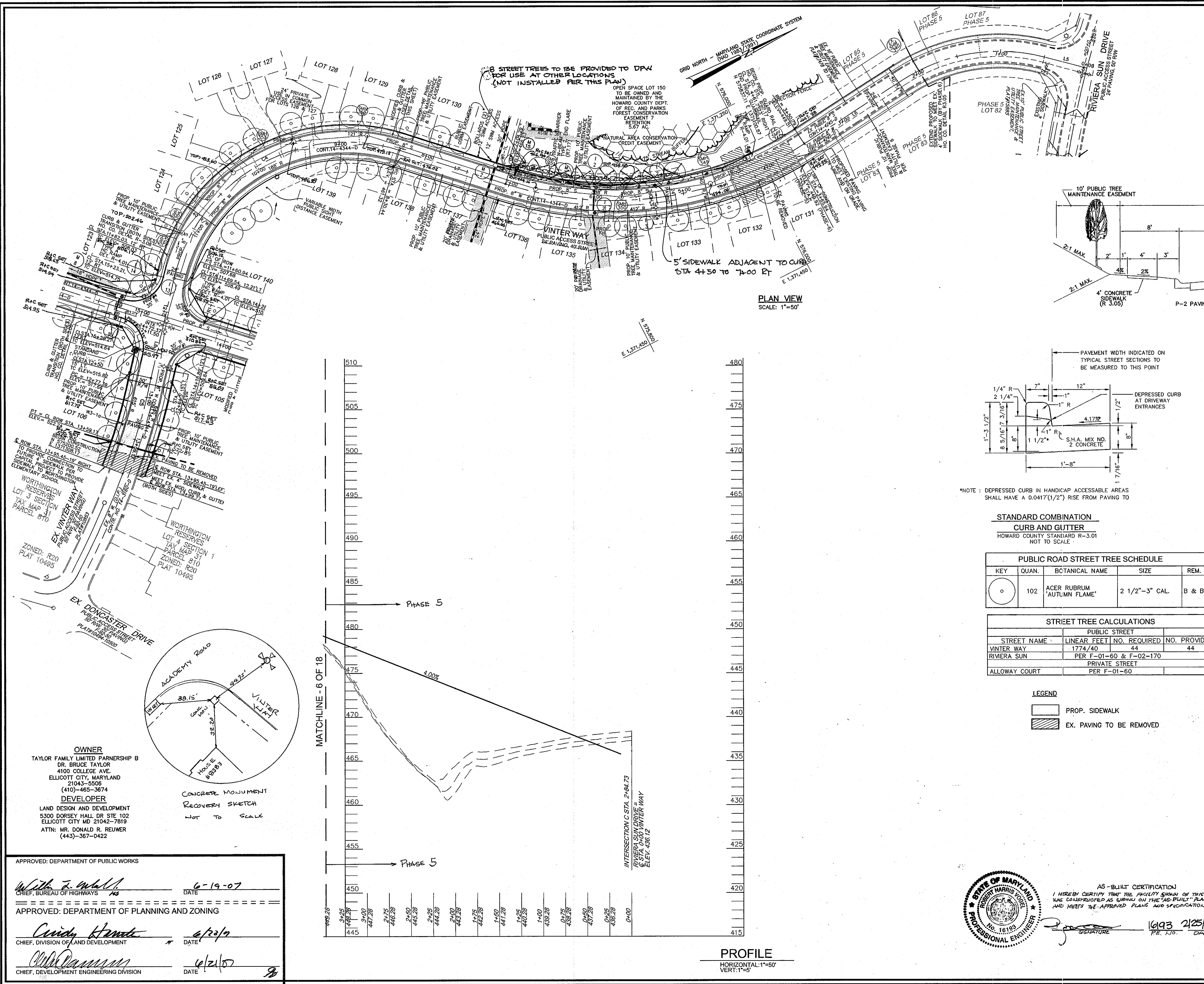
**OWNER**  
 TAYLOR FAMILY LIMITED PARTNERSHIP B  
 DR. BRUCE TAYLOR  
 4100 COLLEGE AVE.  
 ELLICOTT CITY, MARYLAND  
 21043-5506  
 (410)-465-3674

**DEVELOPER**  
 LAND DESIGN AND DEVELOPMENT  
 5300 DORSEY HALL DR. STE 102  
 ELLICOTT CITY MD 21042-7819  
 ATTN: MR. DONALD R. REUHER  
 (443)-367-0422

DESIGN BY: RJR/HV  
 DRAWN BY: RJ  
 CHECKED BY: RHV  
 DATE: JUNE 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 2019011.00

1 SHEET OF 18





**STANDARD COMBINATION CURB AND GUTTER**  
HOWARD COUNTY STANDARD R-3.01  
NOT TO SCALE

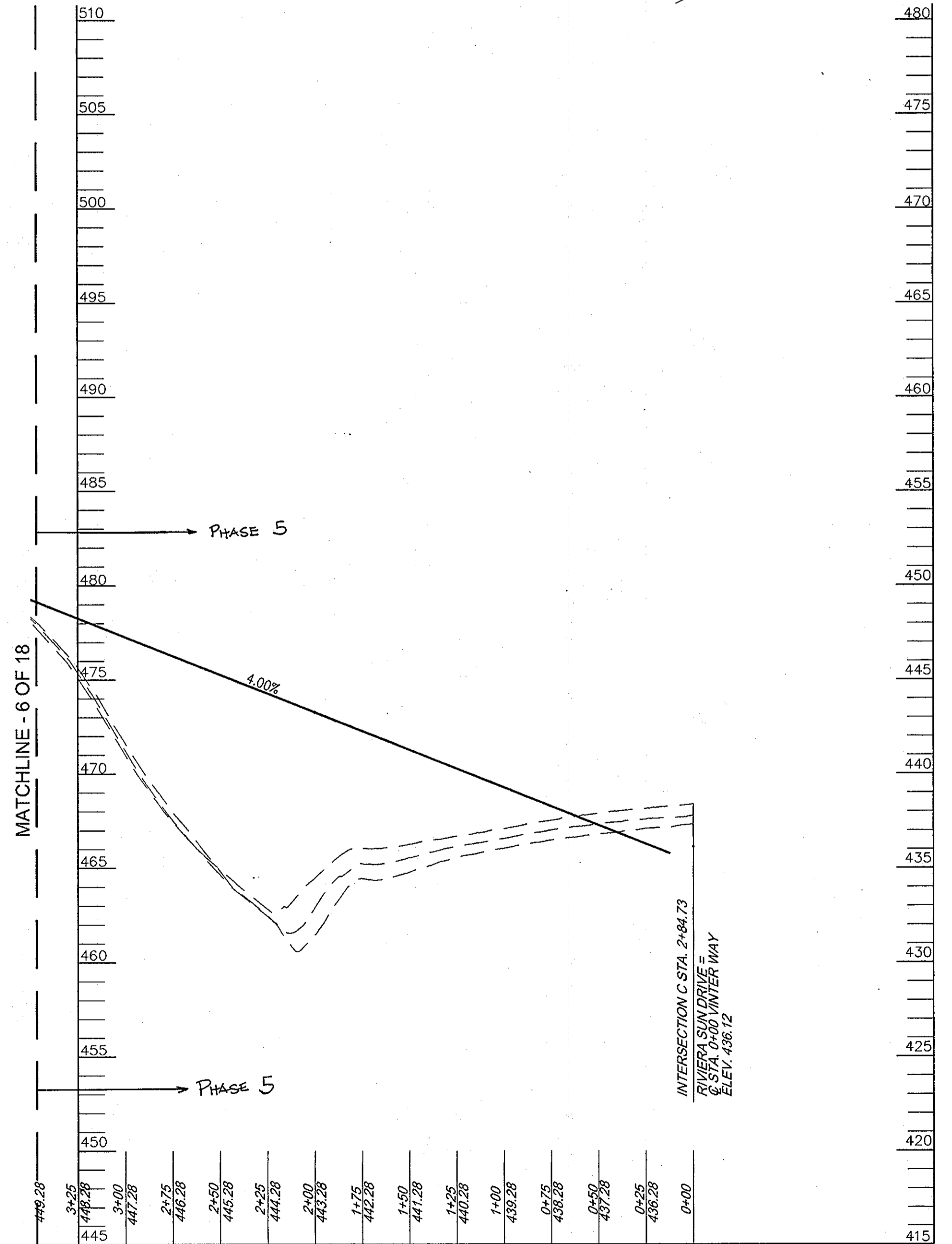
KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
○	102	ACER RUBRUM "AUTUMN FLAME"	2 1/2"-3" CAL.	B & B

STREET TREE CALCULATIONS			
PUBLIC STREET			
STREET NAME	LINEAR FEET NO. REQUIRED	NO. PROVIDED	
VINTER WAY	1774/40	44	44
RIVERA SUN	PER F-01-60 & F-02-170		
PRIVATE STREET			
ALLOWAY COURT	PER F-01-60		

LINE TABLE						
CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
C2	166.05'	200.00'	47°34'12"	88.15'	S17°54'34"W	161.32'
C3	353.50'	400.00'	50°38'07"	189.23'	N19°28'32"E	342.11'
C4	330.50'	200.00'	94°40'54"	217.05'	S02°34'52"E	294.16'
C5	92.61'	630.03'	8°14'24"	45.38'	N47°28'04"W	90.53'

LINE TABLE	
LINE	BEARING
L5	S0°57' S41°41'40"W
L6	S05°52'32"E
L7	S44°45'35"W
L8	S49°55'19"E

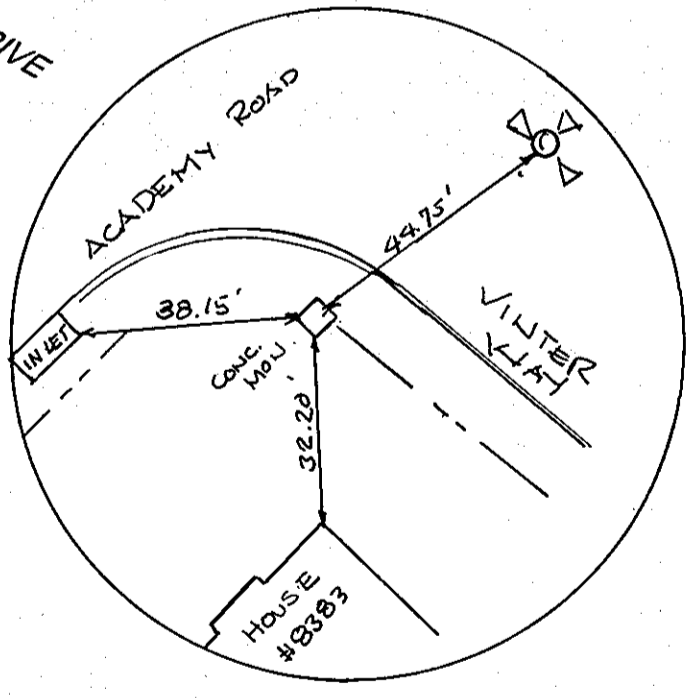
**LEGEND**  
 PROP. SIDEWALK  
 EX. PAVING TO BE REMOVED



**PROFILE**  
HORIZONTAL: 1"=50'  
VERT: 1"=5'

**OWNER**  
TAYLOR FAMILY LIMITED PARTNERSHIP B  
DR. BRUCE TAYLOR  
4100 COLLEGE AVE.  
ELLCOTT CITY, MARYLAND  
21043-5506  
(410)-465-3674

**DEVELOPER**  
LAND DESIGN AND DEVELOPMENT  
5300 DORSEY HALL DR STE 102  
ELLCOTT CITY MD 21042-7819  
ATTN: MR. DONALD R. REUWER  
(443)-367-0422



APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Walter J. Whall* 6-19-07  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cindy Hamels* 6/22/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT

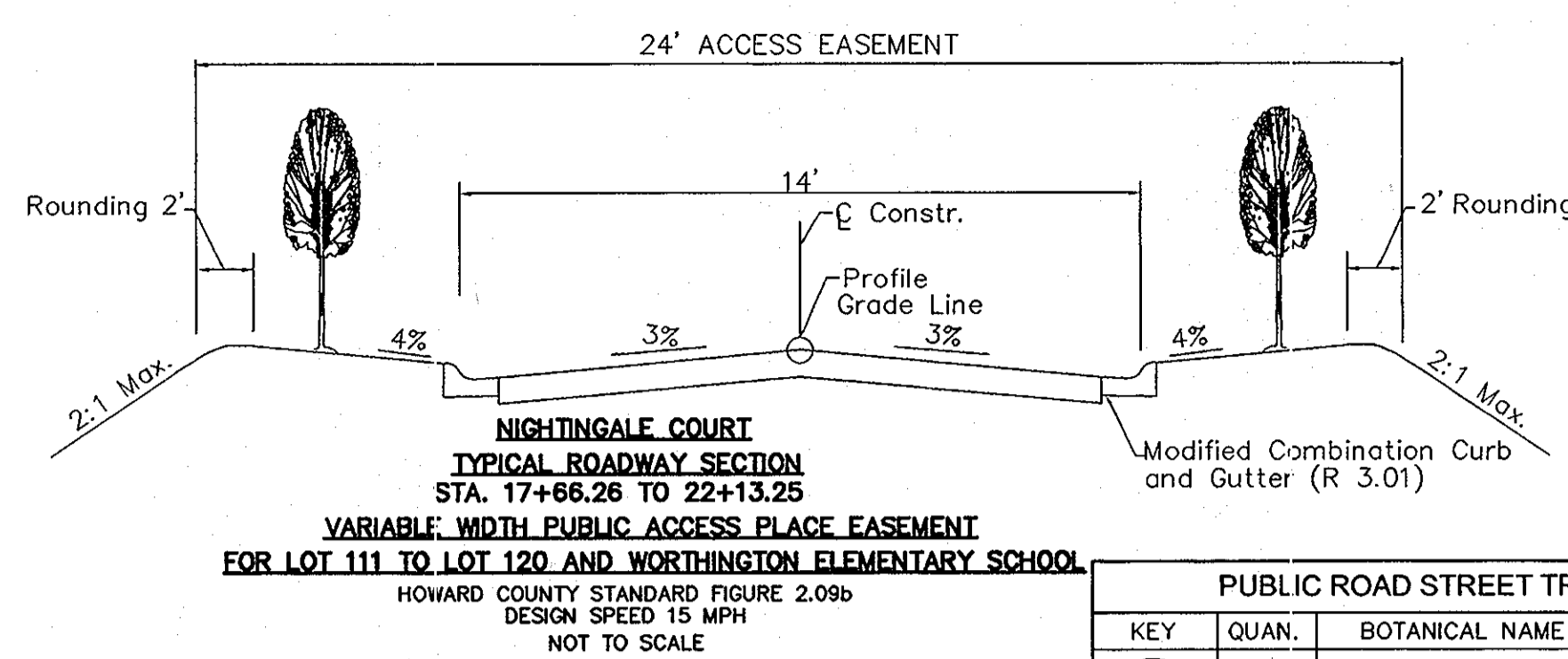
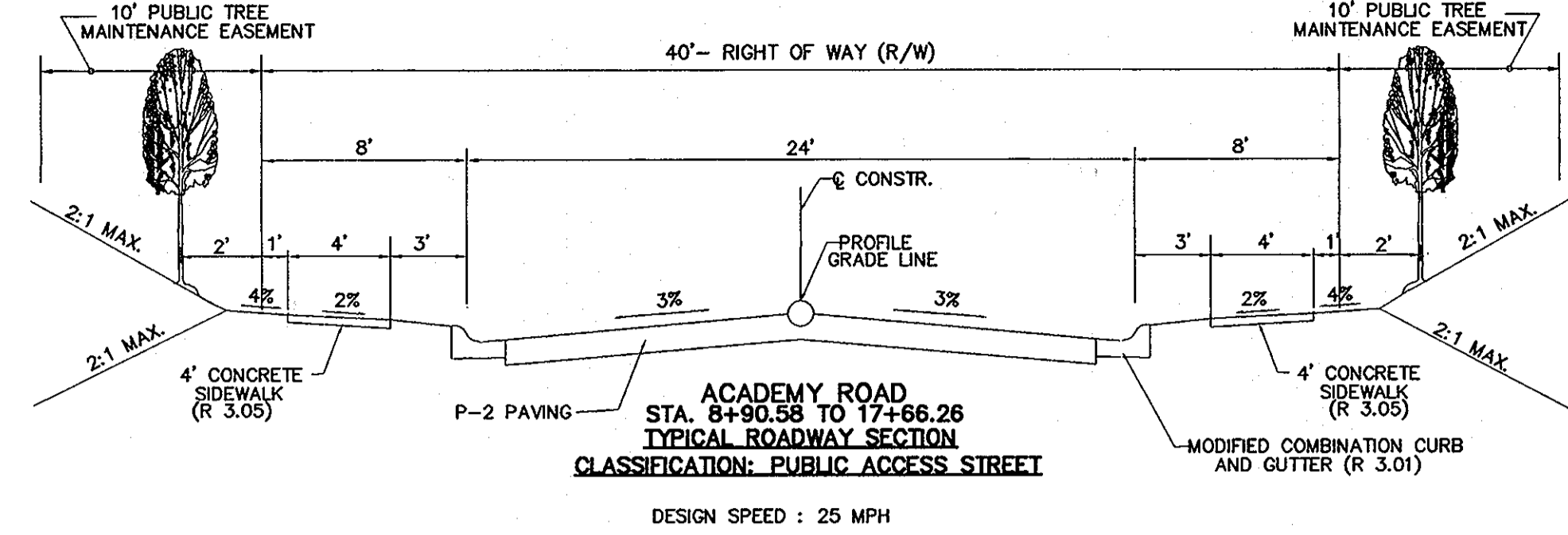
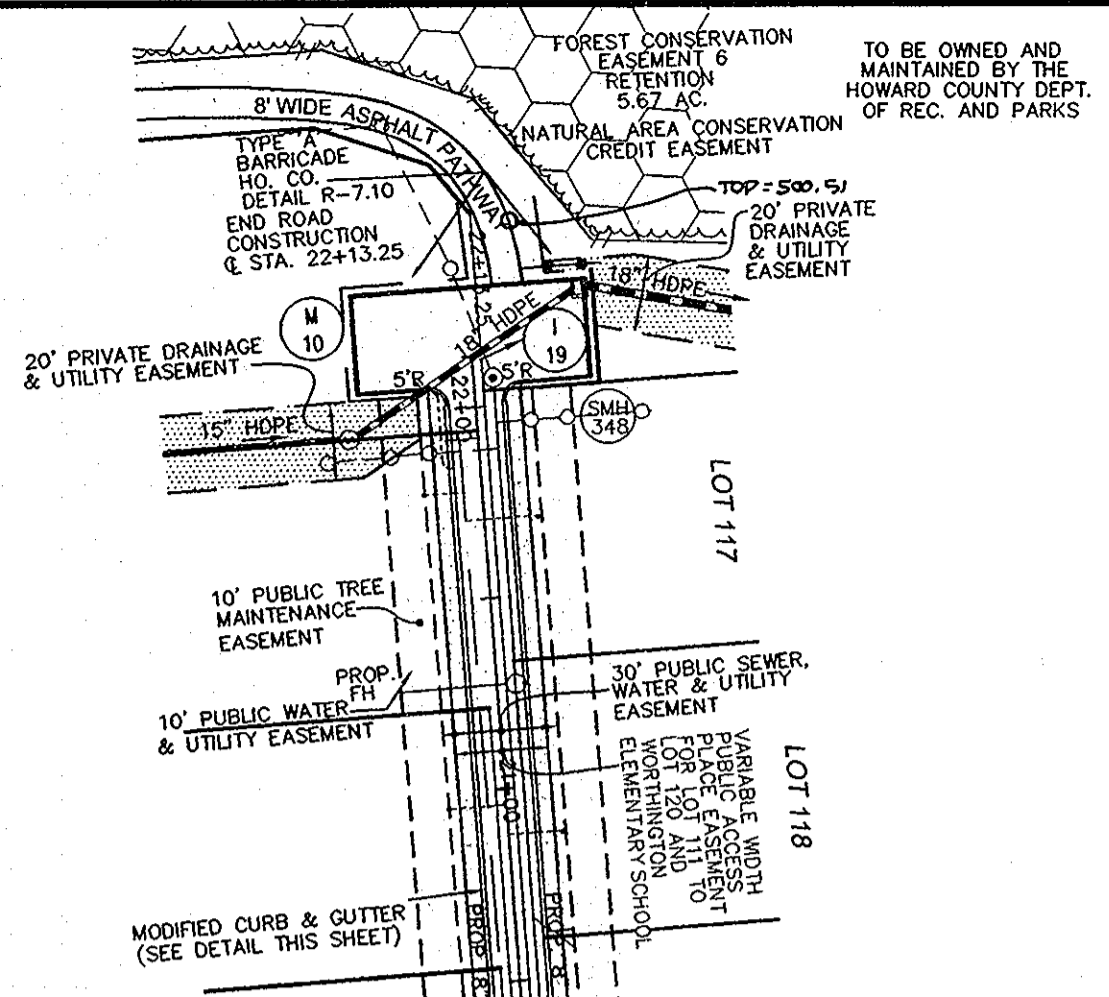
*William Dammann* 6/21/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**STATE OF MARYLAND**  
 ROBERT H. VOGEL  
 PROFESSIONAL ENGINEER  
 NO. 16193  
 DATE: 6/19/07

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET  
 ELLCOTT CITY, MD 21043  
 TEL: 410.461.7666  
 FAX: 410.461.8961

DESIGN BY: RJRHV  
 DRAWN BY: RJ  
 CHECKED BY: RHW  
 DATE: JUNE 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 2019011.00





**CURVE TABLE**

CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	176.82'	400.00'	25°19'38"	89.88'	N32°05'46"E	175.38'

**LINE TABLE**

LINE	LENGTH	BEARING
L1	186.01'	S19°25'58"W
L2	341.47'	S44°45'35"W
L3	293.89'	S44°45'35"W
L4	446.99'	N67°20'10"W

**SIGN AND STREET LIGHT LOCATION CHART**

DWG. NO.	STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
3 OF 8	ACADEMY ROAD	10+52	13.9' L	100 WATT HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE
3 OF 8	ACADEMY ROAD	14+36	31.0' L	
3 OF 8	ACADEMY ROAD	18+21	21.0' R	
2 OF 8	WINTER WAY	4+20	16.4' R	100 WATT HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE
2 OF 8	WINTER WAY	7+13	14.5' R	
2 OF 8	WINTER WAY	9+82	21.0' R	100 WATT HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE
2 OF 8	WINTER WAY	11+82	30.0' R	

