32. DEVELOPER RESERVES UNTO ITSELF, ITS SUCCESSORS AND ASSIGNS, ALL EASEMENTS SHOWN ON THIS PLAT FOR WATER, SEWER, STORM DRAINAGE, AND OTHER PUBLIC UTILITIES AND FOREST CONSERVATION (DESIGNATED AS "FOREST CONSERVATION EASEMENT"), LOCATED IN, ON, OVER AND THROUGH OPEN SPACE LOTS 25 THRU 28, ANY CONVEYANCE OF AFORESAID PARCEL SHALL BE SUBJECT TO THE EASEMENTS HEREIN RESERVED, WHETHER OR NOT EXPRESSLY STATED IN THE DEED(S) CONVEYING SAID PARCEL. DEVELOPER SHALL EXECUTE AND DELIVER DEEDS FOR THE EASEMENTS HEREIN RESERVED TO HOWARD COUNTY WITH A METES AND BOUNDS DESCRIPTION OF THE FOREST CONSERVATION EASEMENT. UPON COMPLETION OF THE PUBLIC UTILITIES AND THEIR ACCEPTANCE BY HOWARD COUNTY, AND IN THE CASE OF THE FOREST CONSERVATION EASEMENT, UPON COMPLETION OF THE DEVELOPER'S OBLIGATIONS UNDER THE FOREST CONSERVATION INSTALLATION AND MAINTENANCE AGREEMENT EXECUTED BY THE DEVELOPER AND THE COUNTY, AND THE RELEASE OF THE DEVELOPER'S SURETY POSTED WITH SAID AGREEMENT. THE COUNTY SHALL ACCEPT THE EASEMENTS AND RECORD THE DEED(S) OF THE EASEMENT IN THE LAND RECORDS OF HOWARD COUNTY.

33. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION HAVE BEEN MET BY ON-SITE RETENTION OF 1.97 ACRES AND REFORESTATION OF 0.26 ACRES. FINANCIAL SURETY FOR THE 1.97 ACRES (85,813.2 SQ. FT.) OF RETENTION IN THE AMOUNT OF $17,162.64 AND 0.26 ACRES (11,325.6 SQ. FT.) OF REFORESTATION IN THE AMOUNT OF $5,662.80 HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF $22,825.44.

34. THE PURPOSE OF NON-BUILDABLE PARCEL A IS FOR INGRESS/EGRESS FOR PARCELS 706, 708, 711, 709, 710, 699 AND LOT 10A. PARCEL A WILL BE TRANSFERRED AS A FEE-SIMPLE TRANSACTION TO LOT 10A AT NO CHARGE TO LOT 10A SINCE THE LAND TRANSFER IS A REQUIREMENT OF THE SUBDIVISION PROCESS.

35. THIS PROJECT IS A SUBJECT TO A WP-03-63 TO WAIVE SECTIONS: 16.120(b)(4)(iv), 16.120(c)(2)(ii), 16.121(e)(1) AND 16.121(e)(2). APPROVED ON JANUARY 14.2003 SUBJECT TO FOLLOWING CONDITIONS:
   1. PROVIDE A MINIMUM 20' ACCESS EASEMENT TO THE OPEN SPACE 26 WITHOUT OBLIGATION TO DEPARTMENT OF RECREATION AND PARKS TO SHARE IN DRIVEWAY MAINTENANCE.
   2. PROVIDE MINIMUM 24' SHARED ACCESS EASEMENT FOR LOTS 2 & 3, EXTENDED TO THE SOUTHERN BOUNDARY OF LOT 3.
   3. PROVIDE A PEDESTRIAN CROSSING BRIDGE ACROSS THE WETLANDS AND STREAM ON OPEN SPACE LOT 26, OVER THE PROPOSED WATER, SEWER AND UTILITY EASEMENT.

36. APPLICATION WAS APPROVED ON MAY 5, 2004, BY THE MDE NON-TIDAL WETLANDS & WATERWAYS DIVISION FOR THE DRIVEWAY CROSSING OF THE WETLANDS, STREAM, AND THEIR BUFFERS FOR THE INSTALLATION OF A WATER & SEWER MAIN UNDER TRACKING # 03-NT-0509/200460595.

37. ARTICLES OF INCORPORATION FOR "ILCHESTER OAKS HOMEOWNER'S ASSOCIATION, INC". IDENTIFICATION # D10013811. THIS PROPERTY WAS FORMERLY REFERRED TO AS "DOBSON PROPERTY."

38. A WAIVER PETITION WAS FILED ON DECEMBER 18, 2003 REQUESTING TO WAIVE SECTION 16.120(b)(4)(iii)(b) TO ALLOW WETLANDS AND WETLAND BUFFER ON A RESIDENTIAL LOT LESS THAN 10 ACRES IN SIZE IF THE BUILDING ENVELOPE IS NO CLOSER THAN 35 FEET FROM THE ENVIRONMENTAL FEATURES. THE WAIVER, WP-04-85, WAS APPROVED ON FEBRUARY 5, 2004 SUBJECT TO THE FOLLOWING CONDITIONS:
   ON F-03-36 AND THE SUBSEQUENT SITE DEVELOPMENT PLANS, PROVIDE THE FOLLOWING:
   1. PROVIDE THE LOT CONFIGURATION AND NUMBER OF LOTS AS SHOWN ON THE AMENDED EXHIBIT FOR wp-04-85 SUBMITTED TO THE COUNTY ON JANUARY 21,2004.
   2. SHOW THE 35 FOOT ENVIRONMENTAL SETBACK FROM THE WETLAND BUFFER ON LOT 4.
   3. PROVIDE DOCUMENTATION FROM SCD CONCERING THE RELOCATION OF THE SEWER EASEMENT ON OPEN SPACE LOT 25 TO THE ADJACENT SITE.

39. THIS PLAT IS SUBJECT TO THE FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND ZONING REGULATIONS AS AMENDED BY CB 50-2001. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT.

23. THE PROPERTY IS RECORDED AS H0-390, TALBOT'S LAST SHIFT IN THE HOWARD COUNTY HISTORIC SITES INVENTORY. THE ORIGINAL INVENTORY FORM ON THE PROPERTY DATES THE STONE HOUSE TO THE 18TH CENTURY AND THE FRAME ADDITIONS TO THE LATE 19TH CENTURY. THE TWO STORY STONE HOUSE, STONE SPRING HOUSE, AND LOG SMOKEHOUSE ARE TO REMAIN. ALL OTHER STRUCTURES ARE TO BE REMOVED. THE EXISTING STONE HOUSE LOCATED ON LOT 3 HAS AN ADDRESS OF 5231 TALBOTS LANDING ELLICOTT CITY, MARYLAND 21043, AND WILL HAVE A CHANGE OF ADDRESS. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTURED AT A DISTANCE LESS THAN THE CURRENT ZONDING REGULATIONS REQUIRE.

24. OPEN SPACE LOT 26 IS DEDICATED TO HOWARD COUNTY, MARYLAND, AND OPEN SPACE LOTS 23,24,&25 ARE DEDICATED TO THE HOMEOWNERS ASSOCIATION FOR THE RESIDENTS OF THE SUBDIVISION AND RECORDING REFERENCES OF THE ARTICLES OF INCORPORATION AND RESTRICTIONS ARE SHOWN HEREON.

25. LANDSCAPING FOR LOTS 1 THRU 22 IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN AS PART OF CONSTRUCTION DRAWINGS IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE PLAN.

26. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING (38 SHADE TREES, 22 SMALL DECIDUOUS/ORNAMENTAL TREES, 20 EVERGREENS, 18 PRIVATE STREET TREES) HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF $23,100.00.

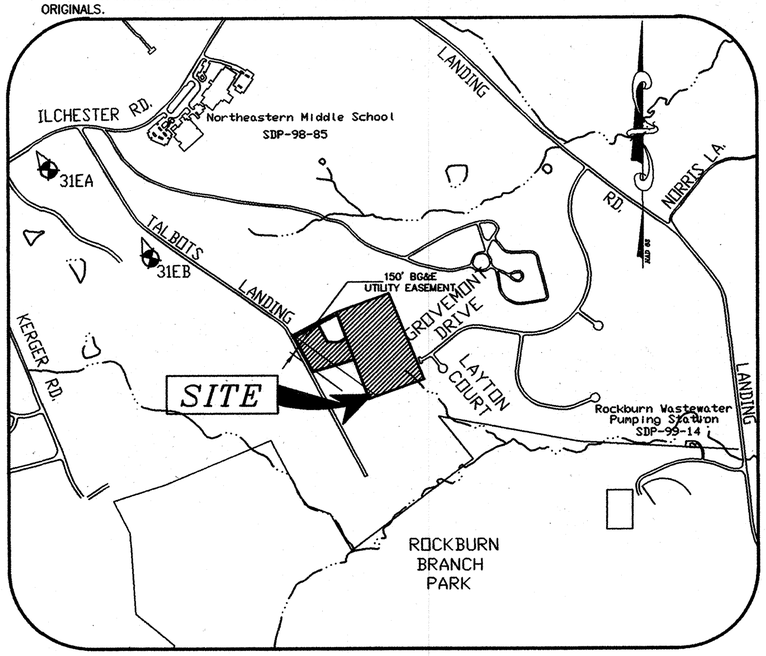
27. THIS SUBDIVISION IS SUBJECT TO SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND SEWER SERVICE TO THESE LOTS HAS BEEN GRANTED UNDER THE TERMS AND PROVISIONS, THEREOF, EFFECTIVE Sept. 3, 2004 ON WHICH DATE DEVELOPER AGREEMENT # 14-4098-D WAS FILED AND ACCEPTED.

28. WETLAND DELINEATION PREPARED BY ECO-SCIENCE PROFESSIONAL, INC. DATED APRIL 2000.

29. THIS PROJECT IS SUBJECT TO THE 5TH EDITION SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND TO THE COUNTY COUNCIL BILL 50-2001 ZONING REGULATIONS AMENDMENT.

30. STORMWATER MANAGEMENT CONTROL WILL BE PROVIDED IN ACCORDANCE WITH THE 2000 MARYALND DESIGN MANUAL. SWM WILL BE PRIVATE.

31. A WAIVER PETITION WAS FILED ON MAY 19, 2004 REQUESTING TO WAIVE SECTION 16.123(a)(2) TO ALLOW ISSUANCE OF A GRADING PERMIT FOR MASS GRADING FOR INFRASTRUCTURE IMPROVEMENTS PRIOR TO SIGNATURE APPROVAL OF CONSTRUCTION DRAWINGS; AND SECTION 16.147(e) TO ALLOW ISSUANCE OF A GRADING PERMIT PRIOR TO SIGNATURE APPROVAL OF THE ROAD CONSTRUCTION DRAWINGS AND EXECUTION OF A DEVELOPER'S AGREEMENT COVERING FINANCIAL OBLIGATIONS WITH APPROPRIATE SECURITY GUARANTEES. THE WAIVER, WP-04-142, WAS APPROVED ON JUNE 16, 2004 SUBJECT TO THE FOLLOWING CONDITIONS:
   1. PROVIDE A GRADING PLAN WITH ALL UTILITIES, PAVEMENT AND STRUCTURES REMOVED TO HOWARD SOIL CONSERVATION DISTRICT.
   2. PRIOR TO COMMENCEMENT OF ANY ACTIVITY ON THE SITE, OBTAIN A GRADING PERMIT TO MASS GRADE THE SITE IN ACCORDANCE WITH THE GRADING SHOWN ON THE WAIVER PETITION EXHIBIT (SHOWING A LIMIT OF DISTURBANCE GENERALLY ALONG THE SITE BOUNDARY AND TO PROTECT THE ENVIRONMENTAL FEATURES ON OPEN SPACE LOT 26).
   3. INSTALL, INSPECT AND MAINTAIN ALL SEDIMENT AND EROSION CONTROLS IN COMPLIANCE WITH THE SOIL CONSERVATION DISTRICT REQUIREMENTS.
   4. COORDINATE THE SITE INSPECTIONS WITH THE CID OF THE DPW. HAVE A QUALIFIED PRIVATE CONSTRUCTION INSPECTOR ON SITE AT ALL TIMES DURING GRADING AND CONSTRUCTION OF ALL INFRASTRUCTURE IMPROVEMENTS.
   5. OBTAIN SIGNED ROAD CONSTRUCTION DRAWINGS AND SIGNED WATER AN SEWER DRAWINGS AND DEVELOPER'S AGREEMENTS AS SOON AS POSSIBLE AND PRIOR TO SUBMISSION OF THE PLAT ORIGINALS.



VICINITY MAP
SCALE: 1"=1000'

GENERAL NOTES

1. PROJECT BACKGROUND:
   LOCATION: FIRST ELECTION DISTRICT – TAX MAP 31, GRID 16 PARCEL 641 & 841
   DEED REFERENCE : 996/245 AND 5889/315, 5091/702.
   ZONING: R-20
   TOTAL TRACT AREA: 13.80 ACRES ±
   AREA OF BG&E UTILITY EASEMENT: 1.08 ACRES ±
   NET AREA: 12.72 ACRES ±
   NUMBER OF PROPOSED LOTS: 26 (22 BUILDABLE & 4 OPEN SPACE)
   ACREAGE OF PROPOSED BUILDABLE LOTS : 6.88 ACRES ±
   ACREAGE OF NON-BUILDABLE PARCEL "A" : 0.21 ACRES ±
   OPEN SPACE REQUIRED : 5.09 ACRES ± (40% OF NET AREA)
   OPEN SPACE PROVIDED : 5.83 ACRES ±
   OPEN SPACE CREDITED : 5.14 ACRES ±
   OPEN SPACE NON-CREDITED : 0.71 ACRES ±
   RECREATIONAL OPEN SPACE REQUIRED (24 UNITSX200 SQ.FT.) : 4,800SQ.FT.
   RECREATIONAL OPEN SPACE PROVIDED : 5,192 SQ. FT.
   PROPOSED ROAD DEDICATION : 0.78 ACRES ±
   AREA OF STEEP SLOPES : N/A
   AREA OF 100 YEAR FLOODPLAIN : N/A
   DPZ REFERENCE # : SP-02-07, WP-03-63
2. THIS PLAT IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED FEBRUARY 2002 BY MILDENBERG, BOENDER & ASSOC, INC.
3. COORDINATES BASED ON NAD '83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 31EA & 31 EB.

STA. No. 31EA	N 569,641.124 E 1,374,815.936	ELEV. 469.604
STA. No. 31EB	N 568,730.984 E 1,376,273.491	ELEV. 453.398

4. ● DENOTES AN IRON PIN OR IRON PIPE FOUND.
   ○ DENOTES ANGULAR CHANGE IN BEARING OF BOUNDARY OR RIGHT-OF-WAY.
   BRL DENOTES A BUILDING RESTRICTION LINE.
5. SURVEY WORK AND DOCUMENTS ARE TO BE PERFORMED IN CONFORMANCE WITH SUBTITLE 13, BOARD OF PROFESSIONAL LAND SURVEYORS, 09.13.06 STATE OF MARYLAND MINIMUM STANDARDS OF PROFESSIONAL PRACTICE.
6. ALL AREAS ARE MORE OR LESS.
7. THIS SUBDIVISION IS IN THE METROPOLITAN DISTRICT.
8. NO BURIAL GROUNDS OR CEMETERIES EXIST ON-SITE.
9. NO STEEP SLOPES, STREAMS, OR FLOODPLAIN EXIST ON-SITE.
10. STORMWATER MANAGEMENT REQUIREMENTS WILL BE BY ON-SITE SAND FILTER AND NATURAL AREA CONSERVATION EASEMENT CREDITS. SWM FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED.
11. THE PROPERTY IS RECORDED AS HO-390, TALBOT'S LAST SHIFT IN THE HOWARD COUNTY HISTORIC SITES INVENTORY. THE ORIGINAL INVENTORY FORM ON THE PROPERTY DATES THE STONE HOUSE TO THE 18TH CENTURY AND THE FRAME ADDITIONS TO THE LATE 19TH CENTURY. THE TWO STORY STONE HOUSE, STONE SPRING HOUSE AND LOG SMOKEHOUSE ARE TO REMAIN. ALL OTHER STRUCTURES ARE TO BE REMOVED. THE HOUSE AND SMOKEHOUSE ARE LOCATED ON LOT 3.
12. DENOTES PRIVATE STORMWATER MANAGEMENT & UTILITY EASEMENT
13. DENOTES PRIVATE USE IN COMMON ACCESS PLACE EASEMENT.
14. DENOTES PUBLIC SEWER, WATER, DRAINAGE & UTILITY EASEMENT
14A. DENOTES PRIVATE DRAINAGE & UTILITY EASEMENT
15. DENOTES FOREST CONSERVATION (RETENTION) CREDIT EASEMENT
16. DENOTES FOREST CONSERVATION (REFORESTATION CREDIT EASEMENT
17. DENOTES WETLANDS
18. DENOTES NON-CREDITED OPEN SPACE
19. DENOTES PUBLIC TREE MAINTENANCE EASEMENT
20. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
   A) WIDTH – 12 FEET (14 FEET SERVING MORE THAN ONE RESIDENT).
   B) SURFACE – 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING.
   C) GEOMETRY – MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45-FOOT TURNING RADIUS.
   D) STRUCTURES (CULVERT/BRIDGES) – CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
   E) DRAINAGE ELEMENTS – CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
   F) STRUCTURE CLEARANCES – MINIMUM 12 FEET
   G) MAINTENANCE – SUFFICIENT TO ENSURE ALL WEATHER USE.
21. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.
22. THE 4'X10' CONCRETE REFUSE AND RECYCLE COLLECTION PLAD (6 INCHES IN DEPTH) WITHIN THE PUBLIC RIGHT-OF-WAY WILL BE MAINTAINED BY THE OWNERS OF LOTS 4-10 PURSUANT TO THE DECLARATION OF RIGHT OF ACCESS AND MAINTENANCE OBLIGATIONS RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND.

THE REQUIREMENTS OF art. 3-108, THE REAL PROPERTY ARTICLE, ANNOTATED CODE OF MARYLAND, 1988 REPLACEMENT VOLUME (AS SUPPLEMENTED) AS FAR AS THEY RELATE TO THE MAKING OF THIS PLAT AND THE SETTING OF MARKERS HAVE BEEN COMPLIED WITH.

JOHN B. MILDENBERG, SURVEYOR — DATE 9/8/04

DONALD REUWER, PRESIDENT — DATE 9/8/04

AREA TABULATION

NUMBER OF BUILDABLE LOTS	22
NUMBER OF OPEN SPACE LOTS	4
NUMBER OF LOTS OR PARCELS	26
AREA OF BUILDABLE LOTS	3.57
AREA OF OPEN SPACE LOTS	5.99 ±
PUBLIC ROAD RIGHT-OF-WAY	0.78 ±
TOTAL AREA (THIS SHEET)	13.80 ±

FOREST CONSERVATION EASEMENTS

ID	ACREAGE	TYPE
FCE A	1.11 ACRES	RETENTION
FCE B	0.08 ACRES	REFORESTATION
FCE C	0.18 ACRES	REFORESTATION
FCE D	0.86 ACRES	RETENTION

OWNER AND DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
c/o DONALD REUWER
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043
410-480-9105

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

HOWARD COUNTY HEALTH OFFICER — DATE 10/18/04

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/5/04

DIRECTOR — DATE 10/21/04

OWNER'S CERTIFICATE

WE, ELLICOTT CITY LAND HOLDING, INC., OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION, AND IN CONSIDERATION OF THE APPROVAL OF THIS FINAL PLAT BY THE DEPARTMENT OF PLANNING AND ZONING, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINES AND GRANT UNTO HOWARD COUNTY, MARYLAND, ITS SUCCESSORS AND ASSIGNS, 1) THE RIGHT TO LAY, CONSTRUCT AND MAINTAIN SEWERS, DRAINS, WATER PIPES AND OTHER MUNICIPAL UTILITIES AND SERVICES IN AND UNDER ALL ROADS AND STREET RIGHT-OF-WAYS AND THE SPECIFIC EASEMENTS SHOWN HEREON, 2) THE RIGHT TO REQUIRE DEDICATION FOR PUBLIC USE THE BEDS OF THE STREETS AND/OR ROADS AND FLOODPLAINS AND OPEN SPACE WHERE APPLICABLE, AND FOR GOOD AND OTHER VALUABLE CONSIDERATION, HEREBY GRANT THE RIGHT AND OPTION TO HOWARD COUNTY TO ACQUIRE THE FEE SIMPLE TITLE TO THE BEDS OF THE STREETS AND/OR ROADS AND FLOODPLAINS, STORM DRAINAGE FACILITIES AND OPEN SPACE WHERE APPLICABLE , 3) THE RIGHT TO REQUIRE DEDICATION OF WATERWAY AND DRAINAGE EASEMENTS FOR THE SPECIFIC PURPOSE OF THEIR CONSTRUCTION, REPAIR AND MAINTENANCE, AND 4) THAT NO BUILDING OR SIMILAR STRUCTURE OF ANY KIND SHALL BE ERECTED ON OR OVER THE SAID EASEMENT AND RIGHTS-OF-WAY.

WITNESS MY HAND THIS 8th DAY OF Sept 2004

DONALD REUWER, PRESIDENT — WITNESS

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE FINAL PLAT SHOWN HEREON IS CORRECT; THAT IT IS A SUBDIVISION OF LAND CONVEYED BY DEBORAH ELLGARD & ROBERT HARTZELL TO ELLICOTT CITY LAND HOLDING, INC., BY DEED DATED SEPTEMBER 29, 2003 AND RECORDED AMONG THE LAND RECORDS FOR HOWARD COUNTY IN LIBER 7702 AT FOLIO 558 AND THE ESTATE OF KENNARD S. & CHARLOTTE DOBSON TO ELLICOTT CITY LAND HOLDING, INC., BY DEED DATED SEPTEMBER 29, 2003 AND RECORDED AMONG THE LAND RECORDS FOR HOWARD COUNTY IN LIBER 7702 AND FOLIO 553 AND THAT ALL MONUMENTS ARE IN PLACE OR WILL BE IN PLACE PRIOR TO THE ACCEPTANCE OF THE STREETS IN THE SUBDIVISION BY HOWARD COUNTY AS SHOWN IN ACCORDANCE WITH THE ANNOTATED CODE OF MARYLAND AS AMENDED, AND THE BOUNDARY SURVEY IS IN ACCORDANCE WITH THE HOWARD COUNTY SUBDIVISION REGULATIONS.

STATE OF MARYLAND — JOHN B. MILDENBERG — NO. 10718 — PROFESSIONAL LAND SURVEYOR

JOHN B. MILDENBERG, MD. REG. NO. 10718 — DATE 9/8/04

RECORDED AS PLAT 17005 ON 10/28/04 AMONG THE LAND RECORDS OF HOWARD COUNTY, MD.

ILCHESTER OAKS
LOTS 1 THRU 22 AND OPEN SPACE LOTS 23 THRU 26 & NON-BUILDABLE PARCEL "A"

SHEET 1 OF 4

TAX MAP 31 PARCEL NO. 641 & 841 GRID 16	1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND EX. ZONING R-20	SCALE : 1"=50' DATE : SEPTEMBER 2004 DPZ FILE NOS. SP-02-07 WP-03-63 WP-04-85

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

F-04-36

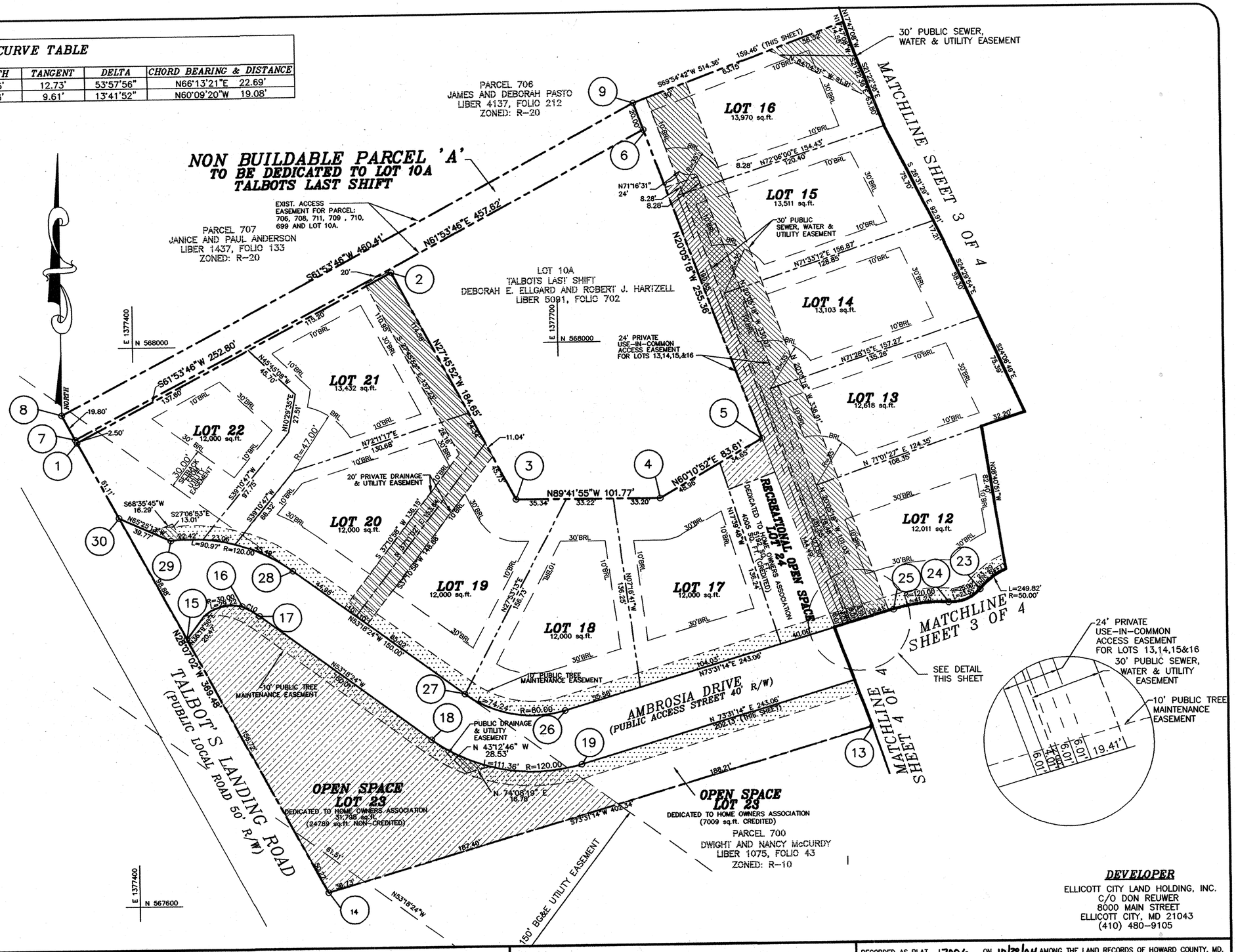
H:\02-007\dwg\final\007-final plat.dwg

COORDINATE LIST		
NO.	NORTH	EAST
1	567,932.346	1,377,360.073
2	568,051.433	1,377,583.067
3	567,888.043	1,377,669.083
4	567,887.508	1,377,770.850
5	567,929.086	1,377,843.395
6	568,150.125	1,377,762.558
7	567,934.554	1,377,358.893
8	567,952.021	1,377,349.560
9	568,168.908	1,377,755.688
13	567,722.805	1,377,918.834
14	567,608.673	1,377,533.022
15	567,791.238	1,377,435.472
16	567,816.382	1,377,470.383
17	567,806.886	1,377,486.933
18	567,717.252	1,377,607.217
19	567,698.402	1,377,712.961
23	567,819.572	1,377,996.182
24	567,810.530	1,377,973.829
25	567,805.709	1,377,934.692
26	567,736.759	1,377,701.614
27	567,749.325	1,377,631.118
28	567,838.960	1,377,510.834
29	567,861.908	1,377,425.038
30	567,878.452	1,377,388.870

NOTE: COORDINATES AND GRID TICKS SHOWN HEREON ARE BASED ON NAD'83 AND ARE IN FEET. TO CONVERT TO METERS DIVIDE BY 3.2808333.