**SIGN AND STREET LIGHT LOCATION CHART**

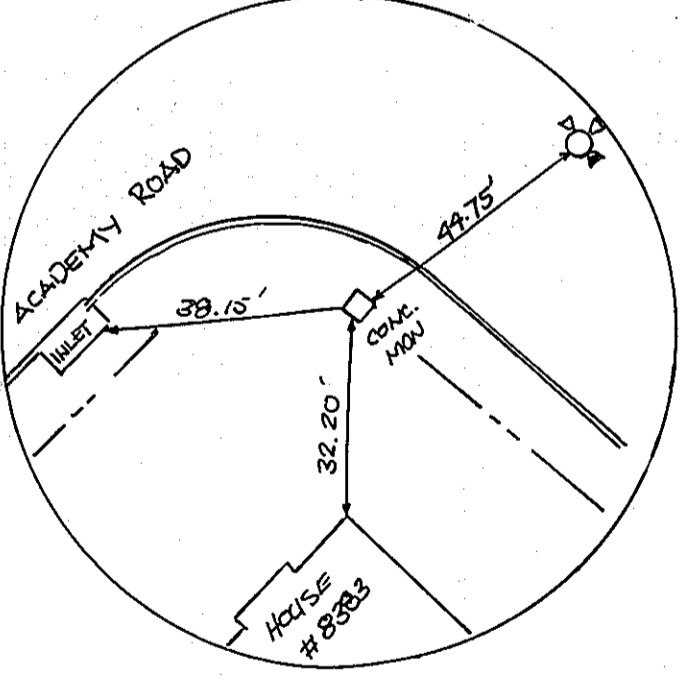
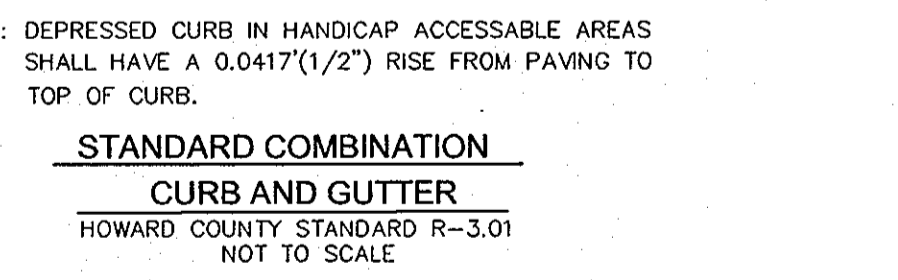
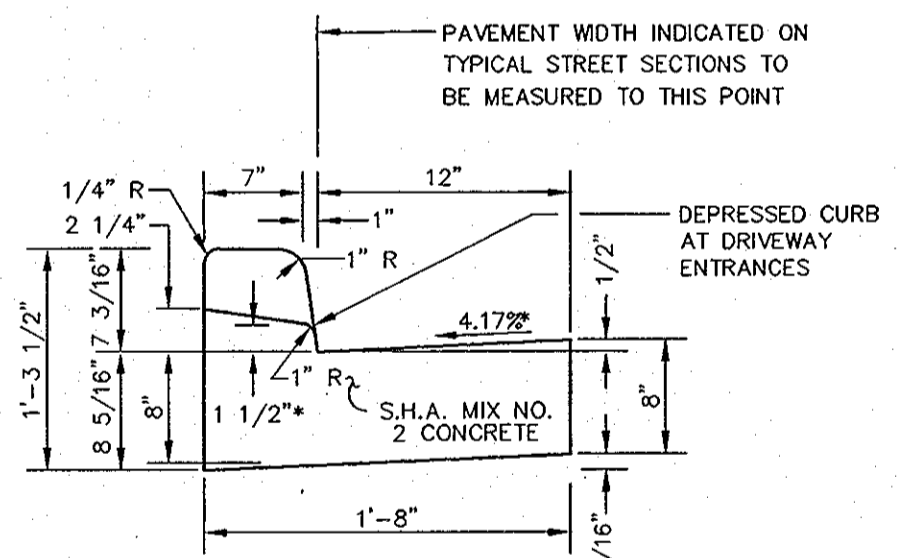
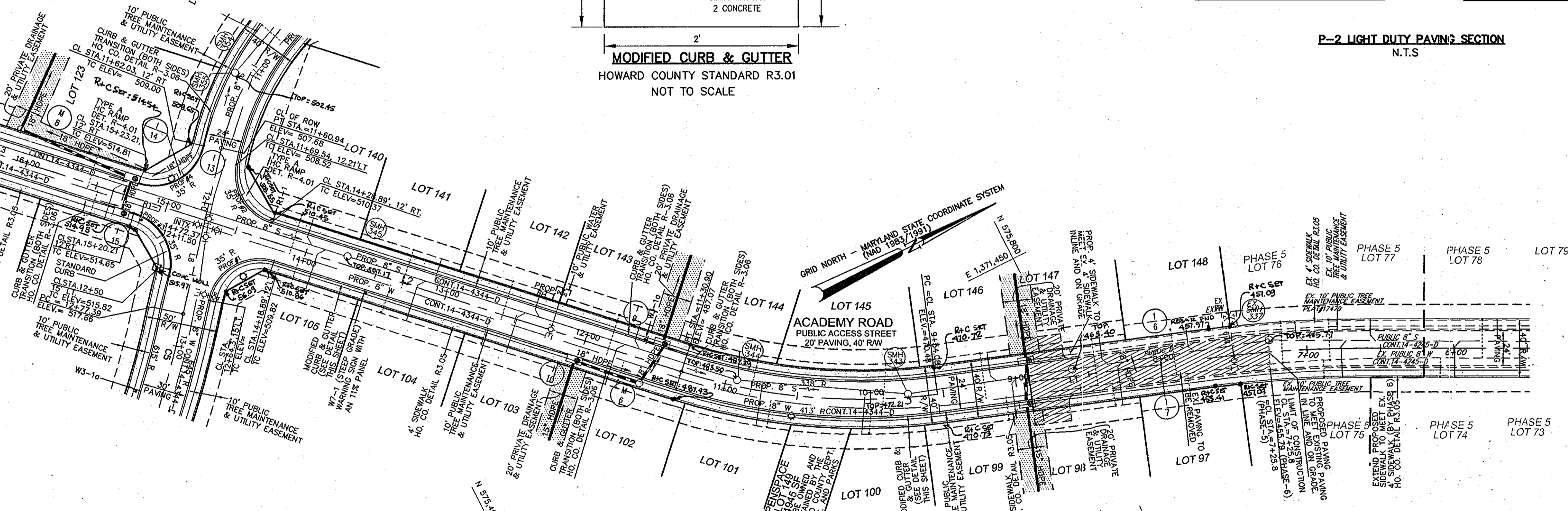
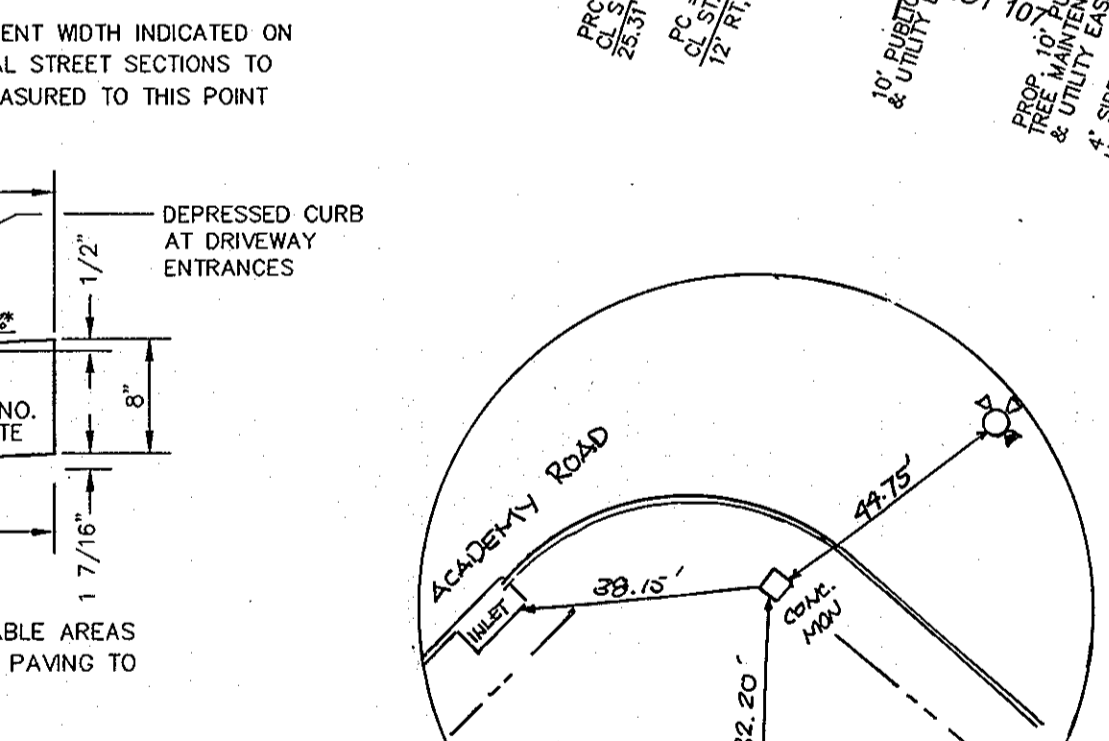
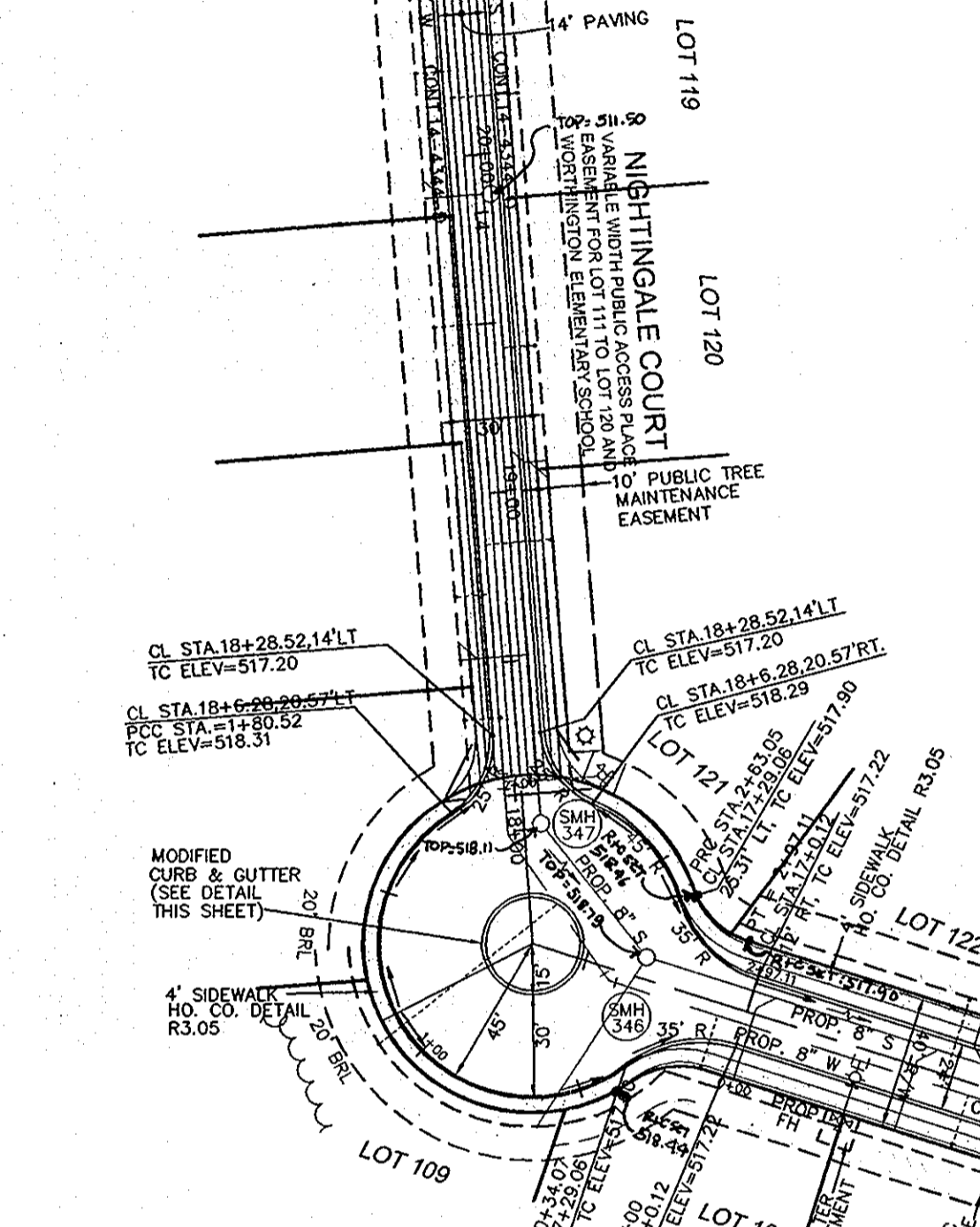
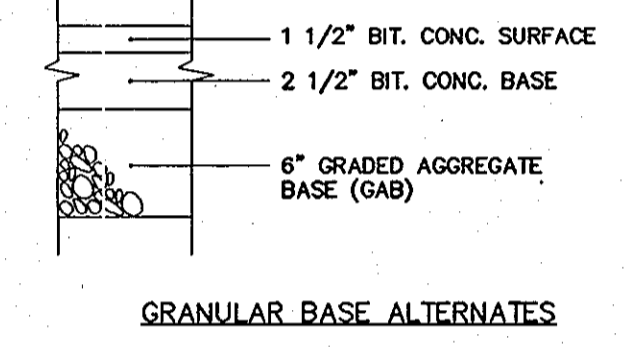
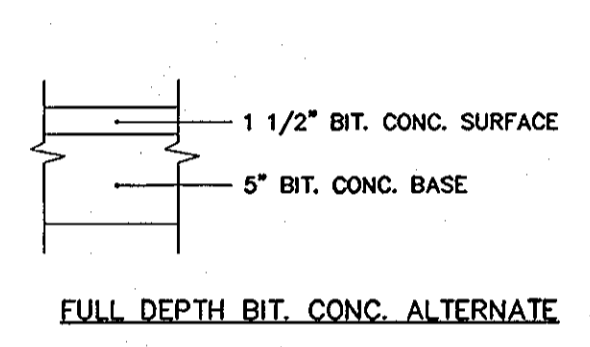
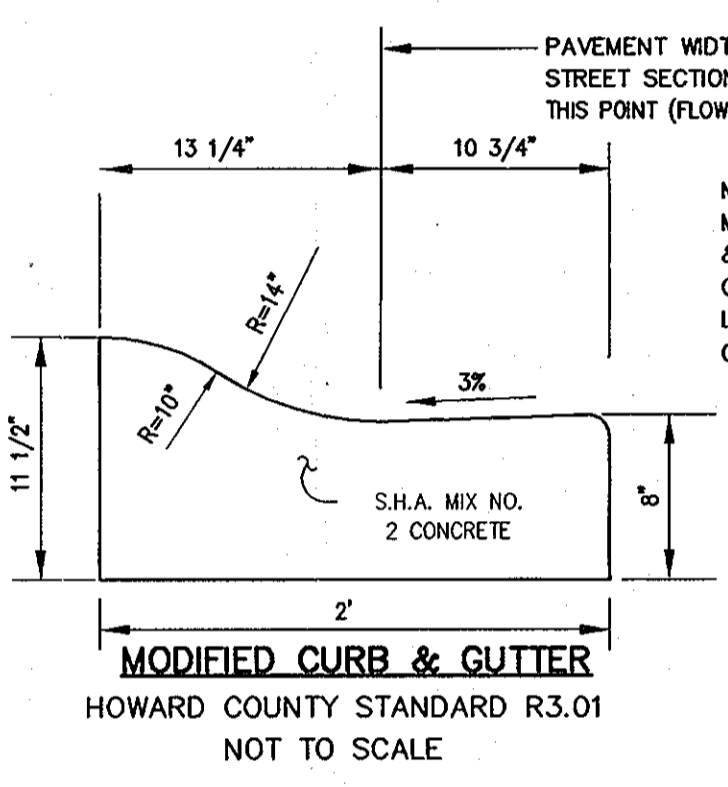
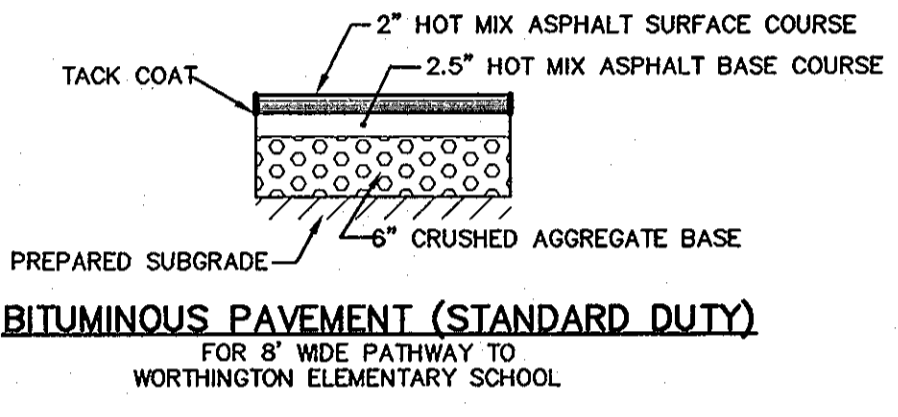
DWG. NO.	STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
3 OF 18	ACADEMY RD	11+61	14' R	W3-1a
3 OF 18	ACADEMY RD	13+55	18' L	WARNING SIGN W/AN 11x8 PANEL MOUNTED BELOW
3 OF 18	ACADEMY RD	14+29	14.5' R	R1-1
3 OF 18	ACADEMY RD	15+14	13' L	R1-1
2 OF 18	WINTER WAY	7+13	14.5' R	W1-1a
2 OF 18	WINTER WAY	13+38	18.4' R	W3-1a
2 OF 18	WINTER WAY	13+50	18' L	R2-1
				W7-1 (STEEP GRADE)

**PUBLIC ROAD STREET TREE SCHEDULE**

KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
○	102	ACER RUBRUM 'AUTUMN FLAME'	2 1/2"-3" CAL.	B & B

**STREET TREE CALCULATIONS**

STREET NAME	LINEAR FEET	NO. REQUIRED	NO. PROVIDED
ACADEMY RD	1824/40	46	46
NIGHTINGALE COURT	791/40	20	20



PLAN VIEW  
SCALE: 1"=50'

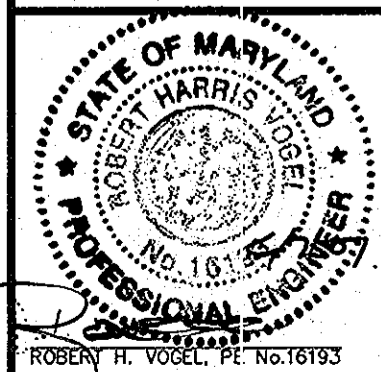
LEGEND  
 [Symbol] PROP. SIDEWALK  
 [Symbol] EX. PAVING TO BE REMOVED



AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY THAT THE REALITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.  
 SIGNATURE: [Signature] 16193 2/25/14  
 RE. NO. DATE

**ROAD CONSTRUCTION PLAN & PROFILE**  
**WORTHINGTON FIELDS, PHASE 6**  
 LOTS 90-148 AND OPENSACE LOT 149, 150 & 151  
 A RESUBDIVISION OF NON-BUILDABLE  
 PARCEL B-4, PHASE 5  
 TAX MAP 25 BLOCK 20 PARCEL P/O '98'  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 REF.: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1),  
 P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172  
 P-06-006, P-03-07, F-03-207 (PHASE 4), P-04-12, F-05-019, SDP-06-33 (PHASE 5)

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666  
 FAX: 410.461.8961

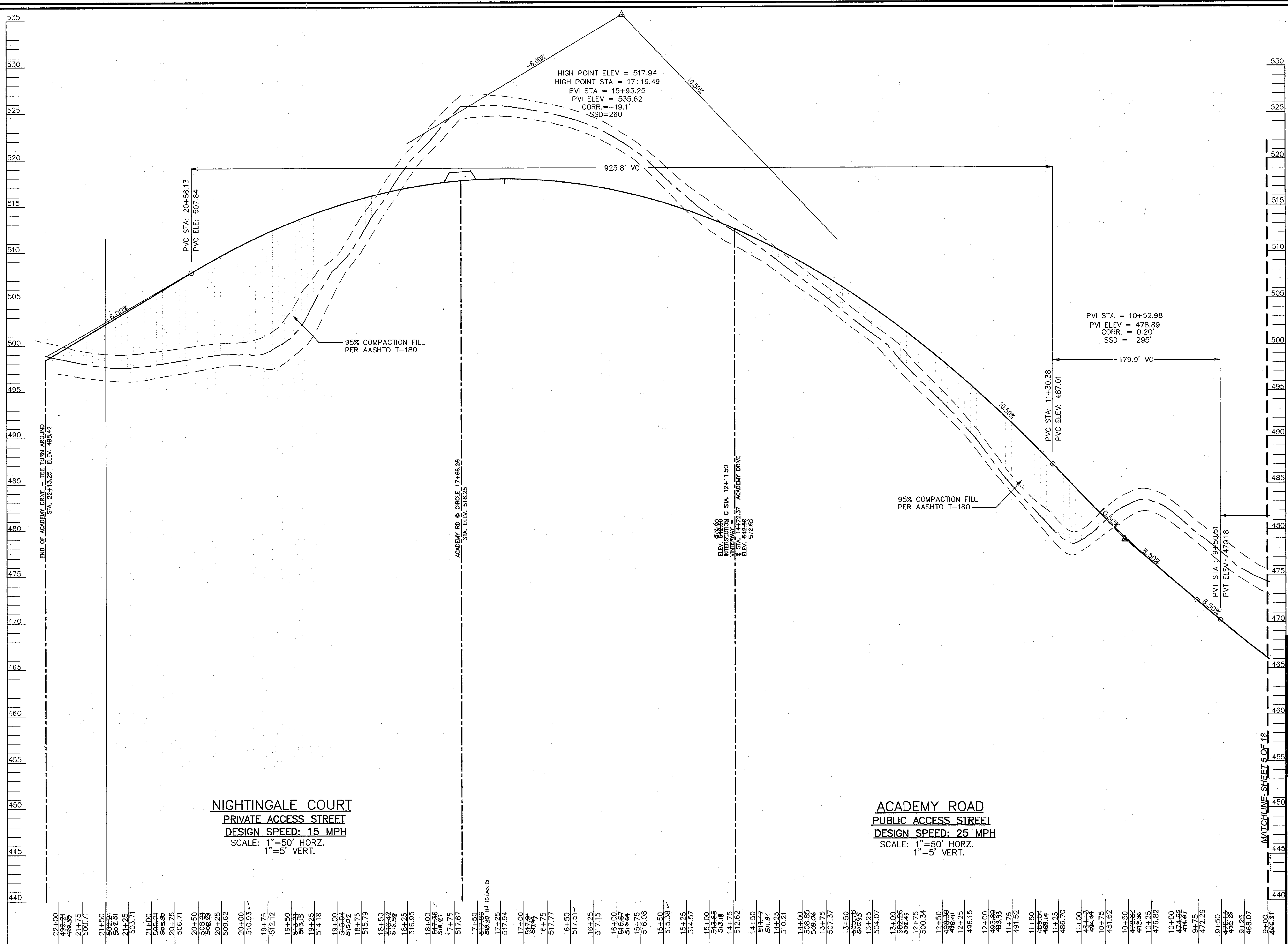


DESIGN BY: RJRHV  
 DRAWN BY: RJ  
 CHECKED BY: RHW  
 DATE: JUNE 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 2019011.00

3 SHEET 18 OF

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 6-19-07  
 CHIEF, BUREAU OF HIGHWAYS DATE  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 6/22/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
 [Signature] 6/21/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**OWNER**  
 TAYLOR FAMILY LIMITED PARTNERSHIP B  
 DR. BRUCE TAYLOR  
 4100 COLLEGE AVE.  
 ELLICOTT CITY, MARYLAND  
 21043-5506  
 (410)-465-3674  
**DEVELOPER**  
 LAND DESIGN AND DEVELOPMENT  
 5300 DORSEY HALL DR STE 102  
 ELLICOTT CITY MD 21042-7819  
 ATTN: MR. DONALD R. REUWER  
 (443)-367-0422



**NIGHTINGALE COURT**  
 PRIVATE ACCESS STREET  
 DESIGN SPEED: 15 MPH  
 SCALE: 1"=50' HORIZ.  
 1"=5' VERT.

**ACADEMY ROAD**  
 PUBLIC ACCESS STREET  
 DESIGN SPEED: 25 MPH  
 SCALE: 1"=50' HORIZ.  
 1"=5' VERT.

**PROFILE**  
 SCALE: HORIZONTAL: 1"=50'  
 VERTICAL: 1"=5'

22+00	499.31
21+75	499.35
21+50	500.71
21+25	502.51
21+00	503.71
20+75	506.21
20+50	506.39
20+25	506.71
20+00	508.21
19+75	508.23
19+50	509.62
19+25	510.93
19+00	512.12
18+75	513.50
18+50	514.75
18+25	516.18
18+00	517.67
17+75	519.28
17+50	520.94
17+25	522.65
17+00	524.41
16+75	526.22
16+50	528.08
16+25	529.99
16+00	531.95
15+75	533.96
15+50	536.02
15+25	538.13
15+00	540.29
14+75	542.50
14+50	544.76
14+25	547.07
14+00	549.43
13+75	551.84
13+50	554.30
13+25	556.81
13+00	559.37
12+75	561.98
12+50	564.64
12+25	567.35
12+00	570.11
11+75	572.92
11+50	575.78
11+25	578.69
11+00	581.65
10+75	584.66
10+50	587.72
10+25	590.83
10+00	593.99
9+75	597.20
9+50	600.46
9+25	603.67
9+00	606.93
8+75	610.24
8+50	613.50
8+25	616.81
8+00	620.17
7+75	623.58
7+50	627.04
7+25	630.55
7+00	634.11
6+75	637.72
6+50	641.38
6+25	645.09
6+00	648.85
5+75	652.66
5+50	656.52
5+25	660.43
5+00	664.39
4+75	668.40
4+50	672.46
4+25	676.57
4+00	680.73
3+75	684.94
3+50	689.20
3+25	693.51
3+00	697.87
2+75	702.28
2+50	706.74
2+25	711.25
2+00	715.81
1+75	720.42
1+50	725.08
1+25	729.79
1+00	734.55
0+75	739.36
0+50	744.22
0+25	749.13
0+00	754.09

**OWNER**  
 TAYLOR FAMILY LIMITED PARTNERSHIP B  
 DR. BRUCE TAYLOR  
 4100 COLLEGE AVE.  
 ELLICOTT CITY, MARYLAND  
 21043-5506  
 (410)-465-3674

**DEVELOPER**  
 LAND DESIGN AND DEVELOPMENT  
 5300 DORSEY HALL DR. STE 102  
 ELLICOTT CITY MD 21042-7819  
 ATTN: MR. DONALD R. REUWER  
 (443)-367-0422

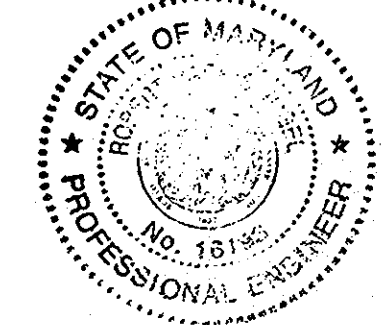
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 \_\_\_\_\_ DATE 6-19-07  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 \_\_\_\_\_ DATE 6/22/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT

\_\_\_\_\_ DATE 6/21/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**ROAD CONSTRUCTION PLAN & PROFILE**  
**WORTHINGTON FIELDS, PHASE 6**  
 LOTS 90-148 AND OPENSACE LOT 149, 150 & 151  
 A RESUBDIVISION OF NON-BUILDABLE  
 PARCEL B-4, PHASE 5 PARCEL P/O '98'  
 TAX MAP 25 BLOCK 20 HOWARD COUNTY, MARYLAND  
 2ND ELECTION DISTRICT  
 REF.: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1),  
 P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172  
 P-06-006, P-02-07, F-03-207 (PHASE 4), F-04-12, F-05-019, SDP-06-33 (PHASE 5)

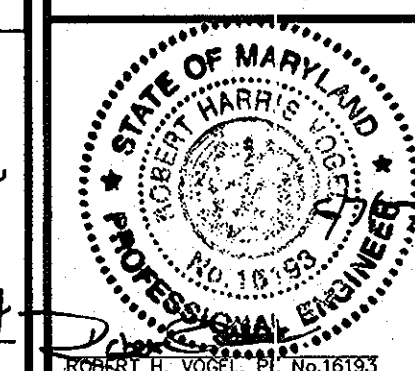
**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET TEL: 410.461.7666  
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961



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

\_\_\_\_\_  
 SIGNATURE

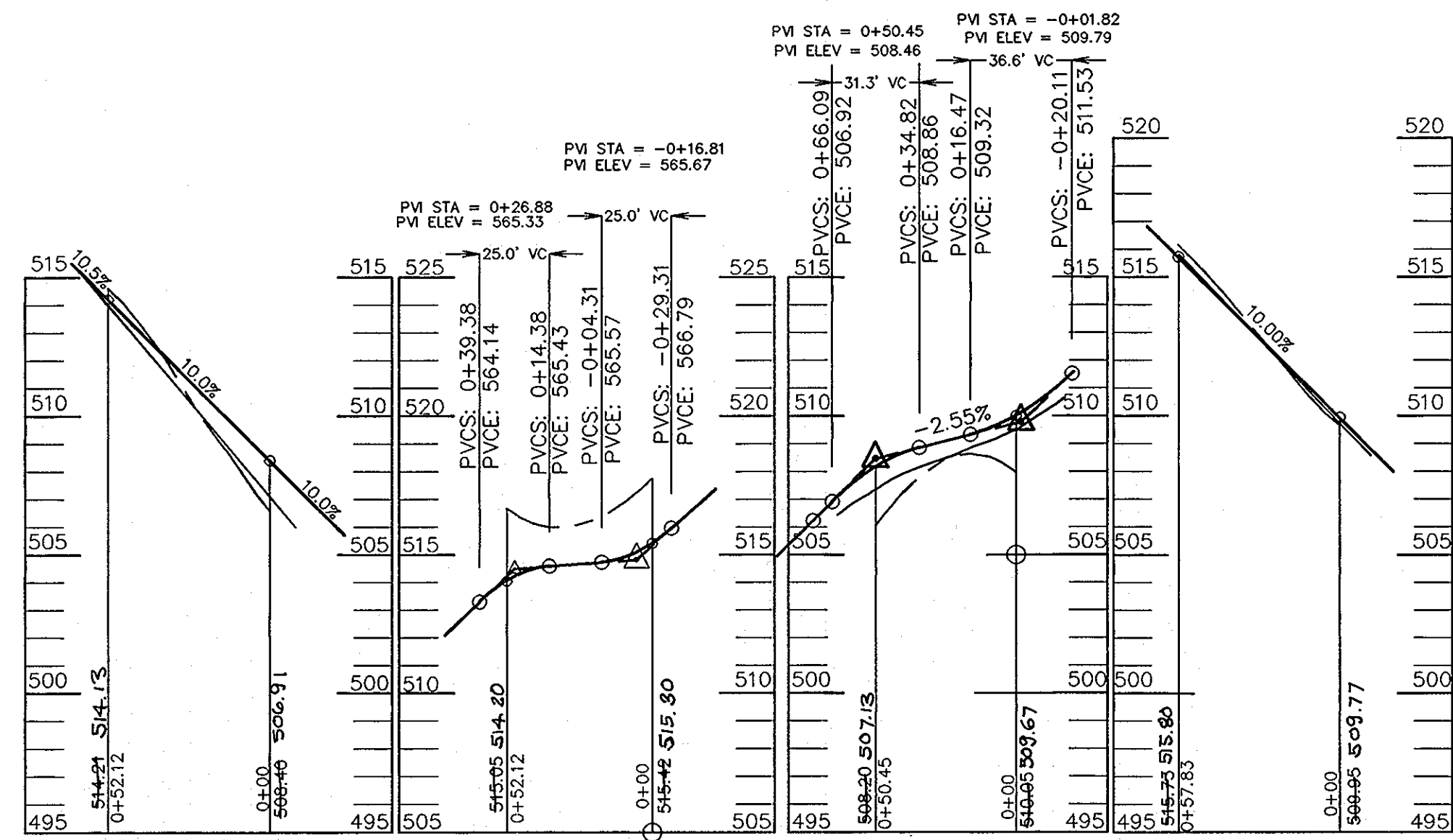
10193 2/25/14  
 P.E. No. STATE



DESIGN BY: RJR/VV  
 DRAWN BY: RJ  
 CHECKED BY: R/V  
 DATE: JUNE 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 2019011.00

4 SHEET OF 18



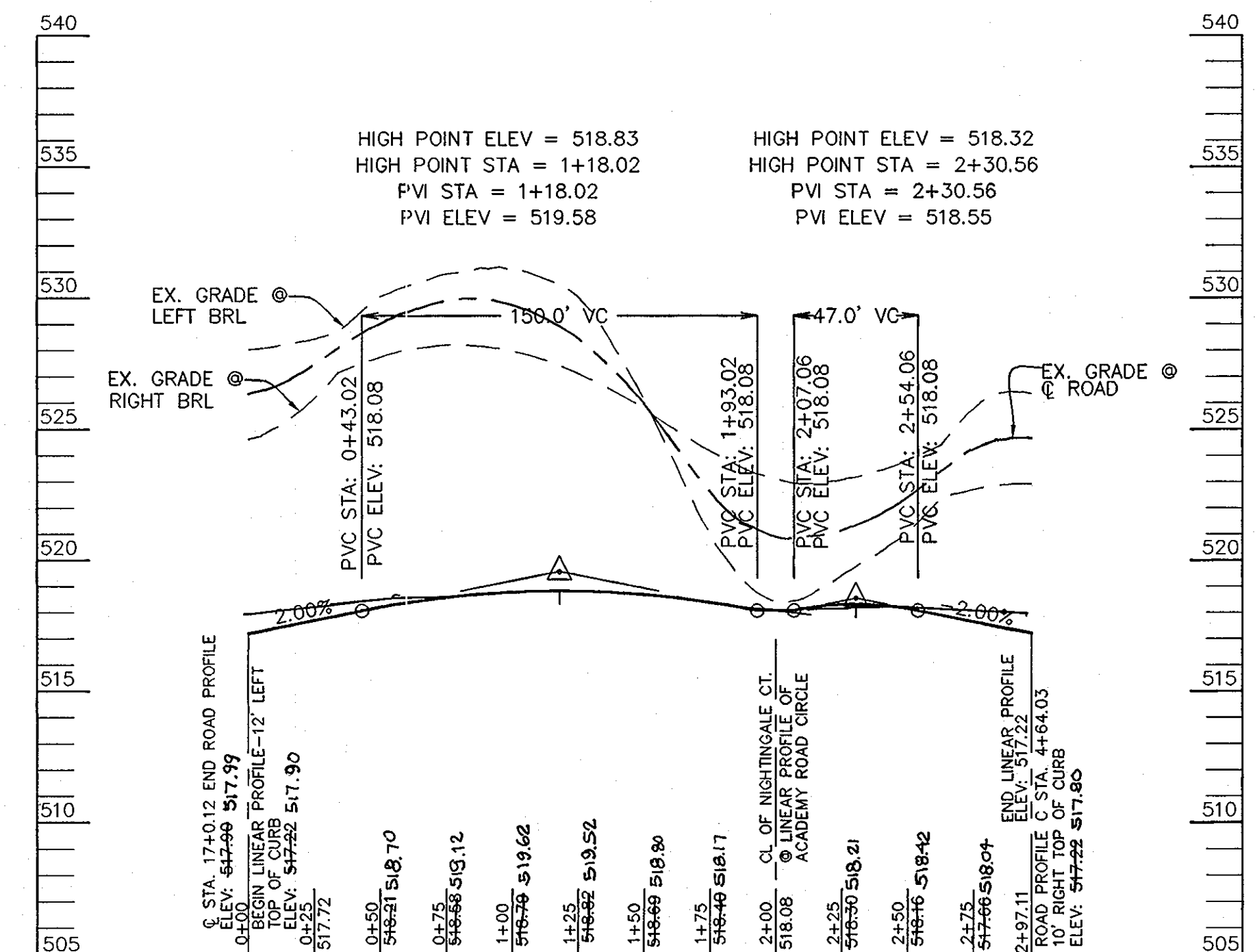


FILLET 1 - EDGE OF PAVING PROFILE  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.