MINIMUM LOT SIZE CHART			
LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
13	12,618 SQ. FT.	606 SQ. FT.	12,012 SQ. FT.
14	13,103 SQ. FT.	1,058 SQ. FT.	12,045 SQ. FT.
15	13,511 SQ. FT.	1,509 SQ. FT.	12,002 SQ. FT.
16	13,970 SQ. FT.	1,966 SQ. FT.	12,004 SQ. FT.
21	13,432 SQ. FT.	1,432 SQ. FT.	12,000 SQ. FT.

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD BEARING & DISTANCE
C7	25.00'	23.55'	12.73'	53°57'56"	N66°13'21"E 22.69'
C10	80.00'	19.13'	9.61'	13°41'52"	N60°09'20"W 19.08'



THE REQUIREMENTS OF ART. 3-108, THE REAL PROPERTY ARTICLE, ANNOTATED CODE OF MARYLAND, 1988 REPLACEMENT VOLUME (AS SUPPLEMENTED) AS FAR AS THEY RELATE TO THE MAKING OF THIS PLAT AND THE SETTING OF MARKERS HAVE BEEN COMPLIED WITH.

JOHN B. MILDENBERG, SURVEYOR — DATE 9/2/04

DONALD REUWER, PRESIDENT — DATE 9/14/04

AREA TABULATION

NUMBER OF BUILDABLE LOTS (THIS SHEET)	11
NUMBER OF OPEN SPACE LOTS (THIS SHEET)	2
NUMBER OF LOTS OR PARCELS (THIS SHEET)	13
AREA OF BUILDABLE LOTS (THIS SHEET)	3.18 ±
AREA OF OPEN SPACE LOTS (THIS SHEET)	0.85 ±
PUBLIC ROAD RIGHT-OF-WAY (THIS SHEET)	0.00 ±
TOTAL AREA (THIS SHEET)	4.03 ±

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

HOWARD COUNTY HEALTH OFFICER — DATE 10/18/04

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/5/04

DIRECTOR — DATE 10/20/04

OWNER'S CERTIFICATE

WE, ELLICOTT CITY LAND HOLDING, INC., OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION, AND IN CONSIDERATION OF THE APPROVAL OF THIS FINAL PLAT BY THE DEPARTMENT OF PLANNING AND ZONING, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINES AND GRANT UNTO HOWARD COUNTY, MARYLAND, ITS SUCCESSORS AND ASSIGNS, 1) THE RIGHT TO LAY, CONSTRUCT AND MAINTAIN SEWERS, DRAINS, WATER PIPES AND OTHER MUNICIPAL UTILITIES AND SERVICES IN AND UNDER ALL ROADS AND STREET RIGHT-OF-WAYS AND THE SPECIFIC EASEMENTS SHOWN HEREON, 2) THE RIGHT TO REQUIRE DEDICATION FOR PUBLIC USE. THE BEDS OF THE STREETS AND/OR ROADS AND FLOODPLAINS AND OPEN SPACE WHERE APPLICABLE, AND FOR GOOD AND OTHER VALUABLE CONSIDERATION, HEREBY GRANT THE RIGHT AND OPTION TO HOWARD COUNTY TO ACQUIRE THE FEE SIMPLE TITLE TO THE BEDS OF THE STREETS AND/OR ROADS AND FLOODPLAINS, STORM DRAINAGE FACILITIES AND OPEN SPACE WHERE APPLICABLE, 3) THE RIGHT TO REQUIRE DEDICATION OF WATERWAY AND DRAINAGE EASEMENTS FOR THE SPECIFIC PURPOSE OF THEIR CONSTRUCTION, REPAIR AND MAINTENANCE, AND 4) THAT NO BUILDING OR SIMILAR STRUCTURE OF ANY KIND SHALL BE ERECTED ON OR OVER THE SAID EASEMENT AND RIGHTS-OF-WAY.

WITNESS MY HAND THIS 8th DAY OF Sept 2004

DONALD REUWER, PRESIDENT — WITNESS

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE FINAL PLAT SHOWN HEREON IS CORRECT; THAT IT IS A SUBDIVISION OF LAND CONVEYED BY DEBORAH ELLGARD & ROBERT HARTZELL TO ELLICOTT CITY LAND HOLDING, INC., BY DEED DATED SEPTEMBER 29, 2003 AND RECORDED AMONG THE LAND RECORDS FOR HOWARD COUNTY IN LIBER 7702 AT FOLIO 558 AND THE ESTATE OF KENNARD S. & CHARLOTTE DOBSON TO ELLICOTT CITY LAND HOLDING, INC., BY DEED DATED SEPTEMBER 29, 2003 AND RECORDED AMONG THE LAND RECORDS FOR HOWARD COUNTY IN LIBER 7702 AND FOLIO 553 AND THAT ALL MONUMENTS ARE IN PLACE OR WILL BE IN PLACE PRIOR TO THE ACCEPTANCE OF THE STREETS IN THE SUBDIVISION BY HOWARD COUNTY AS SHOWN IN ACCORDANCE WITH THE ANNOTATED CODE OF MARYLAND AS AMENDED, AND THE BOUNDARY SURVEY IS IN ACCORDANCE WITH THE HOWARD COUNTY SUBDIVISION REGULATIONS.

STATE OF MARYLAND — JOHN B. MILDENBERG — No. 10718 — REGISTERED PROFESSIONAL LAND SURVEYOR

JOHN B. MILDENBERG, L.S. NO. 10718 — DATE 9/2/04

DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

RECORDED AS PLAT 17006 ON 10/28/04 AMONG THE LAND RECORDS OF HOWARD COUNTY, MD.

ILCHESTER OAKS
LOTS 1 THRU 22 AND OPEN SPACE LOTS 23 THRU 26 & NON-BUILDABLE PARCEL "A"

SHEET 2 OF 4

TAX MAP 31	1st ELECTION DISTRICT	SCALE : 1"=50'
PARCEL NO. 641 & 841	HOWARD COUNTY, MARYLAND	DATE : SEPTEMBER 2004
GRID 16	EX. ZONING R-20	DPZ FILE NOS. SP-02-07, WP-03-63, WP-04-85

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

H:\02-007\dwg\final\007-rp-1.dwg

F-04-36

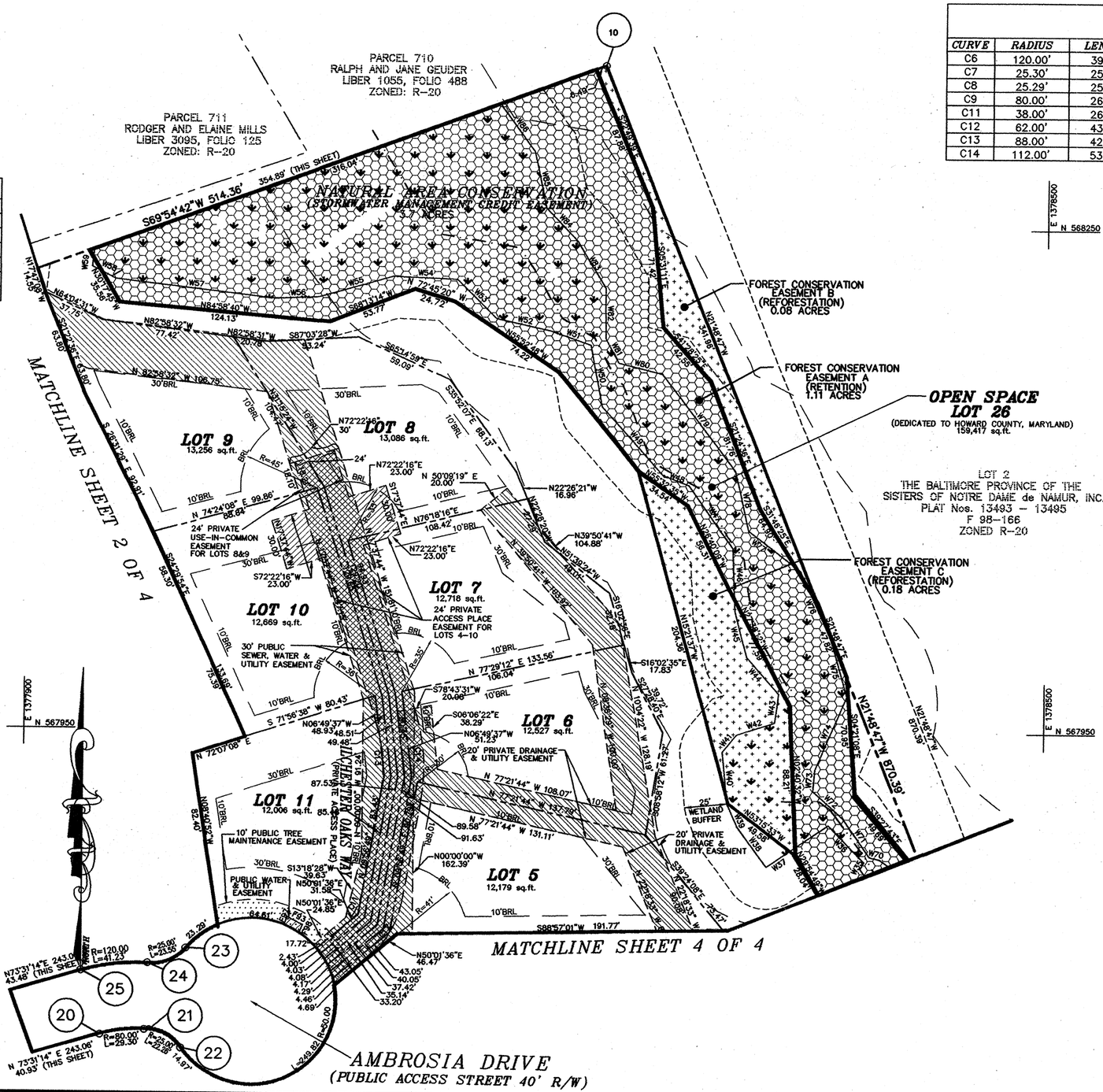
COORDINATE LIST		
NO.	NORTH	EAST
10	568,345.572	1,378,238.754
20	567,767.352	1,377,946.039
21	567,770.566	1,377,972.130
22	567,759.642	1,377,993.647
23	567,819.572	1,377,996.182
24	567,810.530	1,377,973.829
25	567,805.709	1,377,934.692

NOTE: COORDINATES AND GRID TICKS SHOWN HEREON ARE BASED ON NAD'83 AND ARE IN FEET. TO CONVERT TO METERS DIVIDE BY 3.2808333.

MINIMUM LOT SIZE CHART			
LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
5	12,179 SQ. FT.	179 SQ. FT.	12,000 SQ. FT.
6	12,527 SQ. FT.	527 SQ. FT.	12,000 SQ. FT.
7	12,718 SQ. FT.	718 SQ. FT.	12,000 SQ. FT.
8	13,086 SQ. FT.	1,079 SQ. FT.	12,007 SQ. FT.
9	13,226 SQ. FT.	1,198 SQ. FT.	12,028 SQ. FT.
10	12,669 SQ. FT.	663 SQ. FT.	12,006 SQ. FT.

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD BEARING & DISTANCE
C6	120.00'	39.61'	19.99'	18°54'49"	S82°58'39"W 39.43'
C7	25.30'	25.15'	13.73'	56°58'32"	N67°57'07"E 24.13'
C8	25.29'	25.15'	13.73'	56°58'57"	N63°05'00"W 24.13'
C9	80.00'	26.41'	13.33'	18°54'49"	S82°58'39"W 26.29'
C11	38.00'	26.58'	13.86'	40°04'47"	N29°59'12"E 26.04'
C12	62.00'	43.37'	22.62'	40°04'47"	N29°59'12"E 42.49'
C13	88.00'	42.35'	21.60'	27°34'33"	N03°50'27"W 41.95'
C14	112.00'	53.90'	27.48'	27°34'33"	N03°50'27"W 53.39'

LINE TABLE		
LINE	LENGTH	BEARING
W34	25.03	N38°21'55"W
W35	4.53	N31°21'28"E
W36	30.67	N44°07'44"W
W37	44.05	S55°39'26"W
W38	29.42	N36°19'19"W
W39	14.75	N23°55'56"W
W40	30.65	N05°43'28"W
W41	13.52	N39°10'14"E
W42	23.21	N72°16'16"E
W43	17.47	N07°48'15"E
W44	29.02	N41°10'55"W
W45	28.43	N14°37'01"W
W46	37.49	N02°24'49"W
W47	45.40	N35°10'49"W
W48	16.48	N68°40'57"W
W49	54.61	N41°34'27"W
W50	37.05	N10°45'15"W
W51	24.90	N70°08'45"W
W52	32.89	N77°24'36"W
W53	32.96	N45°01'41"W
W54	37.86	N87°46'57"W
W55	44.23	S73°53'30"W
W56	26.64	S87°29'06"W
W57	94.52	N83°23'04"W
W58	15.58	N62°27'15"W
W59	11.33	N06°45'49"E
W69	27.80	S53°10'31"E
W70	6.40	S76°06'37"E
W71	28.01	S35°15'47"E
W72	23.83	S47°37'12"E
W73	12.59	S04°25'42"W
W74	47.51	S22°46'34"W
W75	35.36	S16°04'12"E
W76	44.71	S24°01'23"E
W77	38.92	S52°21'27"E
W78	36.23	S12°40'51"E
W79	72.18	S37°06'34"E
W80	26.56	S75°45'37"E
W81	16.52	S28°32'28"E
W82	30.08	S00°23'25"E
W83	32.64	S30°43'02"E
W84	26.86	S43°46'19"E
W85	33.87	S11°48'28"E
W86	34.71	S36°37'57"E



THE REQUIREMENTS OF §3-108, THE REAL PROPERTY ARTICLE, ANNOTATED CODE OF MARYLAND, 1988 REPLACEMENT VOLUME (AS SUPPLEMENTED) AS FAR AS THEY RELATE TO THE MAKING OF THIS PLAT AND THE SETTING OF MARKERS HAVE BEEN COMPLIED WITH.

JOHN B. MILDENBERG, SURVEYOR — DATE 9/8/04

DONALD REUWER, PRESIDENT — DATE 9/15/04

AREA TABULATION

NUMBER OF BUILDABLE LOTS	7
NUMBER OF OPEN SPACE LOTS	1
NUMBER OF LOTS OR PARCELS	8
AREA OF BUILDABLE LOTS	2.03 ±
AREA OF OPEN SPACE LOTS	1.95 ±
PUBLIC ROAD RIGHT-OF-WAY	0.0 ±
TOTAL AREA (THIS SHEET)	3.98 ±

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

HOWARD COUNTY HEALTH OFFICER — DATE 10/18/04

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/5/04

DIRECTOR — DATE 10/21/04

OWNER'S CERTIFICATE

WE, ELLICOTT CITY LAND HOLDING, INC., OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION, AND IN CONSIDERATION OF THE APPROVAL OF THIS FINAL PLAT BY THE DEPARTMENT OF PLANNING AND ZONING, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINES AND GRANT UNTO HOWARD COUNTY, MARYLAND, ITS SUCCESSORS AND ASSIGNS, 1) THE RIGHT TO LAY, CONSTRUCT AND MAINTAIN SEWERS, DRAINS, WATER PIPES AND OTHER MUNICIPAL UTILITIES AND SERVICES IN AND UNDER ALL ROADS AND STREET RIGHT-OF-WAYS AND THE SPECIFIC EASEMENTS SHOWN HEREON, 2) THE RIGHT TO REQUIRE DEDICATION FOR PUBLIC USE. THE BEDS OF THE STREETS AND/OR ROADS AND FLOODPLAINS AND OPEN SPACE WHERE APPLICABLE, AND FOR GOOD AND OTHER VALUABLE CONSIDERATION, HEREBY GRANT THE RIGHT AND OPTION TO HOWARD COUNTY TO ACQUIRE THE FEE SIMPLE TITLE TO THE BEDS OF THE STREETS AND/OR ROADS AND FLOODPLAINS, STORM DRAINAGE FACILITIES AND OPEN SPACE WHERE APPLICABLE, 3) THE RIGHT TO REQUIRE DEDICATION OF WATERWAY AND DRAINAGE EASEMENTS FOR THE SPECIFIC PURPOSE OF THEIR CONSTRUCTION, REPAIR AND MAINTENANCE, AND 4) THAT NO BUILDING OR SIMILAR STRUCTURE OF ANY KIND SHALL BE ERECTED ON OR OVER THE SAID EASEMENT AND RIGHTS-OF-WAY.

WITNESS MY HAND THIS 8th DAY OF Sept 2004

DONALD REUWER, PRESIDENT — WITNESS

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE FINAL PLAT SHOWN HEREON IS CORRECT; THAT IT IS A SUBDIVISION OF LAND CONVEYED BY DEBORAH ELLGARD & ROBERT HARTZELL TO ELLICOTT CITY LAND HOLDING, INC., BY DEED DATED SEPTEMBER 29, 2003 AND RECORDED AMONG THE LAND RECORDS FOR HOWARD COUNTY IN LIBER 7702 AT FOLIO 558 AND THE ESTATE OF KENNARD S. & CHARLOTTE DOBSON TO ELLICOTT CITY LAND HOLDING, INC., BY DEED DATED SEPTEMBER 29, 2003 AND RECORDED AMONG THE LAND RECORDS FOR HOWARD COUNTY IN LIBER 7702 AND FOLIO 553 AND THAT ALL MONUMENTS ARE IN PLACE OR WILL BE IN PLACE PRIOR TO THE ACCEPTANCE OF THE STREETS IN THE SUBDIVISION BY HOWARD COUNTY AS SHOWN IN ACCORDANCE WITH THE ANNOTATED CODE OF MARYLAND AS AMENDED, AND THE BOUNDARY SURVEY IS IN ACCORDANCE WITH THE HOWARD COUNTY SUBDIVISION REGULATIONS.

STATE OF MARYLAND — JOHN B. MILDENBERG — No. 10718 — REGISTERED PROFESSIONAL LAND SURVEYOR

JOHN B. MILDENBERG, L.S. NO. 10718 — DATE 9/8/04

DEVELOPER
ELLICOTT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

RECORDED AS PLAT 17007 ON 10/28/04 AMONG THE LAND RECORDS OF HOWARD COUNTY, MD.

ILCHESTER OAKS
LOTS 1 THRU 22 AND OPEN SPACE LOTS 23 THRU 26 & NON-BUILDABLE PARCEL "A"

SHEET 3 OF 4

TAX MAP 31
PARCEL NO. 641 & 841
GRID 16

1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
EX. ZONING R-20

SCALE : 1"=50'
DATE : SEPTEMBER 2004
DPZ FILE NOS. SP-02-07
WP-03-63
WP-04-85

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

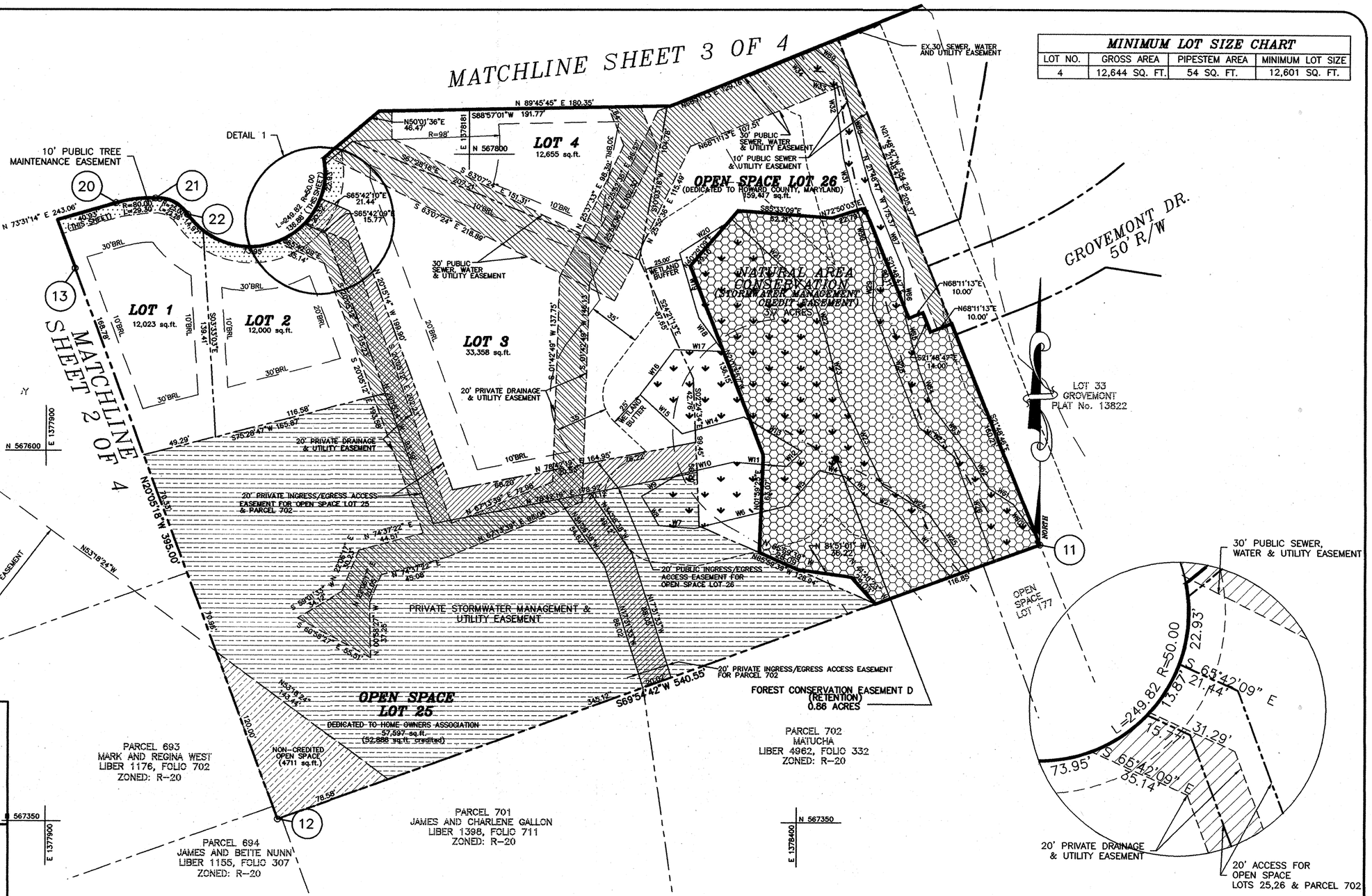
H:\02-007\dwg\final\007-rp-2.dwg

COORDINATE LIST		
NO.	NORTH	EAST
11	567,537.497	1,378,562.173
12	567,351.835	1,378,054.504
13	567,722.805	1,377,918.834
20	567,767.352	1,377,946.039
21	567,770.566	1,377,972.130
22	567,759.642	1,377,993.647

NOTE: COORDINATES AND GRID TICKS SHOWN HEREON ARE BASED ON NAD'83 AND ARE IN FEET. TO CONVERT TO METERS DIVIDE BY 3.2808333.