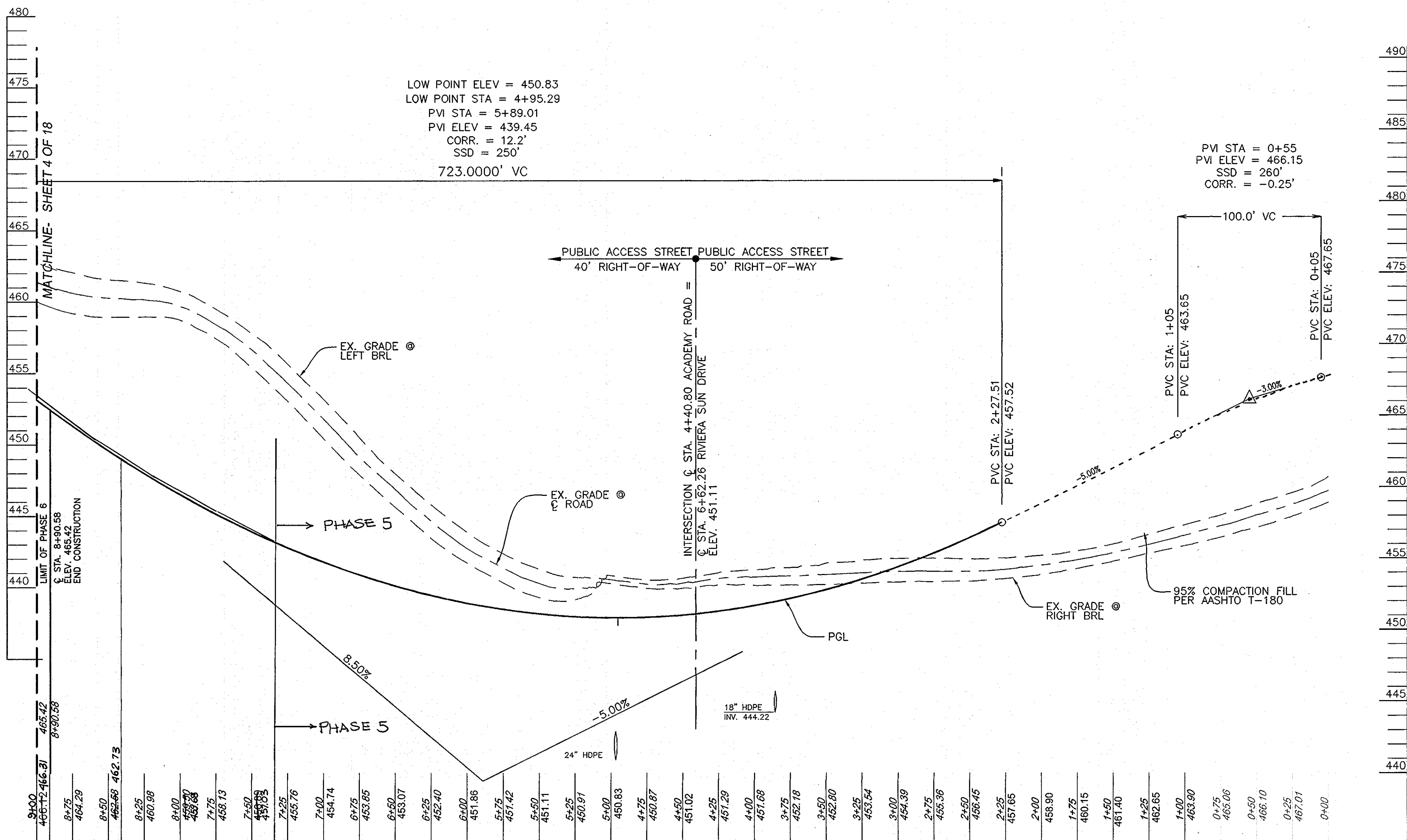
FILLET 2 - EDGE OF PAVING PROFILE  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.

FILLET 3 - EDGE OF PAVING PROFILE  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.

FILLET 4 - EDGE OF PAVING PROFILE  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.

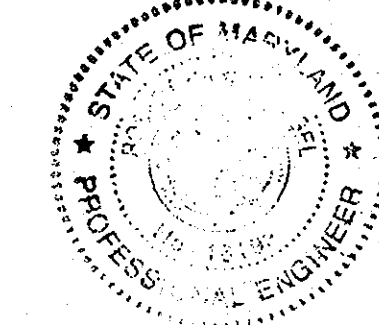


LINEAR PROFILE  
ACADEMY ROAD  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.



LOW POINT ELEV = 450.83  
LOW POINT STA = 4+95.29  
PVI STA = 5+89.01  
PVI ELEV = 439.45  
CORR. = 12.2'  
SSD = 250'  
723.0000' VC

PVI STA = 0+55  
PVI ELEV = 466.15  
SSD = 260'  
CORR. = -0.25'



AS-BUILT CERTIFICATION  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.  
SIGNATURE: [Signature] DATE: 6/19/07

OWNER  
TAYLOR FAMILY LIMITED PARTNERSHIP B  
DR. BRUCE TAYLOR  
4100 COLLEGE AVE.  
ELLCOTT CITY, MARYLAND  
21043-5508  
(410)-465-3674

DEVELOPER  
LAND DESIGN AND DEVELOPMENT  
5300 DORSEY HALL DR STE 102  
ELLCOTT CITY MD 21042-7819  
ATTN: MR. DONALD R. REUWER  
(443)-367-0422

APPROVED: DEPARTMENT OF PUBLIC WORKS  
[Signature] DATE: 6-19-07  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
[Signature] DATE: 6/20/07  
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS  
[Signature] DATE: 6/21/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

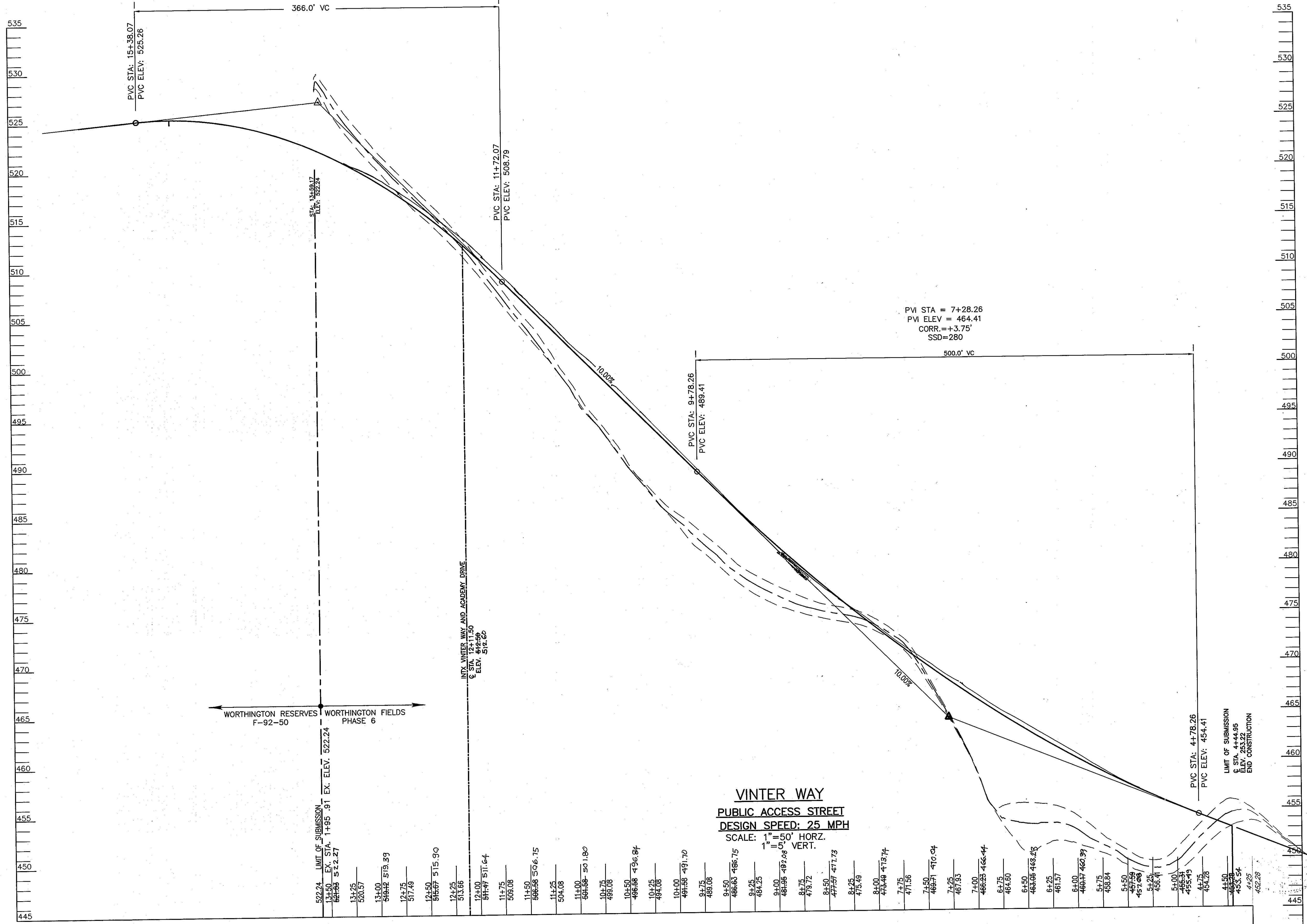
ROAD CONSTRUCTION PLAN & PROFILE  
WORTHINGTON FIELDS, PHASE 6  
LOTS 90-148 AND OPENSACE LOT 149, 150 & 151  
A RESUBDIVISION OF NON-BUILDABLE  
PARCEL B-4, PHASE 5  
TAX MAP 25 BLOCK 20 PARCEL P/O '98'  
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**ROBERT H. VOGEL**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET  
ELLCOTT CITY, MD 21043 TEL: 410.461.7666  
FAX: 410.461.8961

DESIGN BY: RJ/RHV  
DRAWN BY: RJ  
CHECKED BY: RHV  
DATE: JUNE 2006  
SCALE: AS SHOWN  
W.O. NO.: 2019011.00

5 SHEET OF 18

HIGH POINT ELEV = 525.43  
 HIGH POINT STA = 15+04.80  
 PVI STA = 13+55.07  
 PVI ELEV = 527.09  
 CORR. = -5.03'  
 SSD = 210'



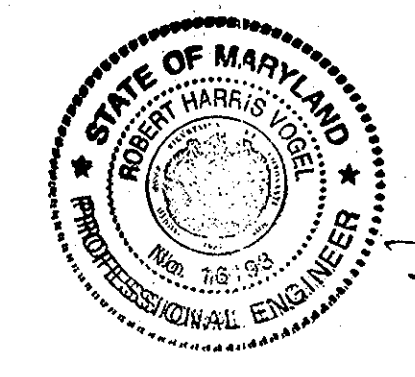
WORTHINGTON RESERVES F-92-50  
 WORTHINGTON FIELDS PHASE 6

INTX. VINTER WAY AND ACADEMY DRIVE  
 STA. 11+80  
 ELEV. 512.60

VINTER WAY  
 PUBLIC ACCESS STREET  
 DESIGN SPEED: 25 MPH  
 SCALE: 1" = 50' HORIZ.  
 1" = 5' VERT.

LIMIT OF SUBMISSION  
 STA. 4+44.95  
 END CONSTRUCTION

MATCHLINE - 2 OF 18



AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS  
 10/23/07  
 P.E. NO. DATE

OWNER  
 TAYLOR FAMILY LIMITED PARTNERSHIP B  
 DR. BRUCE TAYLOR  
 4100 COLLEGE AVE.  
 ELLICOTT CITY, MARYLAND  
 21043-5506  
 (410)-465-3674  
 DEVELOPER  
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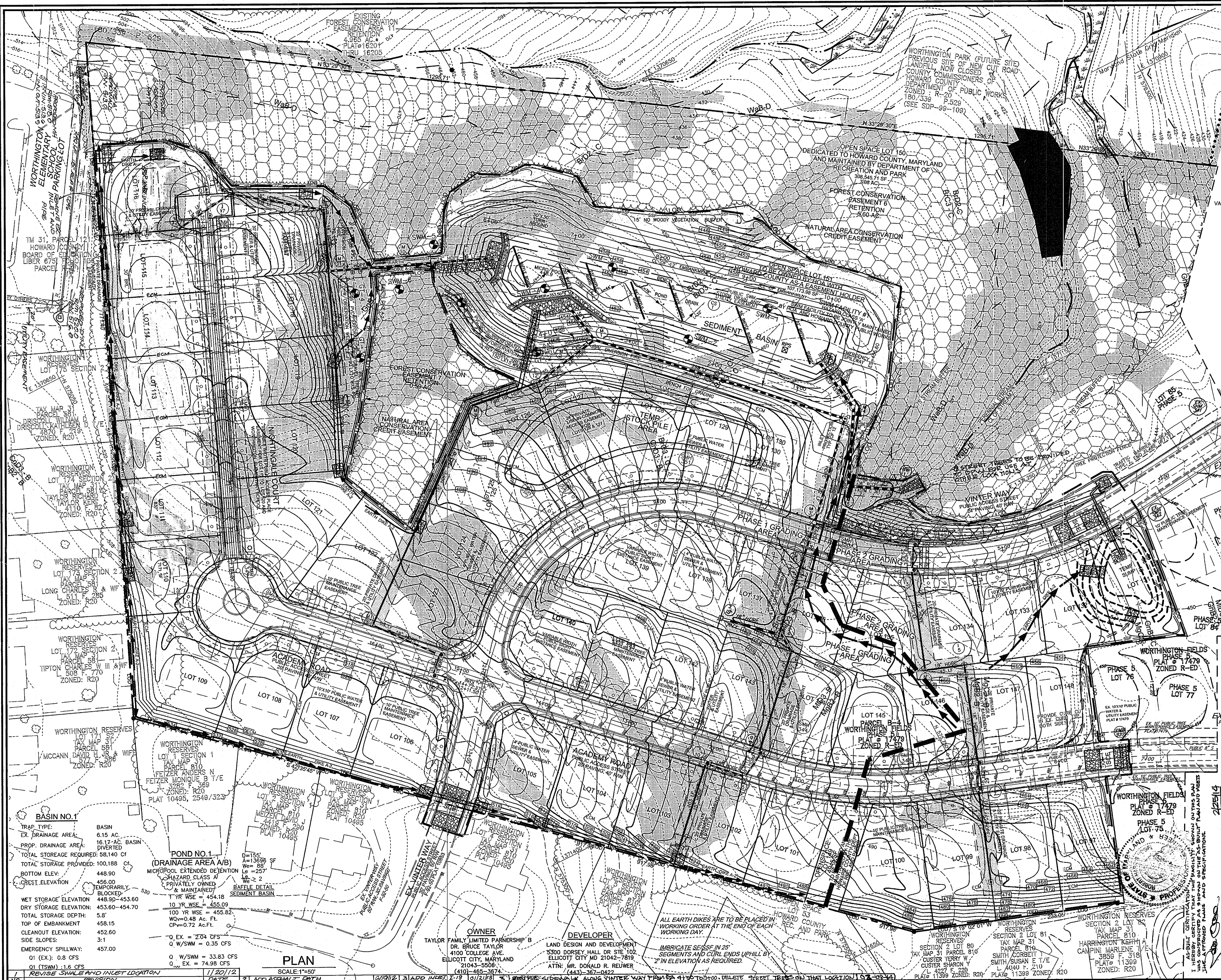
APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Walter Z. Smith*  
 CHIEF, BUREAU OF HIGHWAYS DATE 6-19-07  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cindy Klemke*  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 6/22/07  
*Robert H. Vogel*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 6/22/07

ROAD CONSTRUCTION PLAN & PROFILES  
 WORTHINGTON FIELDS, PHASE 6  
 LOTS 90-148 AND OPENSACE LOT 149, 150 & 151  
 A RESUBDIVISION OF NON-BUILDABLE  
 PARCEL B-4, PHASE 5 PARCEL P/O '98'  
 TAX MAP 25, BLOCK 20 HOWARD COUNTY, MARYLAND  
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 P-06-006, P-03-07, F-03-207 (PHASE 4), P-04-12, F-05-019, SDP-06-33 (PHASE 5)

**ROBERT H. VOGEL**  
**ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET TEL: 410.461.2665  
 ELLICOTT CITY, MD 21043 FAX: 410.461.8951

DESIGN BY: RJRHV  
 DRAWN BY: RJ  
 CHECKED BY: RHV  
 DATE: JUNE 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 2019011.00  
 6 SHEET OF 18





**LEGEND**

PROF. SIDEWALK	15' NO WOODY VEGETATION BUFFER	NATURAL AREA CONSERVATION EASEMENT	EXISTING TREES TO REMAIN LIGHT POLES-15'-24' SPACING	25% OR GREATER SLOPE AREA	SPOT ELEVATION	PROPOSED STREET TREE	SOILS	SOIL BORING	WETLANDS	MOUNTABLE BERM	VARIABLE WIDTH PUBLIC SIGHT DISTANCE EASEMENT	FOREST CONSERVATION EASEMENT (RETENTION)	20' PRIVATE DRAINAGE & UTILITY EASEMENT	10' PUBLIC TREE MAINTENANCE EASEMENT	PRIVATE SWM EASEMENT	PUBLIC SEWER, WATER & UTILITY EASEMENT	24' PRIVATE ACCESS PLACE EASEMENT	CL. STREAM	STREAM BUFFER	STABILIZED CONSTRUCTION ENTRANCE	LIMIT OF DISTURBANCE	DOUBLE ROW OF SUPER SILT FENCE	SILT FENCE	SUPER SILT FENCE	EARTHDIKE	EROSION CONTROL MATTING	CURB INLET PROTECTION

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Walter J. Wall* 6-15-07  
 Chief, Bureau of Highways Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cindy Hanate* 6/23/07  
 Chief, Division of Land Development Date

*Robert H. Vogel* 6/21/07  
 Chief, Development Engineering Division Date

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

*Jim Meyer* 6/15/07  
 USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Robert H. Vogel* 6/13/07  
 HOWARD SOIL CONSERVATION DISTRICT DATE

**ENGINEERS 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 NOTIFIED 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.

*Robert H. Vogel* 6/10/07  
 SIGNATURE OF ENGINEER DATE  
 ROBERT H. VOGEL

**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.

*Robert H. Vogel* 6/7/07  
 SIGNATURE OF DEVELOPER DATE

**GRADING, SEDIMENT & EROSION CONTROL PLAN**  
**WORTHINGTON FIELDS, PHASE 6**  
 LOTS 90-148 AND OPENSACE LOT 149, 150 & 151  
 A RESUBDIVISION OF NON-BUILDABLE  
 PARCEL B-4, PHASE 5 PARCEL P/O '98'

TAX MAP 25 BLOCK 20 HOWARD COUNTY, MARYLAND  
 2ND ELECTION DISTRICT  
 REF: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1),  
 P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172  
 P-06-006, P-03-07, F-03-207 (PHASE 4), P-04-12, F-05-019, SDP-06-33 (PHASE 5)

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET TEL: 410.461.7666  
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RJ/RHV  
 DRAWN BY: RJ  
 CHECKED BY: RHV  
 DATE: JUNE 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 201901.00

7 SHEET OF 18

**BASIN NO. 1**

TRAP TYPE: BASIN  
 EX. DRAINAGE AREA: 6.15 AC  
 PROP. DRAINAGE AREA: 16.17 AC BASIN DIVERTED  
 TOTAL STORAGE REQUIRED: 58,140 CF  
 TOTAL STORAGE PROVIDED: 100,188 CF  
 BOTTOM ELEV.: 448.90  
 CREST ELEVATION: 456.00  
 TEMPORARILY BLOCKED