LINE TABLE		
LINE	LENGTH	BEARING
W1	60.21	N40°09'06"W
W2	14.36	N71°04'28"W
W3	25.17	N47°30'41"W
W4	17.61	N77°17'37"W
W5	31.29	S40°47'40"W
W6	64.52	S76°10'07"W
W7	23.94	N85°04'20"W
W8	22.72	N29°47'40"W
W9	28.17	N58°21'04"E
W10	38.00	N77°25'47"E
W11	35.32	S85°23'11"E
W12	14.49	N46°39'15"E
W13	45.30	N59°03'51"W
W14	42.70	S74°46'53"W
W15	38.17	N47°10'19"W
W16	37.98	N36°56'14"E
W17	32.41	S88°01'06"E
W18	28.02	N35°29'21"W
W19	45.39	N16°25'20"W
W20	41.55	N56°44'31"E
W21	74.13	S46°33'49"E
W22	35.37	S17°19'35"E
W23	68.43	S25°18'43"E
W23	33.28	S13°14'24"E
W24	35.96	S58°03'38"E
W25	46.91	S35°03'49"E
W26	75.63	N20°41'08"W
W27	30.57	N49°53'17"W
W28	85.12	N21°27'06"W
W29	29.24	N01°16'46"E
W30	51.83	N16°00'37"W
W31	23.30	N15°21'42"W
W32	47.53	N07°45'56"W
W33	16.84	N71°42'57"W
W60	26.76	S35°46'44"E
W61	19.40	S56°36'15"E
W62	25.88	S31°21'17"E
W63	40.51	S37°03'18"E
W64	26.23	S19°42'21"E
W65	35.39	S14°42'54"E
W66	33.85	S02°56'57"E
W67	57.41	S22°14'02"E
W68	85.24	S15°04'23"E

MINIMUM LOT SIZE CHART			
LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
4	12,644 SQ. FT.	54 SQ. FT.	12,601 SQ. FT.



THE REQUIREMENTS OF ¤3-108, THE REAL PROPERTY ARTICLE, ANNOTATED CODE OF MARYLAND, 1988 REPLACEMENT VOLUME (AS SUPPLEMENTED) AS FAR AS THEY RELATE TO THE MAKING OF THIS PLAT AND THE SETTING OF MARKERS HAVE BEEN COMPLIED WITH.

JOHN S. MILDENBERG, SURVEYOR — DATE 9/9/04

DONALD REUWER, PRESIDENT — DATE 9/9/04

AREA TABULATION

NUMBER OF BUILDABLE LOTS	4
NUMBER OF OPEN SPACE LOTS	2
NUMBER OF LOTS OR PARCELS	6
AREA OF BUILDABLE LOTS	1.61 ±
AREA OF OPEN SPACE LOTS	2.74 ±
PUBLIC ROAD RIGHT-OF-WAY	0.00 ±
TOTAL AREA (THIS SHEET)	4.35 ±

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

HOWARD COUNTY HEALTH OFFICER — DATE 10/15/04

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/5/04

DIRECTOR — DATE 10/21/04

OWNER'S CERTIFICATE

WE, ELLICOTT CITY LAND HOLDING, INC., OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ADOPT THIS PLAN OF SUBDIVISION, AND IN CONSIDERATION OF THE APPROVAL OF THIS FINAL PLAT BY THE DEPARTMENT OF PLANNING AND ZONING, ESTABLISH THE MINIMUM BUILDING RESTRICTION LINES AND GRANT UNTO HOWARD COUNTY, MARYLAND, ITS SUCCESSORS AND ASSIGNS, 1) THE RIGHT TO LAY, CONSTRUCT AND MAINTAIN SEWERS, DRAINS, WATER PIPES AND OTHER MUNICIPAL UTILITIES AND SERVICES IN AND UNDER ALL ROADS AND STREET RIGHT-OF-WAYS AND THE SPECIFIC EASEMENTS SHOWN HEREON, 2) THE RIGHT TO REQUIRE DEDICATION FOR PUBLIC USE. THE BEDS OF THE STREETS AND/OR ROADS AND FLOODPLAINS AND OPEN SPACE WHERE APPLICABLE, AND FOR GOOD AND OTHER VALUABLE CONSIDERATION, HEREBY GRANT THE RIGHT AND OPTION TO HOWARD COUNTY TO ACQUIRE THE FEE SIMPLE TITLE TO THE BEDS OF THE STREETS AND/OR ROADS AND FLOODPLAINS, STORM DRAINAGE FACILITIES AND OPEN SPACE WHERE APPLICABLE , 3) THE RIGHT TO REQUIRE DEDICATION OF WATERWAY AND DRAINAGE EASEMENTS FOR THE SPECIFIC PURPOSE OF THEIR CONSTRUCTION, REPAIR AND MAINTENANCE, AND 4) THAT NO BUILDING OR SIMILAR STRUCTURE OF ANY KIND SHALL BE ERECTED ON OR OVER THE SAID EASEMENT AND RIGHTS-OF-WAY.

WITNESS MY HAND THIS 8TH DAY OF SEPT 2004

DONALD REUWER, PRESIDENT — WITNESS

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE FINAL PLAT SHOWN HEREON IS CORRECT; THAT IT IS A SUBDIVISION OF LAND CONVEYED BY DEBORAH ELLGARD & ROBERT HARTZELL TO ELLICOTT CITY LAND HOLDING, INC., BY DEED DATED SEPTEMBER 29, 2003 AND RECORDED AMONG THE LAND RECORDS FOR HOWARD COUNTY IN LIBER 7702 AT FOLIO 558 AND THE ESTATE OF KENNARD S. & CHARLOTTE DOBSON TO ELLICOTT CITY LAND HOLDING, INC., BY DEED DATED SEPTEMBER 29, 2003 AND RECORDED AMONG THE LAND RECORDS FOR HOWARD COUNTY IN LIBER 7702 AND FOLIO 553 AND THAT ALL MONUMENTS ARE IN PLACE OR WILL BE IN PLACE PRIOR TO THE ACCEPTANCE OF THE STREETS IN THE SUBDIVISION BY HOWARD COUNTY AS SHOWN IN ACCORDANCE WITH THE ANNOTATED CODE OF MARYLAND AS AMENDED, AND THE BOUNDARY SURVEY IS IN ACCORDANCE WITH THE HOWARD COUNTY SUBDIVISION REGULATIONS.

STATE OF MARYLAND — JOHN S. MILDENBERG — PROFESSIONAL ENGINEER — NO. 10718

9/9/04 DATE

DETAIL 1
SCALE: 1"=25'

DEVELOPER
ELLICOTT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

RECORDED AS PLAT 17008 ON 10/28/04 AMONG THE LAND RECORDS OF HOWARD COUNTY, MD.

ILCHESTER OAKS

LOTS 1 THRU 22 AND OPEN SPACE LOTS 23 THRU 26 & NON-BUILDABLE PARCEL "A"

SHEET 4 OF 4

TAX MAP 31	1st ELECTION DISTRICT	SCALE : 1"=50'
PARCEL NO. 641 & 841	HOWARD COUNTY, MARYLAND	DATE : SEPTEMBER 2004
GRID 16	EX. ZONING R-20	DPZ FILE NOS. SP-02-07 WP-03-63 WP-04-85

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

H:\02-007\dwg\final\007-RP-3.dwg

F-04-36

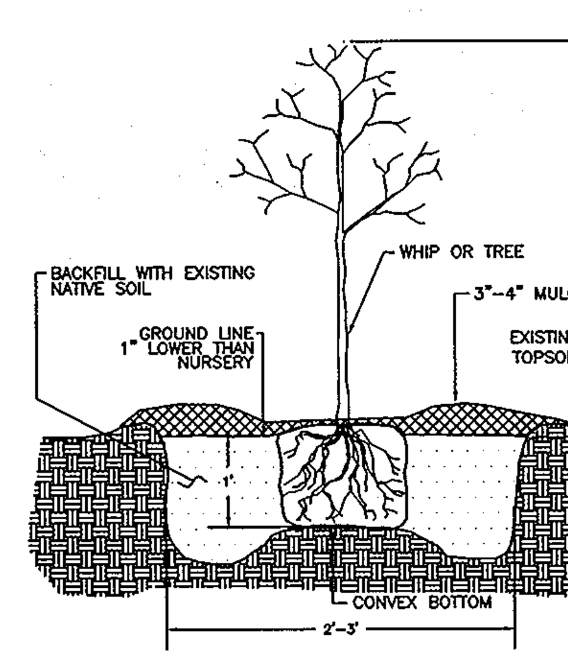
NOTE: THIS DRAWING IS TO BE USED FOR FOREST CONSERVATION PLAN PURPOSES ONLY.

NOTES:

1. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION HAVE BEEN MET BY ON-SITE RETENTION OF 1.97 ACRES AND REFORESTATION OF 0.26 ACRES. FINANCIAL SURETY FOR THE 1.97 ACRES (85,813.2 SQ. FT.) OF RETENTION IN THE AMOUNT OF $17,162.64 AND 0.26 ACRES (11,325.6 SQ. FT.) OF REFORESTATION IN THE AMOUNT OF $5,662.80 HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF $22,825.44.

FOREST CONSERVATION DATA

	ACRES
I. BASIC SITE DATA	
GROSS SITE AREA	13.80
AREA WITHIN 100 YEAR FLOODPLAIN	0.00
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL	0.00
NET TRACT AREA	13.80
LAND USE CATEGORY RESIDENTIAL–SUBURBAN	
II. FOREST CONSERVATION WORKSHEET DATA SUMMARY	
B. REFORESTATION THRESHOLD (20%)	2.76
C. AFFORESTATION MINIMUM (15%)	2.07
D. EXISTING FOREST ON NET TRACT AREA	2.10
E. FOREST AREAS TO BE CLEARED	0.13
F. FOREST AREAS TO BE RETAINED	1.97
IV. REFORESTATION CALCULATIONS	
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	0.00
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0.13
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.00
REFORESTATION FOR CLEARING ABOVE THRESHOLD	0.00
REFORESTATION FOR CLEARING BELOW THRESHOLD	0.26
TOTAL REFORESTATION REQUIRED	0.26
TOTAL REFORESTATION PROVIDED	0.26

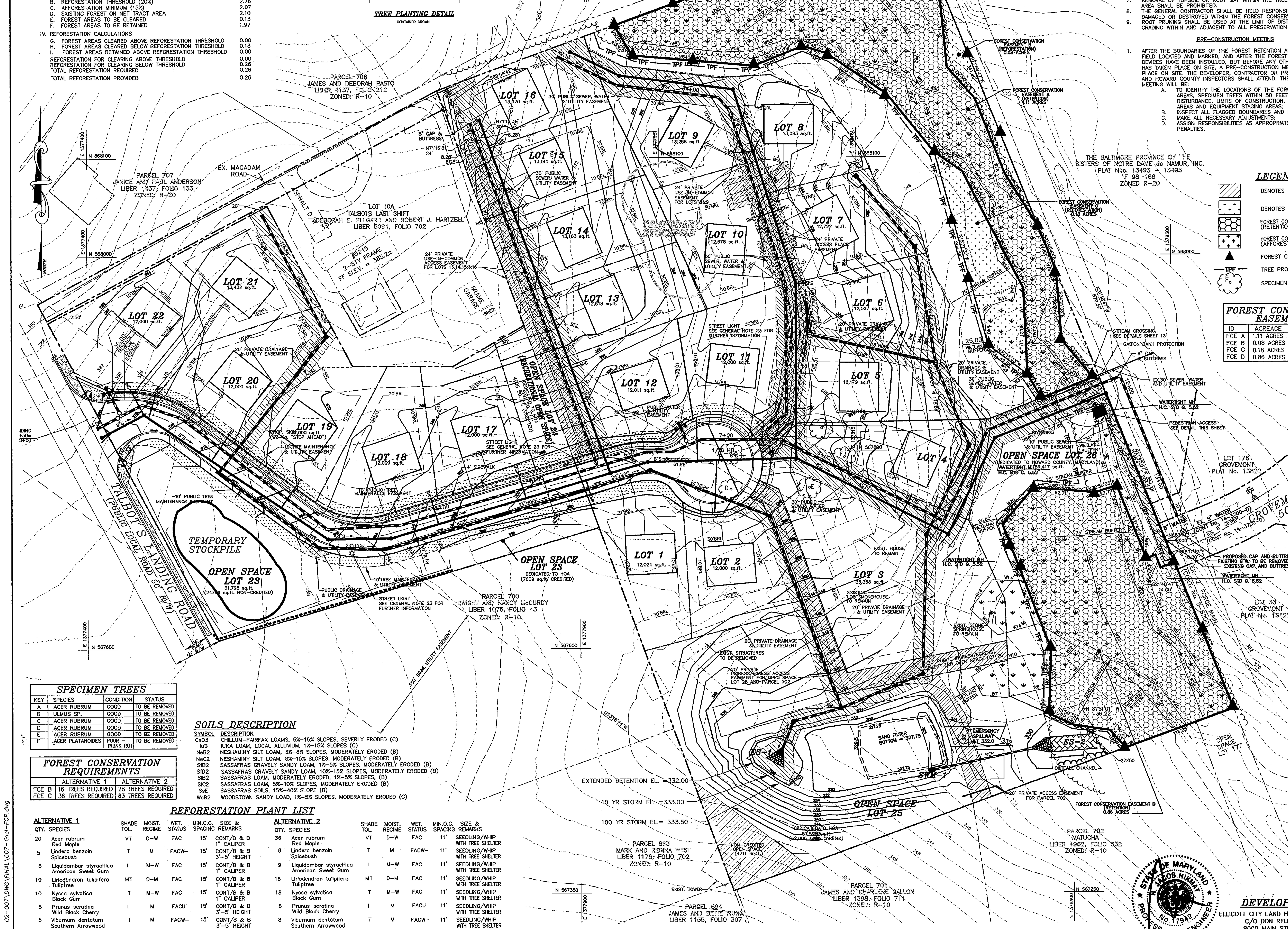


TREE PLANTING DETAIL

CONTAINER GROWN

FOREST CONSERVATION EASEMENTS

EASEMENT	ACREAGE
FCE A	1.11 ACRES (RETENTION)
FCE B	0.08 ACRES (REFORESTATION)
FCE C	0.18 ACRES (REFORESTATION)
FCE D	0.86 ACRES (RETENTION)



GENERAL NOTES

FOREST PROTECTION

1. ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING AND SIGHAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
2. THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES.
3. ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
4. ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
5. INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
6. THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
7. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
8. THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
9. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

PRE-CONSTRUCTION MEETING

1. AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
   A. TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
   B. INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
   C. MAKE ALL NECESSARY ADJUSTMENTS;
   D. ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

LEGEND

- DENOTES 15–24.99% SLOPES.
- DENOTES WETLANDS
- FOREST CONSERVATION EASEMENT (RETENTION)
- FOREST CONSERVATION EASEMENT (AFFORESTATION)
- FOREST CONSERVATION SIGNAGE
- TPF — TREE PROTECTIVE FENCING
- SPECIMEN TREE

FOREST CONSERVATION EASEMENTS

ID	ACREAGE	TYPE
FCE A	1.11 ACRES	RETENTION
FCE B	0.08 ACRES	REFORESTATION
FCE C	0.18 ACRES	REFORESTATION
FCE D	0.86 ACRES	RETENTION

CONSTRUCTION MONITORING

1. THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS.
2. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
3. THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

PLANTING SPECIFICATIONS AND NOTES

SITE PREPARATION AND SOILS

1. PROTECTION FENCING IS TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
2. DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
3. SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLUDGE.
4. SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME PEAT MOSS.
5. ALL MIXING IN 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

PLANT STORAGE AND INSPECTION

1. FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
2. FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
3. PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
4. UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT.

PLANT INSTALLATION

1. THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER, GENEROUSLY, TO SETTLE SOIL BACKFILLED AROUND TREES.
2. PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST.
3. CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THROUGH LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST.
4. CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENED FROM THE SOIL. IF THE ROOTS ENCIRCLE THE ROOT BALL, SUBSTITUTION IS STRONGLY RECOMMENDED. J-SHAPED OR KINKED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS MAY NOT BE TRIMMED ON SITE, DUE TO THE INCREASED CHANCES OF SOIL BORNE DISEASES.
5. FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL. THEN PEEL BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENEROUSLY.
6. FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FIVE (5), PER SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPER SPACING INDICATED ON PLANT LIST.
7. AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LISTS TO OBTAIN A MORE NATURAL APPEARANCE.
8. NEWLY PLANTED TREES MAY NEED WATERING AS MUCH AS ONCE A WEEK FOR THE ENTIRE GROWING SEASON, DUE TO THE VERY DEEP, WELL DRAINED NATURE OF THE NATIVE SOILS FOUND ON THIS SITE COMBINED WITH THE LOOSENESS OF THE BACKFILLED AREA WITHIN THE PLANTING FIELD. THE NEXT TWO YEARS MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR DURING SUMMER AND DRY MONTHS. AFTER THAT PERIOD, TREES SHOULD ONLY NEED WATER IN SEVERE DROUGHTS. ANY WATERING PLAN SHOULD COMPENSATE FOR RECENT RAINFALL PATTERNS.

FERTILIZING

1. DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
2. NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
3. IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. BONE MEAL OR SEAWEED BASED PRODUCTS ARE AVAILABLE COMMERCIALLY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.

MAINTENANCE SCHEDULE

1. ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
2. ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.
3. VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION IS TO BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY EFFECTING THE PLANTED STOCK.
4. REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, NOXIOUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.
5. REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS SMOTHERING PLANTING STOCK.
6. A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.

SUPERVISION

1. ALL FOREST CONSERVATION ACTIVITIES SHALL BY DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER "QUALIFIED PROFESSIONAL" AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.

SPECIMEN TREES

KEY	SPECIES	CONDITION	STATUS
A	ACER RUBRUM	GOOD	TO BE REMOVED
B	ULMUS SP.	GOOD	TO BE REMOVED
C	ACER RUBRUM	GOOD	TO BE REMOVED
D	ACER RUBRUM	GOOD	TO BE REMOVED
E	ACER RUBRUM	GOOD	TO BE REMOVED
F	ACER PLATANOIDES	POOR – TRUNK ROT	TO BE REMOVED

FOREST CONSERVATION REQUIREMENTS

	ALTERNATIVE 1	ALTERNATIVE 2
FCE B	16 TREES REQUIRED	28 TREES REQUIRED
FCE C	36 TREES REQUIRED	63 TREES REQUIRED

SOILS DESCRIPTION

SYMBOL	DESCRIPTION
CnD3	CHILLUM–FAIRFAX LOAMS, 5%–15% SLOPES, SEVERLY ERODED (C)
IuB	IUKA LOAM, LOCAL ALLUVIUM, 1%–15% SLOPES (C)
NeB2	NESHAMINY SILT LOAM, 3%–8% SLOPES, MODERATELY ERODED (B)
NeC2	NESHAMINY SILT LOAM, 8%–15% SLOPES, MODERATELY ERODED (B)
SfB2	SASSAFRAS GRAVELY SANDY LOAM, 1%–5% SLOPES, MODERATELY ERODED (B)
SfD2	SASSAFRAS GRAVELY SANDY LOAM, 10%–15% SLOPES, MODERATELY ERODED (B)
SlB2	SASSAFRAS LOAM, MODERATELY ERODED, 1%–5% SLOPES, (B)
SlC2	SASSAFRAS LOAM, 5%–10% SLOPES, MODERATELY ERODED (B)
SsE	SASSAFRAS SOILS, 15%–40% SLOPE (B)
WoB2	WOODSTOWN SANDY LOAD, 1%–5% SLOPES, MODERATELY ERODED (C)

REFORESTATION PLANT LIST

ALTERNATIVE 1

QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C. SPACING	SIZE & REMARKS
20	Acer rubrum Red Maple	VT	D–W	FAC	15'	CONT/B & B 1" CALIPER
5	Lindera benzoin Spicebush	T	M	FACW–	15'	CONT/B & B 3'–5' HEIGHT
6	Liquidambar styraciflua American Sweet Gum	I	M–W	FAC	15'	CONT/B & B 1" CALIPER
10	Liriodendron tulipifera Tuliptree	MT	D–M	FAC	15'	CONT/B & B 1" CALIPER
10	Nyssa sylvatica Black Gum	T	M–W	FAC	15'	CONT/B & B 1" CALIPER
5	Prunus serotina Wild Black Cherry	I	M	FACU	15'	CONT/B & B 3'–5' HEIGHT
5	Viburnum dentatum Southern Arrowwood	T	M	FACW–	15'	CONT/B & B 3'–5' HEIGHT
5	Vaccinium corymbosum Highbush Blueberry	MT	M–W	FACW–	15'	CONT/B & B 3'–5' HEIGHT

TOTAL
66 TREES & SHRUBS (52 TREES REQUIRED)

ALTERNATIVE 2

QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C. SPACING	SIZE & REMARKS
36	Acer rubrum Red Maple	VT	D–W	FAC	11'	SEEDLING/WHIP WITH TREE SHELTER
8	Lindera benzoin Spicebush	T	M	FACW–	11'	SEEDLING/WHIP WITH TREE SHELTER
9	Liquidambar styraciflua American Sweet Gum	I	M–W	FAC	11'	SEEDLING/WHIP WITH TREE SHELTER
18	Liriodendron tulipifera Tuliptree	MT	D–M	FAC	11'	SEEDLING/WHIP WITH TREE SHELTER
18	Nyssa sylvatica Black Gum	T	M–W	FAC	11'	SEEDLING/WHIP WITH TREE SHELTER
8	Prunus serotina Wild Black Cherry	I	M	FACU	11'	SEEDLING/WHIP WITH TREE SHELTER
8	Viburnum dentatum Southern Arrowwood	T	M	FACW–	11'	SEEDLING/WHIP WITH TREE SHELTER
8	Vaccinium corymbosum Highbush Blueberry	MT	M–W	FACW–	11'	SEEDLING/WHIP WITH TREE SHELTER

TOTAL
113 WHIPS WITH TREE SHELTERS & SHRUBS (91 WHIPS REQUIRED)

02-007\DWG\FINAL\007-final-FCP.dwg

FOREST RETENTION AREA

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS

PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE MARYLAND FOREST CONSERVATION ACT OF 1991

FOREST CONSERVATION AREA

REFORESTATION PROJECT

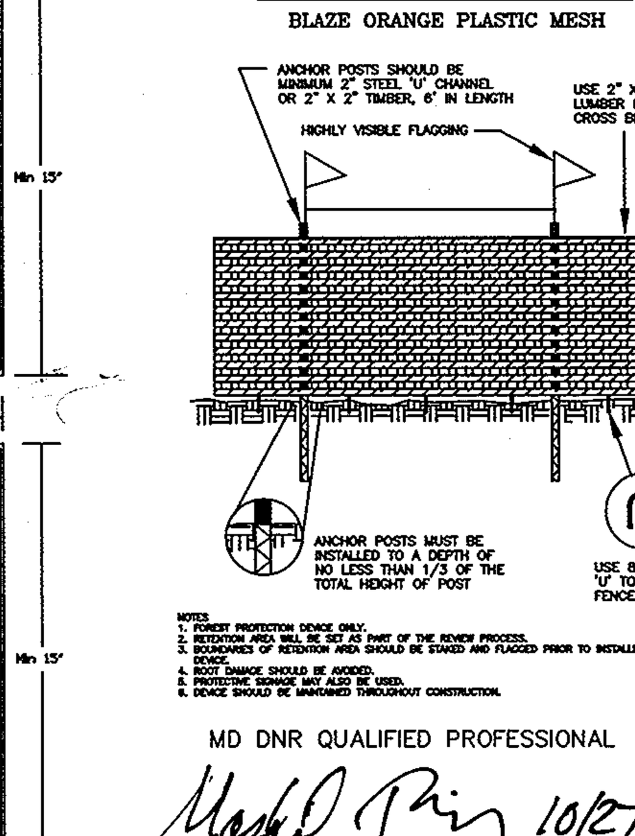
TREES FOR YOUR FUTURE

SIGNAGE DETAILS

NOT TO SCALE

PROTECTIVE FENCE DETAIL

BLAZE ORANGE PLASTIC MESH



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

MD DNR QUALIFIED PROFESSIONAL

[signature] 10/27/08

STATE OF MARYLAND R. JACOB HIKMAT No. 17942 PROFESSIONAL ENGINEER

DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

PURPOSE NOTE: SHOW AS-BUILT POND GRADING, REMOVE PIPE STEMS, ACCESS EASEMENT AROUND POND. REMOVE RETAINING WALL

APPROVED: DEPARTMENT OF PLANNING AND ZONNING

[signature] CHIEF, DIVISION OF LAND DEVELOPMENT	11/24/08 DATE
[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION	11/20/08 DATE

project	date
2002-007	JUNE 2004
illustration	engineering
HSP/SJD	SJD
scale	approval
1"=50'	

no.	description	date
2	SHOW AS-BUILT POND GRADING, REMOVE PIPE STEMS, ACCESS EASEMENT AROUND POND. REMOVE RETAINING WALL	10/27/08
1	REVISED PLAN TO REFLECT APPROVED F-06-081(ILCHESTER OAKS 2)	11/15/07

revisions

ILCHESTER OAKS

LOTS 1 THRU 22 & OPEN SPACES 23 THRU 26 & NON-BUILDABLE PARCEL 'A'
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

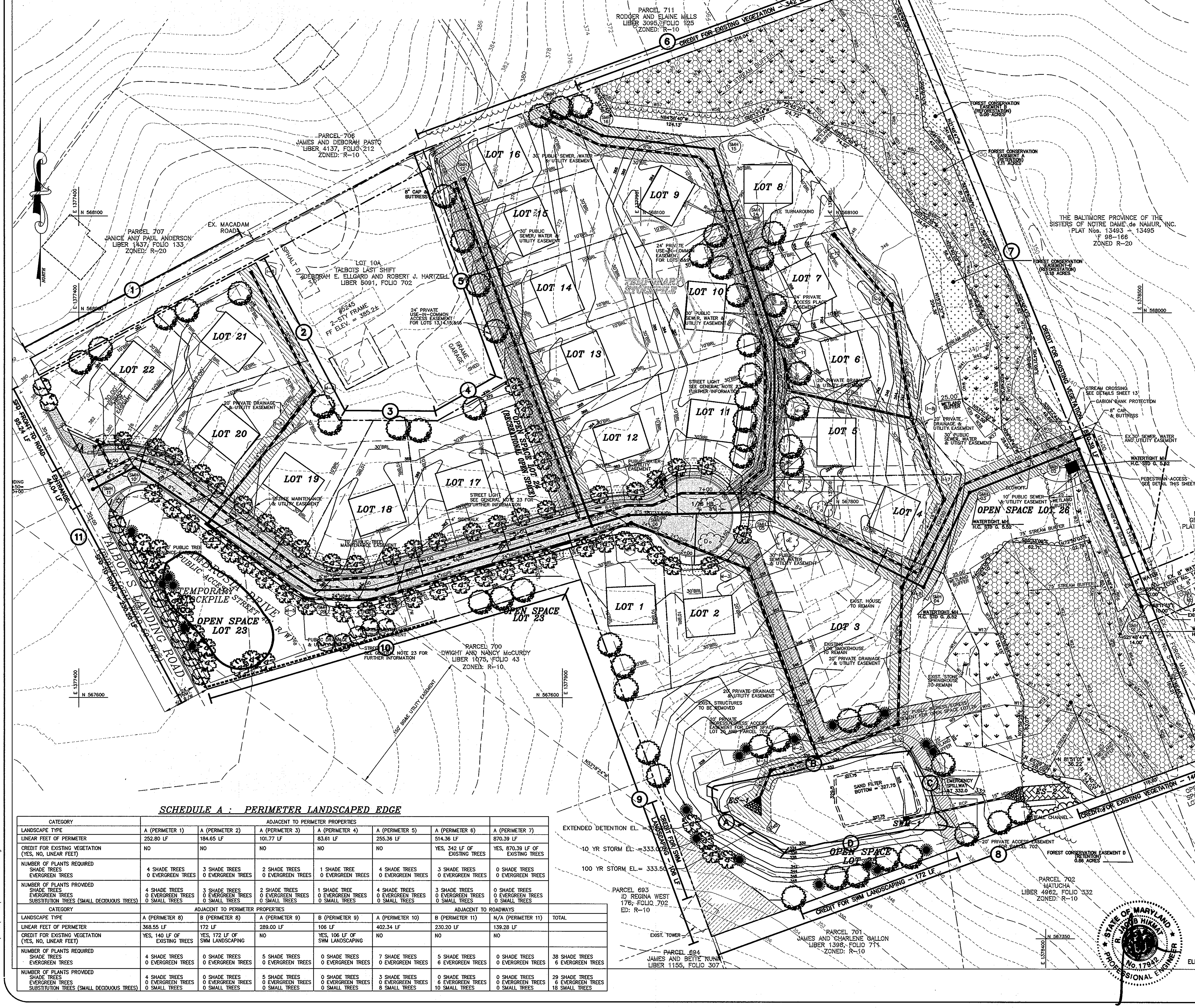
REVISED FOREST CONSERVATION PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

F-04-36

SCHEDULE D : STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	106 LF (PERIMETER A)	209 LF (PERIMETER B)	89 LF (PERIMETER C)	172 LF (PERIMETER D)	576 LF (TOTAL)
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	NO	NO	NO	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	N/A	N/A	N/A	N/A	N/A
NUMBER OF TREES REQUIRED SHADE TREES EVERGREEN TREES	2 SHADE TREES 3 EVERGREEN TREES	4 SHADE TREES 5 EVERGREEN TREES	2 SHADE TREES 2 EVERGREEN TREES	3 SHADE TREES 4 EVERGREEN TREES	11 SHADE TREES 14 EVERGREEN TREES
NUMBER OF TREES PROVIDED SHADE TREES EVERGREEN TREES SUBSTITUTION TREES (SMALL DECIDUOUS TREES)	0 SHADE TREES 3 EVERGREEN TREES 4 SMALL TREES	4 SHADE TREES 5 EVERGREEN TREES 0 SMALL TREES	2 SHADE TREES 2 EVERGREEN TREES 0 SMALL TREES	3 SHADE TREES 4 EVERGREEN TREES 0 SMALL TREES	9 SHADE TREES 14 EVERGREEN TREES 4 SMALL TREES



NOTE: THIS DRAWING IS TO BE USED FOR LANDSCAPE PLAN PURPOSES ONLY.

NOTES:

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
2. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING (38 SHADE TREES, 22, SMALL DECIDUOUS/ ORNAMENTAL TREES, 20 EVERGREENS, 18 PRIVATE STREET TREES) HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF $23,100.00.

STREET TREE CALCULATIONS

TALBOT'S LANDING ROAD - 325 LF/30 = 11
AMBROSIA DRIVE (PUBLIC ROAD) - 1492 LF/30 = 50
AMBROSIA DRIVE (PRIVATE ACCESS PLACE) - 706 LF/40 = 18

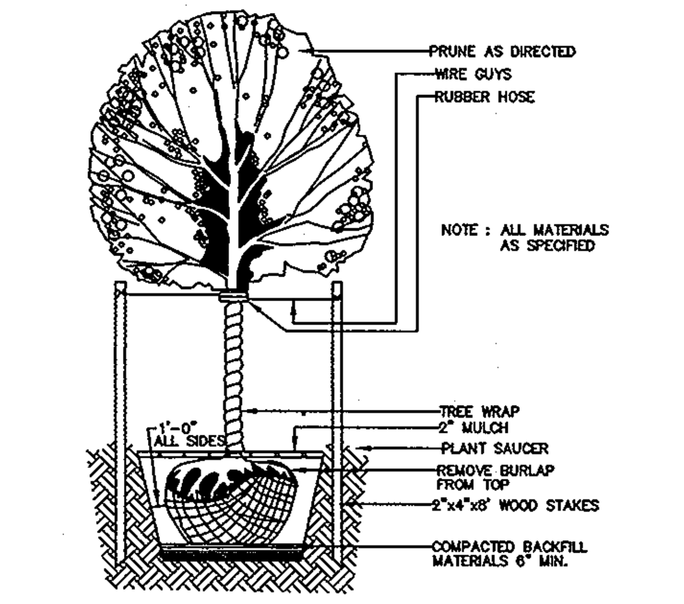
TOTAL TREES REQUIRED = 61 SMALL STREET TREES
18 LARGE STREET TREES
TOTAL TREES PROVIDED = 61 SMALL STREET TREES
18 LARGE STREET TREES

STREET TREE PLANTING SCHEDULE

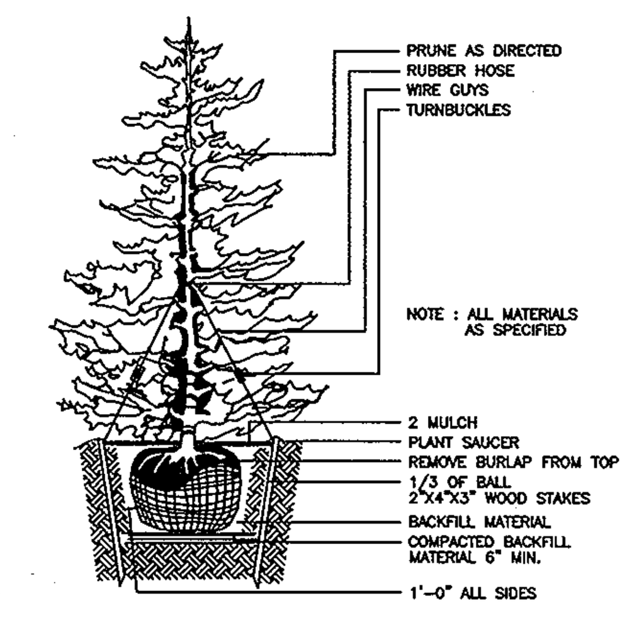
QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
50		ACER CAMPESTRE	HEDGE MAPLE	2 1/2" CAL.
11		PRUNUS SERRULATA 'KWANZAN'	KWANZAN CHERRY	2 1/2" CAL.
TOTAL 61 PUBLIC STREET TREES (SMALL STREET TREES)				

PERIMETER LANDSCAPE PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
17		ACER CAMPESTRE	HEDGE MAPLE	1 1/2" - 2" CAL.
56		ACER SACCHARUM 'GREEN MOUNTAIN'	GREEN MOUNTAIN SUGAR MAPLE	2 1/2" - 3" CAL.
20		PINUS THUNBERGIANA	JAPANESE BLACK PINE	6' - 8' HT.
5		PRUNUS SERRULATA 'KWANZAN'	KWANZAN CHERRY	1 1/2" - 2" CAL.
TOTAL 98 TREES(38 SHADE TREES, 22 SMALL DECIDUOUS TREES, 20 EVERGREENS, 18 PRIVATE STREET TREES)				



TYPICAL DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

LEGEND

- DENOTES 15-24.99% SLOPES.
- DENOTES WETLANDS
- FOREST CONSERVATION EASEMENT (RETENTION)
- FOREST CONSERVATION EASEMENT (AFFORESTATION)
- FOREST CONSERVATION SIGNAGE
- —TPF— TREE PROTECTIVE FENCING
- SPECIMEN TREE

SCHEDULE A : PERIMETER LANDSCAPED EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES						
LANDSCAPE TYPE	A (PERIMETER 1)	A (PERIMETER 2)	A (PERIMETER 3)	A (PERIMETER 4)	A (PERIMETER 5)	A (PERIMETER 6)	A (PERIMETER 7)
LINEAR FEET OF PERIMETER	252.80 LF	184.65 LF	101.77 LF	83.61 LF	255.36 LF	514.36 LF	870.39 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	NO	NO	NO	NO	YES, 342 LF OF EXISTING TREES	YES, 870.39 LF OF EXISTING TREES
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES	4 SHADE TREES 0 EVERGREEN TREES	3 SHADE TREES 0 EVERGREEN TREES	2 SHADE TREES 0 EVERGREEN TREES	1 SHADE TREE 0 EVERGREEN TREES	4 SHADE TREES 0 EVERGREEN TREES	3 SHADE TREES 0 EVERGREEN TREES	0 SHADE TREES 0 EVERGREEN TREES
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SUBSTITUTION TREES (SMALL DECIDUOUS TREES)	4 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES	3 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES	2 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES	1 SHADE TREE 0 EVERGREEN TREES 0 SMALL TREES	4 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES	3 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES	0 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES

CATEGORY	ADJACENT TO PERIMETER PROPERTIES				ADJACENT TO ROADWAYS		
LANDSCAPE TYPE	A (PERIMETER 8)	B (PERIMETER 8)	A (PERIMETER 9)	B (PERIMETER 9)	A (PERIMETER 10)	B (PERIMETER 11)	N/A (PERIMETER 11)	TOTAL
LINEAR FEET OF PERIMETER	368.55 LF	172 LF	289.00 LF	106 LF	402.34 LF	230.20 LF	139.28 LF	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES, 140 LF OF EXISTING TREES	YES, 172 LF OF SWM LANDSCAPING	NO	YES, 106 LF OF SWM LANDSCAPING	NO	NO	NO	
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES	4 SHADE TREES 0 EVERGREEN TREES	0 SHADE TREES 0 EVERGREEN TREES	5 SHADE TREES 0 EVERGREEN TREES	0 SHADE TREES 0 EVERGREEN TREES	7 SHADE TREES 0 EVERGREEN TREES	5 SHADE TREES 6 EVERGREEN TREES	0 SHADE TREES 0 EVERGREEN TREES	38 SHADE TREES 6 EVERGREEN TREES
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SUBSTITUTION TREES (SMALL DECIDUOUS TREES)	4 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES	0 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES	5 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES	0 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES	3 SHADE TREES 0 EVERGREEN TREES 8 SMALL TREES	0 SHADE TREES 6 EVERGREEN TREES 10 SMALL TREES	0 SHADE TREES 0 EVERGREEN TREES 0 SMALL TREES	29 SHADE TREES 6 EVERGREEN TREES 18 SMALL TREES

DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

STATE OF MARYLAND — R. JACOB HIKMAT — No. 17942 — PROFESSIONAL ENGINEER

DEVELOPER'S/OWNER'S CERTIFICATE

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

NAME [signature] DATE 10/27/08

PURPOSE NOTE:
SHOW AS-BUILT POND GRADING, REMOVE PIPE STEMS, ACCESS EASEMENT AROUND POND. REMOVE RETAINING WALL

APPROVED: DEPARTMENT OF PLANNING AND ZONNING

[signature] CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11/24/08

[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/20/08

project	date
2002-007	JUNE 2004
illustration	engineering
HSP/SJD	SJD
scale	approval
1"=50'	

no.	description	date
2	SHOW AS-BUILT POND GRADING, REMOVE PIPE STEMS, ACCESS EASEMENT AROUND POND. REMOVE RETAINING WALL	10/27/08
1	REVISED PLAN TO REFLECT APPROVED F-06-081(ILCHESTER OAKS 2)	11/15/07
	revisions	

ILCHESTER OAKS

LOTS 1 THRU 22, OPEN SPACES 23 THRU 26 & NON-BUILDABLE PARCEL "A"
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

REVISED LANDSCAPE PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

02-007\DWG\FINAL\007-final-LP.dwg

MD-378 POND SPECIFICATIONS (JANUARY 2000)

CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 15 FEET OF THE TOE OF THE EMBANKMENT.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH, AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORM WATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DRAIN AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

EARTH FILL

MATERIAL – THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6", FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION CC, SC, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER. MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT.

PLACEMENT – AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION – THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT. WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95 % OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 2 % OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).

CUT OFF TRENCH – THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

EMBANKMENT CORE – THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10 YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.

STRUCTURAL BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 313 AS MODIFIED. THE MIXTURE SHALL HAVE A 100-200 PSI; 28 DAY UNCONFINED COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE A MINIMUM PH OF 4.0 AND A MINIMUM RESISTIVITY OF 2,000 OHM-CM. MATERIAL SHALL BE PLACED SUCH THAT A MINIMUM OF 6" (MEASURED PERPENDICULAR TO THE OUTSIDE OF THE PIPE) OF FLOWABLE FILL SHALL BE UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RIGID CONDUITS. AVERAGE SLUMP OF THE FILL SHALL BE 7". TO ASSURE FLOWABILITY OF THE MATERIAL, ADEQUATE MEASURES SHALL BE TAKEN (SAND BAGS, ETC.). TO PREVENT FLOATING THE PIPE. WHEN USING FLOWABLE FILL, ALL METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADJOINING SOIL FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPER OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHALL COMPLETELY FILL ALL VOIDS ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. BACKFILL MATERIAL OUTSIDE THE STRUCTURAL BACKFILL (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

PIPE CONDUIT

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE – ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

I. MATERIALS – (POLYMER COATED STEEL PIPE) – STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 & M-246 WITH WATERTIGHT COUPLING BANDS OR FLANGES.

MATERIALS – (ALUMINUM COATED STEEL PIPE) – THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT THE NEED FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT.

MATERIALS – (ALUMINUM PIPE) – THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-21 L WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 9.

2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.

3. CONNECTIONS – ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT.

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE WITH A CIRCULAR 3/8 INCH CLOSED CELL NEOPRENE GASKET, PRE-PUNCHED TO THE FLANGE BOLT CIRCLE, SANDWICHED BETWEEN ADJACENT FLANGES; A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12-INCH WIDE HUGGER TYPE BAND WITH O-RING GASKETS HAVING A MINIMUM DIAMETER OF ½ INCH GREATER THAN THE CORRUGATION DEPTH. PIPES 24 INCHES IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24 INCH LONG ANNULAR CORRUGATED BAND USING A MINIMUM OF 4 (FOUR) RODS AND LUGS, 2 ON EACH CONNECTING PIPE END. A 24-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED WITH 12 INCHES ON THE END OF EACH PIPE. FLANGED JOINTS WITH 3/8 INCH CLOSED CELL GASKETS THE FULL WIDTH OF THE FLANGE IS ALSO ACCEPTABLE.

HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEARNS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

4. BEDDING – THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."

6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

REINFORCED CONCRETE PIPE – ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

1. MATERIALS – REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.

2. BEDDING – REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING/CRADLE FOR THEIR ENTIRE LENGTH. THIS BEDDING/CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 50 % OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE A CONCRETE CRADLE IS NOT NEEDED FOR STRUCTURAL REASONS, FLOWABLE FILL MAY BE USED AS DESCRIBED IN THE "STRUCTURE BACKFILL" SECTION OF THIS STANDARD. GRAVEL BEDDING IS NOT PERMITTED.

3. LAYING PIPE – BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 4 FEET FROM THE RISER.

4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."

5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE – THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

1. MATERIALS – PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D1785 OR ASTM D-2241 CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" – 10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE S, AND 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE S.

2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.

3. BEDDING –THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

4. BACKFILL SHALL CONFORM TO "STRUCTURE BACKFILL."

5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

DRAINAGE DIAPHRAGMS – WHEN A DRAINAGE DIAPHRAGM IS USED, A REGISTERED PROFESSIONAL ENGINEER WILL SUPERVISE THE DESIGN AND CONSTRUCTION INSPECTION.

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.

ROCK RIPRAP

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SIGHTLY CONDITION ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.

OPERATION, MAINTENANCE AND INSPECTION

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

OPERATION AND MAINTENENCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEM

1. THE STORMWATER WETLAND FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF ONCE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.
3. FILTERS THAT HAVE A GRASS COVER SHALL BE MOWED A MINIMUM OF THREE (3) TIMES PER GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 12 INCHES.
4. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATION AND AS NEEDED.
5. VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
6. REMOVE SILT WHEN IT EXCEEDS FOUR (4) INCHES DEEP IN THE FOREBAY.
7. WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS. THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIAL AND LIQUID MUST BE FOLLOWED BY THE OWNER.
8. A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
9. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITCH OPERATION AND MAINTENANCE CRITERIA.
10. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

GEOTECHNICAL RECOMENDATIONS:

THE AREA OF THE PROPOSED SWM FACILITY SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROOFROLLED WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE.

FOR AREAS THAT ARE NOT ACCESSIBLE TO A DUMP TRUCK, THE EXPOSED MATERIALS SHOULD BE OBSERVED AND TESTED BY A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE UTILIZING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROOFROLLING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH SUITABLE SOIL.

A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR THE EMBANKMENT AND CUT-OF TRENCH. IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SPECIFICATIONS 378 SOILS CONSIDERED SUITABLE FOR CENTER OF EMBANKMENT AND CUT-OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH OR CL.

IT IS OUR PROFESSIONAL OPINION THAT IN ADDITION TO THE SOIL MATERIALS DESCRIBED ABOVE A FINE-GRAINED SOIL, INCLUDING SILT (ML) WITH A PLASTICITY INDEX OF 10 OR MORE CAN BE UTILIZED FOR THE CENTER OF THE EMBANKMENT AND CORE TRENCH. ALL FILL MATERIALS MUST BE PLACED AND COMPACTED IN ACCORDANCE WITH MD SCS 178 SPECIFICATIONS.

MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 4.2 : UTILITY CROSSING

I. DESCRIPTION
THE WORK SHALL CONSIST OF INSTALLING EROSION CONTROL DEVICES IN AND ADJACENT TO THE CONSTRUCTION OF UTILITY CROSSING.

II. INSTALLATION GUIDELINES
ALL EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING DEWATERING BASINS, SHOULD BE IMPLEMENTED AS THE FIRST ORDER OF BUSINESS ACCORDING TO A PLAN APPROVED BY THE WMA OR LOCAL AUTHORITY. (SEE THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.) THE PROPOSED CONSTRUCTION SEQUENCE IS AS FOLLOWS (REFER TO DETAIL 4.2) :

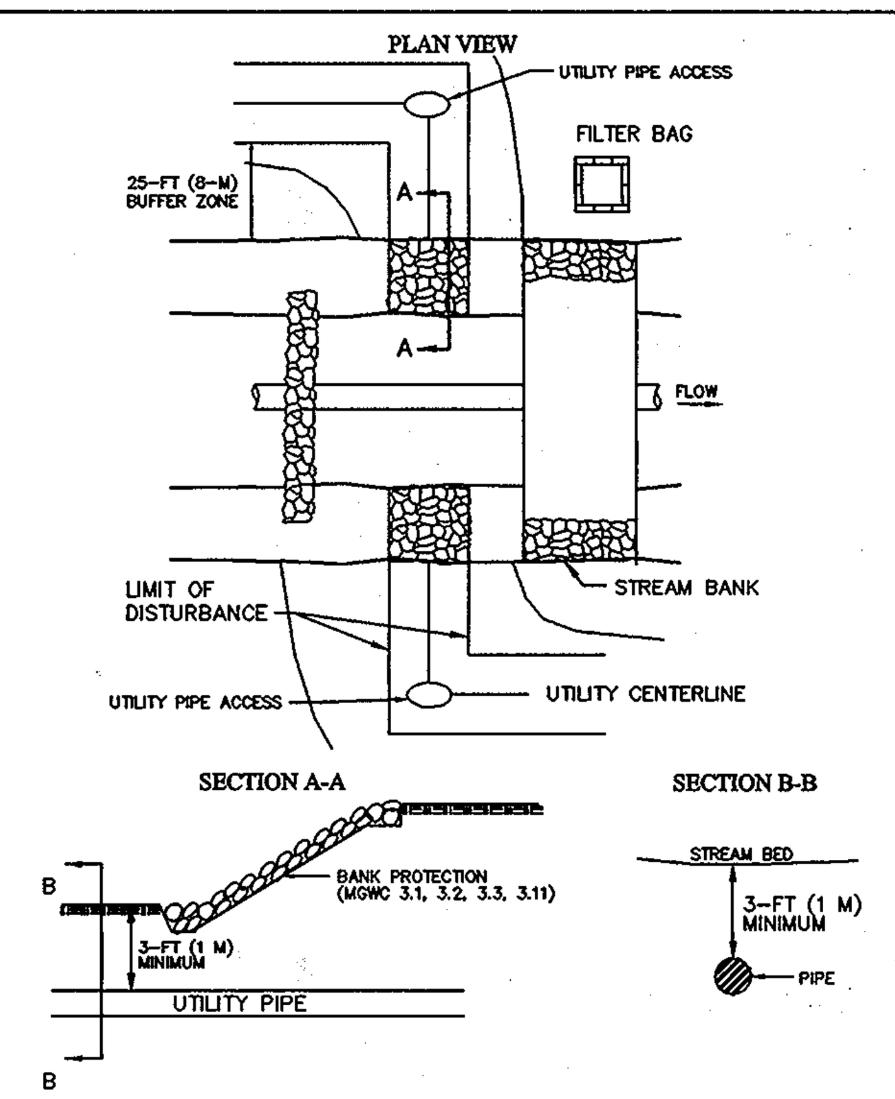
1. THE CONTRACTOR SHOULD INSURE THAT A CONTINUOUS PERIMETER CONTROL BARRIER IS IN PLACE TO MINIMIZE THE AMOUNT OF POLLUTANTS ENTERING THE FLOW. A DIVERSION PIPE AS SHOWN IN MGWC 1.4 : DIVERSION PIPE OR OTHER MEASURE SHOULD BE INSTALLED AND SANDBAG OR STONE BARRIERS AS SHOWN IN MGWC 1.5 : SANDBAG/ STONE DIVERSION SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS TO DIVERT THE STREAMFLOW.
2. EXCAVATED TOPSOIL AND SUBSOIL SHOULD BE KEPT SEPARATE, PLACED ON THE UPLAND SIDE OF THE EXCAVATION, AND REPLACED IN THEIR NATURAL ORDER.
3. ALL CONSTRUCTION SHOULD TAKE PLACE DURING STREAM LOW FLOWS. THE LENGTH OF CONSTRUCTION TIME SHOULD BE LIMITED TO A MAXIMUM OF 5 CONSECUTIVE DAYS FOR EACH CROSSING.
4. ALL UTILITY CROSSINGS SHOULD BE PLACED A MINIMUM OF 3 FEET (1 METER) BENEATH THE STREAM BED UNLESS AN ALTERNATIVE SECTION IS SPECIFICALLY APPROVED BY THE WMA. FOR INSTANCES WHERE A 3-FOOT COVER IS NOT VIABLE, TWO ALTERNATE STABILIZATION OPTIONS ARE GIVEN IN THE DETAIL 4.2. A LOW FLOW CHANNEL SHALL BE CONSTRUCTED THROUGH ALL RIPRAP PLACEMENTS ACROSS THE STREAM BED.
5. THE STREAM SHOULD BE DIVERTED BY AN APPROVED TEMPORARY STREAM DIVERSION, THE CONSTRUCTION AREA SHOULD BE DEWATERED, AND ANY DISTURBED BANKS SHOULD BE STABILIZED. THE CONTRACTOR MAY ELECT TO CONSTRUCT THE UTILITY CROSSING IN TWO STAGES. IN THIS CASE, A WMA APPROVED FLOW BARRIER MAY BE CONSTRUCTED TO KEEP THE CONSTRUCTION AREA DRY.
6. ONCE THE CROSSING IS COMPLETED, THE DIVERSION SHOULD BE REMOVED FROM UPSTREAM TO DOWNSTREAM. SEDIMENT CONTROL DEVICES, INCLUDING PERIMETER EROSION CONTROLS, ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTION AUTHORITY APPROVES THEIR REMOVAL.