**POND NO. 1 (DRAINAGE AREA A/B)**

MICROPOOL EXTENDED DETENTION  
 HAZARDOUS CLASS A  
 PRIVATELY OWNED & MAINTAINED  
 SAFETY DETAIL SEDIMENT BASIN

10 YR WSE = 455.09  
 100 YR WSE = 455.82  
 WQ=0.45 Ac.Ft.  
 CP=0.72 Ac.Ft.

EX. = 2.04 CFS  
 W/SWM = 0.35 CFS  
 EX. = 74.98 CFS

**PLAN**  
 SCALE: 1"=50'  
 DATE: 11/20/12  
 21 AC ASPHALT PTH

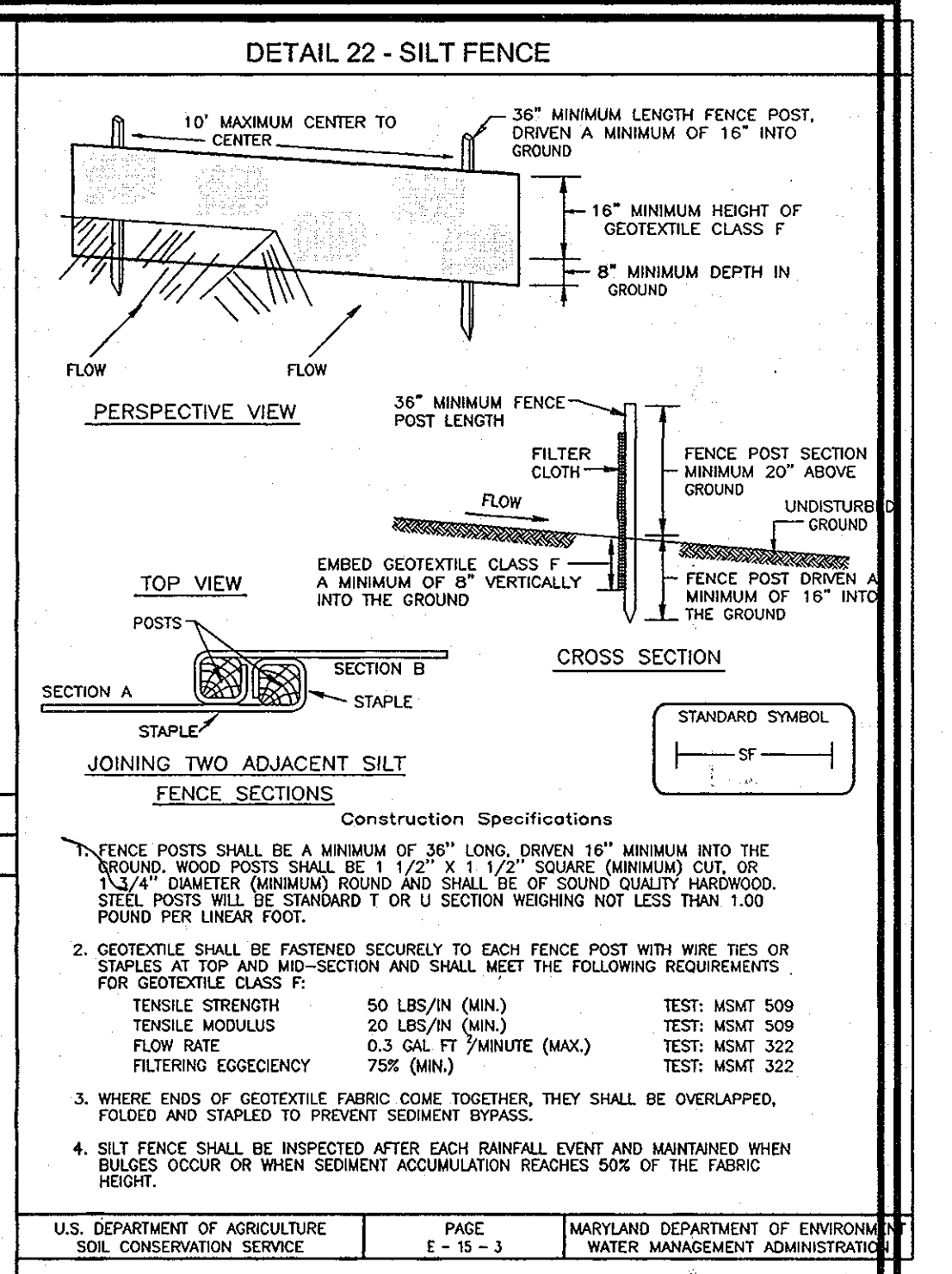
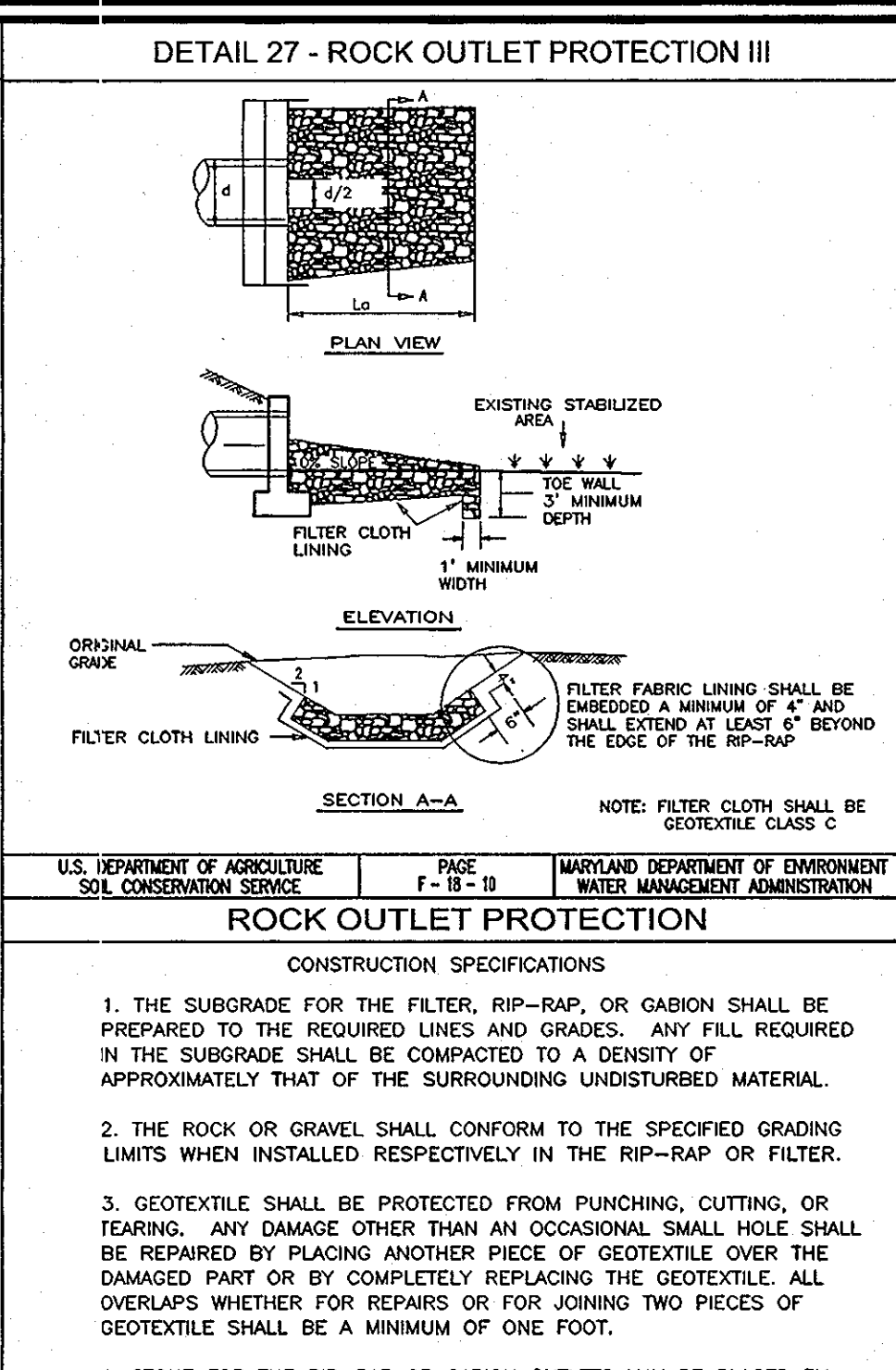
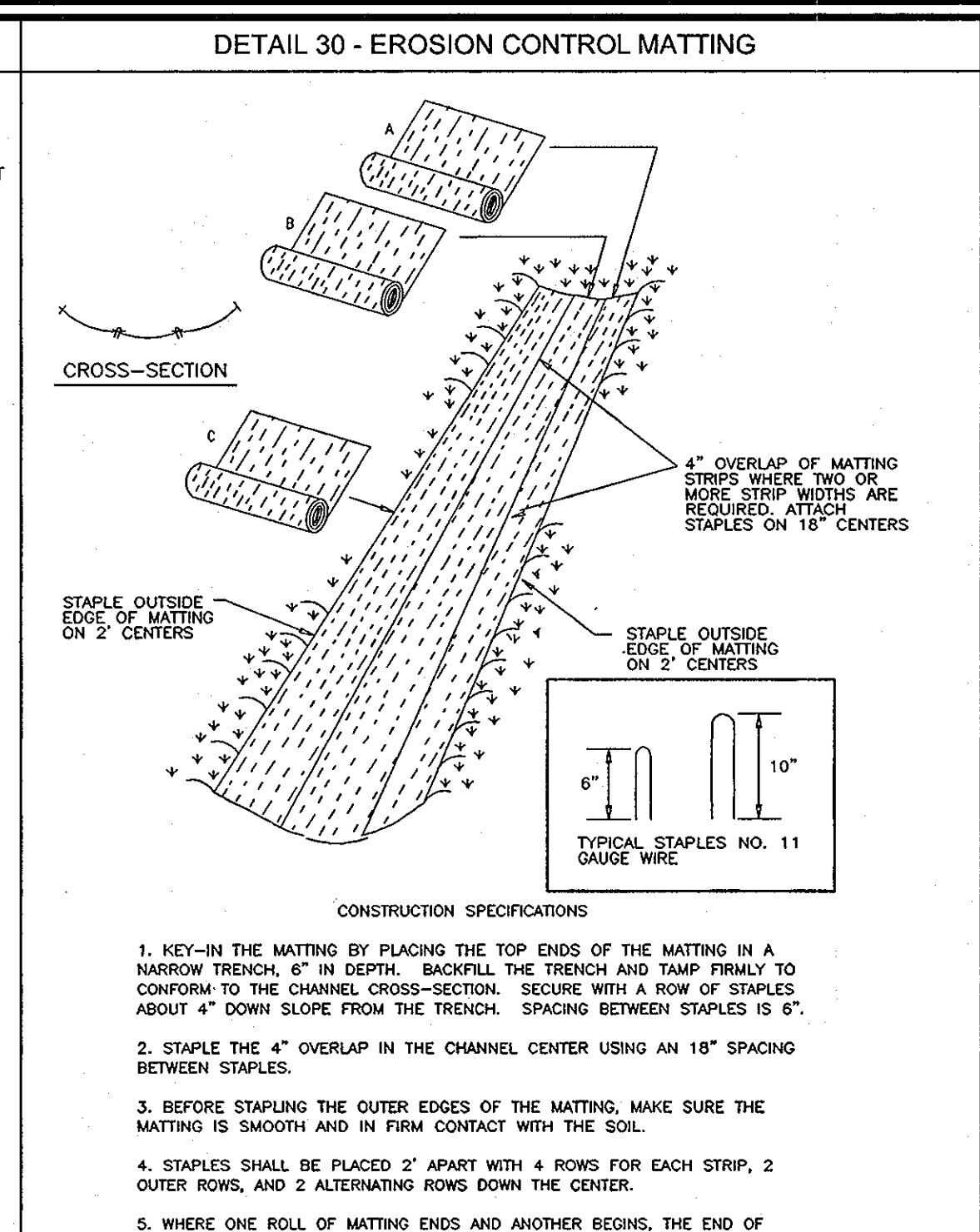
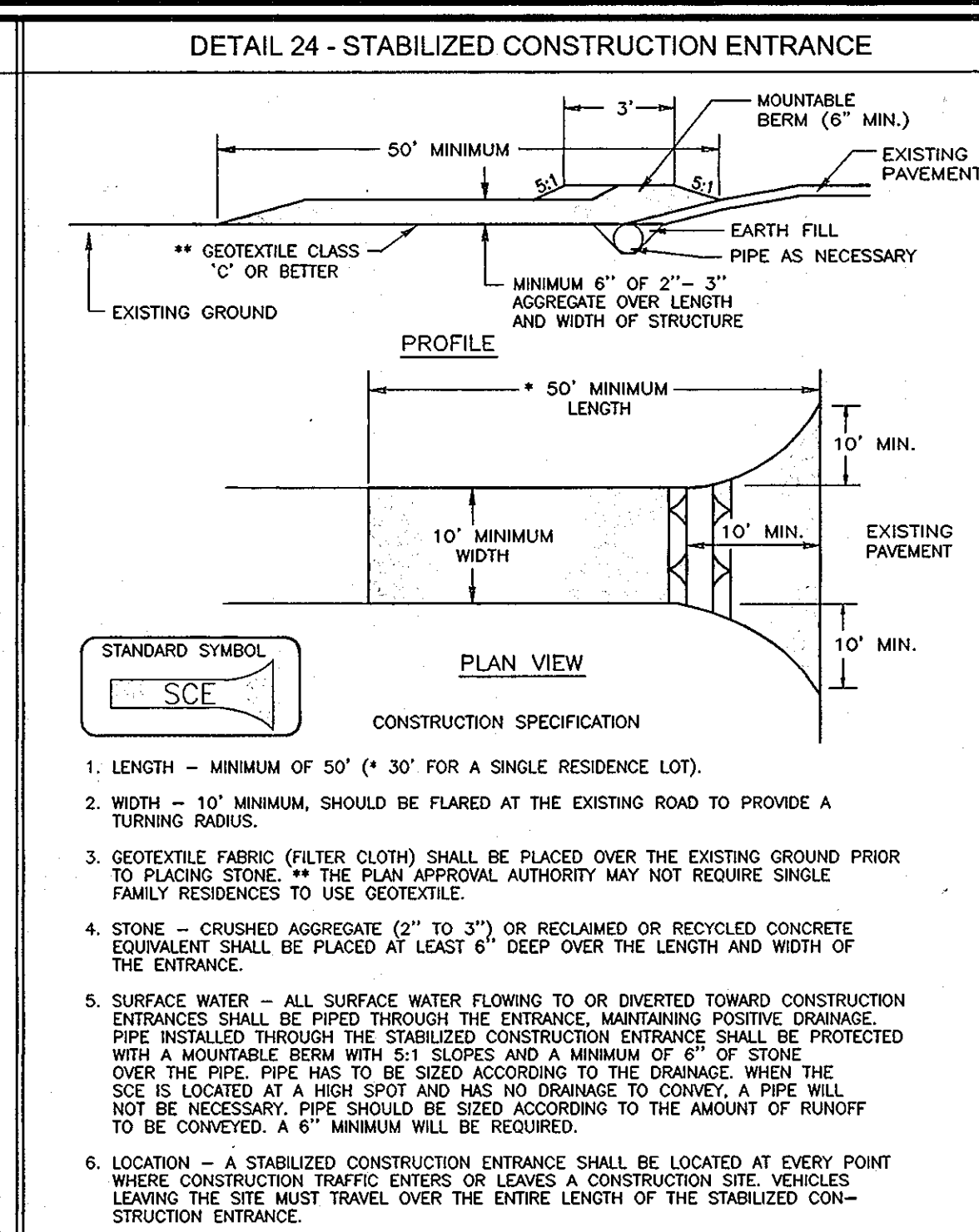
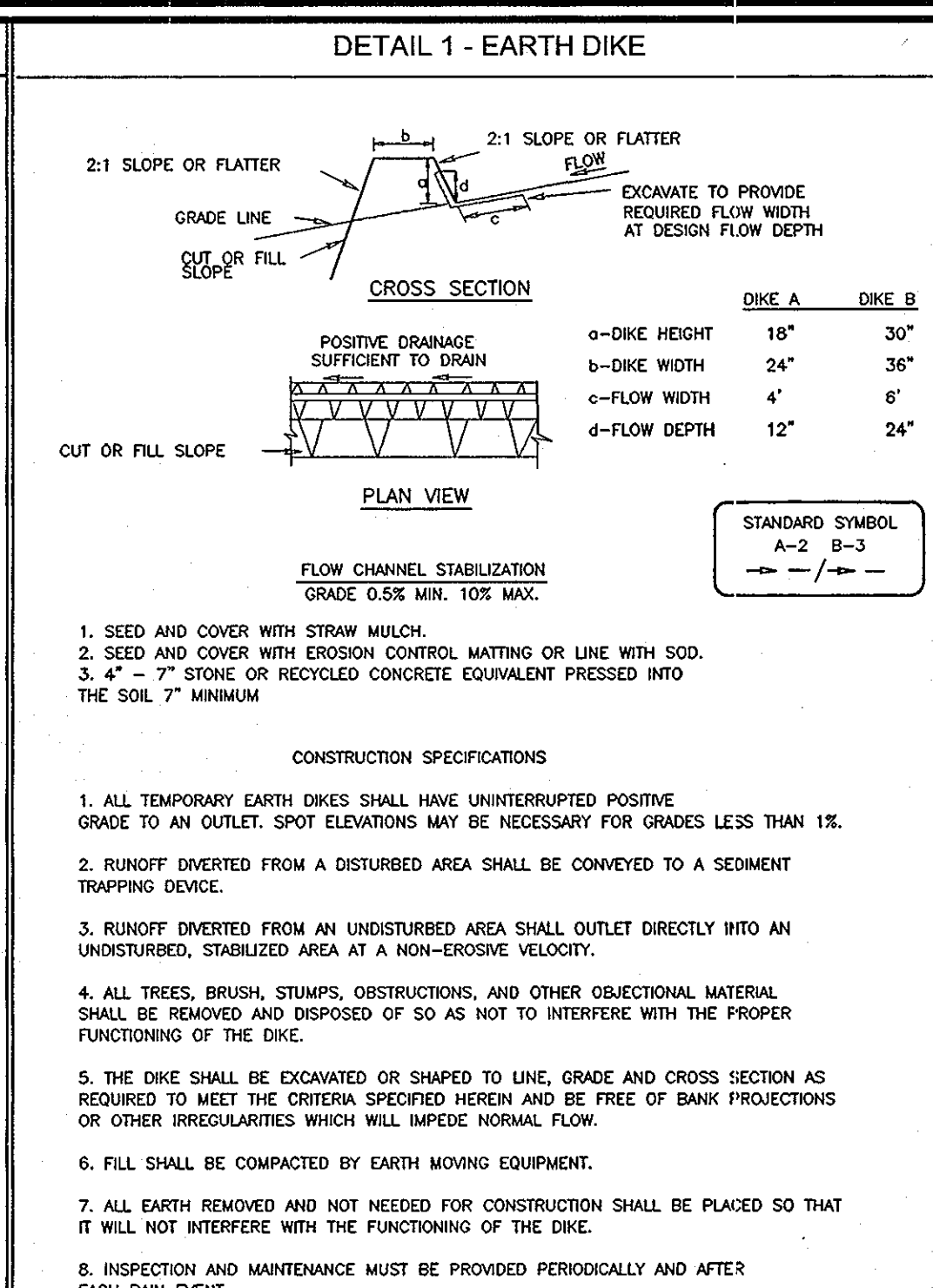
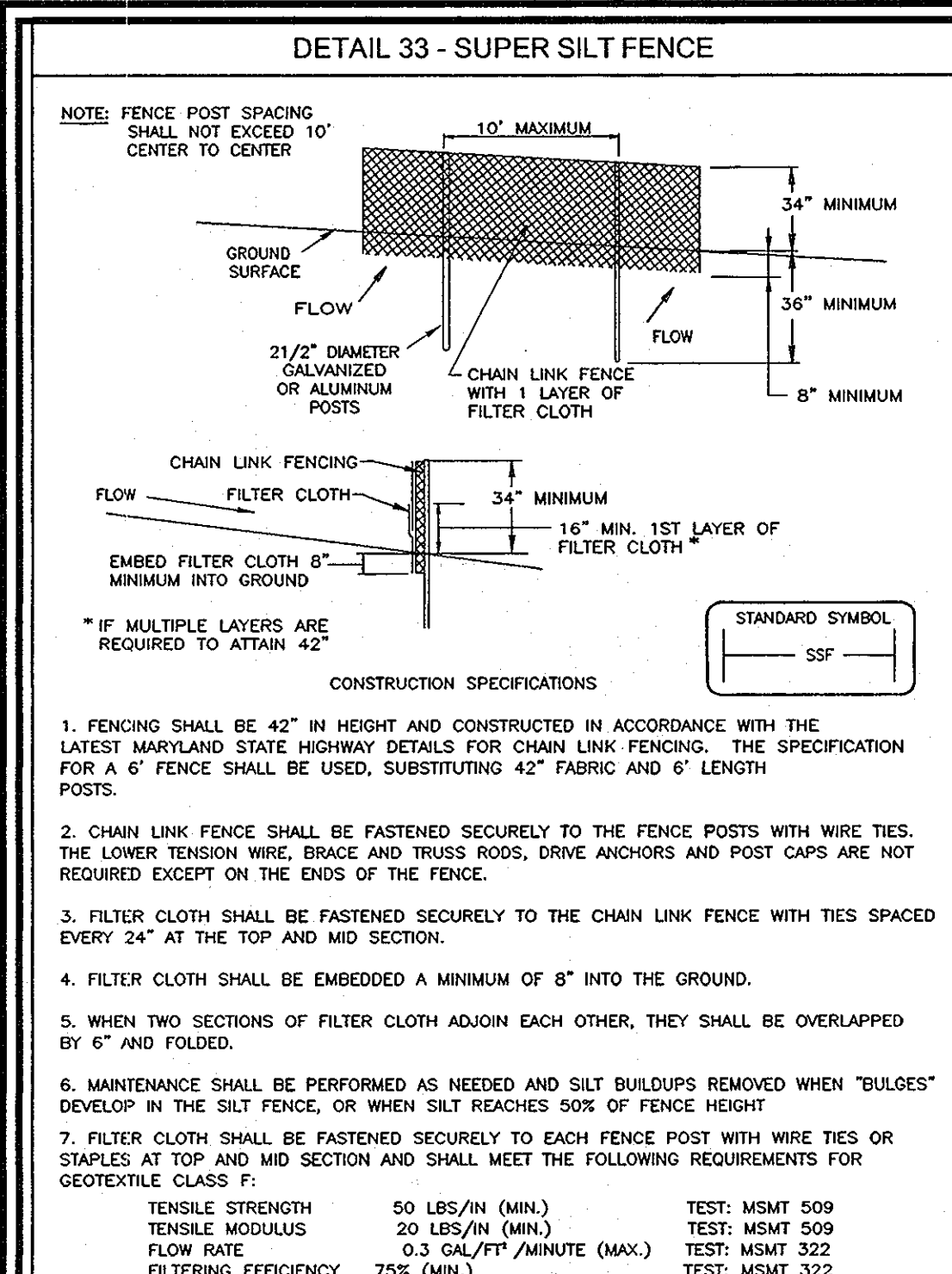
**OWNER**  
 TAYLOR FAMILY LIMITED PARTNERSHIP B  
 DR. BRUCE TAYLOR  
 4100 COLLEGE AVE.  
 ELLICOTT CITY, MARYLAND  
 21043-5506  
 (410) 465-3674

**DEVELOPER**  
 LAND DESIGN AND DEVELOPMENT  
 5300 DORSEY HALL DR STE 102  
 ELLICOTT CITY MD 21042-7819  
 ATTN: MR. DONALD R. REUWER  
 (443) 367-0427

ALL EARTH DIKES ARE TO BE PLACED IN WORKING ORDER AT THE END OF EACH WORKING DAY.

IMBRICATE SSSP IN 25 SEGMENTS AND CURL ENDS UPHILL BY 2" IN ELEVATION AS REQUIRED.





### 21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

**DEFINITION**  
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

**PURPOSE**  
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETABLE GROWTH. LEVELS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

**CONDITIONS WHERE PRACTICE APPLIES**

- THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
  - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATION.
  - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
  - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
  - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

**CONSTRUCTION AND MATERIAL SPECIFICATIONS**

- TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
- TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
  - TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SANDS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR A SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 2% BY VOLUME OF SANDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 AND 1/2" IN DIAMETER.
  - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON DETRIMENTAL TO PROPER GRASSING AND SEEDING PREPARATION.
  - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
- FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
  - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
  - WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
  - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 8" HIGHER IN ELEVATION.
  - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 6" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
  - TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON DETRIMENTAL TO PROPER GRASSING AND SEEDING PREPARATION.
- WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

### PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT THE TIME OF SEEDING. APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ.FT.)
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND APPLY 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.5 LBS/1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROJECT SITE BY OPTION (1) 2 TONS PER ACRE WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOO. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

**TEMPORARY SEEDING NOTES**

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.).

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (32 LBS/1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (0.7 LBS/1000 SQ.FT.) FOR THE PERIOD NOVEMBER 1 THRU FEBRUARY 28. PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

### SEDIMENT CONTROL NOTES

A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPT. OF INSPECTION, LICENSE AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (311-1855).

- ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE STANDARDS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN (A) 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1, (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOO, TEMPORARY SEEDING, AND MULCHING (SEC. 9). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

**7. SITE ANALYSIS :**

TOTAL AREA	28.87 AC.
AREA DISTURBED	18.97 AC.
AREA TO BE ROOFED OR PAVED	1.97 AC.
AREA TO BE VEGETATIVELY STABILIZED	7.93 AC.
TOTAL CUT	88,917 CY
TOTAL FILL	88,917 CY

OFFSITE WASTE/BORROW AREA LOCATION:

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR WITH AN APPROVED AND ACTIVE GRADING PERMIT.

### SEQUENCE OF CONSTRUCTION

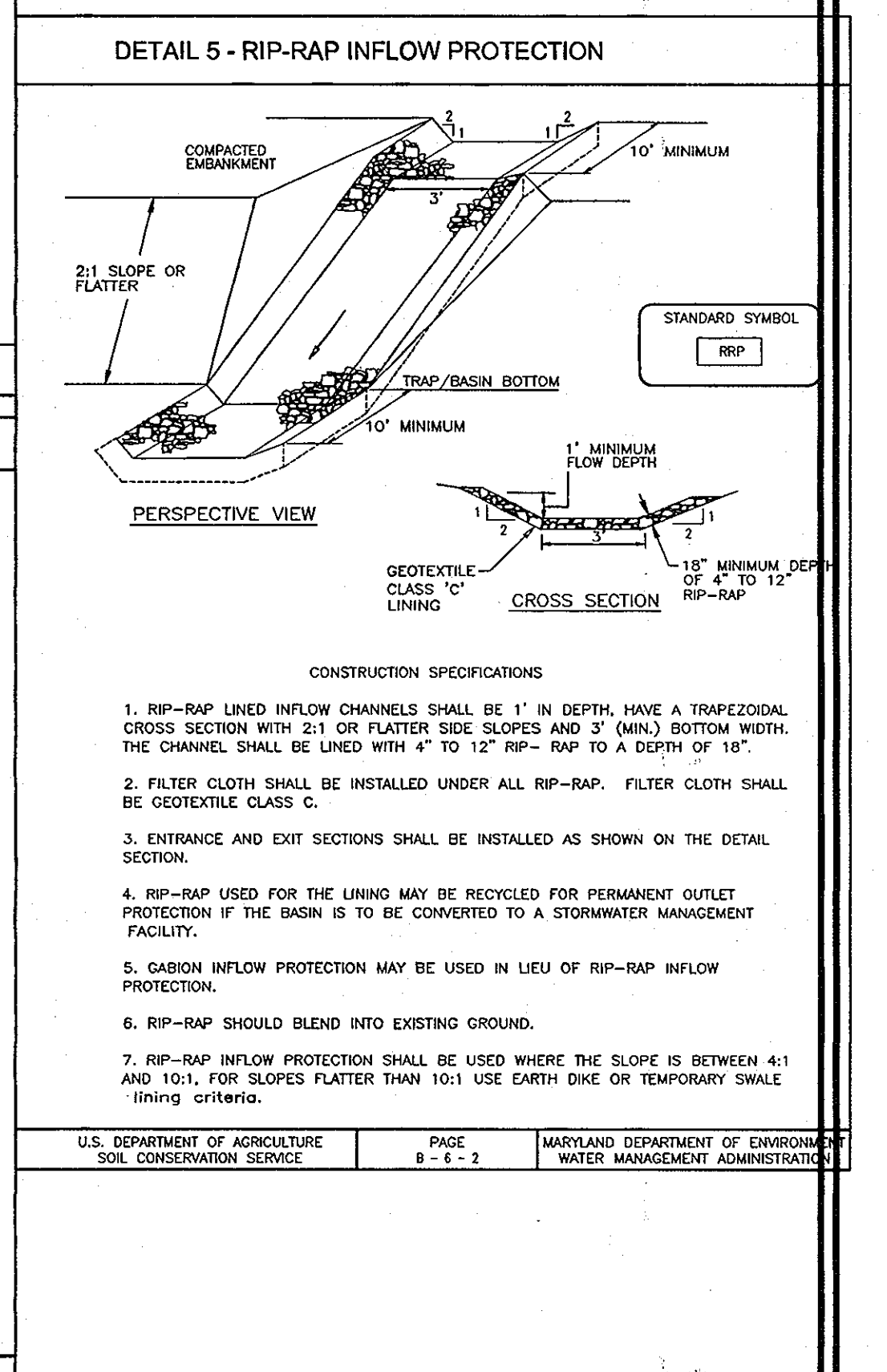
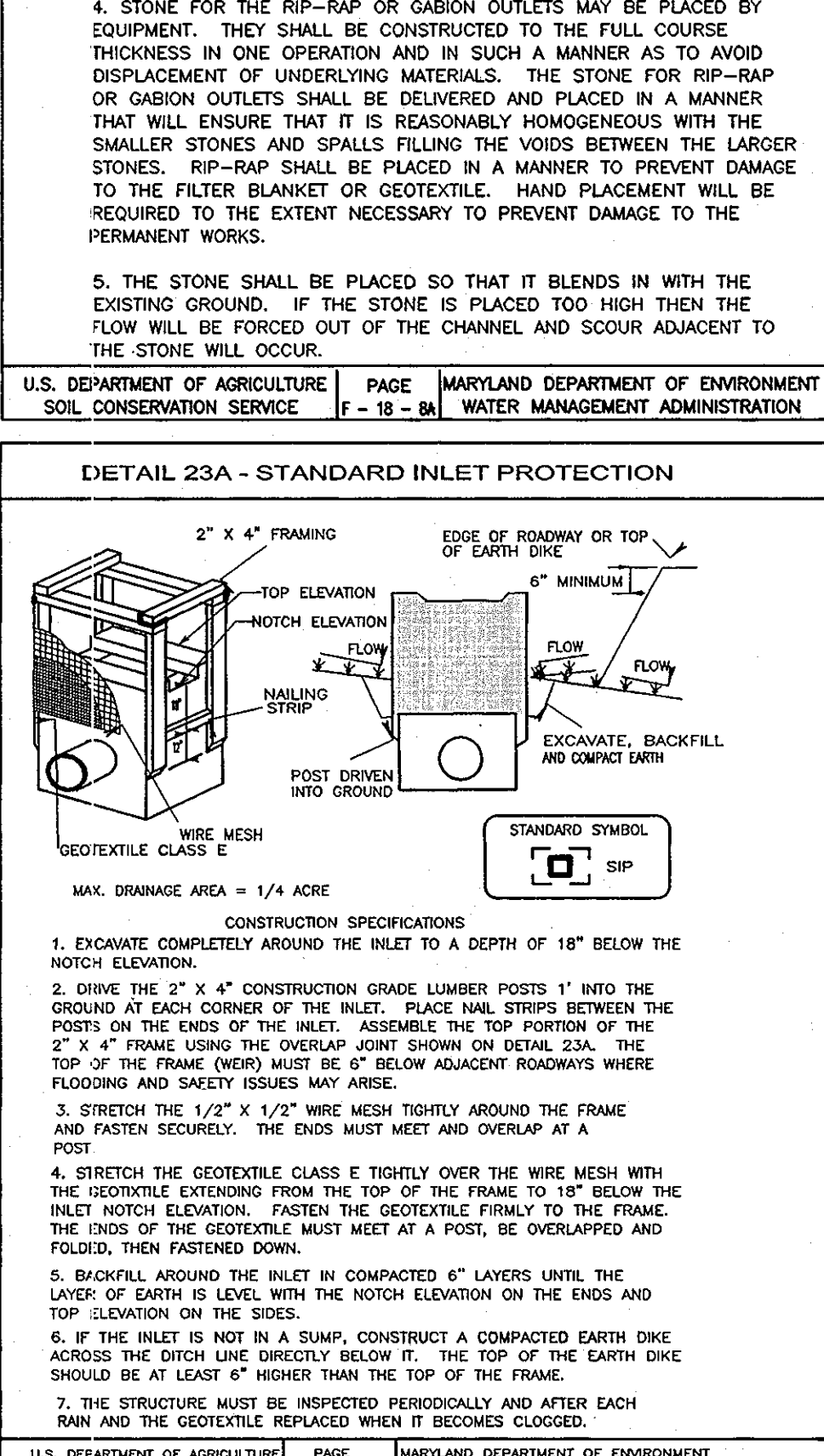
1. NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (311-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK.	1 DAY
2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE. INSTALL SUPER SILT FENCE AND INSTALL PERMETER EARTH DIKES.	3 DAYS
3. CONSTRUCT STORMWATER MANAGEMENT FACILITY (SEDIMENT BASIN). (ALL STRUCTURES AND SUPPLIES FOR PONDS MUST BE ON-SITE, AND PERMISSION FROM THE INSPECTOR IS GRANTED BEFORE PROCEEDING). INSTALL INITIAL STORM DRAIN SYSTEM FROM I-18 TO E-2, AND CONSTRUCT E-1 TO M-3. BEFORE MASS GRADING; WITH A 5-DAY CLEAR WEATHER FORECAST. CONSTRUCT M-3 TO I-3.	5 WEEKS
4. AFTER OBTAINING PERMISSION FROM SEDIMENT CONTROL INSPECTOR TO PROCEED ROUGH GRADE UP TO PHASE 1 CONSTRUCTION AREA.	2 WEEKS
5. BEGIN PHASE 2 CONSTRUCTION, CONSTRUCT REMAINING STORM DRAIN SYSTEM.	3 WEEKS
6. GRADE ROAD TO SUB-BASE.	3 WEEKS
7. WITH ROAD GRADED TO SUB-BASE BEGIN ROAD PAVING.	5 DAYS
8. FINE GRADE SITE IN CONFORMANCE WITH PLAN.	7 WEEK
9. WITH INSPECTOR APPROVAL AND FINAL ROAD PAVING COMPLETE STABILIZE ANY REMAINING DISTURBED AREAS.	2 DAYS
10. CONVERT SEDIMENT BASINS TO FINAL STORMWATER MANAGEMENT FACILITIES, REMOVE SEDIMENT CONTROL MEASURES AND COMPLETE IT WITH AS BUILT DOCUMENTS FOR THE FACILITY.	2 WEEK
11. REMOVE ALL NEW AND OLD JUNK, TRASH, DEBRIS AND OTHER MAN-MADE OBJECTS FROM THE ENTIRE FOREST CONSERVATION EASEMENT, FLOODPLAIN, WETLANDS, STREAMS AND THEIR BUFFERS.	1 WEEK
12. INSTALL STREET TREES AND ALL LANDSCAPING.	1 WEEK
	TOTAL 22 WEEKS

**NOTES**

DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN HEREON.