STREAM CLOSURE DATES FOR FISH SPAWNING OR MIGRATION WITHIN WATERWAYS ARE AS FOLLOWS:

USE I AND IP	MARCH 1 – JUNE 15
USE II	JUNE 1 – SEPTEMBER 30 AND DECEMBER 16 – MARCH 14
USE III AND IIIP	OCTOBER 1 – APRIL 30
USE IV	MARCH 1 – MAY 31
SAV (ALL FLOWING STREAMS)	APRIL 15 – OCTOBER 15

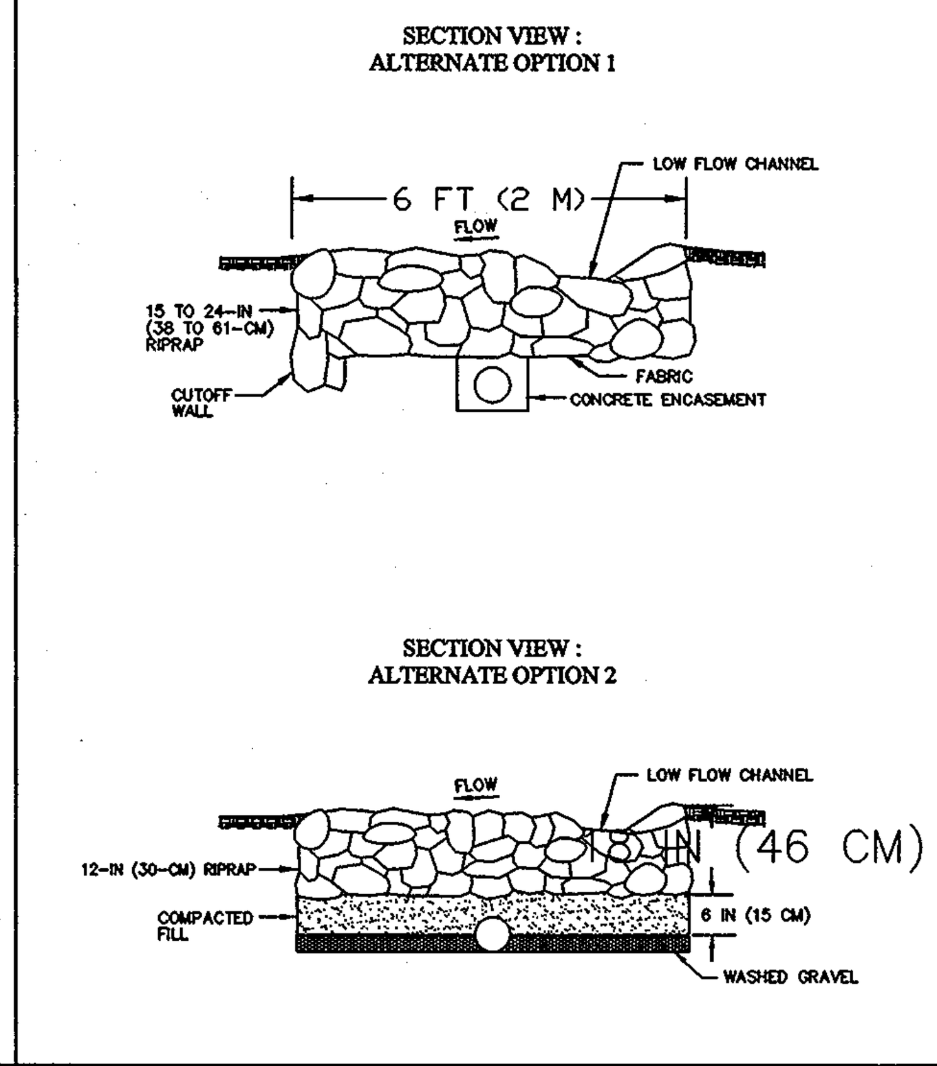
STREAM CROSSINGS	REVISED NOVEMBER 2000 PAGE 4.2-1	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 4.2(a) : UTILITY CROSSING

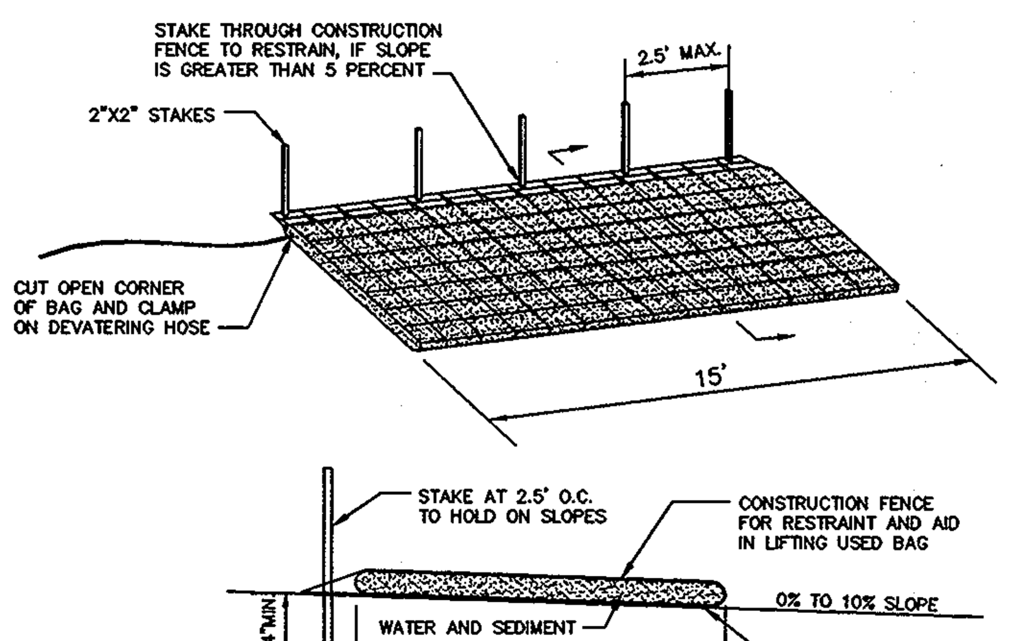


STREAM CROSSINGS	REVISED NOVEMBER 2000 PAGE 4.2-2	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 4.2(b) : UTILITY CROSSING



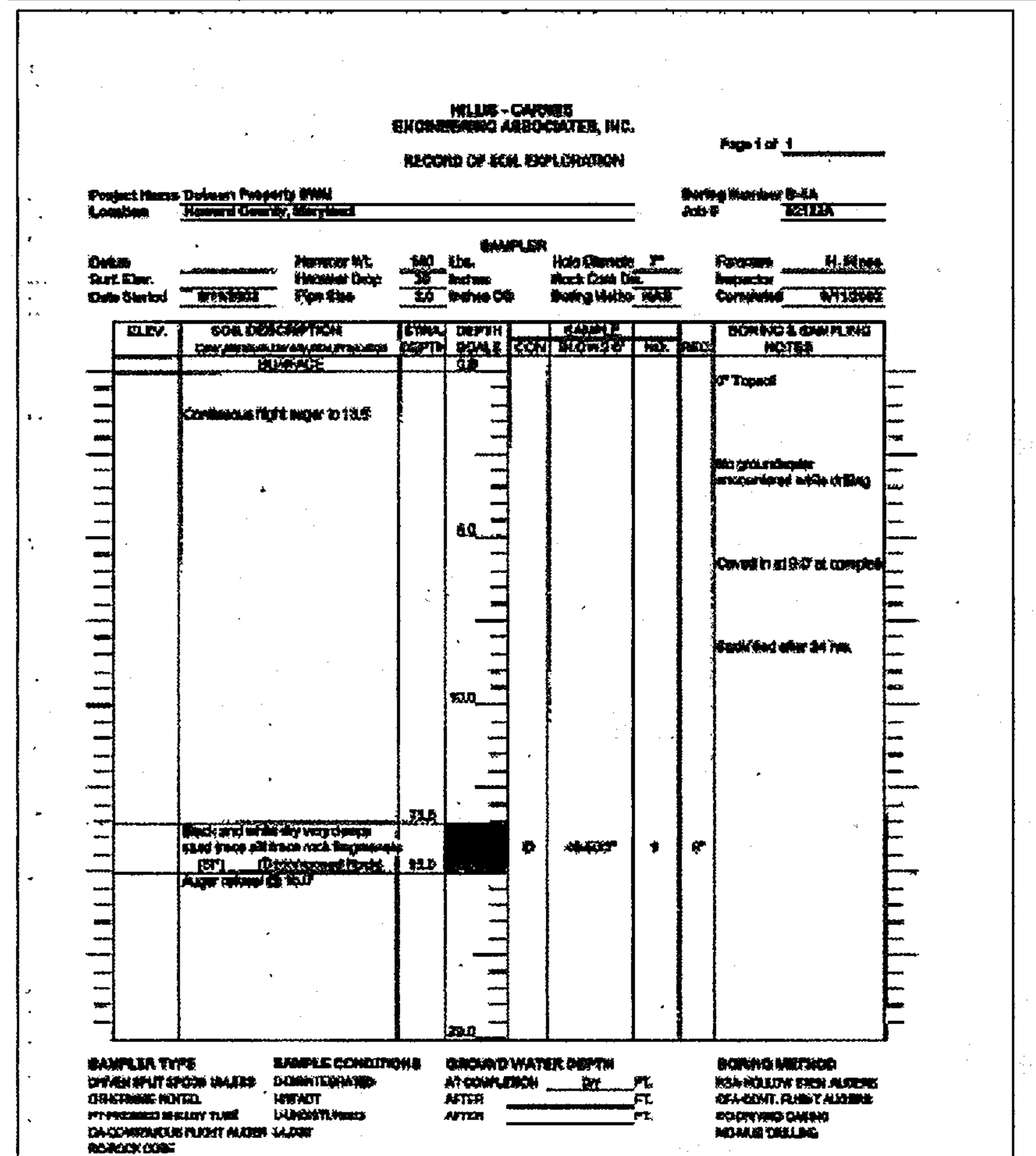
STREAM CROSSINGS	REVISED NOVEMBER 2000 PAGE 4.2-3	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

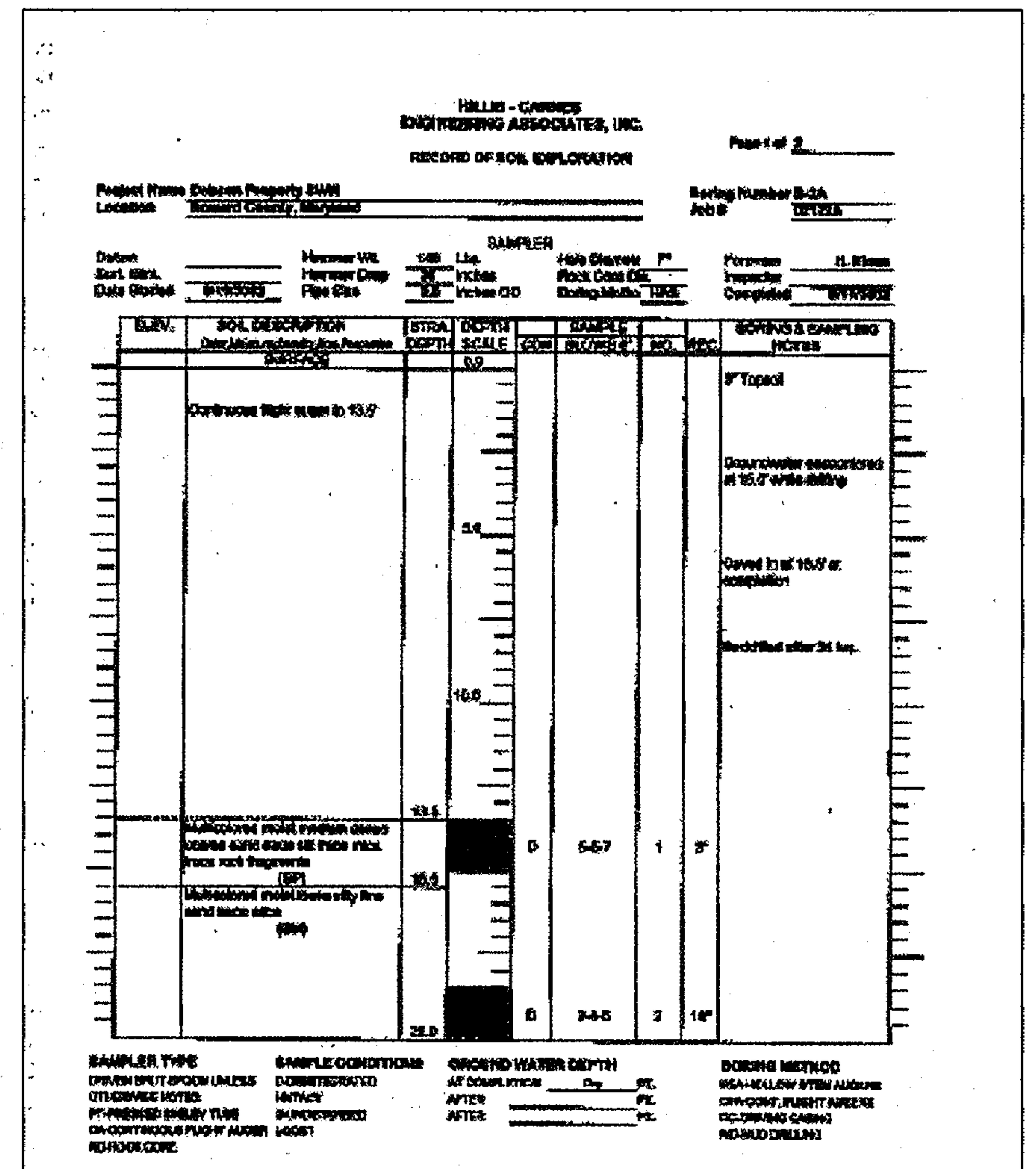


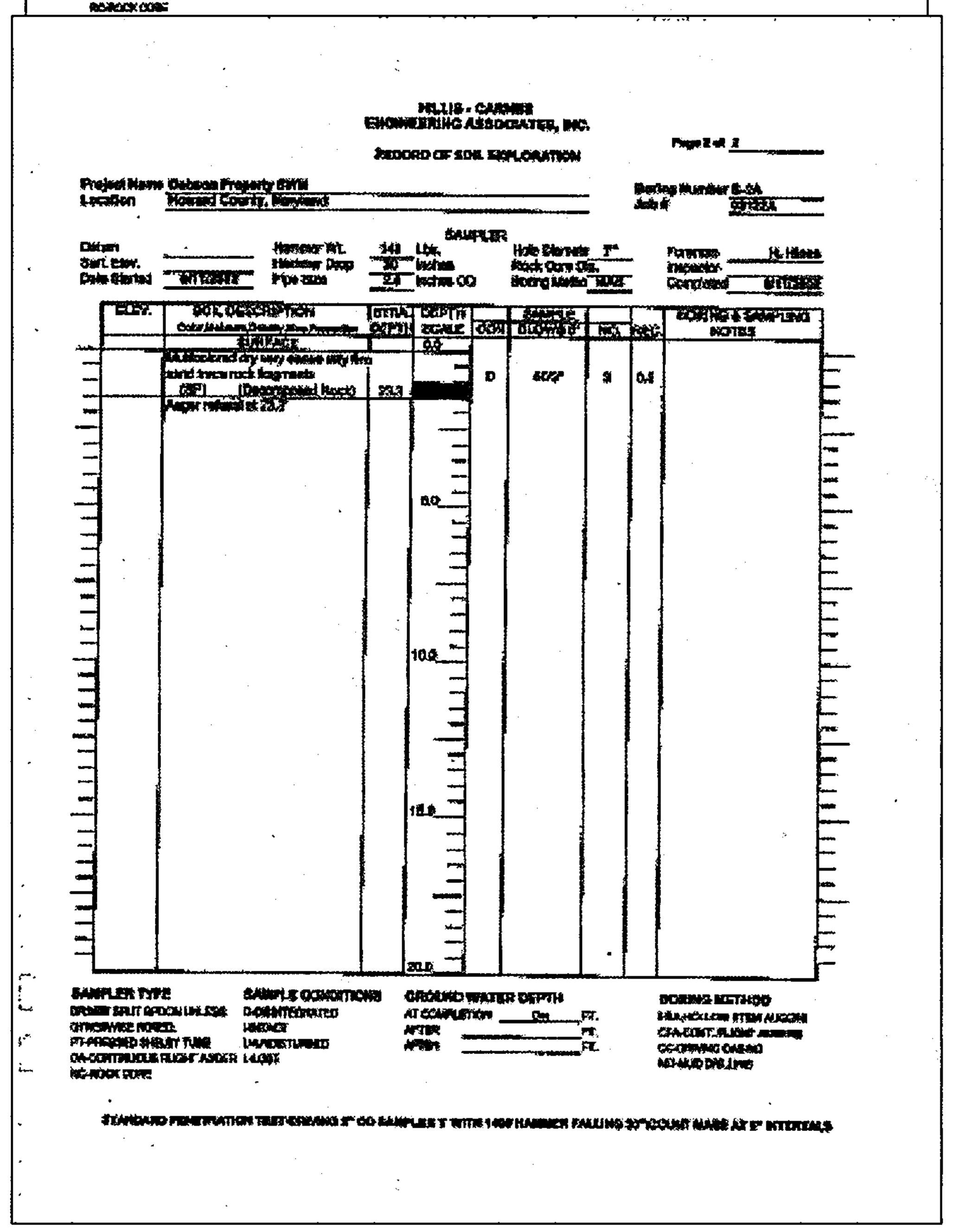
NOTES :
1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREAS.
2. WIDTH AND LENGTH SHALL BE AS SHOWN.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL NOT BE SPREAD IN AN UPLAND AREA.
6. FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F :

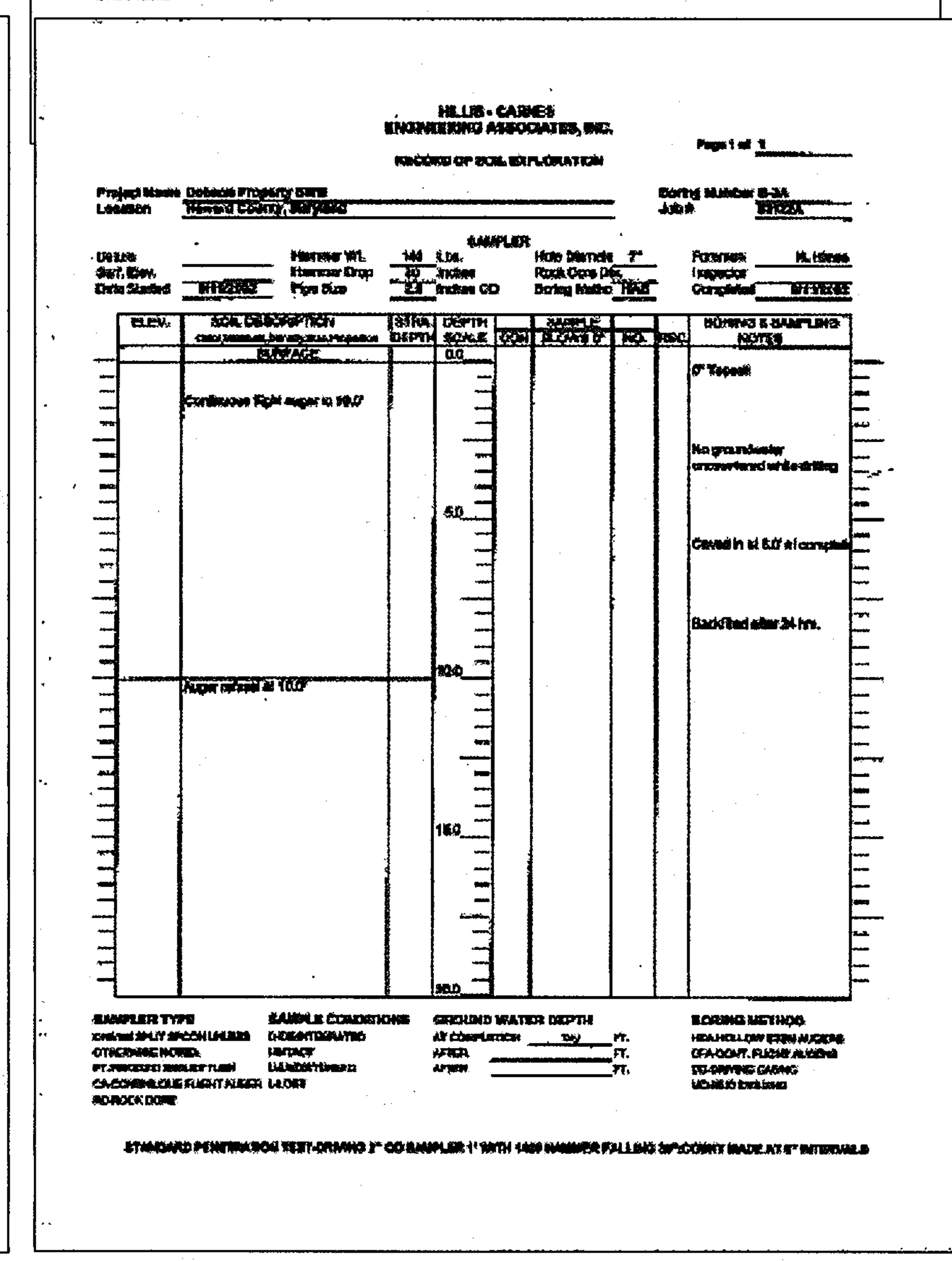
TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST : MSMT 509
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST : MSMT 509
FLOW RATE	0.3 GAL FT²/MINUTE (MAX.)	TEST : MSMT 322
FILTERING EFFICIENCY	75% (MIN.)	TEST : MSMT 322

FILTER BAG (FB)
TEMPORARY EROSION CONTROL MEASURE


HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 1 of 1
Project Name Dobson Property SWM; Location Howard County, Maryland; Boring Number B-1A
SURFACE; 3" Topsoil; Continuous flight auger to 13.5'; No groundwater encountered while drilling; Caved in at 9.0' at completion; Backfilled after 24 hrs.; Auger refusal @ 15.0'
SAMPLER TYPE; SAMPLE CONDITIONS; GROUND WATER DEPTH; BORING METHOD


HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 1 of 2
Project Name Dobson Property SWM; Location Howard County, Maryland; Boring Number B-2A
SURFACE; 3" Topsoil; Continuous flight auger to 13.5'; Groundwater encountered at 15.0' while drilling; Caved in at 15.0' at completion; Backfilled after 24 hrs.
SAMPLER TYPE; SAMPLE CONDITIONS; GROUND WATER DEPTH; BORING METHOD


HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 2 of 2
Project Name Dobson Property SWM; Location Howard County, Maryland; Boring Number B-2A
SURFACE; (SP) (Decomposed Rock) 23.3; Auger refusal at 23.3'
SAMPLER TYPE; SAMPLE CONDITIONS; GROUND WATER DEPTH; BORING METHOD
STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS


HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 1 of 1
Project Name Dobson Property SWM; Location Howard County, Maryland; Boring Number B-3A
SURFACE; 3" Topsoil; Continuous flight auger to 10.0'; No groundwater encountered while drilling; Caved in at 5.0' at completion; Backfilled after 24 hrs.; Auger refusal at 10.0'
SAMPLER TYPE; SAMPLE CONDITIONS; GROUND WATER DEPTH; BORING METHOD
STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER THAT DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NON-TIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES : ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS & WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM :
   USE I WATERS : IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
10. STORMWATER MANAGEMENT RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF ACQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

DEVELOPER

[ELLICO]TT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
[EL]LICOTT CITY, MD 21043
(410) 480-9105

BY THE DEVELOPER:

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

[signature] 6/17/04
SIGNATURE OF DEVELOPER — DATE
Donald R. Reuwer Jr.
PRINTED NAME OF DEVELOPER

BY THE ENGINEER:

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

[signature] 6/17/04
SIGNATURE OF ENGINEER — DATE
JOHN B. MILDENBERG
PRINTED NAME OF ENGINEER

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

Jim Myers / GS 7/6/04
USDA – NATURAL RESOURCE CONSERVATION SERVICE — DATE

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

[signature] 7/6/04
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

William J. Malone Jr. HS 7-27-04
CHIEF BUREAU OF HIGHWAYS — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONNING

Cindy Hamilton 8/10/04
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 7/30/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

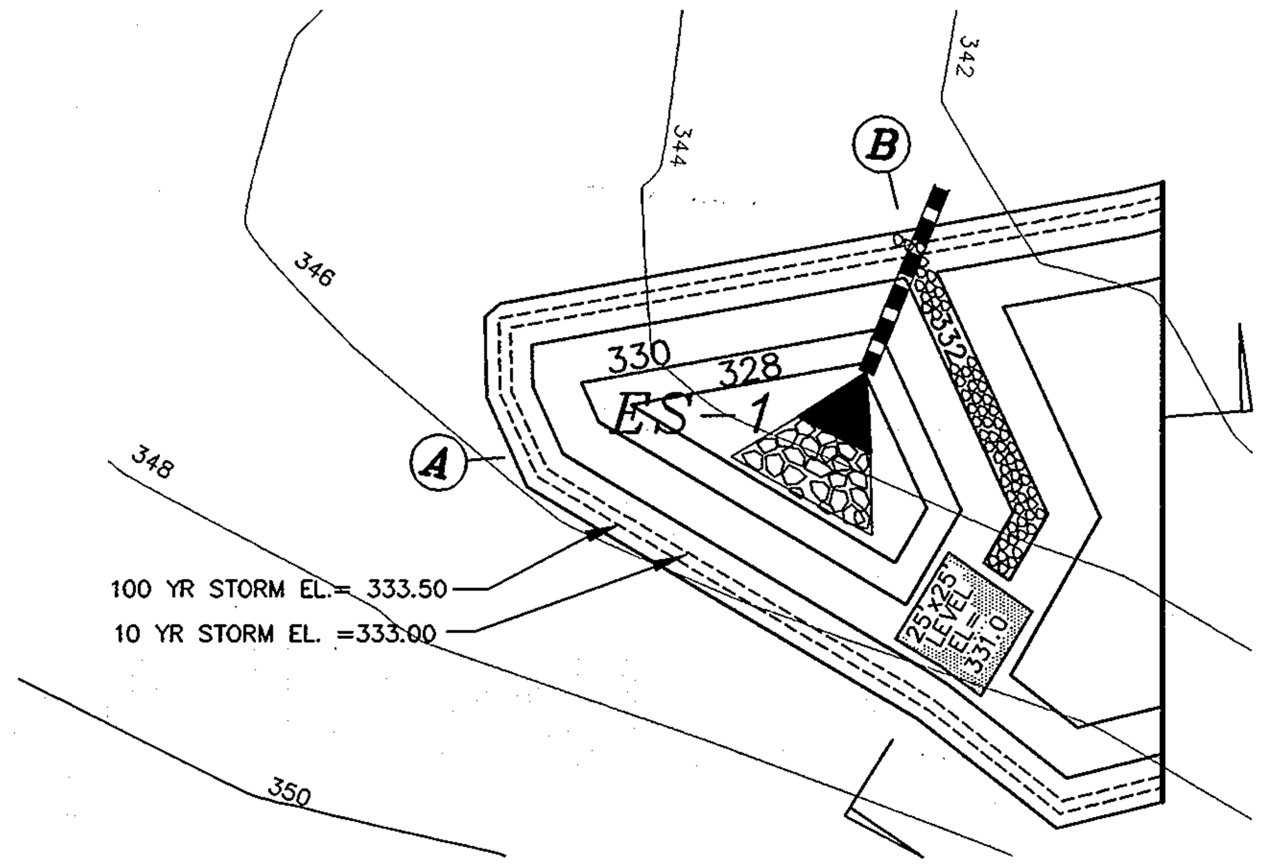
project	date	illustration	engineering	scale	approval
2002-007	JUNE 2004	HSP	HSP	NTS	JBM

no.	description / revisions	date

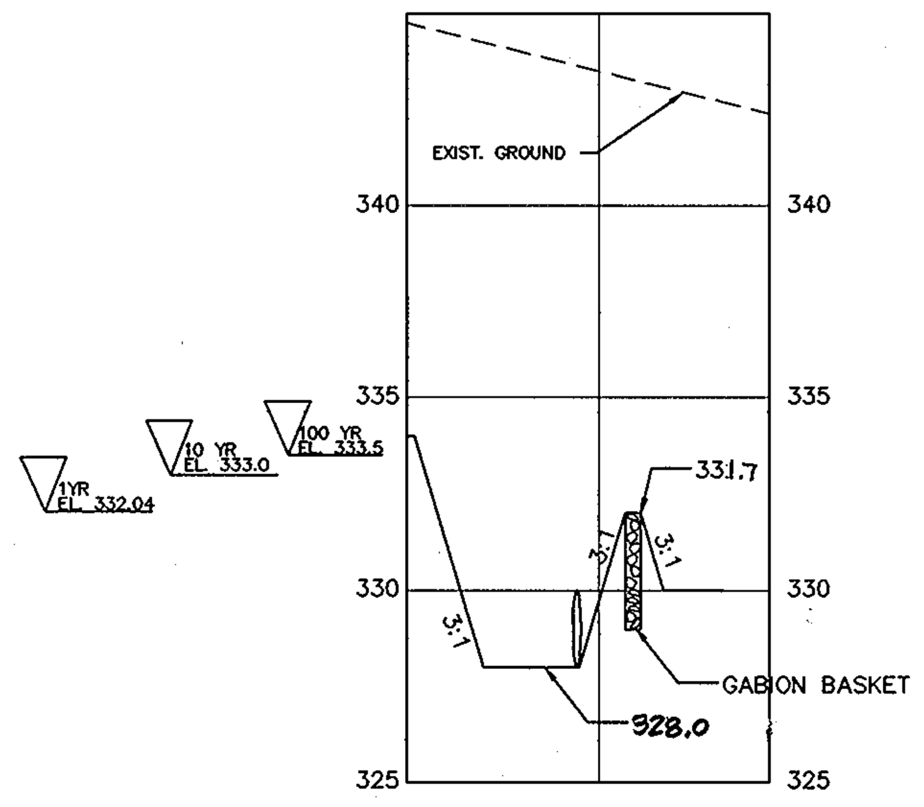
ILCHESTER OAKS
LOTS 1 THRU 22, OPEN SPACES 23 THRU 26 & NON-BUILDABLE PARCEL "A"
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SWM SPECIFICATIONS AND SOIL BORINGS

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

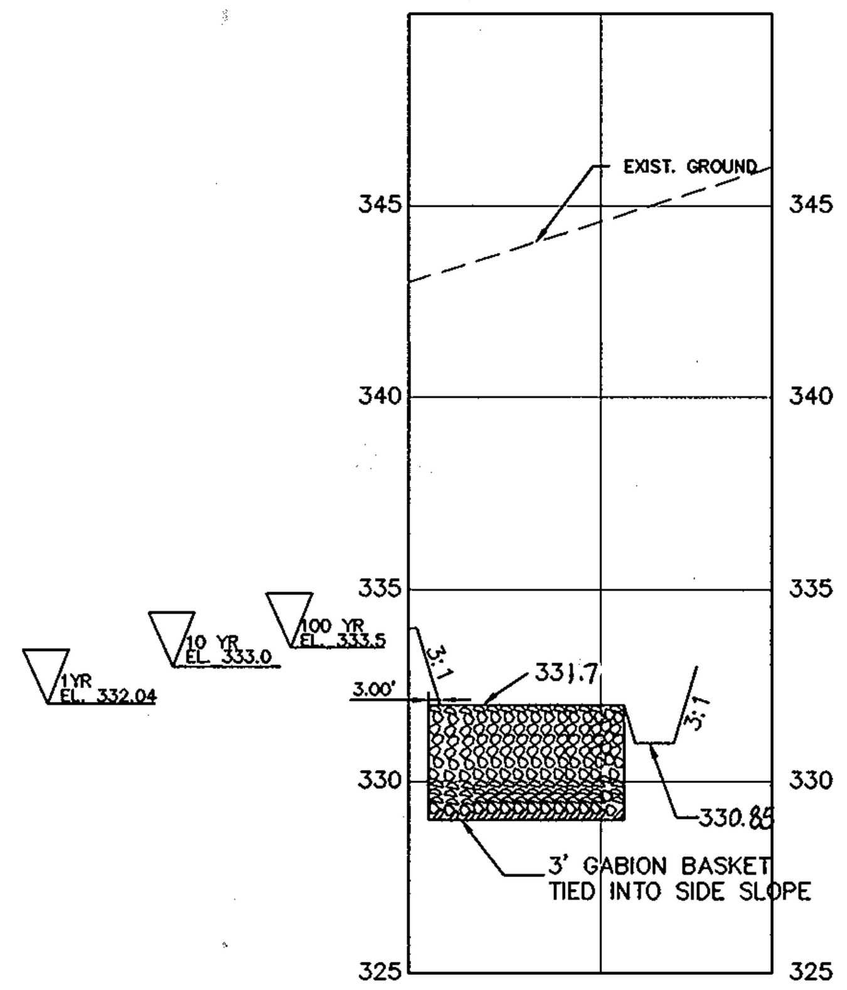
02-007\DWG\FINAL\007-BORINGS.DWG



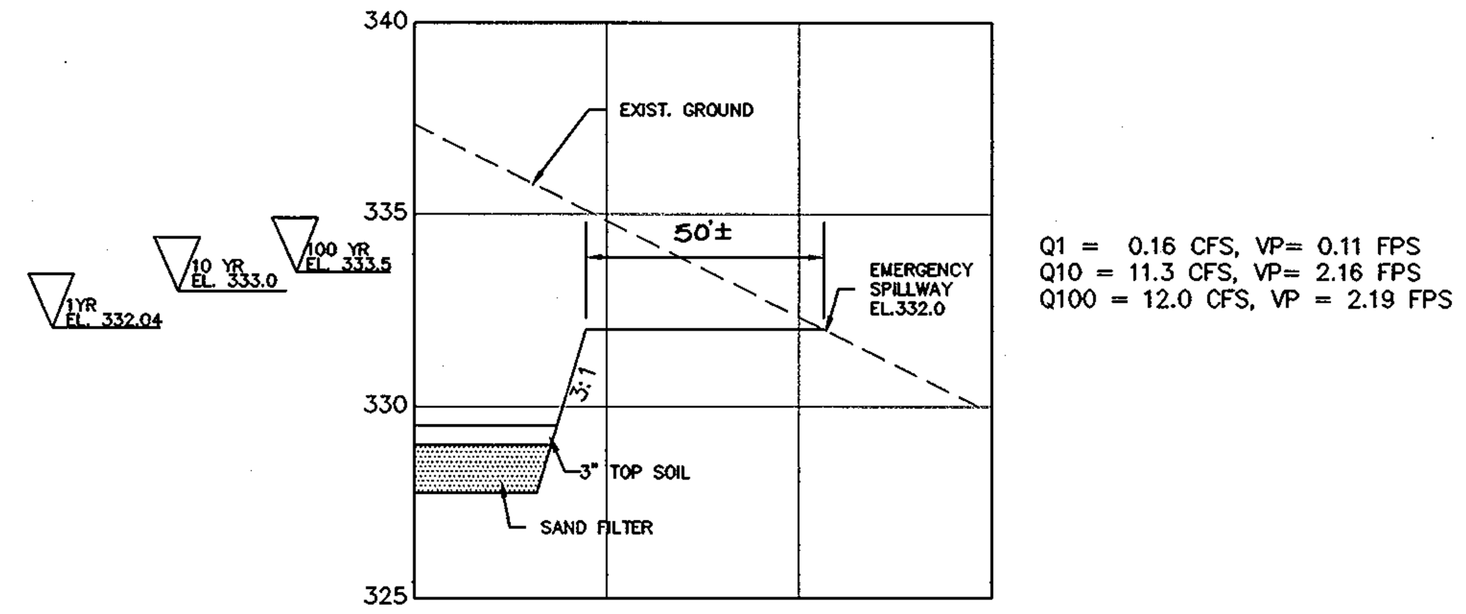
PLAN VIEW–FOREBAY
SCALE: 1"=50'



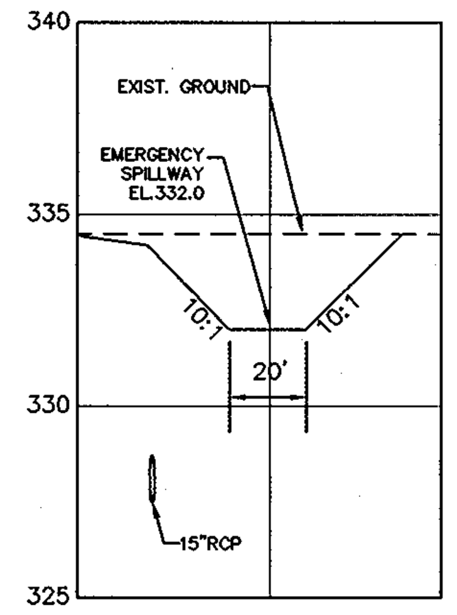
SECTION A – FOREBAY
SCALE: HOR. 1"=50'
VER. 1"=5'



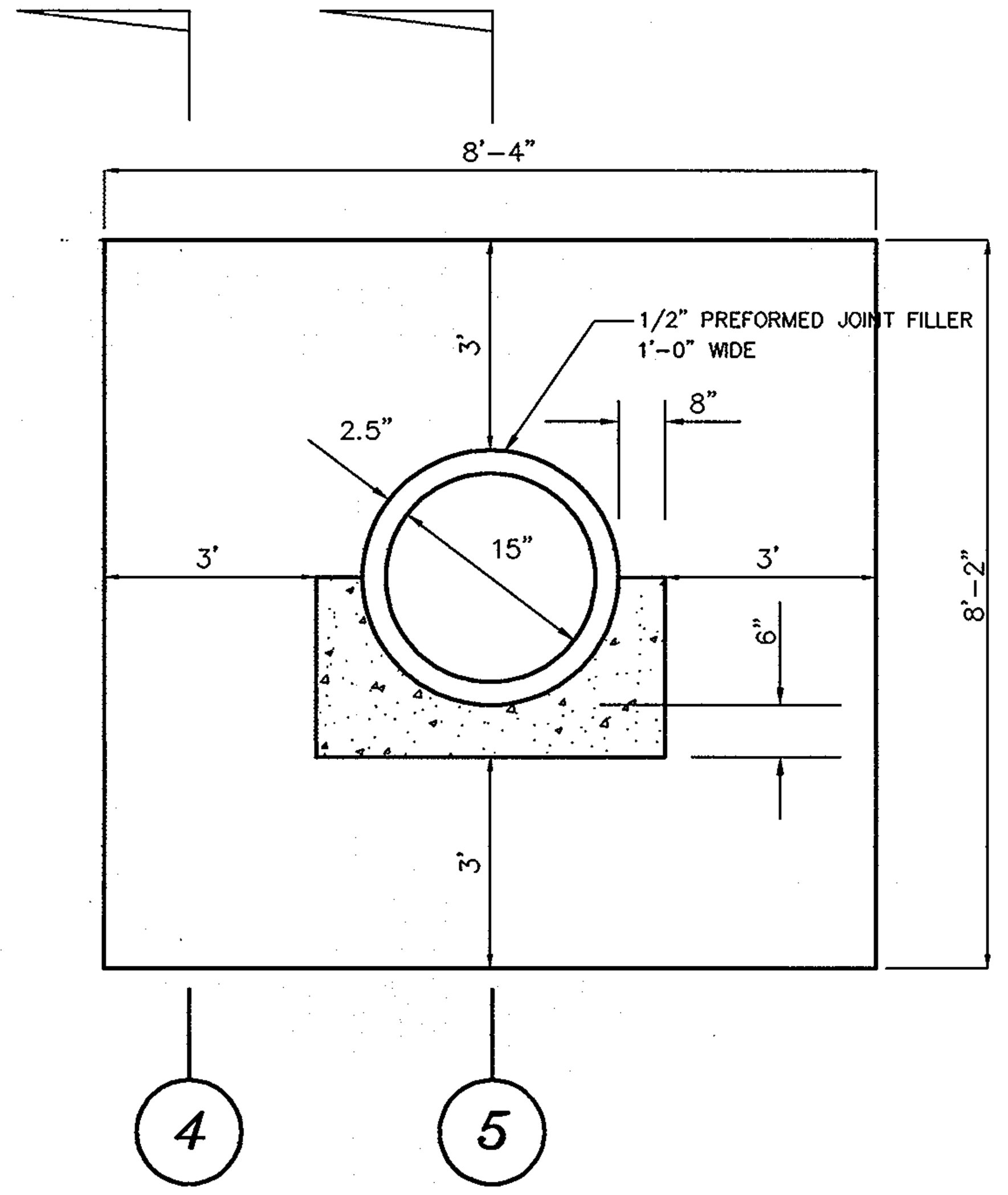
SECTION B – FOREBAY
SCALE: HOR. 1"=50'
VER. 1"=5'



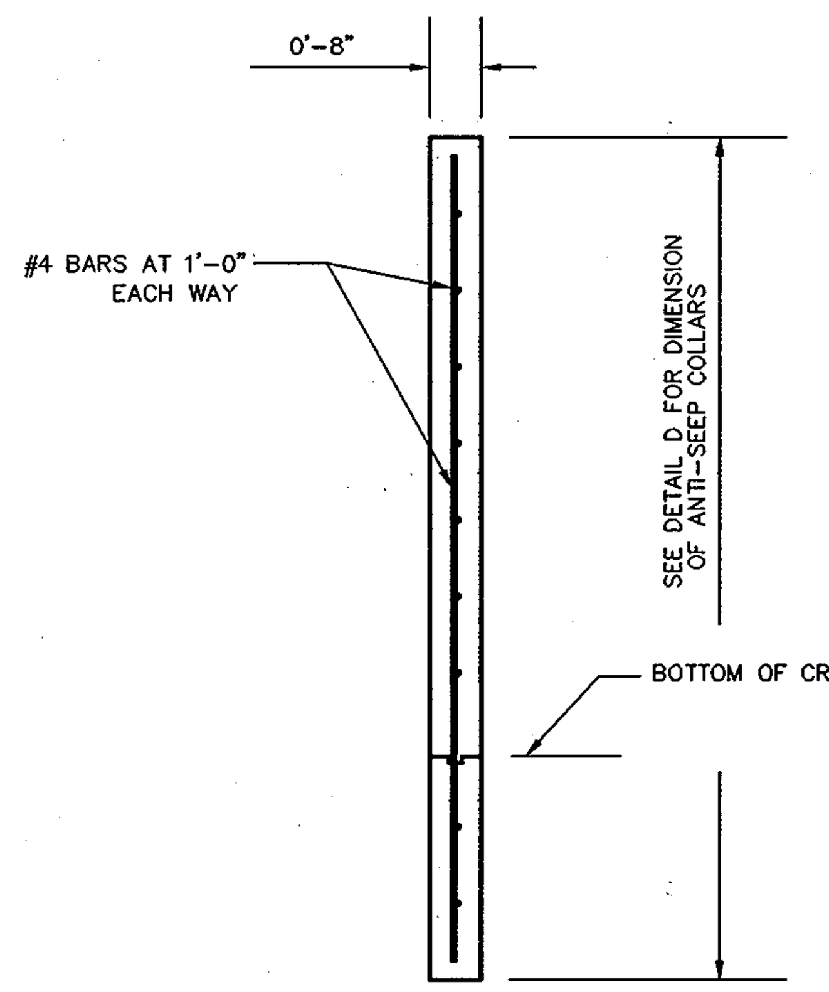
PROFILE – EMERGENCY SPILLWAY
SCALE: HOR. 1"=50'
VER. 1"=5'



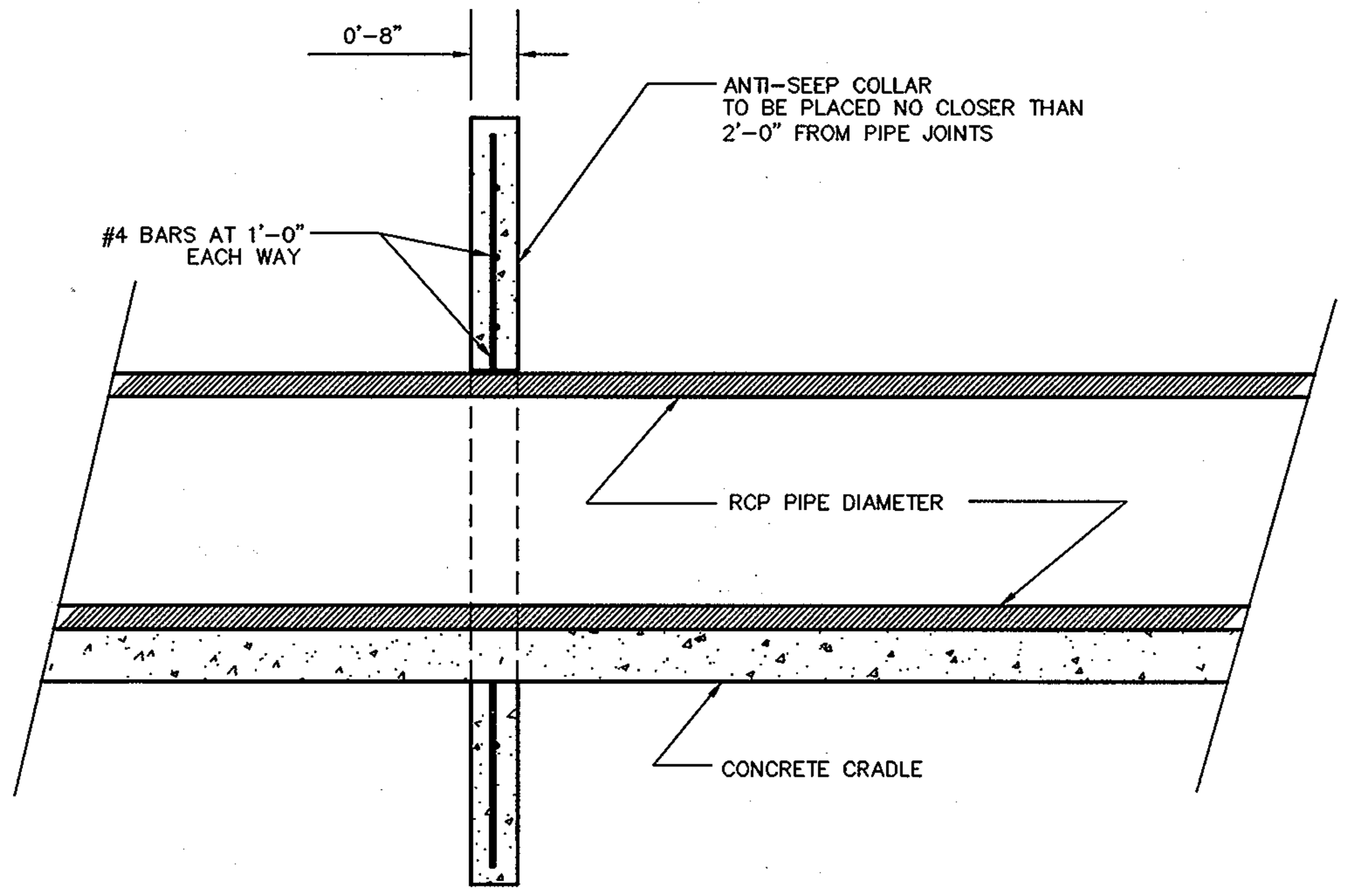
SECTION – EMERGENCY SPILLWAY
SCALE: HOR. 1"=50'
VER. 1"=5'



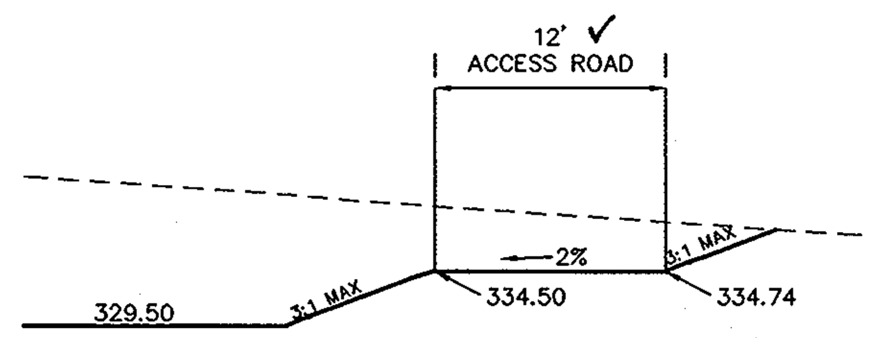
ANTI-SEEP COLLAR DETAIL (D)
N.T.S.



SECTION (4)
N.T.S.

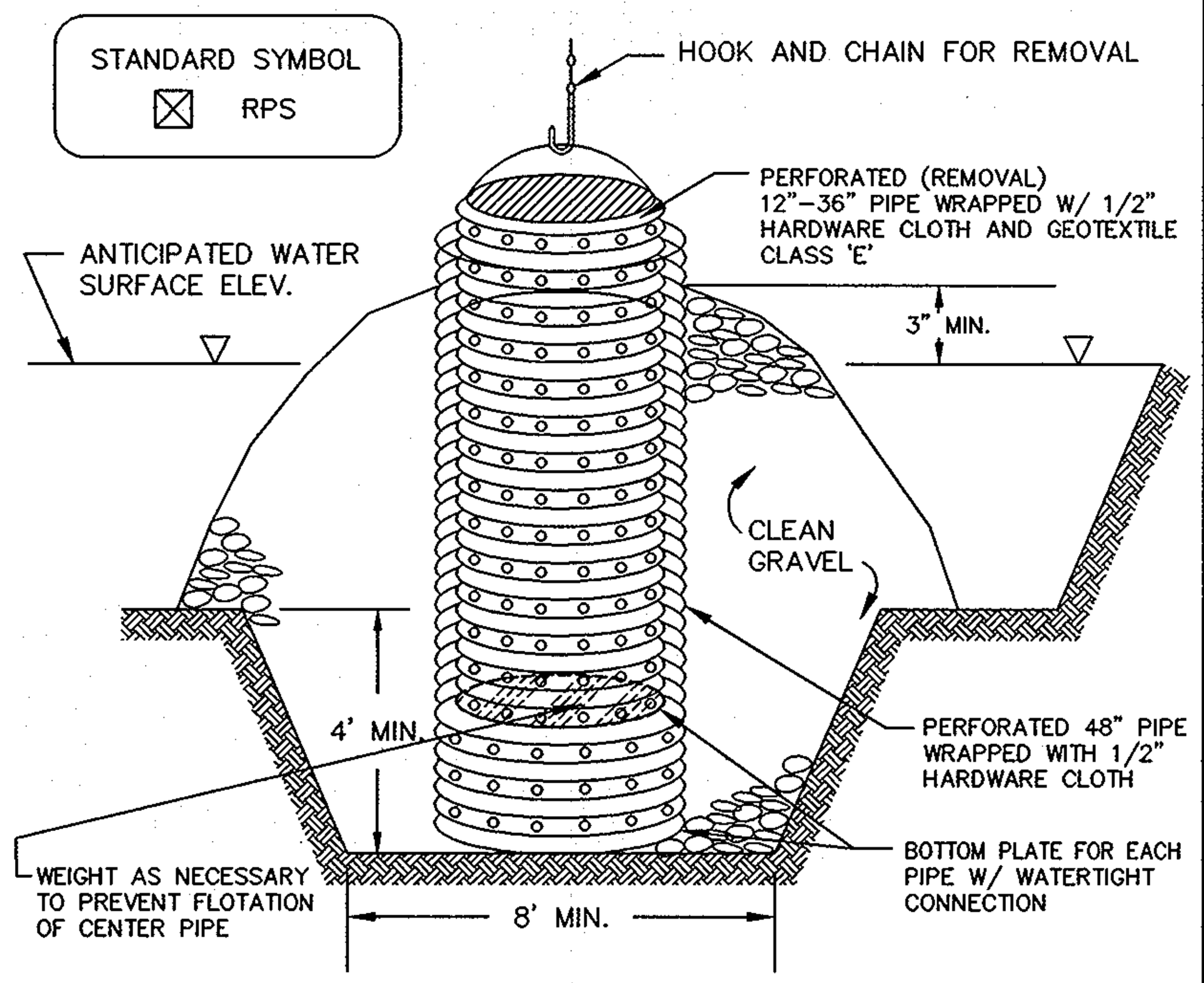


SECTION (5)
N.T.S.