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLIED WITH:

- 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCH PERMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
- 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS.



APPROVED: DEPARTMENT OF PUBLIC WORKS

*Walter F. Marshall* 6-19-07  
Chief, Bureau of Highways Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Cynthia Harvath* 6/26/07  
Chief, Division of Land Development Date

*Robert H. Vogel* 6/21/07  
Chief, Development Engineering Division Date

DEVELOPER'S CERTIFICATE

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

*Robert H. Vogel* 6/26/07  
SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND SEDIMENT AND EROSION 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. I HAVE NOTIFIED 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.

*Robert H. Vogel* 6/10/07  
SIGNATURE OF ENGINEER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

*Jim Meyer* 6/13/07  
USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Robert H. Vogel* 6/13/07  
HOWARD SCD DATE

AS-BUILT CERTIFICATION

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

*Robert H. Vogel* 6/21/07  
SIGNATURE DATE

OWNER  
TAYLOR FAMILY LIMITED PARTNERSHIP B  
DR. BRUCE TAYLOR  
4100 COLLEGE AVE.  
ELLCOTT CITY, MARYLAND  
21043-5508  
(410)-465-3674

DEVELOPER  
LAND DESIGN AND DEVELOPMENT  
5300 DORSEY HALL DR. STE 102  
ELLCOTT CITY, MD 21042-7819  
ATTN: MR. DONALD R. FEUER  
(443)-367-0422

GRADING, SEDIMENT & EROSION CONTROL DETAILS  
WORTHINGTON FIELDS, PHASE 6  
LOTS 90-148 AND OPENSAPCE LOT 149, 150 & 151  
A RESUBDIVISION OF NON-BUILDABLE  
PARCEL B-4, PHASE 5 PARCEL P/O '98'  
HOWARD COUNTY, MARYLAND

TAX MAP 25 BLOCK 20  
2ND ELECTION DISTRICT

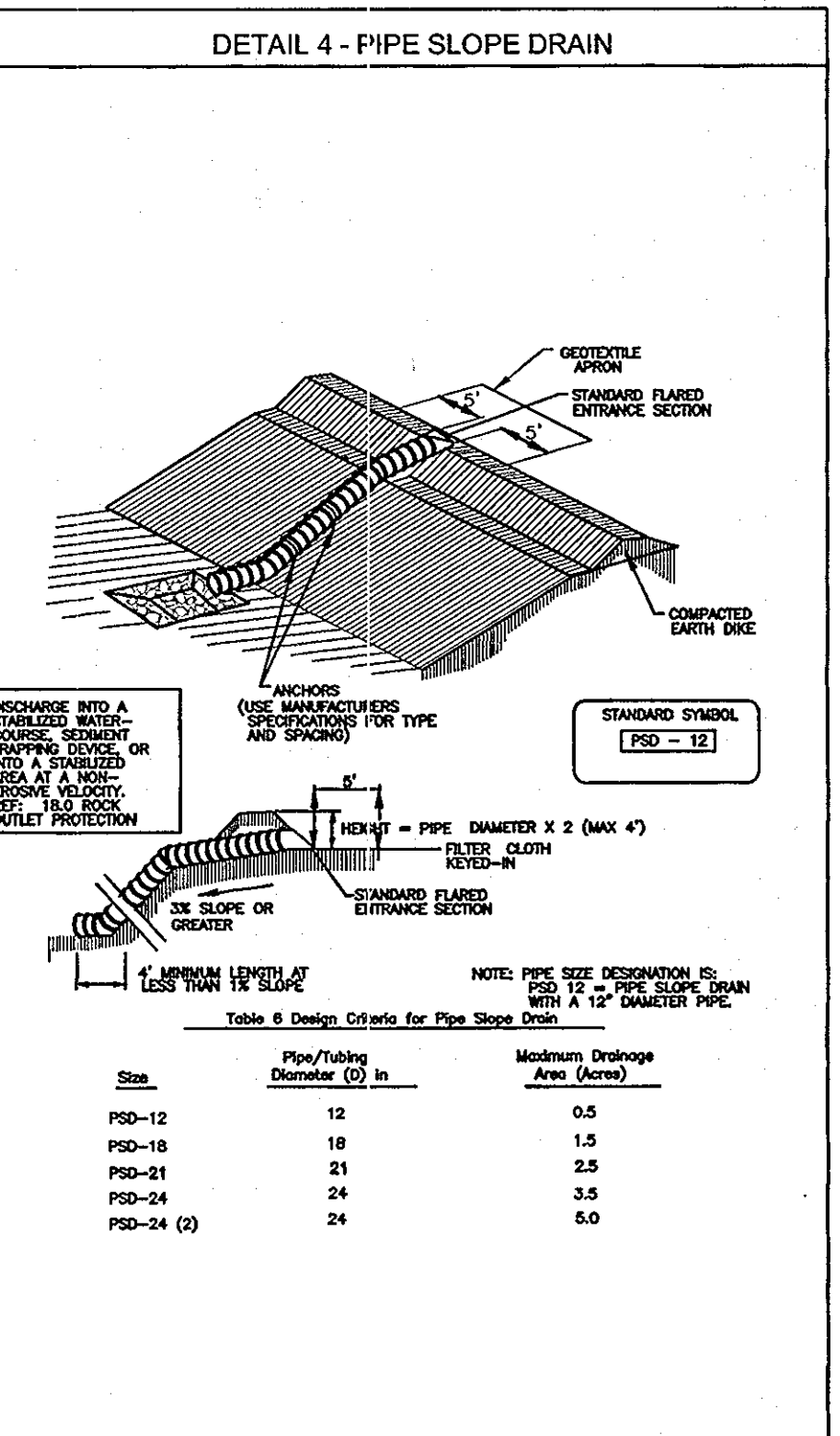
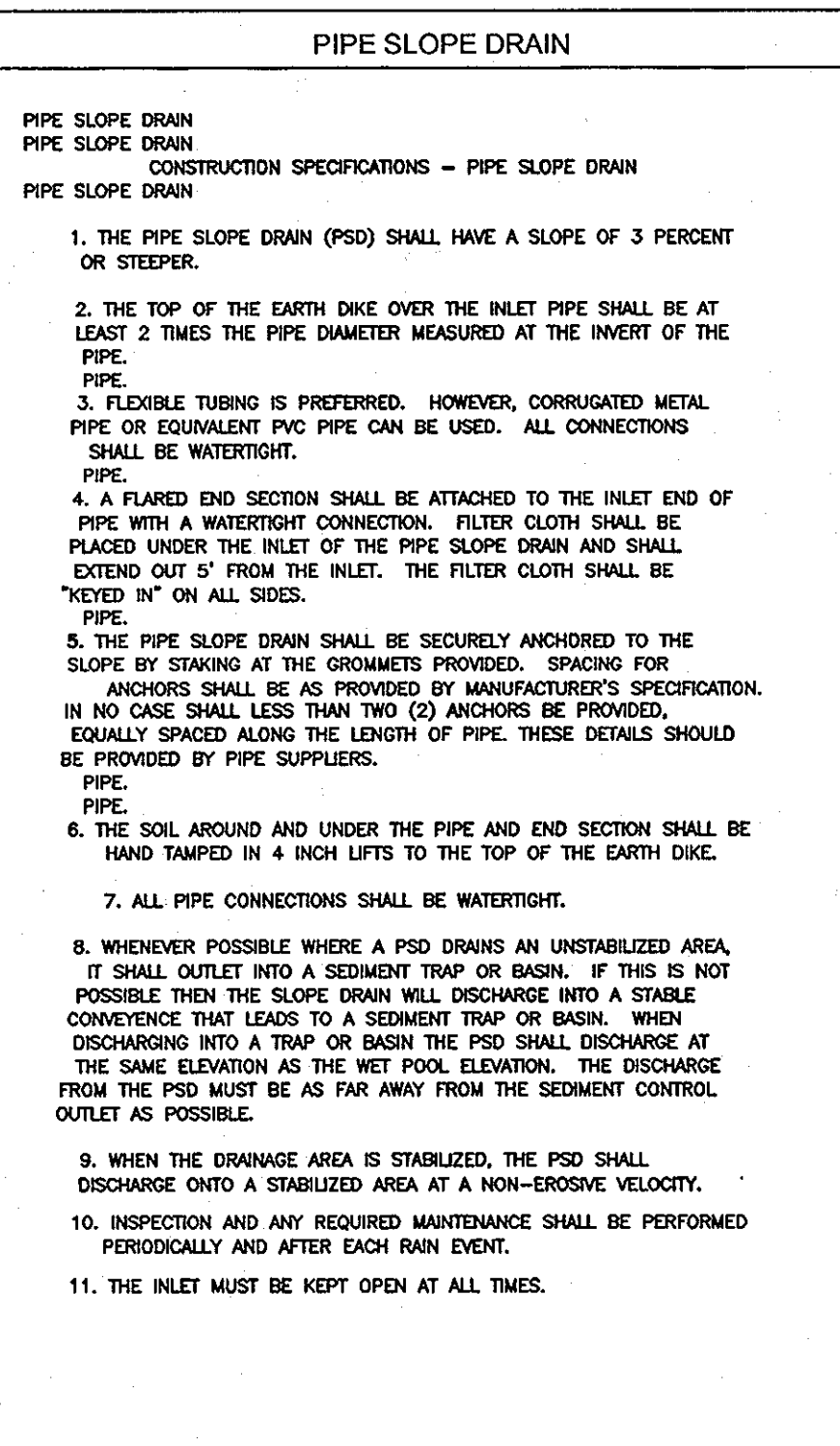
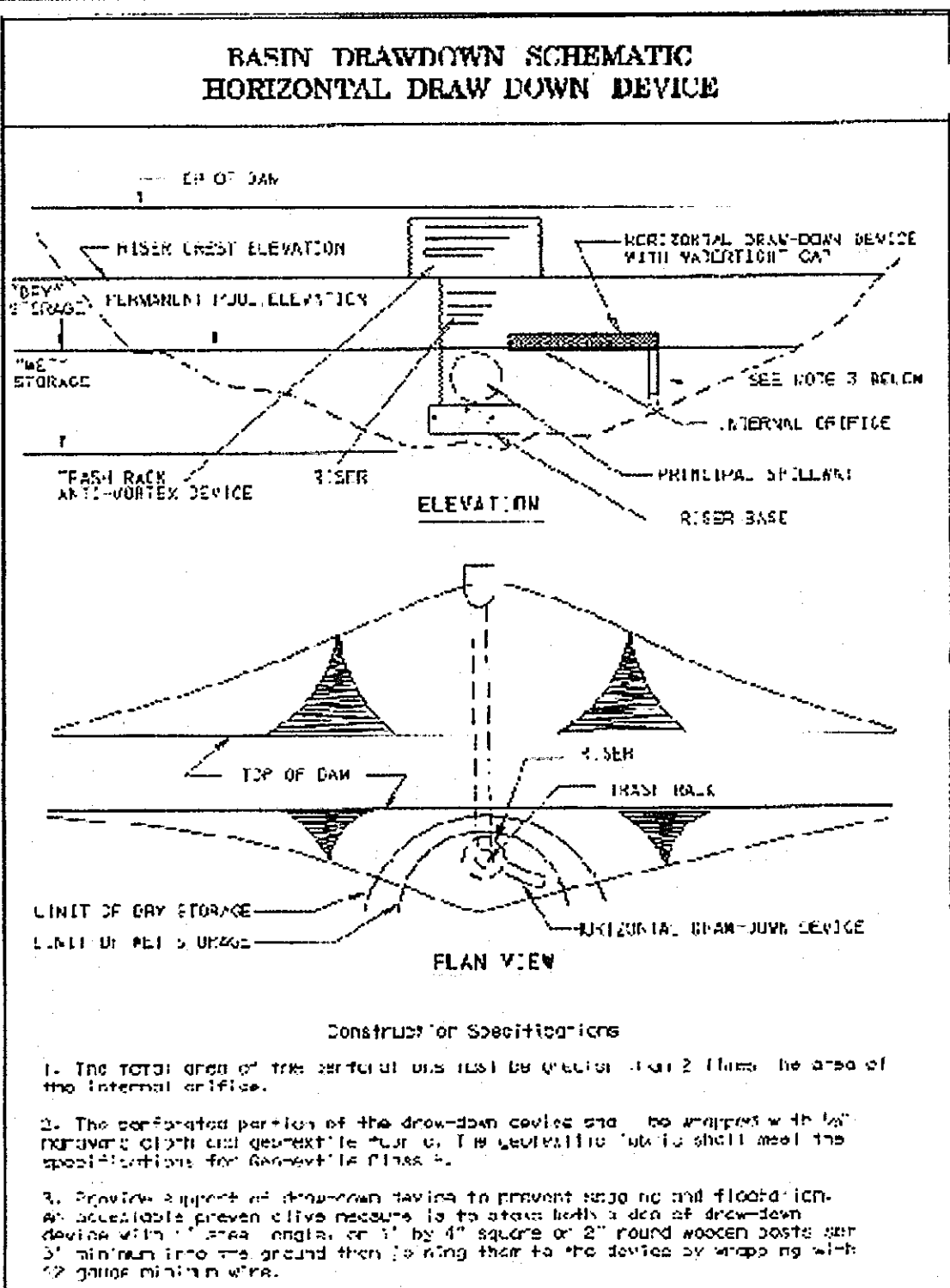
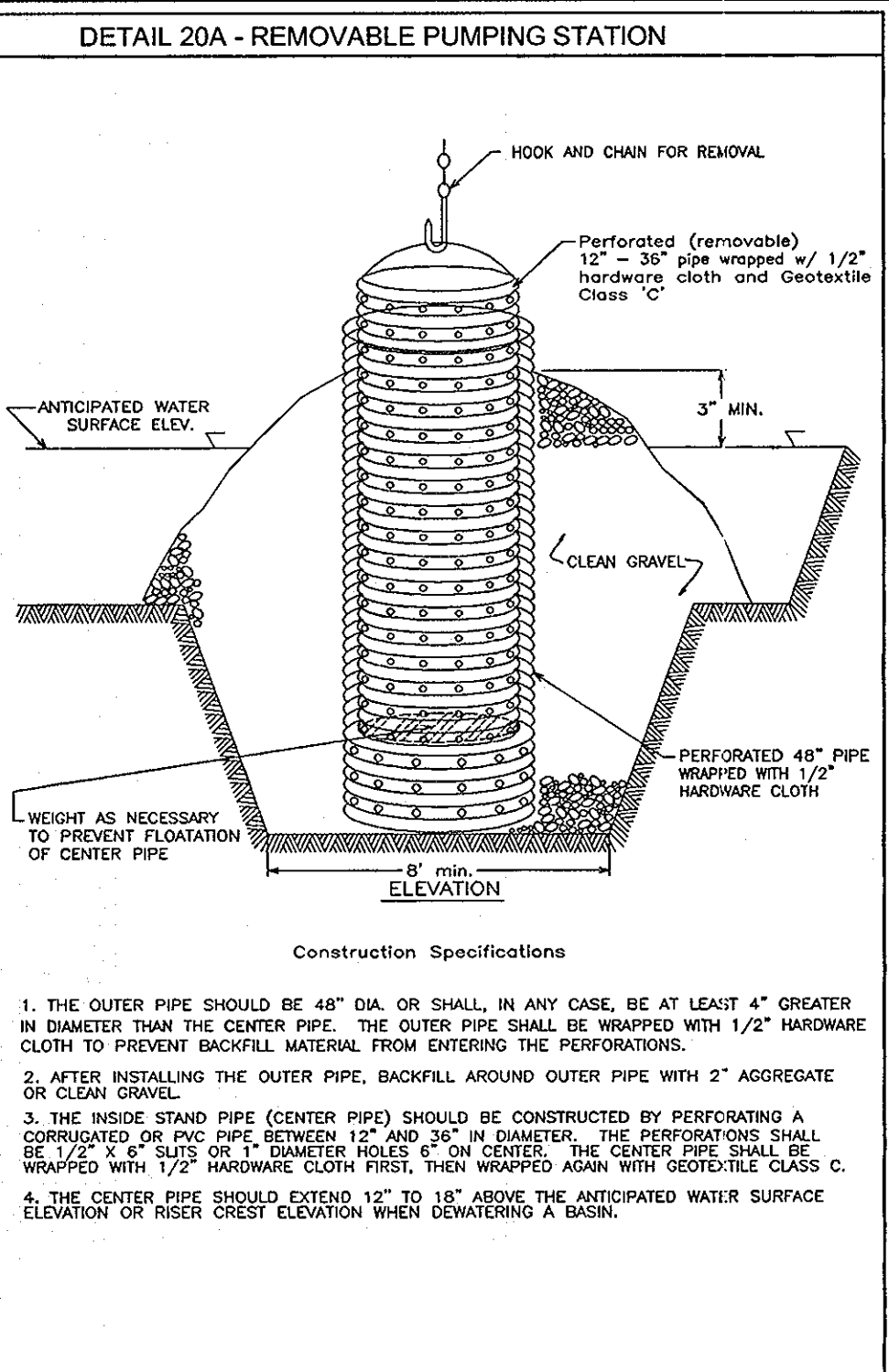
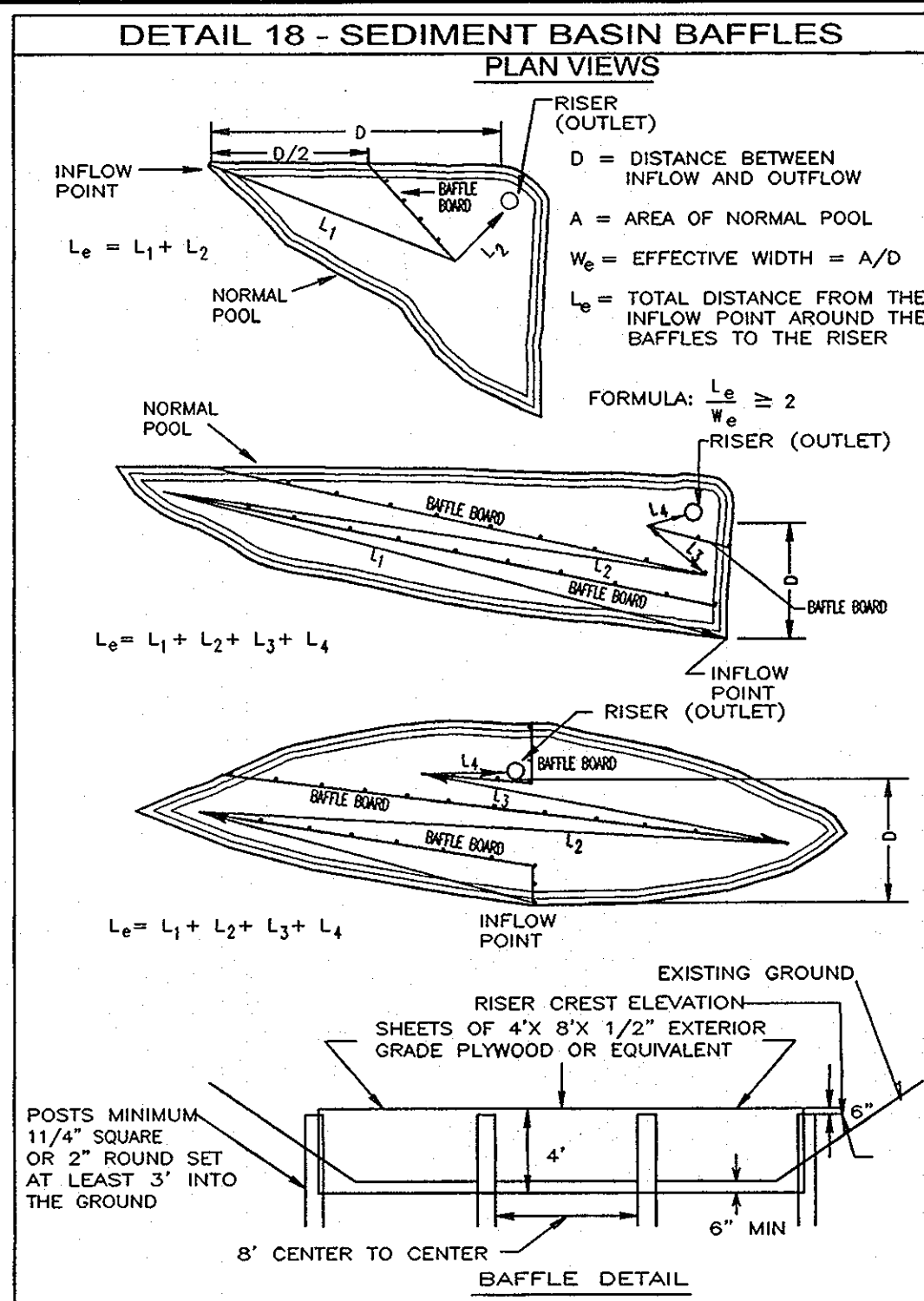
REF: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1),  
P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172  
P-06-006, P-03-07, F-03-207 (PHASE 4), F-04-12, F-05-019, SDP-06-33 (PHASE 5)

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET TEL: 410.461.7666  
ELLCOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RJV/RHV  
DRAWN BY: RJV  
CHECKED BY: RHV  
DATE: JUNE 2006  
SCALE: AS SHOWN  
W.D. NO.: 2019011.00

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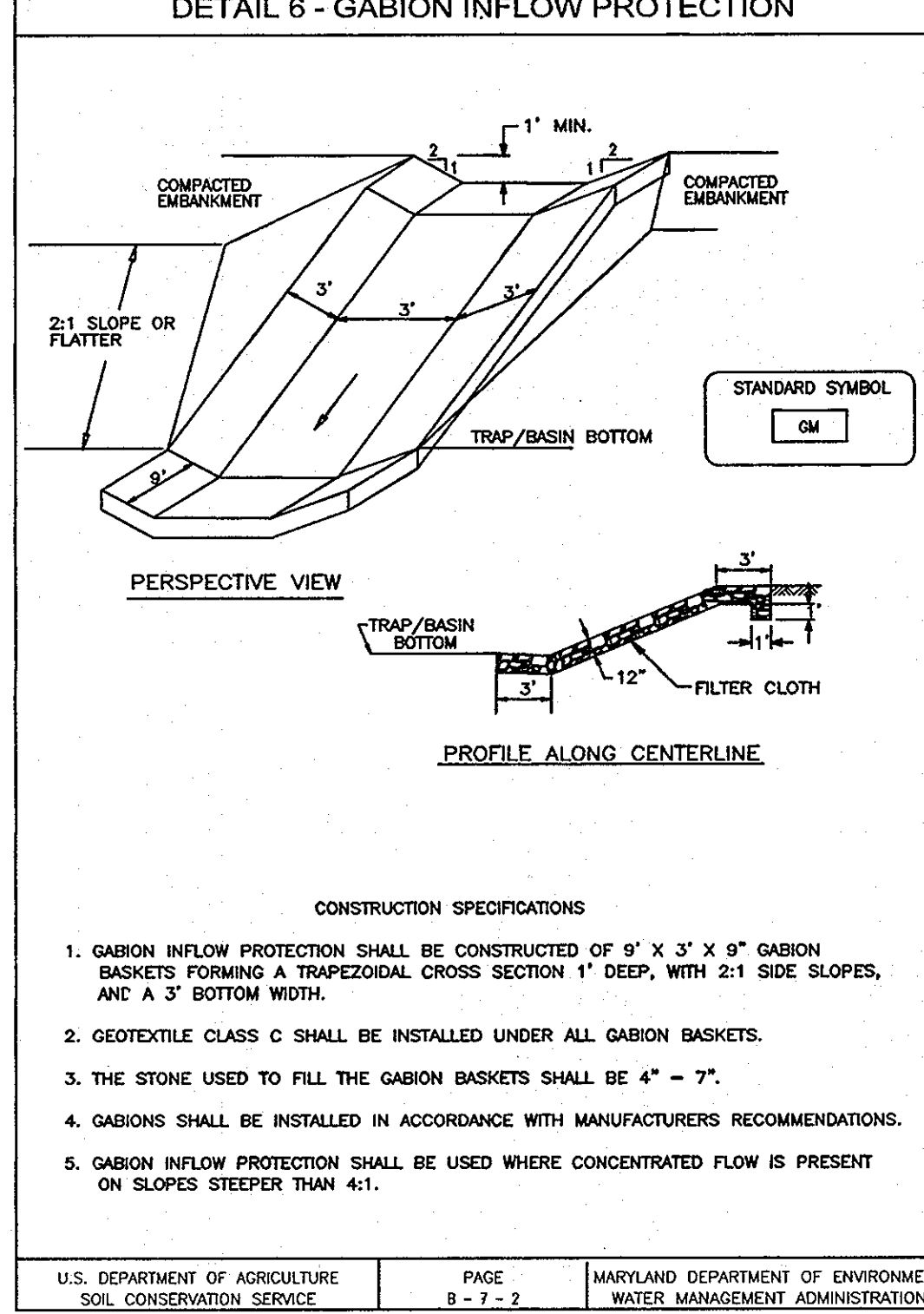
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-10-28 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE D-12-4 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-11-29 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B-5-4A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B-5-4 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B-7-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*William F. ...* 6-19-07  
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Conrad ...* 9/26/07  
 Chief, Division of Land Development

*...* 10/21/07  
 Chief, Development Engineering Division

**DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF 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. 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.

*...* 6/13/07  
 SIGNATURE OF DEVELOPER DATE

**ENGINEER'S CERTIFICATE**

I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND SEDIMENT AND EROSION 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. I HAVE NOTIFIED 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.

*...* 6/13/07  
 SIGNATURE OF ENGINEER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

*...* 6/12/07  
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*...* 6/13/07  
 HOWARD SCD DATE

AS-BUILT CERTIFICATION

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

*...* 6/19/07 2/25/14  
 SIGNATURE PE. NO. DATE

**OWNER**

TAYLOR FAMILY LIMITED PARTNERSHIP B  
 DR. BRUCE TAYLOR  
 4100 COLLEGE AVE.  
 ELLICOTT CITY, MARYLAND  
 21043-5508  
 (410)-465-3674

**DEVELOPER**

LAND DESIGN AND DEVELOPMENT  
 5300 DORSEY HALL DR. STE. 102  
 ELLICOTT CITY MD 21042-7819  
 ATTN: MR. DONALD R. REUWER  
 (443)-367-0422

**GRADING, SEDIMENT & EROSION CONTROL DETAILS**

**WORTHINGTON FIELDS, PHASE 6**

LOTS 90-148 AND OPENSAPCE LOT 149, 150 & 151  
 A RESUBDIVISION OF NON-BUILDABLE PARCEL B-4, PHASE 5 PARCEL P/O '98'  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TAX MAP 25 BLOCK 20  
 REF: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1), P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172 P-06-006, P-03-07, F-03-207 (PHASE 4), P-04-12, F-05-019, SDP-06-33 (PHASE 5)

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET  
 ELLICOTT CITY, MD 21043 TEL: 410.461.2666 FAX: 410.461.891

DESIGN BY: RJ/RHV  
 DRAWN BY: RJ  
 CHECKED BY: RHV  
 DATE: JUNE 2006  
 SCALE: AS SHOWN  
 W.D. NO.: 2019011.00

9 SHEET OF 18



STORM DRAIN DATA				
INLET NO.	AREA	'C' VALUE	ZONED	% IMPERV.
I-1	0.53	0.51	R-ED	22%
I-2	1.03	0.58	R-ED	49%
I-3	0.87	0.55	R-ED	45%
I-4	0.62	0.48	R-ED	30%
I-5	0.61	0.49	R-ED	35%
I-6	0.55	0.60	R-ED	53%
I-7	0.71	0.58	R-ED	51%
I-8	1.27	0.33	R-ED/R-20	11%
I-9	0.57	0.61	R-ED	58%
I-10	0.44	0.62	R-ED	59%
I-11	1.33	0.36	R-ED/R-20	15%
I-12	0.79	0.42	R-ED	25%
I-13	0.11	0.72	R-ED	75%
I-14	0.88	0.56	R-ED/R-20	55%
I-15	1.44	0.51	R-ED/R-20	49%
I-16	0.46	0.66	R-ED	45%
I-17	0.97	0.53	R-ED	42%
I-18	1.98	0.57	R-ED/R-20	50%

SOILS LEGEND				
SYMBOL	SOIL NAME	HYDRIC SOILS/ HYDRIC INCLUSIONS	SLOPE QUALITIES	CLASS
Bc3	BRANDYWINE LOAM	HYDRIC INCLUSIONS	8%-15%	C
Bd2	BRANDYWINE LOAM	---	8%-15%	C
Bd3	BRANDYWINE LOAM	---	15%-25%	C
CnB2	CHILLUM-FAIRFAX LOAM	---	15%-25%	B
CnD3	CHILLUM-FAIRFAX LOAM	---	1%-5%	B
GnB2	GLENVILLE SILT LOAM	---	5%-15%	C
LgC3	LEGORE SILTY CLAY LOAM	---	3%-8%	B
MgB2	MANOR GRAVELLY LOAM	---	8%-15%	B
MgC3	MANOR GRAVELLY LOAM	---	3%-8%	B
MD3	MANOR LOAM	---	8%-15%	B
WbB	WATCHUNG SANDY LOAM	HYDRIC INCLUSIONS	15%-25%	D

**LEGEND**

- PROP. SIDEWALK
- 15' NO WOODY VEGETATION BUFFER
- NATURAL AREA CONSERVATION EASEMENT
- EXISTING TREES TO REMAIN
- 15%-24.99% STEEP SLOPE AREA
- 25% OR GREATER STEEP SLOPE AREA
- SPOT ELEVATION
- PROPOSED STREET TREE
- SOILS
- SOIL BORING
- WETLANDS
- MOUNTABLE BERM
- VARIABLE WIDTH PUBLIC SIGHT DISTANCE EASEMENT
- FOREST CONSERVATION EASEMENT (RETENTION)
- 20' PRIVATE DRAINAGE & UTILITY EASEMENT
- 10' PUBLIC TREE MAINTENANCE EASEMENT
- PRIVATE SWM EASEMENT
- PUBLIC SEWER, WATER & UTILITY EASEMENT
- 24' PRIVATE ACCESS PLACE EASEMENT
- CL. STREAM
- STREAM BUFFER
- STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE
- SILT FENCE
- SUPER SILT FENCE
- EARTHDIKE
- EROSION CONTROL MATTING
- CURB INLET PROTECTION
- PROPOSED DRAINAGE DIVIDE
- EXISTING DRAINAGE DIVIDE UNDER OTHER PHASES

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

Signature: [Signature] 6/19/07 2/25/14  
 P.E. NO. DATE

**OWNER**  
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 21043-5506  
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**DEVELOPER**  
 LAND DESIGN AND DEVELOPMENT  
 5300 DORSEY HALL DR STE 102  
 ELLICOTT CITY MD 21042-7819  
 ATTN: MR. DONALD R. REUWER  
 (443)-367-0422

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 6-19-07  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 6/23/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 6/21/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**STORM DRAIN DRAINAGE AREA MAP  
 WORTHINGTON FIELDS, PHASE 6**  
 LOTS 90-148 AND OPENSACE LOT 149, 150 & 151  
 A RESUBDIVISION OF NON-BUILDABLE  
 PARCEL B-4, PHASE 5

TAX MAP 25, BLOCK 20  
 2ND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

REF: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1),  
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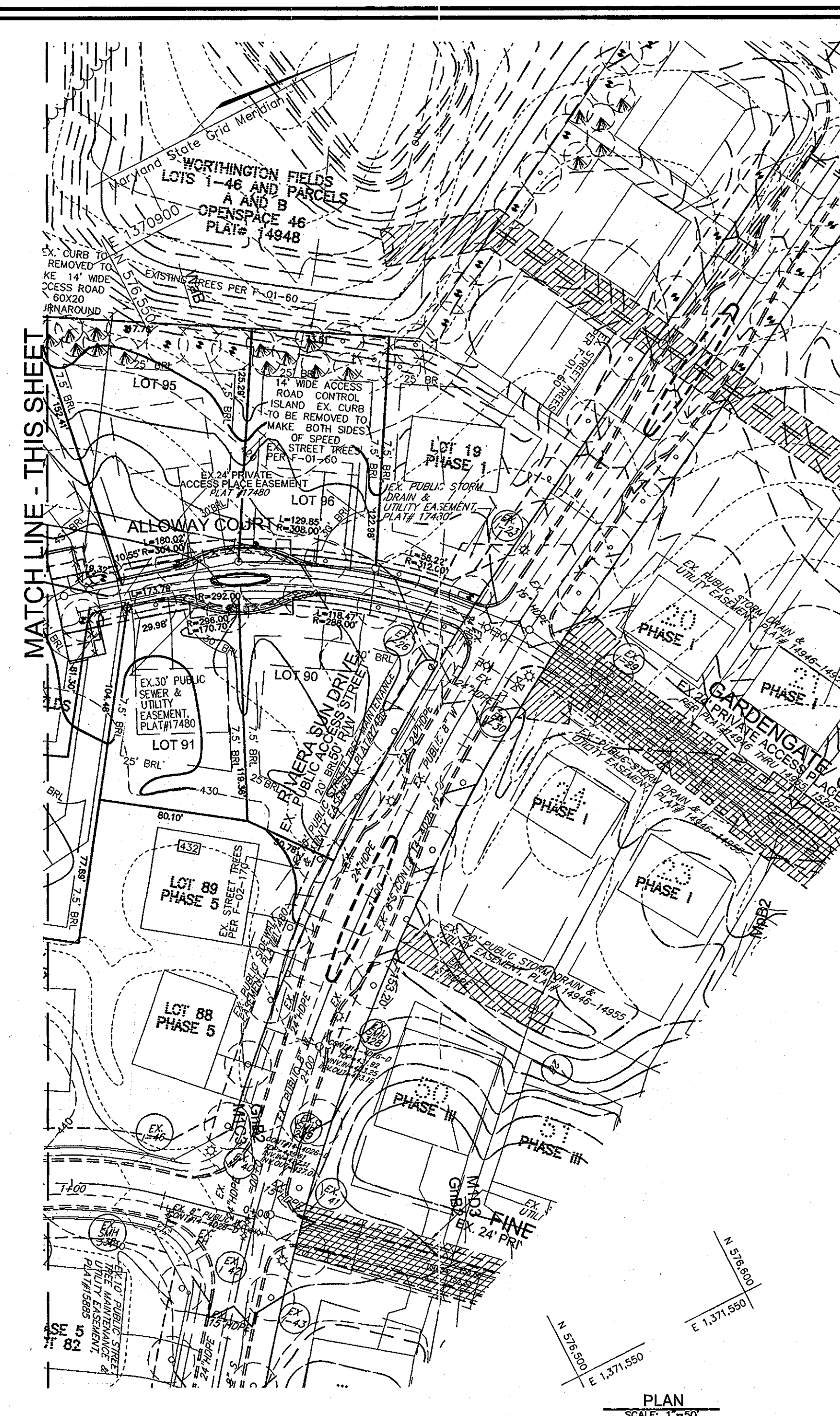
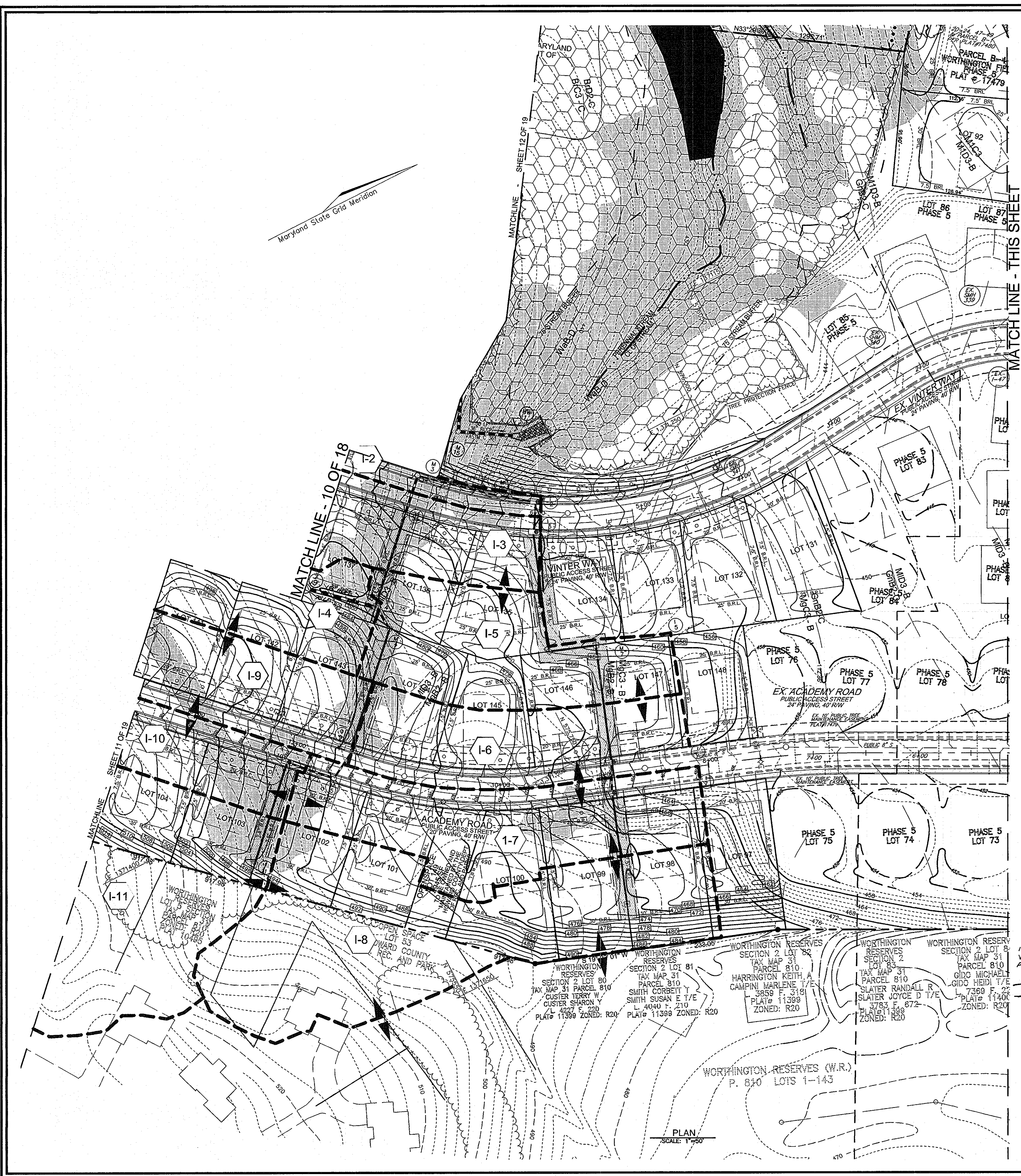
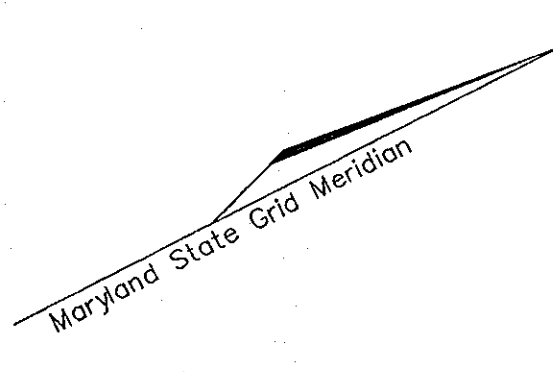
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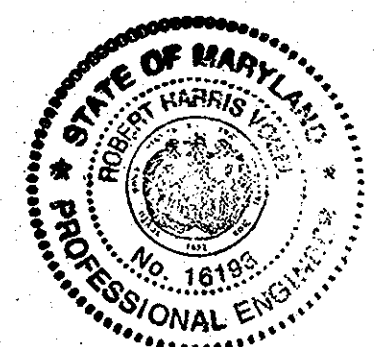
1 ADD INLET I-19 01/21/13





**LEGEND**

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**DEVELOPER**  
 LAND DESIGN AND DEVELOPMENT  
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 ELLICOTT CITY MD 21042-7819  
 (410)-367-0422

APPROVED: DEPARTMENT OF PUBLIC WORKS

*William J. Umhall* 6-19-07  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

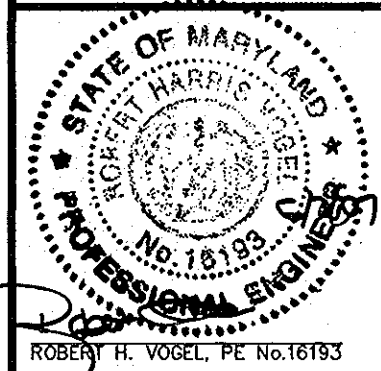
*Cindy Hamstra* 6/22/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Chris Deamus* 6/21/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

1	ADD INLET I-19	01/21/13
NO	REVISION	DATE

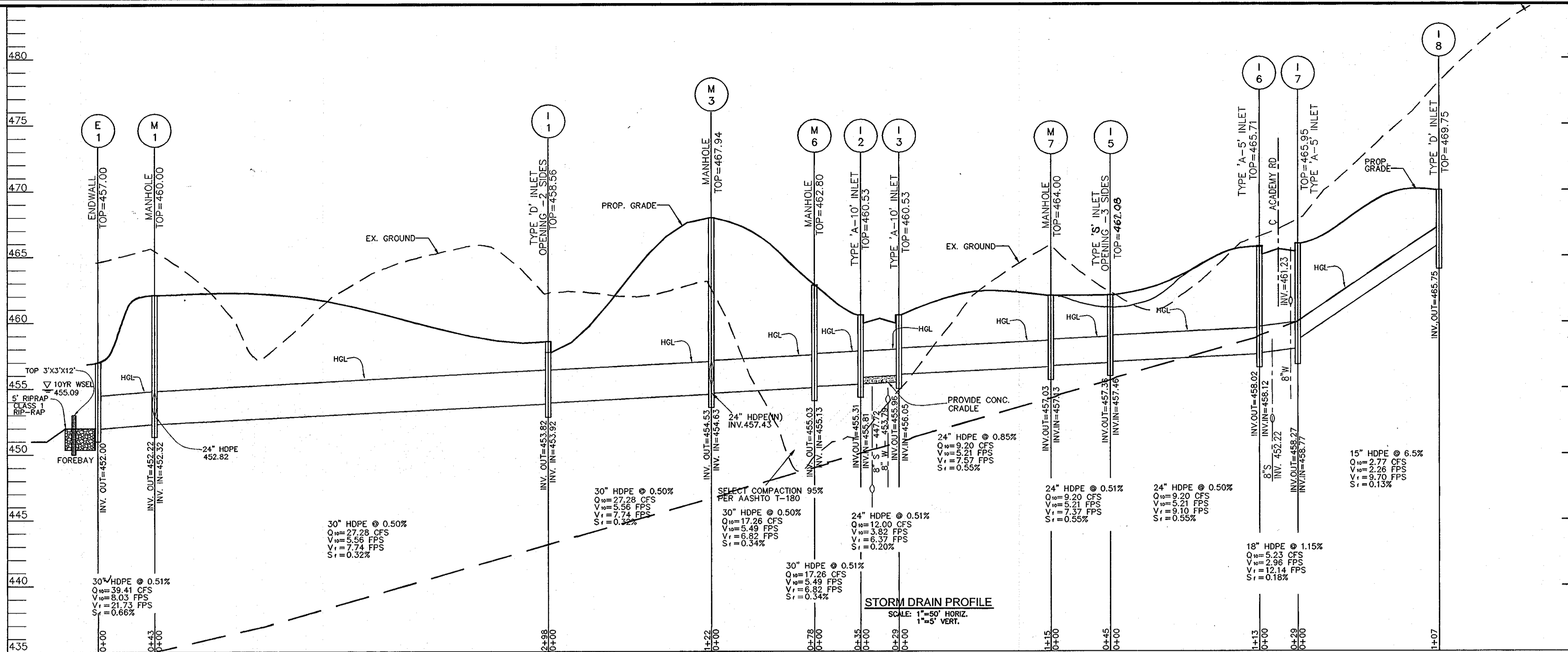
**STORM DRAIN DRAINAGE AREA MAP**  
**WORTHINGTON FIELDS, PHASE 6**  
 LOTS 90-148 AND OPENSACE LOT 149, 150 & 151  
 A RESUBDIVISION OF NON-BUILDABLE PARCEL B-4, PHASE 5  
 TAX MAP 25 BLOCK 20 PARCEL P/O '98'  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 REF: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1),  
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 ELLICOTT CITY, MD 21043 FAX: 410.481.2666



DESIGN BY: RJ/RHV  
 DRAWN BY: RJ  
 CHECKED BY: RHV  
 DATE: JUNE 2006  
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### INLET SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
I-1	TYPE D INLET - 2 OPENINGS, INV.=457.73	575821.02, 1371098.99	459.56	453.924	458.94	SD 4.39
I-2	A-5 W/ DEFLECTORS	VINTER WAY STA. 6+02.21, 12' RT.	466.55	457.81	457.81	SD4.02 & SD4.83
I-3	A-5 W/ DEFLECTORS	VINTER WAY STA. 6+02.21, 12' RT.	466.55	457.81	457.81	SD 4.39
I-4	TYPE 'S' INLET	575643.16, 1371282.32	474.19	470.59	470.59	SD 4.22
I-5	TYPE 'S' INLET	575813.42, 1371410.15	462.68	457.48	457.48	SD 4.22
I-6	A-5 W/ DEFLECTORS	ACADEMY DRIVE STA. 8+91.28, 12' RT.	466.77	458.15	458.05	SD 4.01 & 4.83
I-7	A-5 W/ DEFLECTORS	ACADEMY DRIVE STA. 8+94.5, 12' LT.	466.95	458.59	458.77	SD 4.01 & 4.83
I-8	TYPE D INLET - 3 OPENINGS, INV.=471.00	575727.55, 1371643.73	469.75	461.20	461.20	SD 4.39
I-9	A-5 W/ DEFLECTORS	ACADEMY DRIVE STA. 11+49.67, 12' RT.	469.23	460.59	460.47	SD 4.01 & 4.83
I-10	A-5 W/ DEFLECTORS	ACADEMY DRIVE STA. 12+3.11, 12' LT.	474.23	465.74	465.74	SD 4.01 & 4.83
I-11	TYPE D INLET - 3 OPENINGS, INV.=492.68	575429.60, 1371448.98	493.51	484.26	484.26	SD 4.01 & 4.83
I-12	TYPE D INLET - 3 OPENINGS, INV.=479.17	575528.65, 1370902.63	480.23	471.73	471.73	SD 4.39
I-13	A-5 W/ DEFLECTORS	ACADEMY DRIVE STA. 15+28.55, 12' RT.	511.13	505.54	505.29	SD 4.02 & 4.83
I-14	A-5 W/ DEFLECTORS	ACADEMY DRIVE STA. 15+28.55, 12' LT.	511.13	505.54	505.29	SD 4.02 & 4.83
I-15	TYPE 'S' INLET	575591.63, 1371259.44	475.73	471.90	471.90	SD 4.22
I-16	TYPE D INLET - 3 OPENINGS, INV.=489.17	575320.68, 1370816.98	487.00	480.20	480.20	SD 4.39
I-17	TYPE D INLET - 3 OPENINGS, INV.=479.17	575404.25, 1370616.92	480.23	471.73	471.73	SD 4.39
I-18	TYPE 'S' INLET	575318.06, 1370553.34	476.50	472.50	472.50	SD 4.22
I-19	TYPE 'S' INLET	575202.14, 1370562.75	501.94	498.13	498.13	SD 4.01 & 4.83

NOTES  
 \*TOP ELEV.=TOP OF THE CURB AT CENTER OF THE INLET FOR TYPE S INLET.  
 \*TOP ELEV.=TOP OF THE CURB AT CENTER OF THE INLET FOR A-5 & A-10 INLET.  
 \*TOP ELEV.=TOP OF THE FRAME & COVER FOR TYPE D INLET.

### STORM DRAIN MANHOLE SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
M-1	STANDARD 4' PRECAST MANHOLE	N 575609.50 E 1370889.23	460.46	452.66	452.67	G-5.12
M-2	STANDARD 4' PRECAST MANHOLE	N 575563.22 E 1370897.45	472.00	464.78	467.30	G-5.12
M-3	STANDARD 4' PRECAST MANHOLE	N 575646.01 E 1371306.89	467.40	454.80	454.80	G-5.12
M-4	STANDARD 4' PRECAST MANHOLE	N 575646.01 E 1371306.89	478.00	472.91	472.81	G-5.12
M-5	STANDARD 4' PRECAST MANHOLE	CL STA.11+56, ACADEMY RD, 16.34'LT.	489.88	482.17	482.07	G-5.12
M-6	STANDARD 4' PRECAST MANHOLE	CL STA.6+39, VINTER WAY, 16.53'RT.	462.80	455.13	455.03	G-5.12
M-7	STANDARD 4' PRECAST MANHOLE	N 575771.12 E 1371395.22	464.00	457.13	457.03	G-5.12
M-8	STANDARD 4' PRECAST MANHOLE	N 575450.32 E 1370891.82	488.10	479.35	479.25	G-5.12
M-9	STANDARD 4' PRECAST MANHOLE	CL STA.16+10.76, ACADEMY RD, 21.13'RT	517.29	508.73	508.48	G-5.12
M-10	STANDARD 4' PRECAST MANHOLE	N 575461.60 E 1370717.01	463.00	455.00	454.90	G-5.12
M-11	TYPE 'D' INLET	N 575377.18 E 1370681.76	472.80	468.00	468.00	SD-4.39
M-12	STANDARD 4' PRECAST MANHOLE	N 575245.96 E 1370561.08	466.06	454.86	454.86	G-5.12
M-13	STANDARD 4' PRECAST MANHOLE	N 575789.56 E 1371169.02	462.30	453.87	453.87	G-5.12
M-14	STANDARD 4' PRECAST MANHOLE	N 575835.20 E 1371091.45	462.25	451.50	451.50	G-5.12
M-15	STANDARD 4' PRECAST MANHOLE	N 575789.56 E 1371169.02	462.30	453.26	453.18	G-5.12