SECTION–ACCESS ROAD
N.T.S.

DETAIL 20A - REMOVABLE PUMP STATION



ELEVATION (CUT AWAY)

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D-12-5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SPECIFICATIONS FOR REMOVABLE PUMP STATION

12.0 DEWATERING SPECIFICATIONS
FOR
REMOVABLE PUMPING STATION

Description of Practice

A temporary sturcture which is used to remove water from exacvated areas, sediment traps and basins.

Purpose

The pumping staton provides a device that fiters sediment laden water for pumping to a suitable discharge area.

Conditions Where Practice Applies

The pumping station will be used to dewater sediment traps and basins for maintenance or removal.

Design Criteria

A design is not requierd but construction must conform to the general criteria outlined on the next page.

A perforated vertical stand pipe is placed inside another pipe. The outside pipe is then enveloped by a cone of washed 2' aggreagate. Water is then pumped from the center of the inside pipe to a suitable dischage area.

Water pumped from the standpipe should discharge into a sediment traap, sediment basin of stabilized area. If water from the sump pit will be pumped directley to a storm drainage system, geotextile fabric and wire mesh must be wrapped around the standpipe to ensure clean water discharge.

Water pumped from the standpipe should discharge into a sediment trap, sediment basin or stabilized area.

Construction Specifications

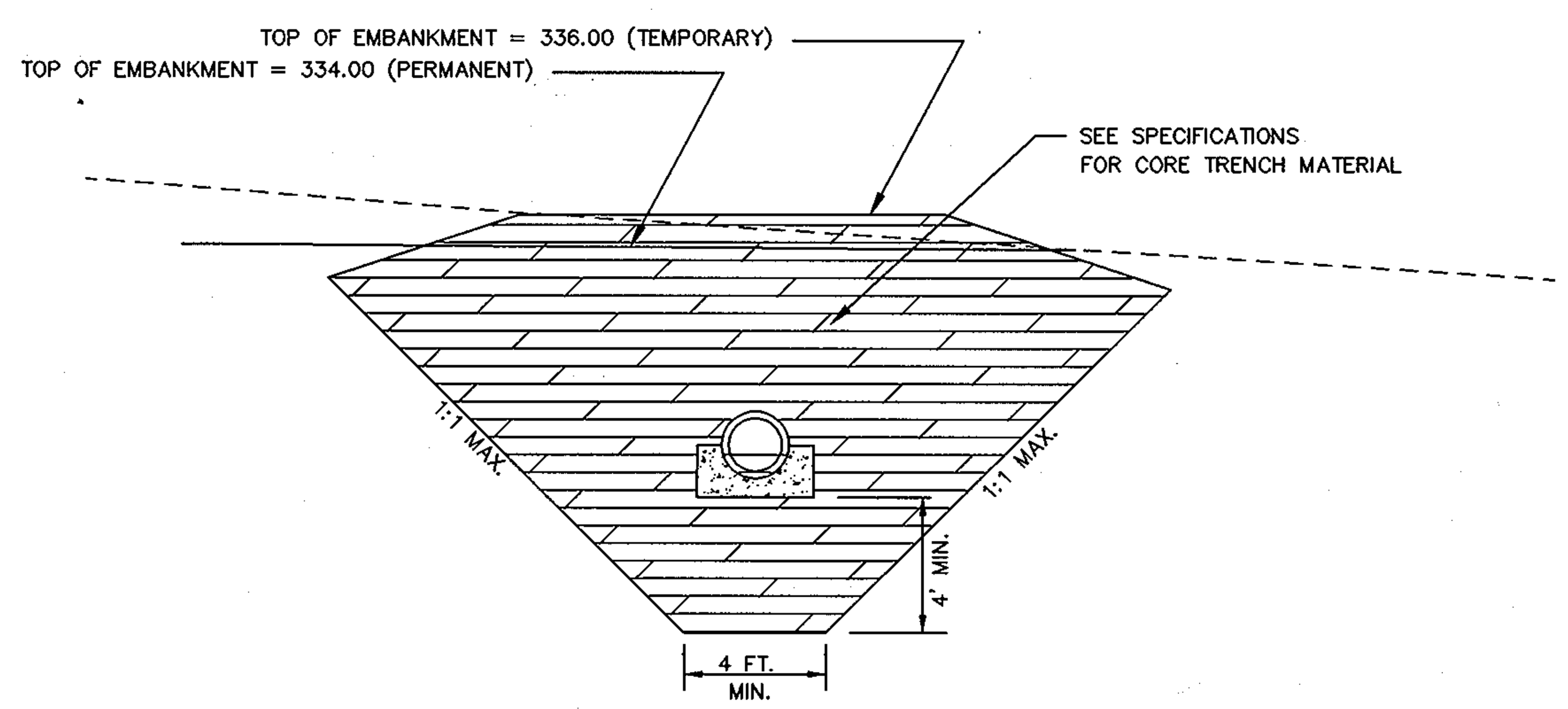
1. the inner pipe shall be constructed by perforating a 12' to 36' diameter pipe with a watertight cap on the bottom end and wrapping it with 1/2' hardware cloth and Geotexrile Class E. The perforations shall be 1/2'X6' slits or 1' diameter holes 6' on center.

2. The outer pipe shall be at least 4' larger in diameter than the inside pipe. Both the inner and outer pipes should extend 12' to 18' above the riser crest elevation, or anticipated high water elevation.

3. Filter material ranging from clean gravel (minimum fines) to #57 stone (1 1/2' maximum diameter) should be backfilled around the outer pipe.

4. The suction hose from the pump shall be placed inside the inner pipe to begin dewatering. the discharge hose shall be placed in a stabilized areas downslope of unstabilized area to prevent erosion. Meadow or wooded areas are preferred discharge locations, but storm drains and paved areas are acceptable.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D-12-5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



CORE TRENCH DETAIL
N.T.S.

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

STATE OF MARYLAND PROFESSIONAL ENGINEER No. 17942

DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
C/O DONALD REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/10/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7/30/04

02-007\DWG\FINAL\SWMDETAILS2.DWG

project	date
2002-007	JUNE 2004
illustration	engineering
HSP	HSP
scale	approval
NTS	JBM

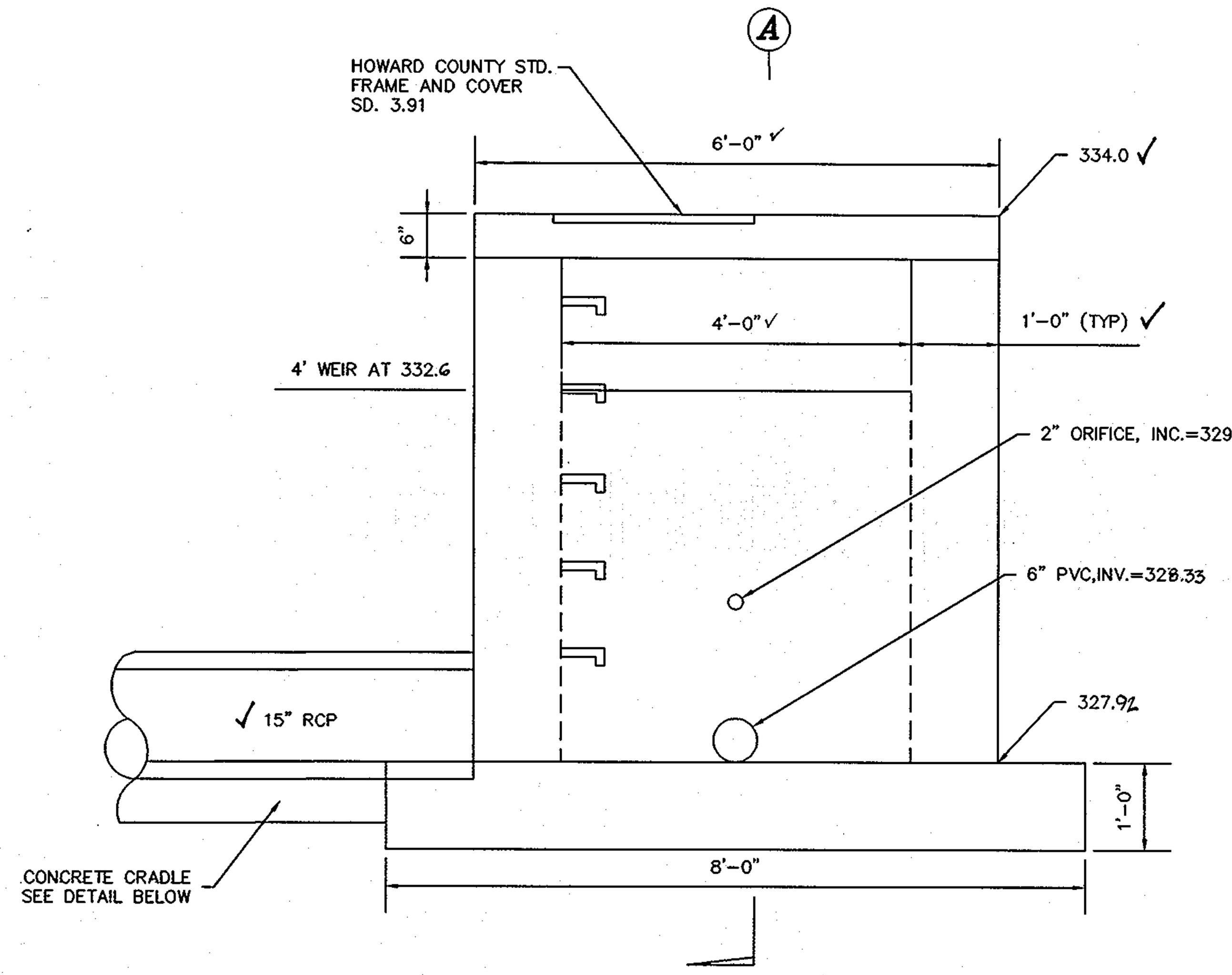
no.	description	date
1	AS-BUILT INFORMATION ADDED,	OCT. 06
2	AS-BUILT CHANGES	9/08

revisions

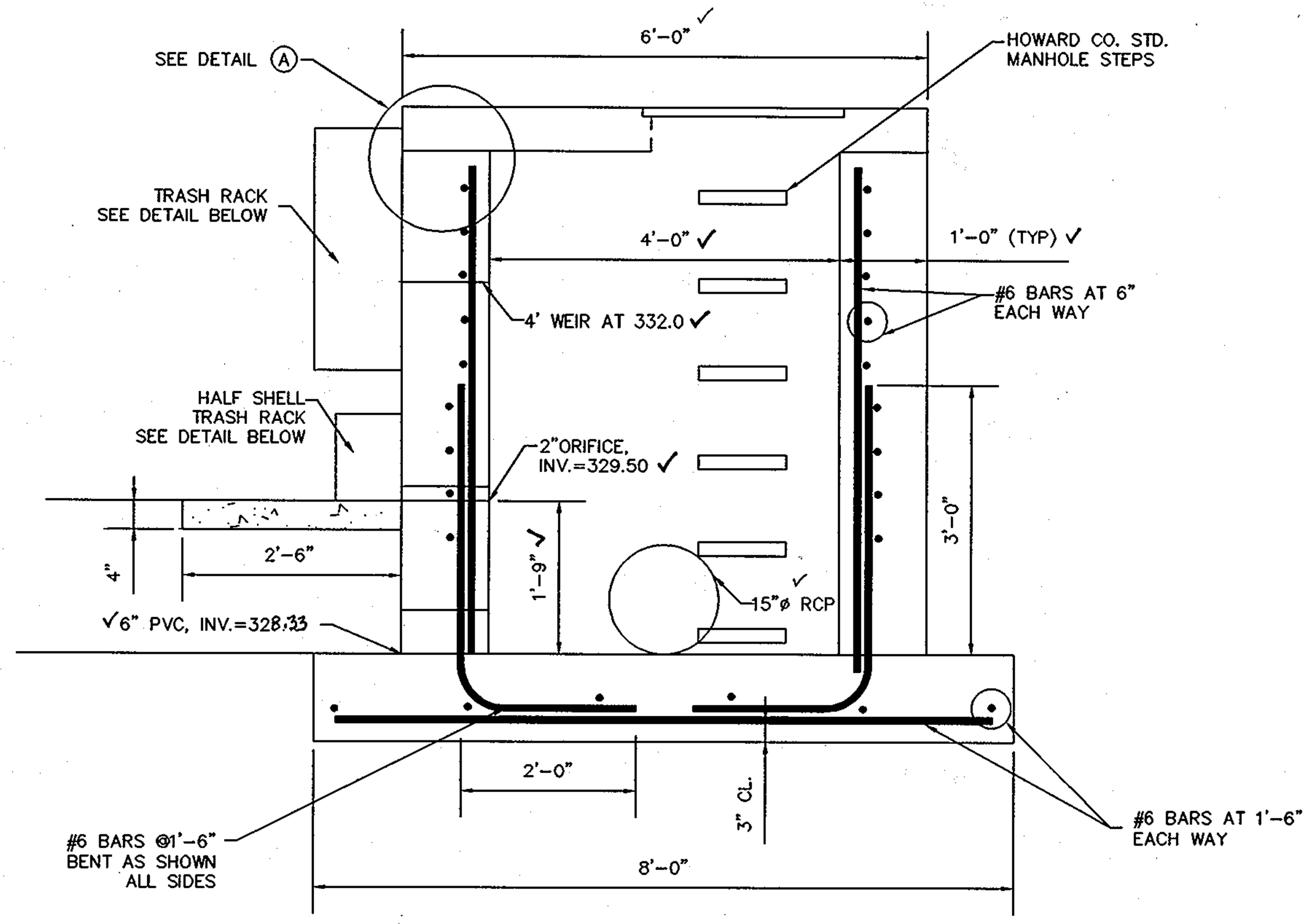
ILCHESTER OAKS
LOTS 1 THRU 22 & OPEN SPACES 23 THRU 26 & BULK PARCEL "A"
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
STORMWATER MANAGEMENT DETAILS

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

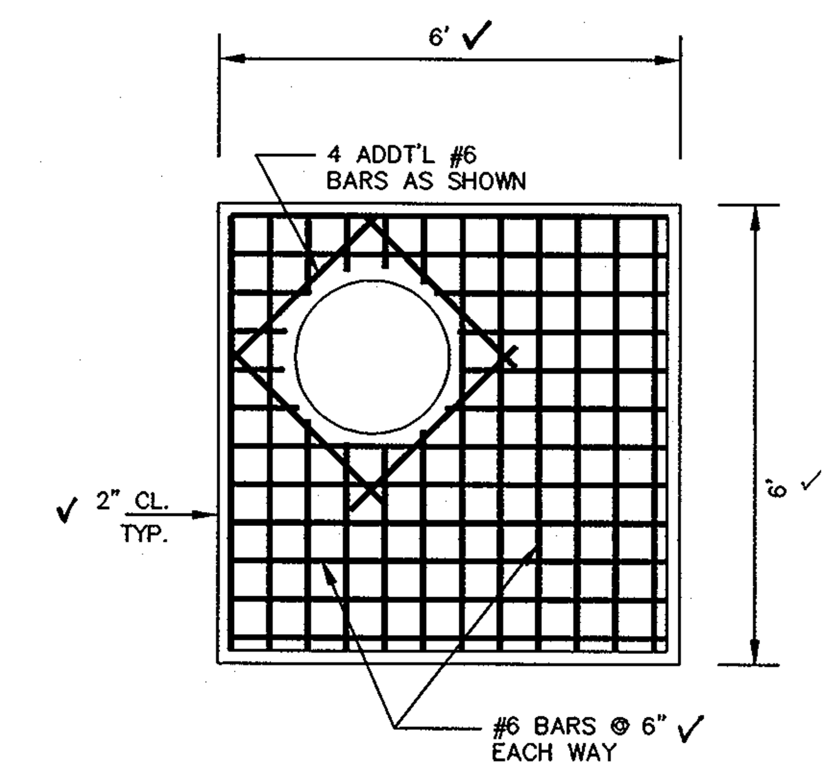
F- 04-3



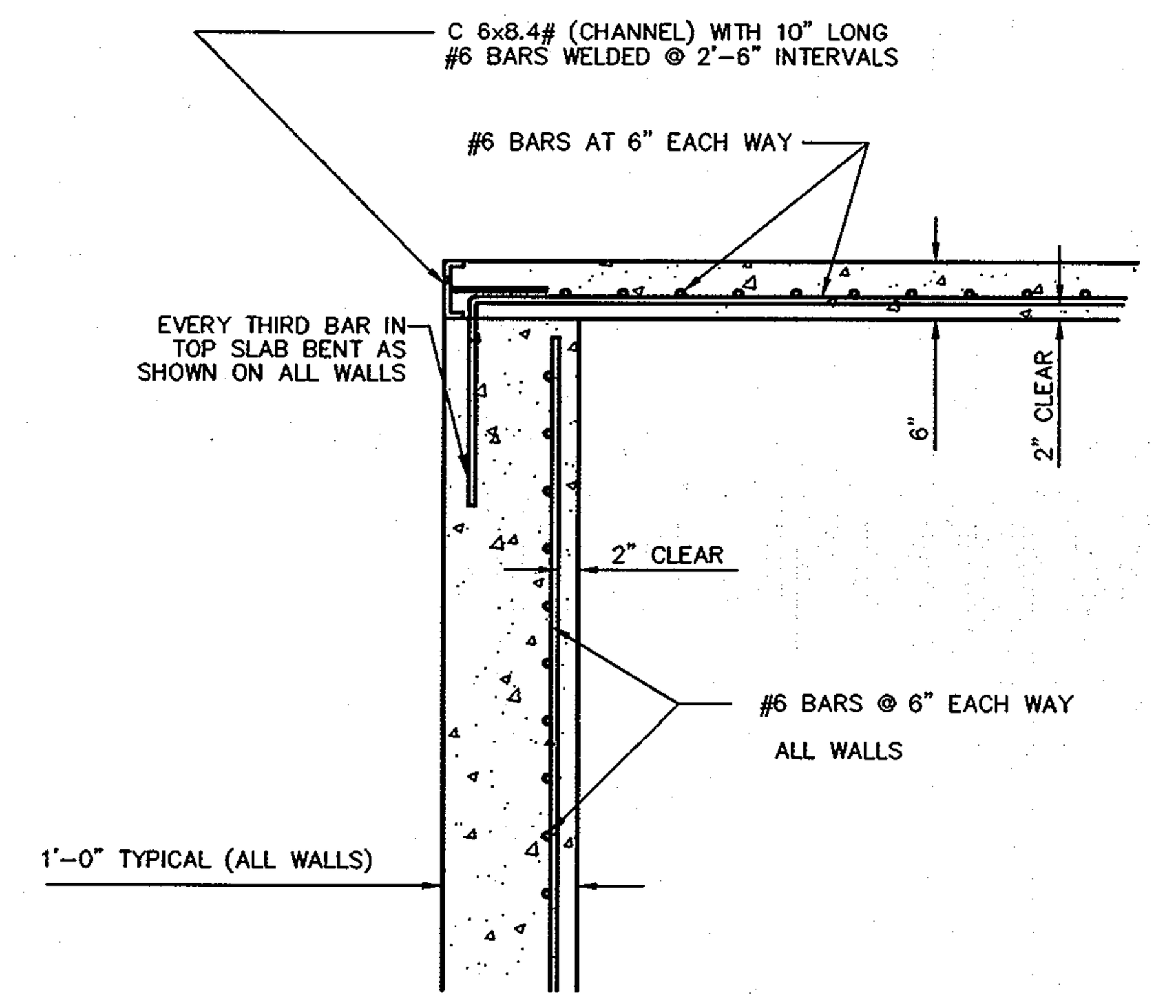
FRONT WALL ELEVATION
N.T.S.



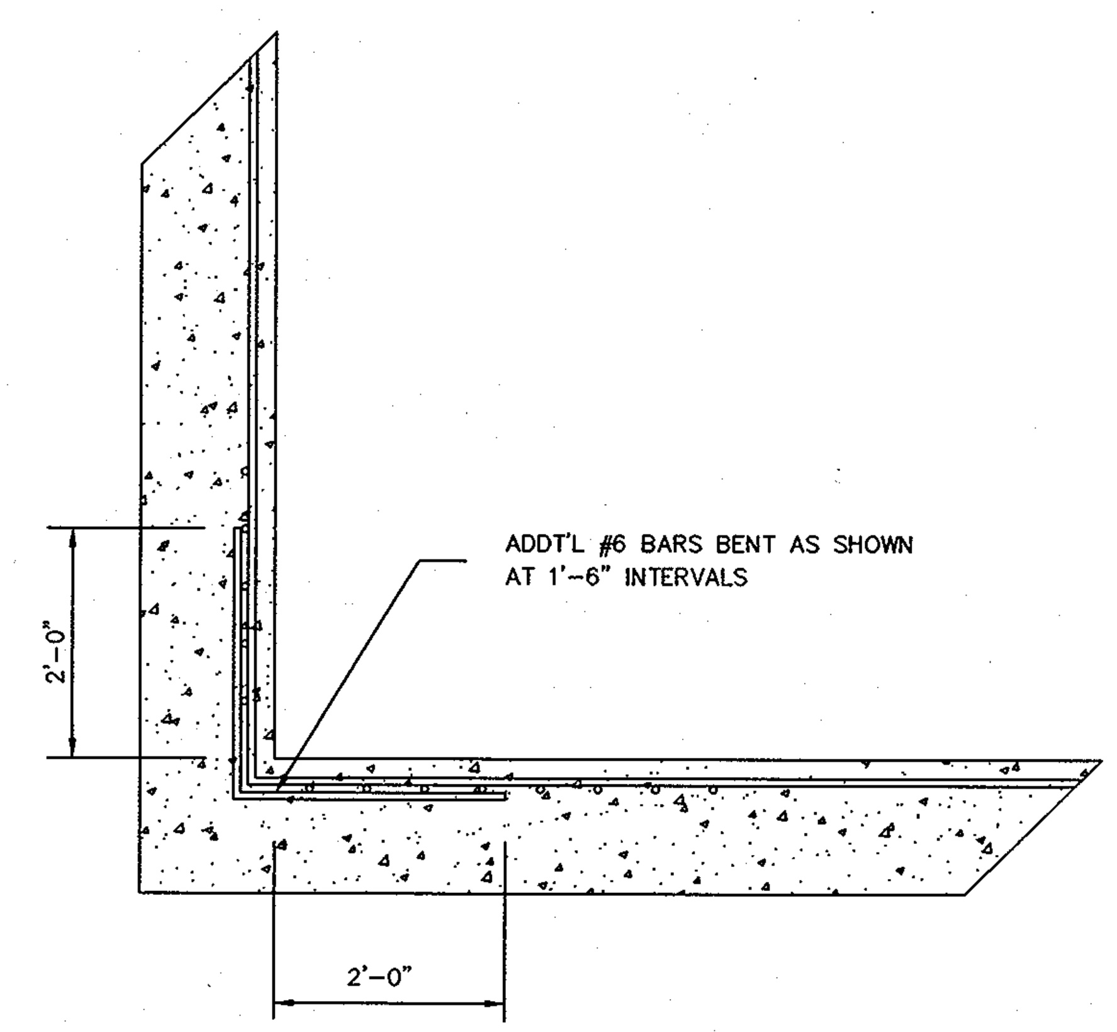
SECTION 1
N.T.S.



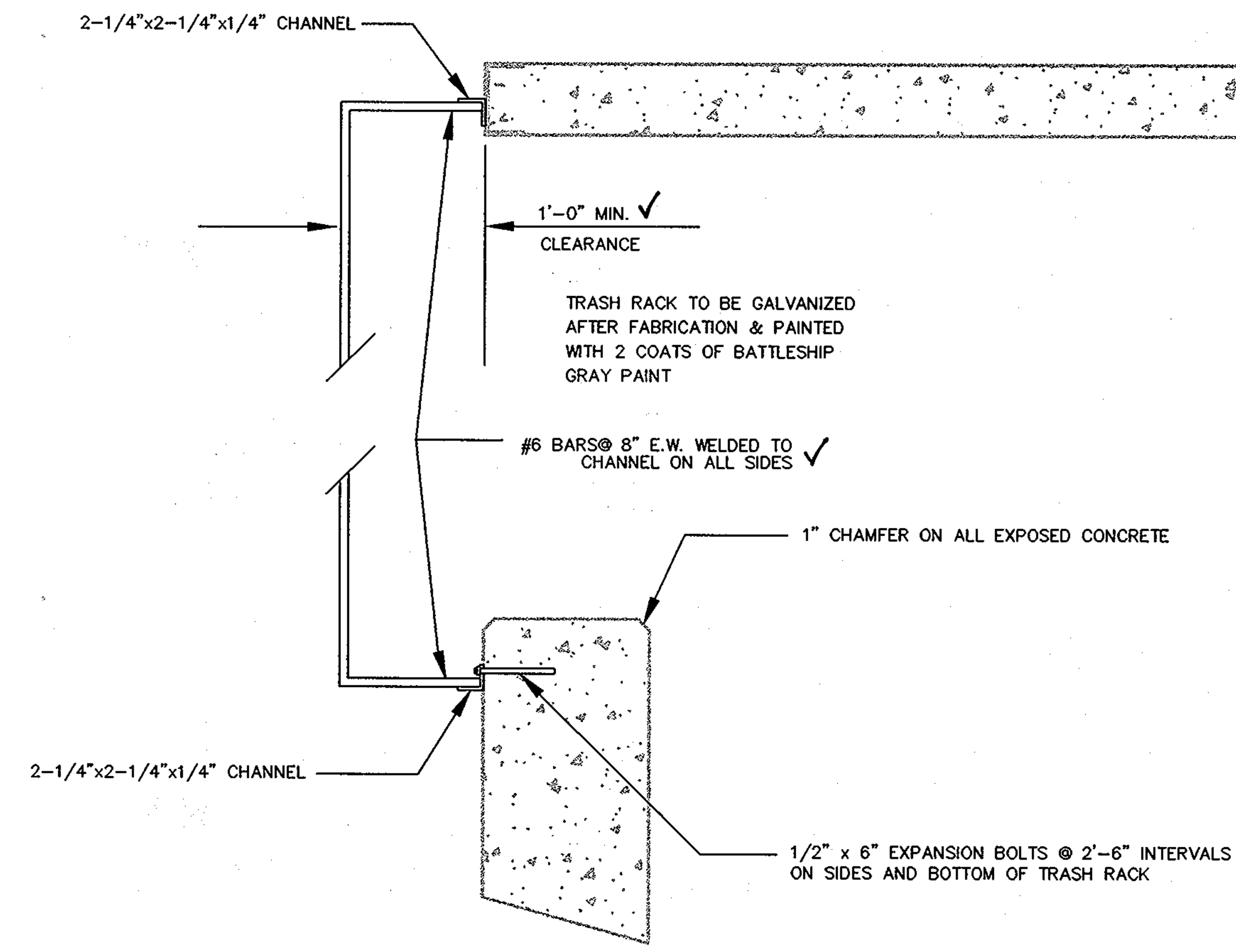
TOP SLAB DETAIL
N.T.S.



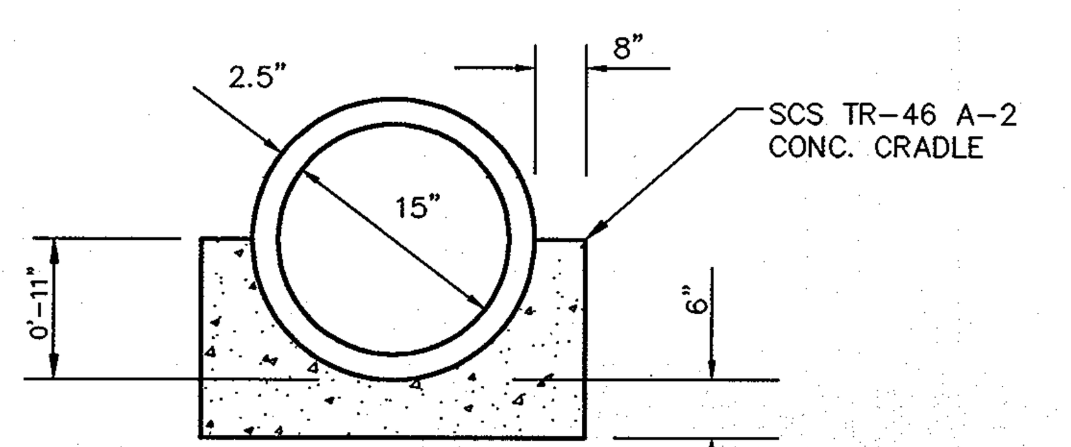
DETAIL A
N.T.S.



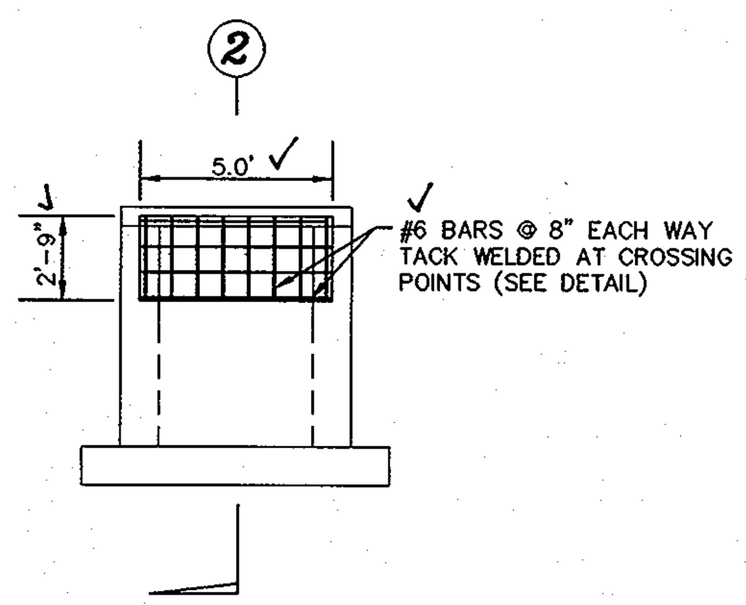
CORNER TREATMENT DETAIL
N.T.S.



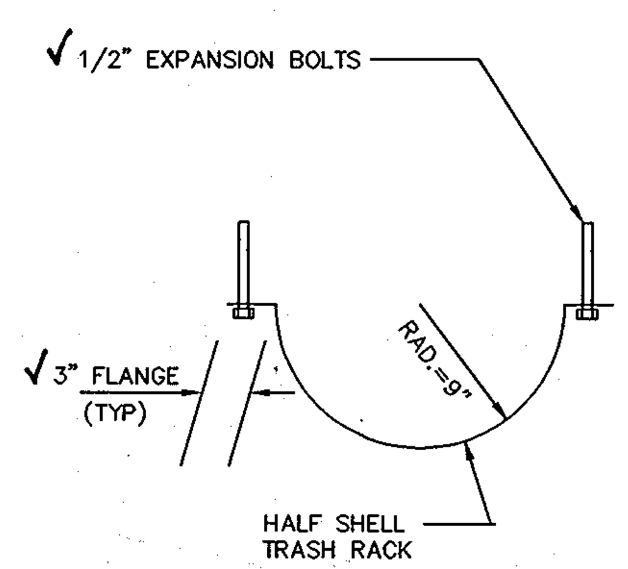
SECTION 2
N.T.S.



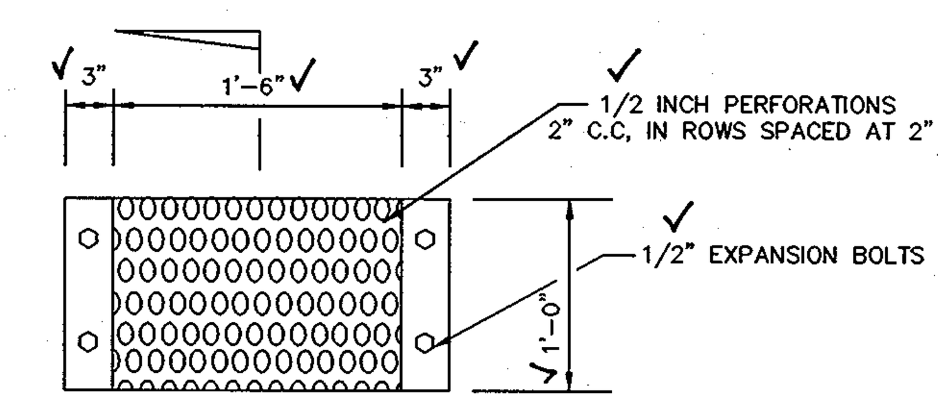
CONCRETE CRADLE
N.T.S.



TRASH RACK
N.T.S.



SECTION 3



HALF SHELL TRASH RACK
N.T.S.

NOTE:
HALF SHELL TRASH RACK TO BE HOT DIPPED GALVANIZED AND PAINTED BATTLESHIP GRAY.

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

STATE OF MARYLAND — R. JACOB HIKMAT — No. 17942 — PROFESSIONAL ENGINEER

DEVELOPER
ELLICOTT CITY LAND HOLDING, INC.
C/O DONALD REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

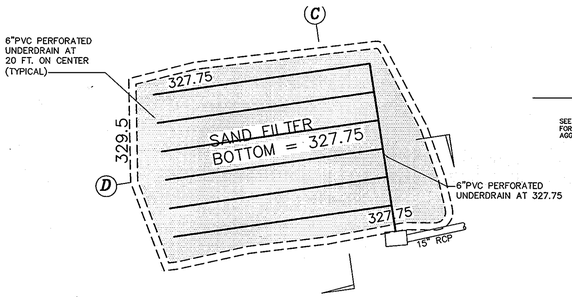
APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/10/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7/30/04

project	date
2002-007	JUNE 2004
illustration	engineering
HSP	HSP
scale	approval
NTS	JBM

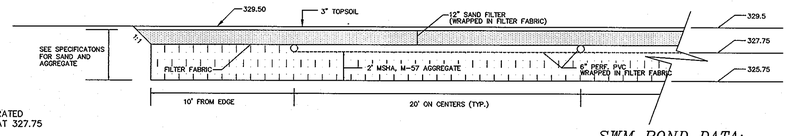
no.	description	date
1	AS-BUILT INFORMATION ADDED	OCT. 06
2	AS-BUILT CHANGES	4/08
	revisions	

ILCHESTER OAKS
LOTS 1 THRU 22 & OPEN SPACES 23 THRU 26 & BULK PARCEL "A"
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
STORMWATER MANAGEMENT DETAILS

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.



PLAN – SAND FILTER

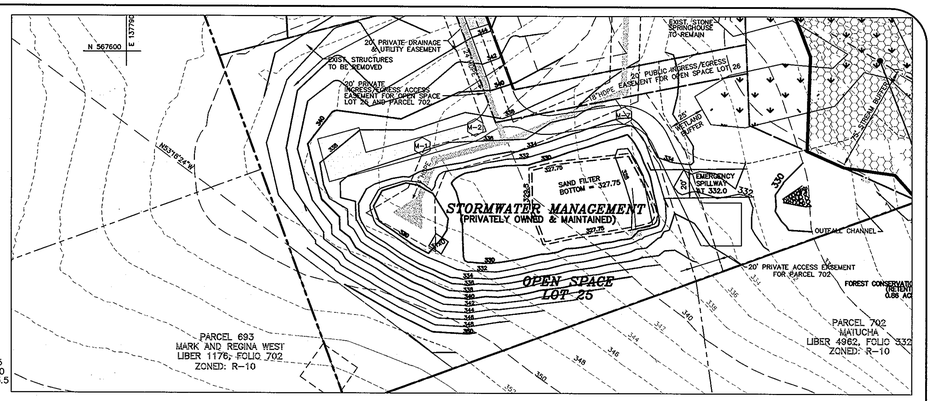


SECTION C

SCALE: 1"=5'

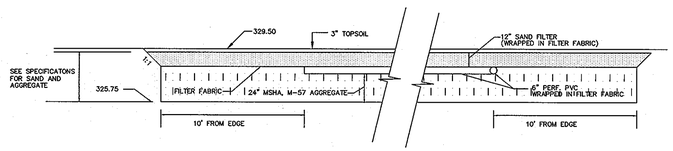
SWM POND DATA:

HAZARD CLASSIFICATION:	"A"
DRAINAGE AREA:	= 25.4 AC
PROPOSED RCN:	= 72
PROPOSED Tc:	= 0.33 HRS.
SAND FILTER AREA (Wqv):	3,896 SQ. FT.
EXTENDED DETENTION WSEL:	331.6
10 YR. WSEL:	333.0
100 YR. WSEL:	333.6
Wqv REQUIRED:	= 10,122 Cu. Ft.
Wqv PROVIDED:	= 59,245 Cu. Ft.
Rev REQUIRED:	= 3,031 Cu. Ft.
Rev PROVIDED:	= 3,117 Cu. Ft.
Cpv Peak (OUT OF SWMF)	= 0.16 CFS @ EL.= 331.5
10 YR. Q (OUT OF SWMF)	= 57.7 CFS @ EL.= 333.0
100 YR. Q (OUT OF SWMF)	= 105.2 CFS @ EL.= 333.5
OWNERSHIP:	PRIVATE
MAINTENANCE:	PRIVATE



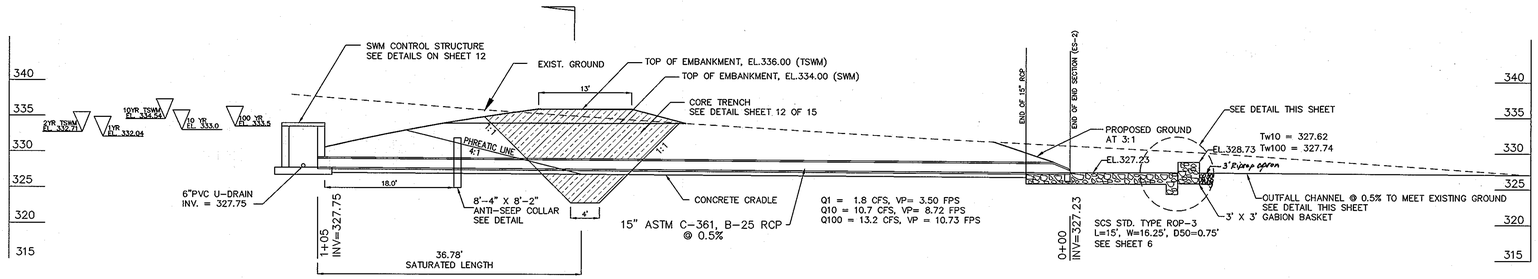
PLAN – STORMWATER MANAGEMENT

SCALE: 1"=50'



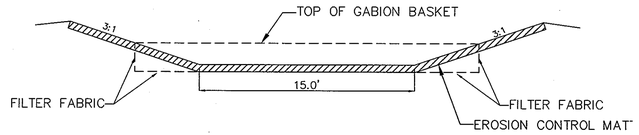
SECTION D

SCALE: 1"=5'



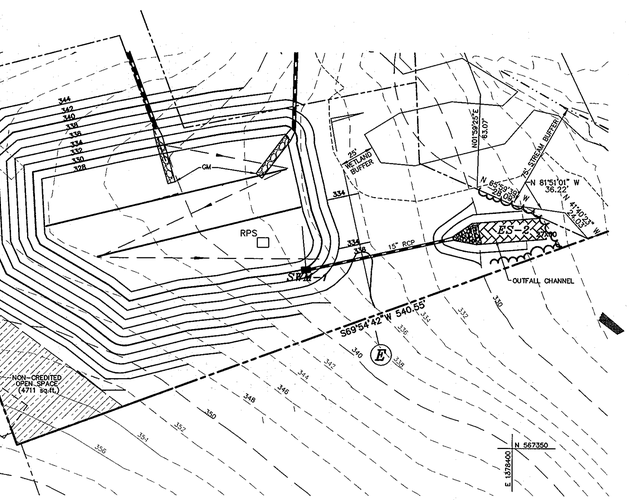
PROFILE – PRINCIPLE SPILLWAY

SCALE: 1"=10'



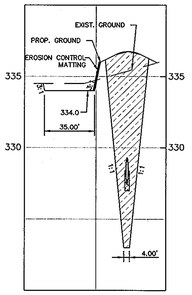
DETAIL – OUTFALL CHANNEL

NTS



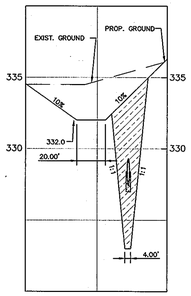
PLAN – TEMPORARY SEDIMENT BASIN

SCALE: 1"=50'



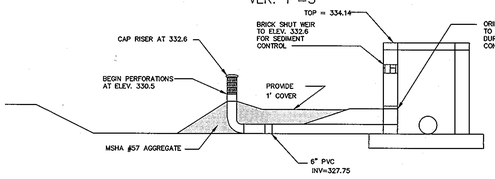
SECTION E – TSWM

SCALE: HOR. 1"=50'
VER. 1"=5'



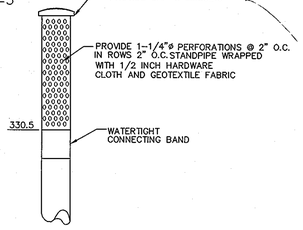
SECTION E – SWM (PERMANENT)

SCALE: HOR. 1"=50'
VER. 1"=5'



DETAIL–TEMPORARY RISER

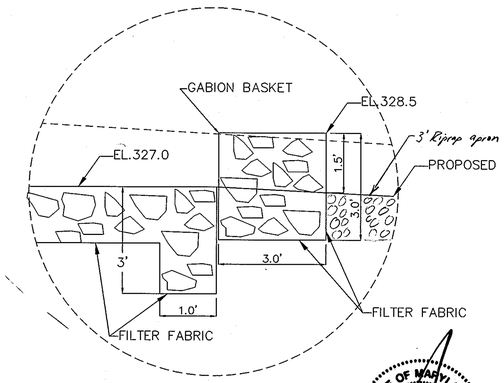
NTS



TEMPORARY STANDPIPE DETAIL

NTS

1. THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 4 TIMES THE AREA OF THE INTERNAL ORIFICE.
2. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
3. PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATATION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE OR 1" x 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.



DETAIL

NTS

EXIST. DRAINAGE AREA	22.96 AC.
PROP. DRAINAGE AREA	25.4 AC.
REQ'D STORAGE	91,440 CU. FT.
STORAGE PROV'D @ 332.6	91,440 CU. FT.
WET STORAGE REQ'D	45,720 CU. FT.
WET STORAGE PROV'D @ 330.5	46,537 CU. FT.
DRY STORAGE REQ'D	45,720 CU. FT.
DRY STORAGE PROV'D @ 332.6	45,720 CU. FT.
CLEANOUT ELEV.	329.2
BOTTOM ELEV.	327.75
Q2 EXIST.	5.5 CFS
Q2 PROP. (TEMP)	2.3 CFS
Q10 (TEMP)	46.2 CFS
10 YR. WSEL	334.54
EMBANKMENT ELEV.	336.00

DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
C/O DONALD REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

PURPOSE NOTE:
SHOW AS-BUILT POND GRADING, REMOVE PIPE STEMS, ACCESS EASEMENT AROUND POND. REMOVE RETAINING WALL

APPROVED: DEPARTMENT OF PLANNING AND ZONNING

CHIEF, DIVISION OF LAND DEVELOPMENT — BY — DATE 11/24/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/20/08

STATE OF MARYLAND — R. JACOB MILLER — No. 17942 — PROFESSIONAL ENGINEER

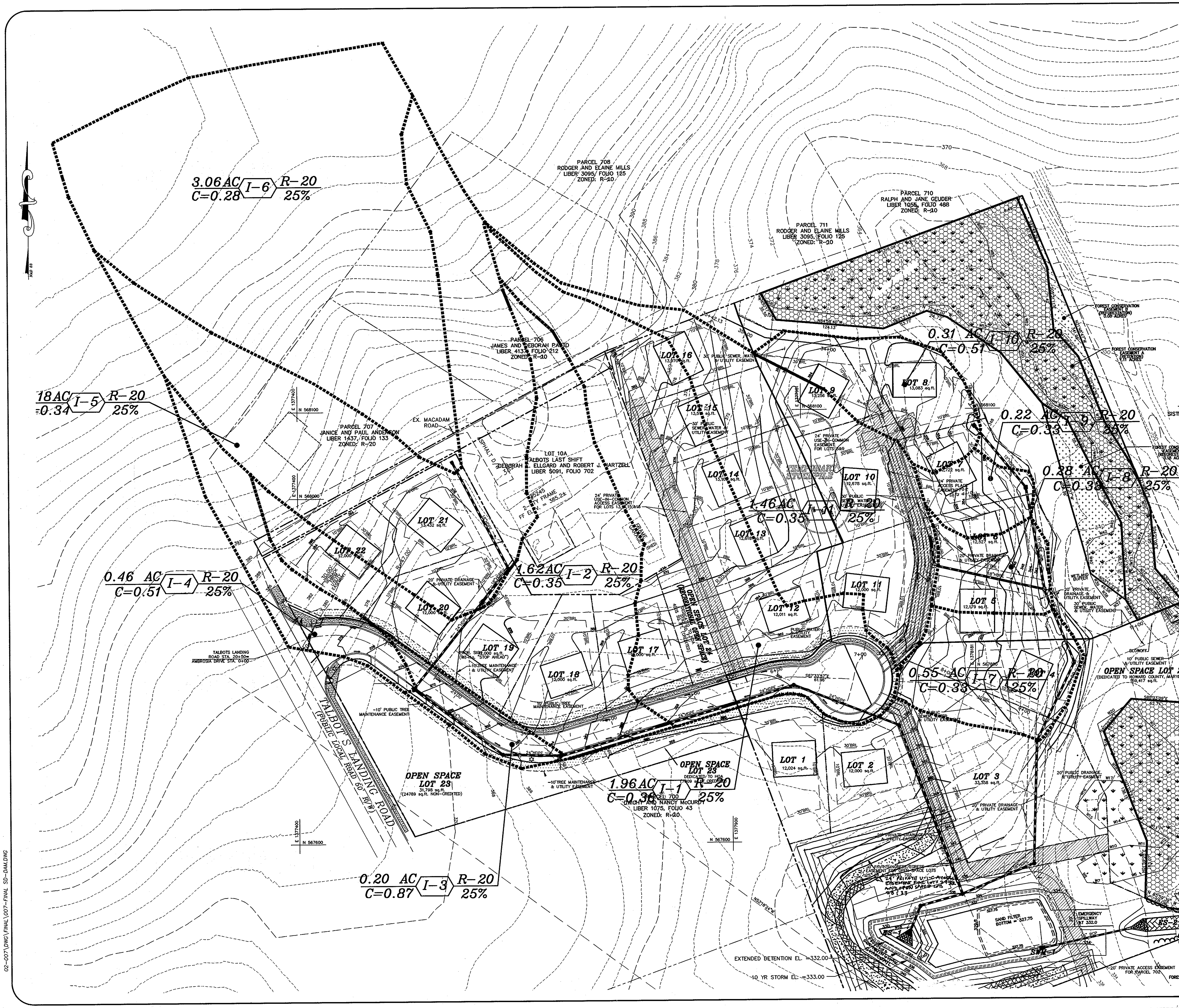
no.	description / revisions	date
1	SHOW AS-BUILT POND GRADING, REMOVE PIPE STEMS, ACCESS EASEMENT AROUND POND. REMOVE RETAINING WALL	10/27/08
1	REVISED PLAN TO REFLECT APPROVED F-06-081(ILCHESTER OAKS 2)	11/15/07

project	2002-007
illustration	HSP
scale	NTS
date	JUNE 2004
engineering	HSP
approval	JBM

ILCHESTER OAKS
LOTS 1 THRU 22 & OPEN SPACES 23 THRU 26 & BULK PARCEL "A"
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT — HOWARD COUNTY, MARYLAND
REVISED STORMWATER MANAGEMENT DETAILS

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

02-007\DWG\FINAL\SWMDETAILS2.DWG



DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/19/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7/30/04

project	date
2002-007	JUNE 2004
illustration	engineering
HSP	HSP
scale	approval
NTS	JBM

no.	description	date
1	REVISE PLANS TO REFLECT AFFECTED ...	

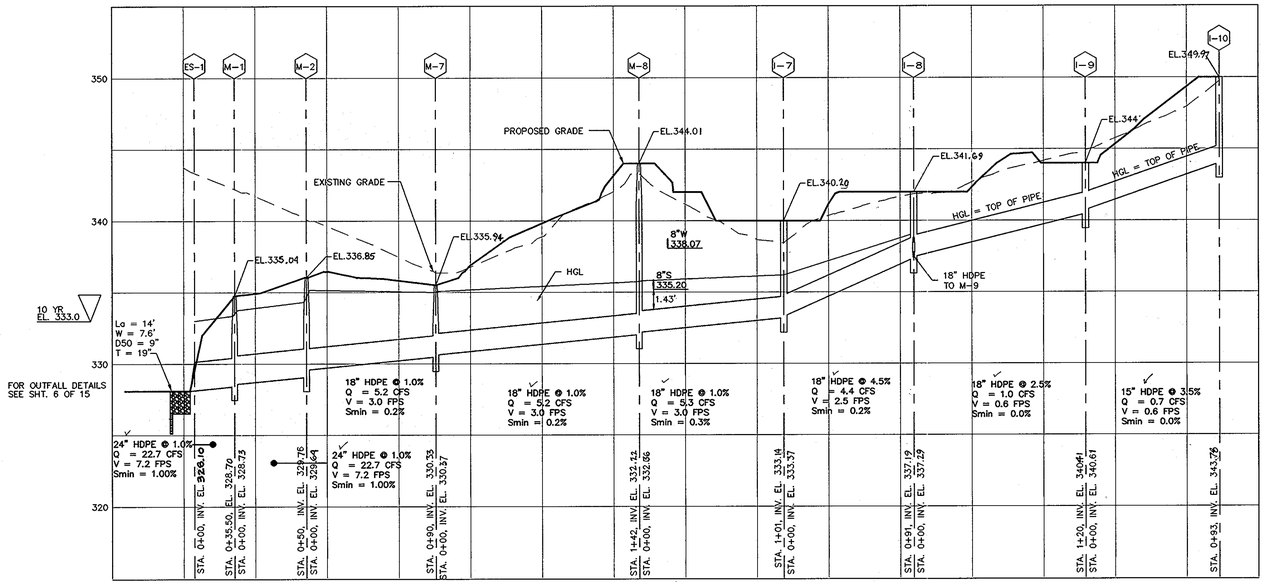
ILCHESTER OAKS

LOTS 1 THRU 22, OPEN SPACES 23 THRU 26 & NON-BUILDABLE PARCEL "A"
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

DRAINAGE AREA MAP