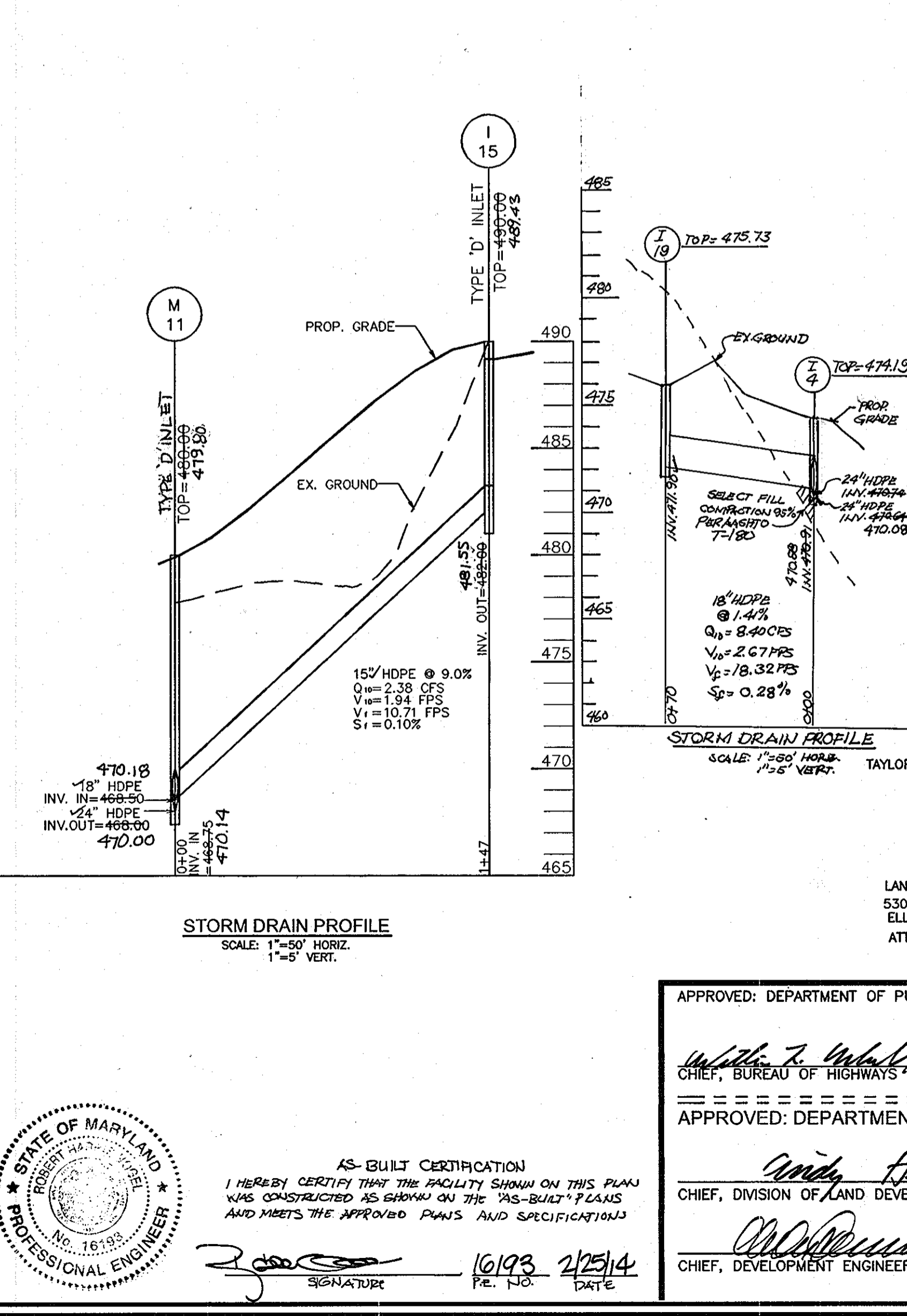
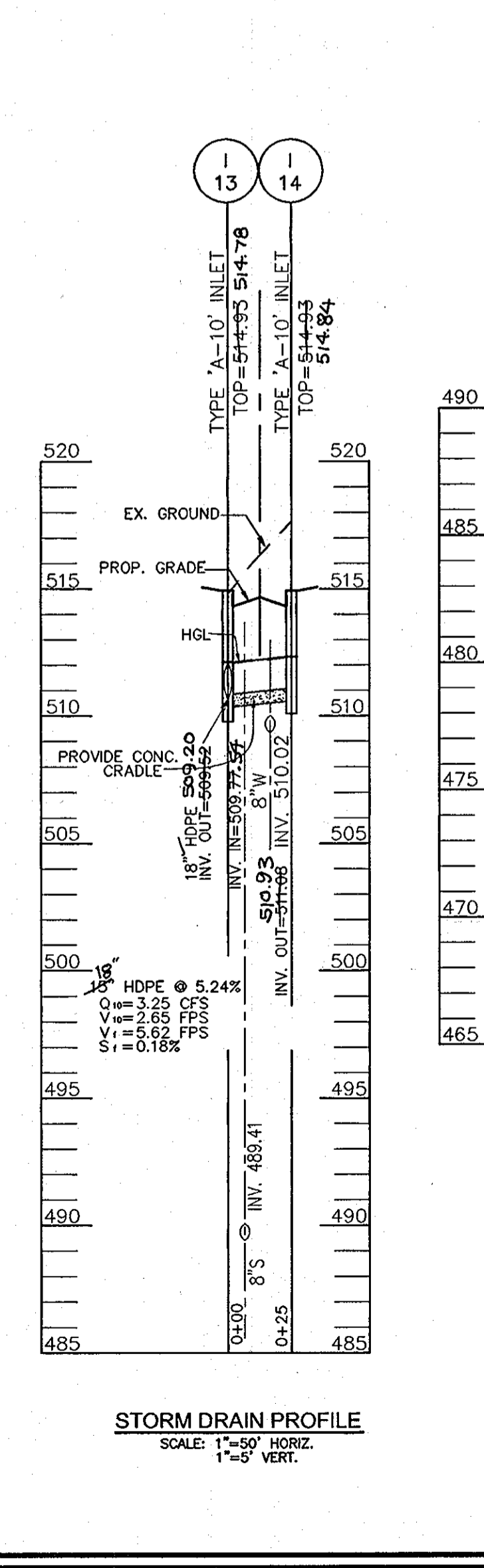
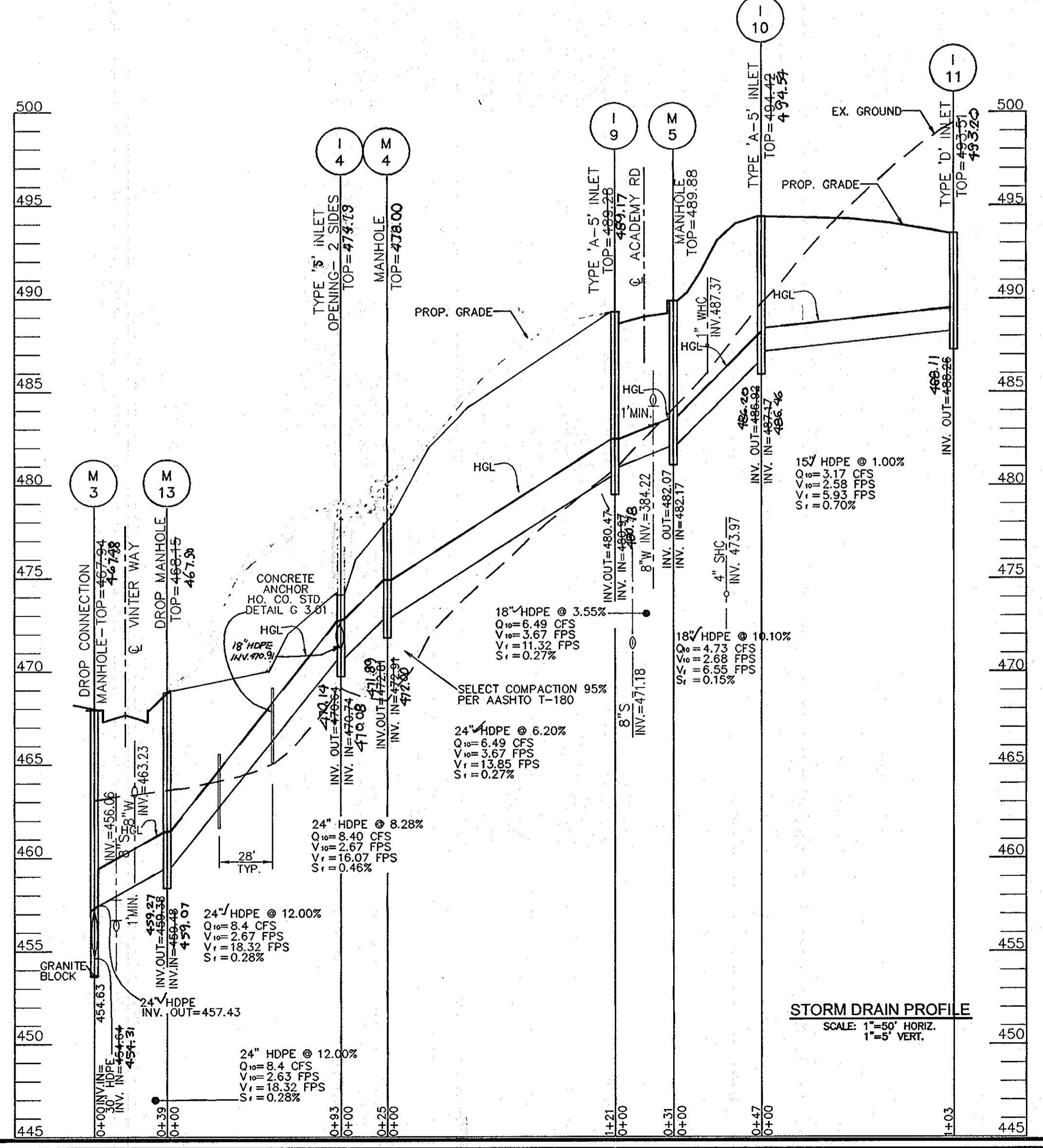
### STRUCTURE SCHEDULE

NO.	TYPE	LOCATION		TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
		NORTHING	EASTING				
E-1	30" RCP ENDWALL	N 575602.21	E 1370848.52	457.00	452.00	452.00	SD - 5.51
E-2	24" RCP ENDWALL	N 575543.71	E 1370751.30	454.08	452.00	452.00	SD - 5.51
HW-1	36" TYPE 'A' HEADWALL	N 575845.07	E 1371202.95	474.00	436.50	436.50	SD - 5.51

### PIPE SCHEDULE

PIPE SIZE	TYPE	TOTAL LENGTH
15"	HDPE	506 LF
18"	HDPE	732 LF
24"	HDPE	466 LF
30"	HDPE	576 LF
36"	RCCP ASTM C-361	137 LF

NO	REVISION	DATE
3	MODIFY DIVERSION DETAIL AT STRUCTURES M-1 & M-11	11/18/13
2	ADD INLET I-19 & REVISE I-4 & I-5	01/21/13
1	REVISE SNALE AND LOCATION OF INLET	12/14/11



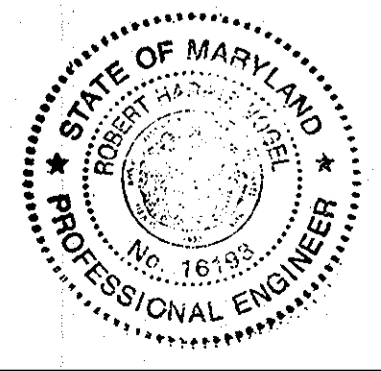
OWNER  
 TAYLOR FAMILY LIMITED PARTNERSHIP B  
 DR. BRUCE TAYLOR  
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 ELLICOTT CITY, MARYLAND  
 21043-5506  
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DEVELOPER  
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 5300 DORSEY HALL DR. SUITE 102  
 ELLICOTT CITY MD 21042-7819  
 ATTN: MR. DONALD R. REWIER  
 (443)-367-0422

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 \_\_\_\_\_  
 CHIEF, BUREAU OF HIGHWAYS DATE 6/19/07

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 \_\_\_\_\_  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 6/20/07

\_\_\_\_\_  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 6/21/07



AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS  
 \_\_\_\_\_  
 SIGNATURE  
 16193 2/25/14  
 P.E. NO. DATE

### STORM DRAIN PROFILES WORTHINGTON FIELDS, PHASE 6

LOTS 90-148 AND OPENSOURCE LOT 149, 150 & 151  
 A RESUBDIVISION OF NON-BUILDABLE  
 PARCEL B-4, PHASE 5

TAX MAP 25 BLOCK 20 PARCEL P/O '98'  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

REF.: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1),  
 P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172  
 P-06-006, P-03-07, F-03-207 (PHASE 4), F-04-12, F-05-019, SDP-06-33 (PHASE 5)

## ROBERT H. VOGEL ENGINEERING, INC.

ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET TEL: 410.461.7666  
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RJR/RV  
 DRAWN BY: RJ  
 CHECKED BY: RRV  
 DATE: JUNE 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 201901.00

12 SHEET OF 18



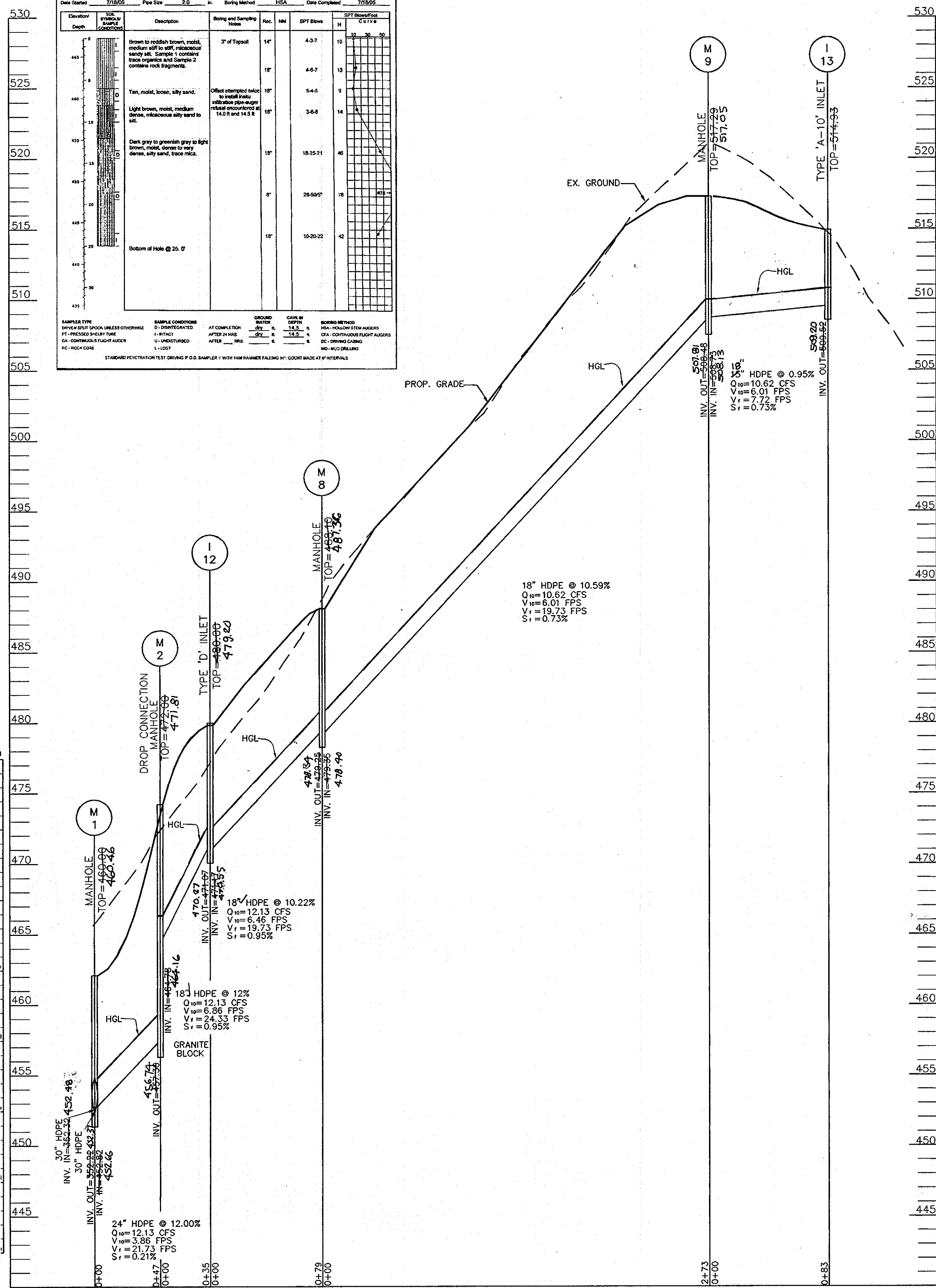
HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Worthington Fields 5 SWM  
Location: Howard County, MD  
Job #: 0618A

Date: 7/15/05  
Scale: 2.0"  
Boring Method: HSA  
Date Completed: 7/15/05

Depth	Soil Description	Boring and Sampling	Moisture	SPT Blows	SPT Blows
0'-0"	0'-10" of Topsoil	1"	14.3	10	10
10'-0"	Tan, moist, loam, silty sand.	1"	14.3	13	13
20'-0"	Light brown, moist, medium dense, silty sand and silty clay.	1"	14.3	14	14
30'-0"	Dark gray to greenish gray to light brown, moist, dense to very dense, silty sand, trace mica.	1"	14.3	18-25-51	45
40'-0"		1"	14.3	26-60-7	18
50'-0"		1"	14.3	10-20-22	42

Bottom of hole @ 50.0'



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

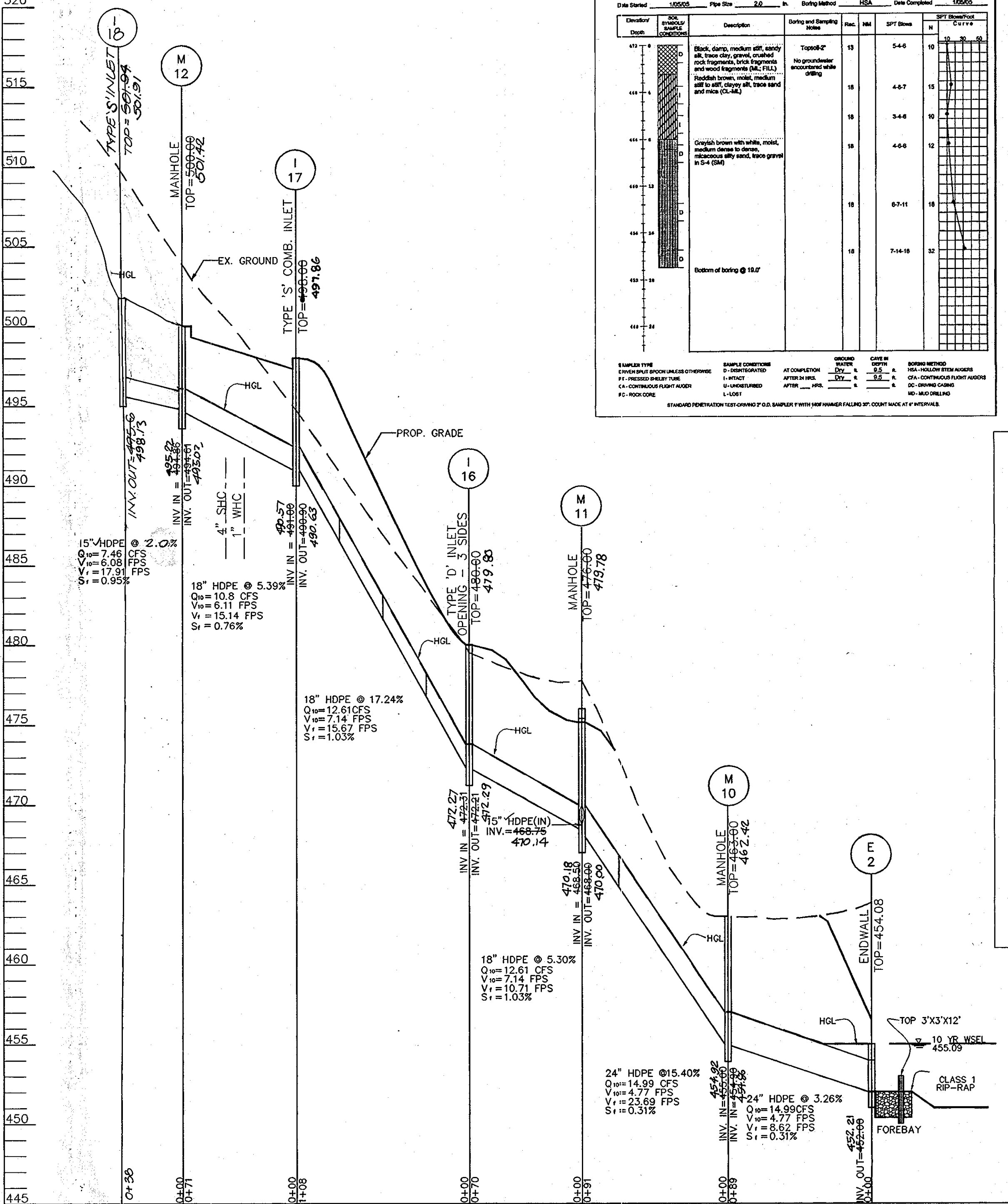
HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Worthington Fields 5 SWM  
Location: Howard County, MD  
Job #: 0618A

Date: 7/15/05  
Scale: 2.0"  
Boring Method: HSA  
Date Completed: 7/15/05

Depth	Soil Description	Boring and Sampling	Moisture	SPT Blows	SPT Blows
0'-0"	Black, dark, medium stiff, silty clay, trace mica, occasional rock fragments, trace lignite and wood fragments (TL, TL1).	1"	14.3	5-6	10
10'-0"	Reddish brown, moist, medium dense to dense, silty sand, trace mica (S4-M).	1"	14.3	6-7	13
20'-0"	Grayish brown with white, moist, medium dense to dense, silty sand, trace mica (S4-M).	1"	14.3	6-8	12
30'-0"		1"	14.3	6-7-11	12
40'-0"		1"	14.3	7-14-5	12

Bottom of boring @ 18.7'



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

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Worthington Fields 5 SWM  
Location: Howard County, MD  
Job #: 0618A

Date: 7/15/05  
Scale: 2.0"  
Boring Method: HSA  
Date Completed: 7/15/05

Depth	Soil Description	Boring and Sampling	Moisture	SPT Blows	SPT Blows
0'-0"	Light brown, medium stiff to silty, micaceous sandy silty clay, trace organic.	1"	14.3	4-6	9
10'-0"	Yellowish, moist, medium dense, micaceous silty sand.	1"	14.3	4-7	13
20'-0"	Tan, moist, dense, silty sand and rock fragments, trace mica.	1"	14.3	15-16-17	31
30'-0"	Light brown to dark gray, moist, medium dense to dense, micaceous silty sand.	1"	14.3	20-21-17	36
40'-0"		1"	14.3	5-6-9	15
50'-0"		1"	14.3	9-15-20	35

Bottom of hole @ 20.7'

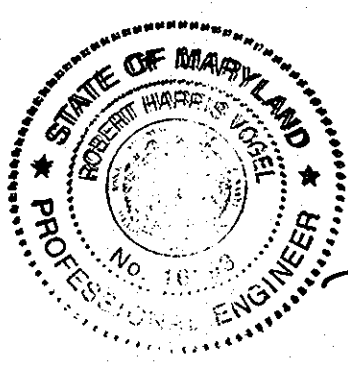
HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Worthington Fields 5 SWM  
Location: Howard County, MD  
Job #: 0618A

Date: 7/15/05  
Scale: 2.0"  
Boring Method: HSA  
Date Completed: 7/15/05

Depth	Soil Description	Boring and Sampling	Moisture	SPT Blows	SPT Blows
0'-0"	Reddish brown, moist, medium stiff to silty, micaceous silty clay, trace organic.	1"	14.3	5-6	10
10'-0"	Reddish brown with white streaks, moist, medium dense to dense, silty sand, trace mica (S4-M).	1"	14.3	5-6	13
20'-0"	Reddish brown with white streaks, moist, medium dense to dense, silty sand, trace mica (S4-M).	1"	14.3	9-14	23
30'-0"	Reddish brown with white streaks, moist, medium dense to dense, silty sand, trace mica (S4-M).	1"	14.3	14-18-18	31
40'-0"	Grayish brown with white, moist, dense, silty sand, trace mica (S4-M).	1"	14.3	15-16-19	31

Bottom of boring @ 21.7'



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

DATE: 10/25/14  
SIGNATURE: [Signature]

OWNER  
TAYLOR FAMILY LIMITED PARTNERSHIP B  
DR. BRUCE TAYLOR  
4100 COLLEGE AVE.  
ELlicott CITY, MARYLAND  
21043-5508  
(410)-483-3674

DEVELOPER  
LAND DESIGN AND DEVELOPMENT  
5300 DORSEY HALL DR STE 102  
ELlicott CITY MD 21042-7819  
ATTN: MR. DONALD R. REUWER  
(443)-367-0422

2	REVISE INLET TYPE FOR I-18	1/21/13
7	REVISE SWALES AND INLET LOCATION	1/20/12
NO.	REVISION	DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
[Signature] 6/19/07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
[Signature] 6/23/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 6/21/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**STORM DRAIN PROFILES  
WORTHINGTON FIELDS, PHASE 6**  
LOTS 90-148 AND OPENSACE LOT 149, 150 & 151  
A RESUBDIVISION OF NON-BUILDABLE  
PARCEL B-4, PHASE 5

TAX MAP 25 BLOCK 20  
2ND ELECTION DISTRICT  
REF: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1),  
P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172  
P-06-006, P-03-07, F-03-207 (PHASE 4), F-04-12, F-05-019, SDP-06-33 (PHASE 5)

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET  
ELlicott CITY, MD 21043  
TEL: 410.461.7666  
FAX: 410.461.8961

DESIGN BY: RJ/RHV  
DRAWN BY: RJ  
CHECKED BY: RHV  
DATE: JUNE 2006  
SCALE: AS SHOWN  
W.O. NO.: 201901.00

13 SHEET OF 18













**LEGEND**

- EXISTING TREES TO REMAIN
- LIGHT POLES- 100 WATT PREMERS
- 15%-24.99% STEEP SLOPE AREA
- 25% OR GREATER STEEP SLOPE AREA
- PROPOSED STREET TREE
- SOILS
- WETLANDS
- 15' NO WOODY VEGETATION BUFFER
- NATURAL AREA CONSERVATION EASEMENT
- EXISTING WETLAND PER PLAT#16204
- VARIABLE WIDTH PUBLIC SIGHT DISTANCE EASEMENT
- FOREST CONSERVATION EASEMENT (RETENTION)
- 20' PRIVATE DRAINAGE & UTILITY EASEMENT
- 10' PUBLIC TREE MAINTENANCE EASEMENT
- PRIVATE SWM EASEMENT
- PUBLIC SEWER, WATER & UTILITY EASEMENT
- 24' PRIVATE ACCESS PLACE EASEMENT
- CL STREAM
- STREAM BUFFER
- LIMIT OF DISTURBANCE
- LANDSCAPE PERIMETER
- FOREST CONSERVATION SIGN

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

DATE: 6/19/08  
 SIGNATURE: [Signature]  
 PROFESSIONAL ENGINEER

**OWNER**  
 TAYLOR FAMILY LIMITED PARTNERSHIP B  
 DR. BRUCE TAYLOR  
 4100 COLLEGE AVE.  
 ELLICOTT CITY, MARYLAND  
 21043-5506  
 (410)-465-3674

**DEVELOPER**  
 LAND DESIGN AND DEVELOPMENT  
 5300 DORSEY HALL DR STE 102  
 ELLICOTT CITY MD 21042-7819  
 ATTN: MR. DONALD R. REUWER  
 (443)-367-0422

DNR QUALIFIED FOREST PROFESSIONAL  
 JOHN CANOLES  
 ECO-SCIENCE PROFESSIONALS, INC.

**DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE**

I/WE CERTIFY THAT LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF THE PROJECT, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

DATE: 6/17/07  
 DEVELOPER'S/OWNER'S NAME: MR. DONALD R. REUWER

**LANDSCAPE AND FOREST CONSERVATION PLAN  
 WORTHINGTON FIELDS, PHASE 6**  
 LOTS 90-148 AND OPENSACE LOT 49, 150 & 151  
 A RESUBDIVISION OF NON-BUILDABLE PARCEL B-4, PHASE 5

TAX MAP 25 BLOCK 20 PARCEL P/O '98'  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

REF: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1),  
 P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172  
 P-06-006, P-03-07, F-03-207 (PHASE 4), P-04-12, F-05-019, SDP-06-33 (PHASE 5)

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.481.8999 FAX: 410.481.8999

DESIGN BY: RJR/HV  
 DRAWN BY: RJ  
 CHECKED BY: RHV  
 DATE: JUNE 2006  
 SCALE: AS SHOWN  
 W.O. NO.: 201901.00

16 SHEET OF 18

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 6/19/07  
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 6/23/07  
 Chief, Division of Land Development

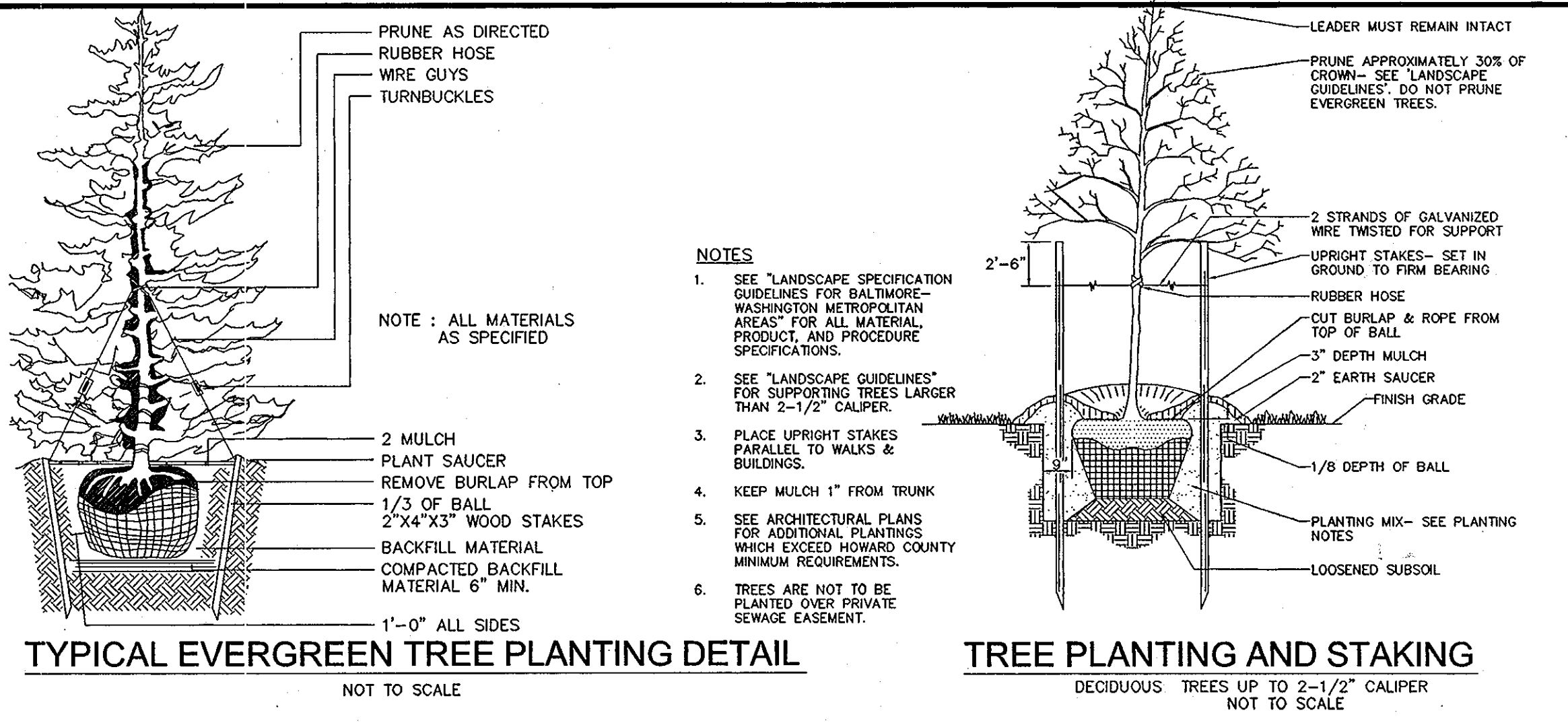
[Signature] 6/21/07  
 Chief, Development Engineering Division

PLAN  
 SCALE: 1"=50'

MATCH LINE - 17 OF 18

AS-BUILT (02-25-14)





**SOILS LEGEND**

SYMBOL	SOIL NAME	HYDRIC SOILS/ HYDRIC INCLUSION	SLOPE QUALITIES	CLASS
BrC3	BRANDYWINE LOAM	HYDRIC INCLUSIONS	8%-15%	C
BrD2	BRANDYWINE LOAM		8%-15%	C
BrD3	BRANDYWINE LOAM		15%-25%	C
ChB2	CHILLUM-FAIRFAX LOAM		15%-25%	B
ChD3	CHILLUM-FAIRFAX LOAM		1%-5%	B
GnB2	GLENVILLE SILT LOAM		5%-15%	C
LgC3	LEGORE SILTY CLAY LOAM		3%-8%	B
MgB2	MANOR GRAVELLY LOAM		8%-15%	B
MgC3	MANOR GRAVELLY LOAM		3%-8%	B
MD3	MANOR LOAM		8%-15%	B
WbB	WATCHUNG SANDY LOAM	HYDRIC INCLUSIONS	15%-25%	D

**DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE**

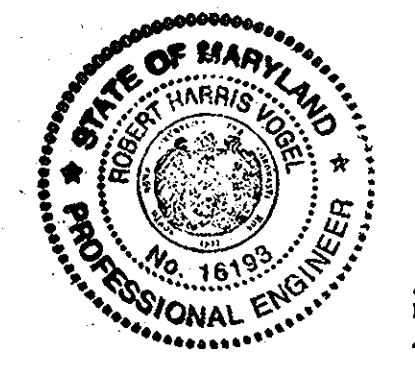
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DEVELOPER'S/OWNER'S NAME: *John Canoles* 06/10/07

*John Canoles*  
DNR QUALIFIED FOREST PROFESSIONAL  
JOHN CANOLES  
ECO-SCIENCE PROFESSIONALS, INC.

**LEGEND**

- EXISTING TREES TO REMAIN
- LIGHT POLES- 100 WATT PREMIERS
- 15%-24.99% STEEP SLOPE AREA
- 25% OR GREATER STEEP SLOPE AREA
- PROPOSED STREET TREE
- SOILS
- WETLANDS
- 15' NO WOODY VEGETATION BUFFER
- NATURAL AREA CONSERVATION EASEMENT
- EXISTING WETLAND PER PLAT #16204
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- FOREST CONSERVATION EASEMENT (RETENTION)
- 20' PRIVATE DRAINAGE & UTILITY EASEMENT
- 10' PUBLIC TREE MAINTENANCE EASEMENT
- PRIVATE SWM EASEMENT
- PUBLIC SEWER, WATER & UTILITY EASEMENT
- 24' PRIVATE ACCESS PLACE EASEMENT
- CL STREAM
- STREAM BUFFER
- LIMIT OF DISTURBANCE
- LANDSCAPE PERIMETER
- FOREST CONSERVATION SIGN
- SILT FENCE
- SUPER SILT FENCE
- EARTHDIKE
- EROSION CONTROL MATTING
- CURB INLET PROTECTION
- MOUNTABLE BERM
- DOUBLE ROW OF SUPER SILT FENCE



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

*Robert H. Vogel*  
SIGNATURE 16193 02/25/14  
DATE

LANDSCAPE AND FOREST CONSERVATION PLAN  
GRADING, SEDIMENT & EROSION CONTROL PLAN  
**WORTHINGTON FIELDS, PHASE 6**  
LOTS 90-148 AND OPENSACE LOT 149, 150 & 151  
A RESUBDIVISION OF NON-BUILDABLE  
PARCEL B-4, PHASE 5

TAX MAP 25 BLOCK 20 PARCEL P/O '98'  
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REF: S-98-18, PB-366 (APP. 6/16/99), P-00-07, F-01-60 (PHASE 1),  
P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172  
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ELlicott CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RJ/RHV	DATE: JUNE 2006	W.O. NO.: 2019011.00
DRAWN BY: RJ	SCALE: AS SHOWN	17 SHEET OF 18
CHECKED BY: RHV		

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Matthew J. Smith* 6-15-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cindy Hamstra* 6/24/10  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*John Canoles* 10/21/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**OWNER**  
TAYLOR FAMILY LIMITED PARTNERSHIP B  
DR. BRUCE TAYLOR  
4100 COLLEGE AVE.  
ELlicott CITY, MARYLAND  
21043-5506  
(410)-465-3674

**DEVELOPER**  
LAND DESIGN AND DEVELOPMENT  
5300 DORSEY HALL DR STE 102  
ELlicott CITY MD 21042-7819  
ATTN: MR. DONALD R. REUWER  
(443)-367-0422



HOWARD COUNTY  
FOREST CONSERVATION WORKSHEET  
PHASE #6

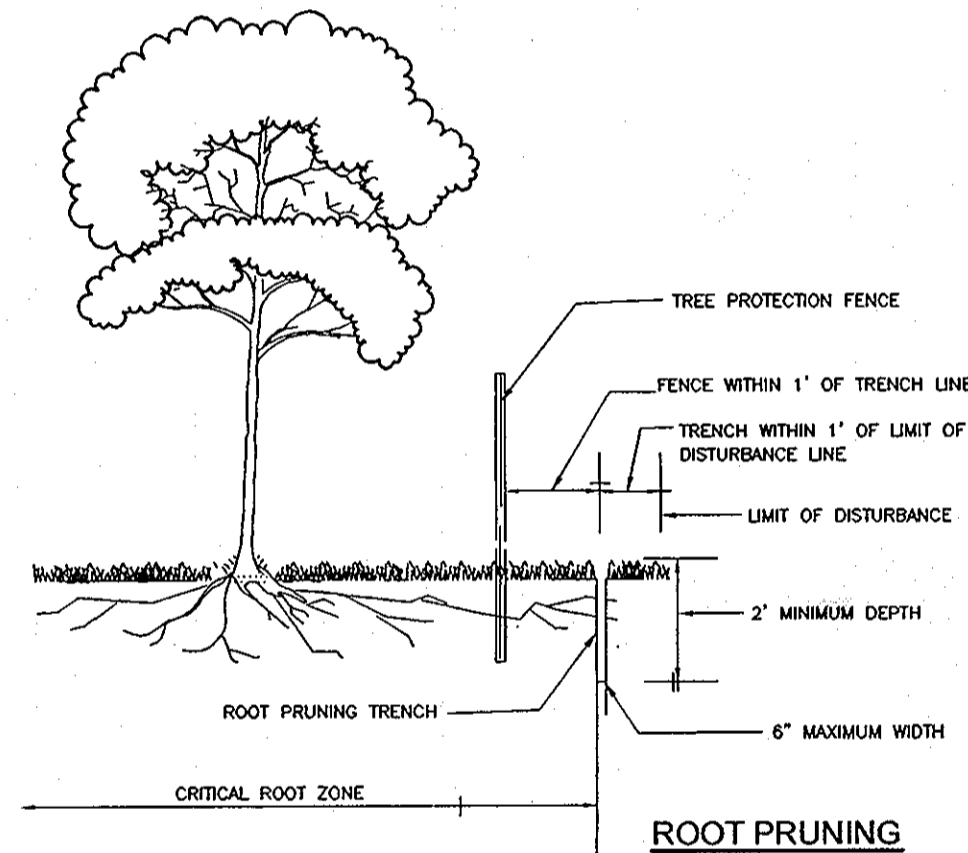
ZONED R-ED  
NET TRACT AREA:  
A. TOTAL TRACT AREA 24.40 AC  
B. AREA WITHIN 100 YEAR FLOODPLAIN 0.00 AC  
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION 0.00 AC  
D. NET TRACT AREA 24.40 AC

LAND USE CATEGORY  
INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY. ZONED R-ED.  
ARA MDR IDA HDR MPD CIA  
0 0 0 1 0 0

E. AFFORESTMENT THRESHOLD 15% X D = 3.66 AC  
F. CONSERVATION THRESHOLD 20% X D = 4.88 AC  
EXISTING FOREST COVER:  
G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN) 19.73 AC  
H. AREA OF FOREST ABOVE AFFORESTMENT THRESHOLD 16.07 AC  
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD 14.83 AC  
BREAK EVEN POINT:  
J. BREAK EVEN POINT 7.85 AC  
K. CLEARING PERMITTED WITHOUT MITIGATION 11.88 AC  
PROPOSED FOREST CLEARING:  
L. TOTAL AREA OF FOREST TO BE CLEARED 13.54 AC  
M. TOTAL AREA OF FOREST TO BE RETAINED 6.19 AC  
PLANTING REQUIREMENTS:  
N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD 3.39 AC  
P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD 0.00 AC  
Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD 1.31 AC  
R. TOTAL REFORESTATION REQUIRED (N+P-Q) 2.08 AC  
S. TOTAL AFFORESTMENT REQUIRED 0.00 AC  
T. TOTAL REFORESTATION AND AFFORESTMENT REQUIRED 2.08 AC

FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION ACT.

FOREST CONSERVATION PLAN PREPARED BY EXPLORATION RESEARCH, INC. DATED OCTOBER, 1999 FOR THE ENTIRE SITE. FOREST STAND DELINEATION PLAN PREPARED BY CHESAPEAKE ENVIRONMENTAL, DATED MARCH 1995 AND APPROVED S-98-18. THE THE FOREST CONSERVATION OBLIGATIONS FOR THE ENTIRE SUBMISSION OF WORTHINGTON FIELDS, PHASE 1-6, HAS BEEN MET BY PROVIDING 20.32 ACRES OF RETENTION IN PHASE 1/F-01-060, A FEE IN LIEU PAYMENT OF \$8,799.12 FOR THE ABANDONMENT OF 8,799.12 SQ.F./0.202 ACRE OF PARTS OF FCE'S 1 AND 5 IN PHASE 1/F-06-077, 6.19 ACRES OF RETENTION IN PHASE 6/F-07-002, FOR A TOTAL OF 26.308 ACRES OF RETENTION PROVIDED. FOREST CONSERVATION SURETY IN THE AMOUNT OF \$53,927.28 HAS BEEN POSTED FOR THE 6.19 ACRES OF RETENTION PROVIDED IN PHASE 6 AS A PART OF THE DEVELOPER'S AGREEMENT FOR F-07-002/PHASE 6.



- NOTES:
- RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
  - BOUNDARIES OF RETENTION AREAS TO BE STAKED, FLAGGED AND/OR FENCED PRIOR TRENCHING.
  - EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED.
  - TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR ORGANIC SOIL.
  - ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.

FOREST CONSERVATION EASEMENT TABLE	
TOTAL RETENTION: 6.19 AC. (PHASE 6)	
TOTAL REFORESTATION: 0 AC. (PHASE 6)	
FOREST CONSERVATION EASEMENT 6	FOREST CONSERVATION EASEMENT 7
RETENTION 5.60 AC. TOTAL	RETENTION 0.59 AC.

PHASES	FOREST CONSERVATION TABULATION (LAND USE: HDR)						ENTIRE SITE
	F-01-60	F-01-206	F-02-170	P-03-07	F-04-012	F-07-002	
TOTAL TRACT AREA	46.05 AC	0.89 AC	2.06 AC	1.20 AC	8.87 AC	24.20 AC	83.27 AC
FLOODPLAIN	1.62 AC	0	0.00 AC	0	0	0	1.62 AC
NET TRACT AREA	44.43 AC	0.89 AC	2.06 AC	1.20 AC	8.87 AC	24.2 AC	81.65 AC
AFFORESTMENT THRESHOLD -15%	6.66 AC	0.13 AC	0.31 AC	0.18 AC	1.30 AC	3.66 AC	12.25 AC
REFORESTATION THRESHOLD -20%	8.89 AC	0.18 AC	0.41 AC	0.24 AC	1.73 AC	4.88 AC	16.33 AC
EX. NET TRACT FOREST AREA	31.37 AC	0	0	0	0	19.73 AC	51.10 AC
BREAK EVEN POINT	13.38 AC	NA	NA	NA	NA	7.85 AC	23.28 AC
RET. W. NO MITIGATION	13.38 AC					7.85 AC	23.28 AC
CLEARING W. MITIGATION	22.48 AC					11.88 AC	27.82 AC
FOREST TO BE CLEARED	11.05 AC					13.54 AC	24.58 AC
FOREST TO BE RETAINED	20.32 AC					6.19 AC	26.308 AC
REFOREST FOR FOREST CLEARED ABOVE THRESHOLD	2.76 AC					3.38 AC	6.14 AC
REFOREST FOR FOREST CLEARED BELOW THRESHOLD	0.00 AC					0	0
CREDIT FOR RETENTION ABOVE THRESHOLD	11.43 AC					1.31 AC	10.19 AC
TOTAL REFORESTATION REQUIRED	0					0	0
TOTAL AFFORESTMENT REQUIRED	NA	0.13 AC	0.31 AC	0.18 AC	1.3 AC	NA	1.92**
TOTAL FOREST REQUIRED	0	0.13 AC	0.31 AC	0.18 AC	1.3 AC	0	0**
PLANTING PROVIDED	0	0**	0**	0**	0**	0	0**

0.202 AC. OF RETENTION IN PHASE 1 ABANDONED PER F-06-077.

FOREST RETENTION AREAS AND NOTES

- FORESTED STREAM AND WETLAND BUFFERS ARE RETAINED IN OPEN SPACE LOTS.
- NO RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED ON THIS SITE.
- FORESTED AREAS ADJACENT TO FLOODPLAINS AND STREAM BUFFERS ARE SUBSTANTIALLY RETAINED IN OPEN SPACE LOTS.
- THERE ARE NO ISOLATED FOREST STANDS ON THIS SITE.
- CHANGES IN GRADING AND RUNOFF WITHIN CONSTRUCTION/INSTALLATION AREAS WILL NOT ADVERSELY AFFECT THE SOILS WITHIN THE FOREST RETENTION AREA. SEDIMENT CONTROL MEASURES WILL REDIRECT CONCENTRATED FLOW RUNOFF TO STORMWATER MANAGEMENT FACILITIES, RETAIN SEDIMENT WITHIN THE CONSTRUCTION SITE, AND/OR REDIRECT CLEAN WATER AWAY FROM CONSTRUCTION AREAS.
- FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE, DPZ AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION WILL BE FULFILLED BY THE RETENTION OF EXISTING FOREST IN THE AMOUNT OF 6.19 ACS.
- THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

FOREST PROTECTION NOTES

- PRE-CONSTRUCTION ACTIVITIES
- FOR RETENTION AREAS, INSTALL BLAZE ORANGE FENCE AND RETENTION SIGNS BEFORE CONSTRUCTION BEGINS.
  - FENCING SHALL BE MAINTAINED IN GOOD CONDITION AND PROMPTLY REPAIRED OR RESTORED AS THE SITUATION WARRANTS.
  - A QUALIFIED TREE CARE EXPERT SHALL DETERMINE IF ROOT PRUNING IS REQUIRED ALONG THE LIMIT OF DISTURBANCE. ROOT PRUNE TREES AS REQUIRED. WATER ANY ROOT-PRUNED TREES IMMEDIATELY AFTER ROOT-PRUNING AND MONITOR FOR SIGNS OF STRESS DURING CONSTRUCTION.

CONSTRUCTION PHASE

- NO DISTURBANCE OR DUMPING IS ALLOWED INSIDE THE TREE RETENTION AREA.
- NO EQUIPMENT SHALL BE OPERATED INSIDE THE TREE RETENTION AREA INCLUDING TREE CANOPIES.
- IN THE EVENT OF DROUGHT, THE PROTECTED TREES SHALL BE MONITORED FOR SIGNS OF STRESS AND WATERED AS NEEDED.

POST-CONSTRUCTION ACTIVITIES

- AT THE DIRECTION OF A QUALIFIED TREE CARE EXPERT, DAMAGES TO RETAINED TREES SHALL BE REPAIRED BY THE CONTRACTOR.
- FENCE REMOVAL AND STABILIZATION SHALL BE AS PER THE SEDIMENT AND EROSION CONTROL PLAN.
- DO NOT REMOVE SIGNS.

COST ESTIMATE: (For bonding purposes, only)

(RETENTION - (6.19 AC.) 269,636.64 SF x .20 = \$53,927.28)  
(REFORESTATION - (0 AC.) SF x .50 = \$0)

SURETY NOTE

FINANCIAL SURETY IN THE AMOUNT OF \$53,927.28 WILL BE POSTED WITH THE DEVELOPER'S AGREEMENT.

SEQUENCE OF CONSTRUCTION-FOREST CONSERVATION

- PRECONSTRUCTION MEETING / SITE WALK WITH CONTRACTORS AND OTHER RESPONSIBLE PARTIES TO DEFINE PROTECTION MEASURES TO BE UTILIZED AND TO POINT OUT PARTICULAR TREES TO BE SAVED.
- STAKE OUT LIMITS OF DISTURBANCE AND TREE PROTECTION FENCING LOCATIONS.
- INSTALL TREE PROTECTION FENCING; FENCING TO BE INSPECTED BY THE PROJECT ENGINEER OR THE PROJECT ECOLOGIST AND HOWARD COUNTY PLANNING AND ZONING.
- TREE REMOVAL AND SITE IMPROVEMENTS AS PER APPROVED FOREST HARVEST PLAN.
- TEMPORARY TREE PROTECTION DEVICES SHALL BE REMOVED AFTER ALL FINISHED GRADING AND UTILITY CONSTRUCTION HAS OCCURRED AND WITH APPROVAL FROM THE HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO FORESTED PROPERTIES				
	A	A	A	A	A
LANDSCAPE TYPE					
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	761 LF	354 LF	653 LF	1296 LF	200 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	No	No	No	YES 1296 LF	YES 69 LF
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	No	No	No	No	No
NUMBER OF PLANTS REQUIRED (SHADE TREES)	1:60 13	1:60 6	1:60 11	1:60 0	1:60 2
NUMBER OF PLANTS PROVIDED (SHADE TREES)	-	-	-	-	-
NUMBER OF PLANTS PROVIDED (OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	13	6	11	0	2

CATEGORY	ADJACENT TO FORESTED PROPERTIES				
	1 LOT 105	2 LOT 103	3 LOT 92	4 LOT 171	5 LOT 171
LANDSCAPE TYPE					
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	104 LF	103 LF	92 LF	171 LF	171 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	No	No	No	No	No
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	No	No	No	No	No
NUMBER OF PLANTS REQUIRED (SHADE TREES)	1:50 2	1:50 2	1:50 1	1:50 3	1:50 3
NUMBER OF PLANTS PROVIDED (SHADE TREES)	1:40 3	1:40 3	1:40 3	1:40 4	1:40 4
NUMBER OF PLANTS PROVIDED (OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	2	2	1	3	3

\*LOT BUFFER TO ADJACENT ROAD AND FINANCIAL SURETY FOR IT TO BE PROVIDED AT SITE DEVELOPMENT STAGE.

PUBLIC ROAD STREET TREE SCHEDULE				
KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
○	110	ACER RUBRUM 'AUTUMN FLAME'	2 1/2"-3" CAL.	B & B

STREET TREE CALCULATIONS			
STREET NAME	LINEAR FEET	NO. REQUIRED	NO. PROVIDED
ACADEMY RD	1824/40	46	46
VINTER WAY	1774/40	44	44
NIGHTENGALE COURT	791/40	20	20
TOTAL		110	110

PLANT LIST

LANDSCAPE SCHEDULE THIS SHEET				
KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
○	32	Acer rubrum 'Red Sunset' Red Sunset Maple (Shade trees) ADJACENT TO PROPERTY PERIMETER 1,2,3,4	2 1/2"-3" Cal.	B & B
○	9	Quercus coccinea Scarlet Oak (Shade trees) SCHEDULE D (SWMF)	2 1/2"-3" Cal.	B & B
★	12	Pinus nigra Austrian Pine (Evergreen trees) SCHEDULE D (SWMF)	6'-8' Ht.	B & B

SCHEDULE D: STORMWATER MANAGEMENT AREA LANDSCAPING-TYPE 'B' BUFFER

CATEGORY	SWMF 1
LINEAR FEET OF PERIMETER	1658'
CREDIT FOR EXISTING VEGETATION (YES, NO, AND LINEAR FEET)	YES* 1195'
CREDIT FOR OTHER LANDSCAPING (YES, NO, AND %)	-
NUMBER OF TREES REQUIRED (SHADE TREES 1:50 EVERGREEN TREES 1:40)	463' 9 12
NUMBER OF TREES PROVIDED (SHADE TREES EVERGREEN TREES SHRUBS)	9 12 -

\*EXISTING WOODS TO REMAIN

GENERAL NOTES

- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LCAWV PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL CLERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

DEVELOPER'S AGREEMENT

STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$33,000.00 TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE REQUIRED, 110 PUBLIC STREET TREES.

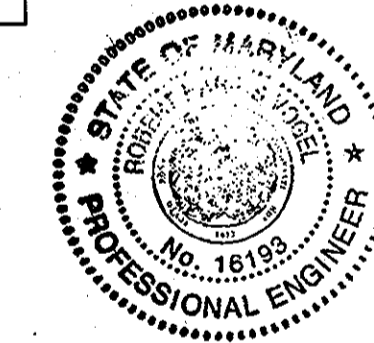
FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING PROVIDED PER THE LANDSCAPE MANUAL TO BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$14,100.00 FOR THE REQUIRED 41 SHADE TREES AND THE REQUIRED 12 EVERGREEN TREES.

DEVELOPER'S LANDSCAPE CERTIFICATE

I/WE CERTIFY THAT LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF THE PROJECT, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Signature: [Signature] 6/7/07  
DEVELOPER'S NAME:

Signature: [Signature] 6/7/07  
UNK QUALIFIED FOREST PROFESSIONAL



AS-BUILT CERTIFICATION  
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.  
Signature: [Signature] 6/19/07  
DATE: 6/19/07

LANDSCAPE AND FOREST CONSERVATION PLAN & DETAILS  
WORTHINGTON FIELDS, PHASE 6  
LOTS 90-148 AND OPENSOURCE LOT 149, 150 & 151  
A RESUBDIVISION OF NON-BUILDABLE PARCEL B-4, PHASE 5 PARCEL P/O '98'  
TAX MAP 25 BLOCK 20 HOWARD COUNTY, MARYLAND  
2ND ELECTION DISTRICT

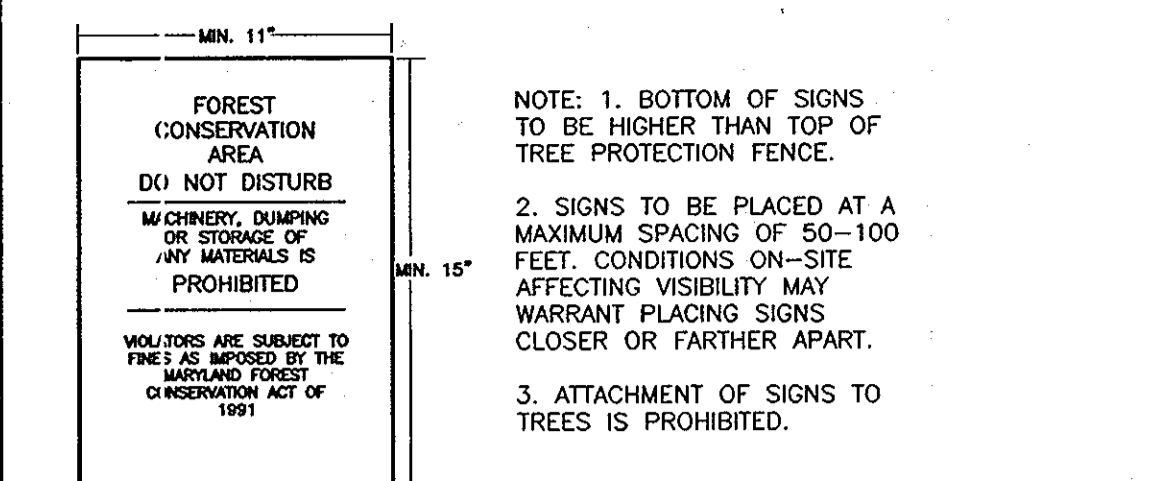
REF.: S-98-18, PB-366 (APP. 5/16/99), P-00-07, F-01-60 (PHASE 1), P-01-01, F-01-206 (PHASE 2), P-02-08, F-02-170 (PHASE 3), F-06-077, F-06-172 P-06-006, P-03-07, F-03-207 (PHASE 4), P-04-12, F-05-019, SDP-06-33 (PHASE 5)

ROBERT H. VOGEL  
ENGINEERING, INC.  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

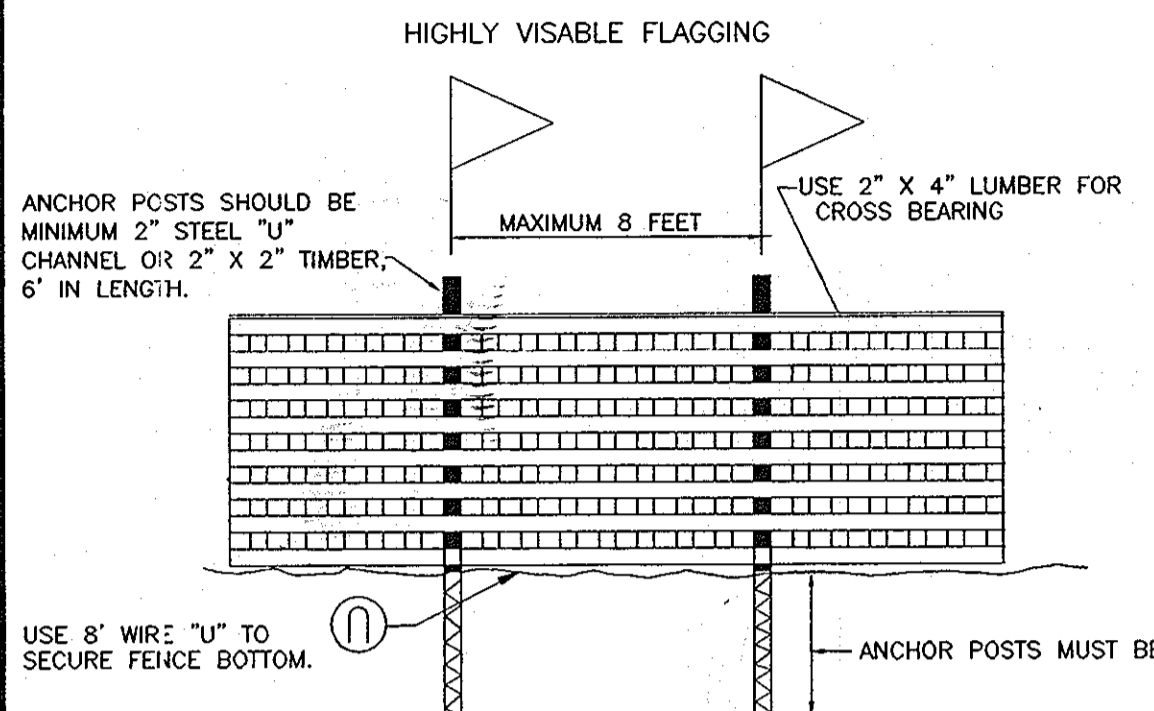
DESIGN BY: RJ/RV	18
DRAWN BY: RJ	SHEET
CHECKED BY: R/V	18
DATE: JUNE 2006	OF
SCALE: AS SHOWN	
W.O. NO.: 2019011.00	

AS-BUILT (02-2514)

F-07-002



- NOTE: 1. BOTTOM OF SIGNS TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.  
2. SIGNS TO BE PLACED AT A MAXIMUM SPACING OF 50-100 FEET. CONDITIONS ON-SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.  
3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.



- NOTES:
- FOREST PROTECTION DEVICE ONLY.
  - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
  - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
  - ROOT DAMAGE SHOULD BE AVOIDED.
- BLAZE ORANGE PLASTIC MESH  
TYPICAL TREE PROTECTION FENCE DETAIL

OWNER  
TAYLOR FAMILY LIMITED PARTNERSHIP B  
DR. BRUCE TAYLOR  
4100 COLLEGE AVE.  
ELLICOTT CITY, MARYLAND  
21043-5506  
(410)-465-3674

DEVELOPER  
LAND DESIGN AND DEVELOPMENT  
5300 DORSEY HALL DR STE 102  
ELLICOTT CITY MD 21042-7819  
ATTN: MR. DONALD R. REIWER  
(443)-367-0422

APPROVED: DEPARTMENT OF PUBLIC WORKS

Signature: [Signature] 6/19/07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: [Signature] 6/22/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Signature: [Signature] 6/21/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE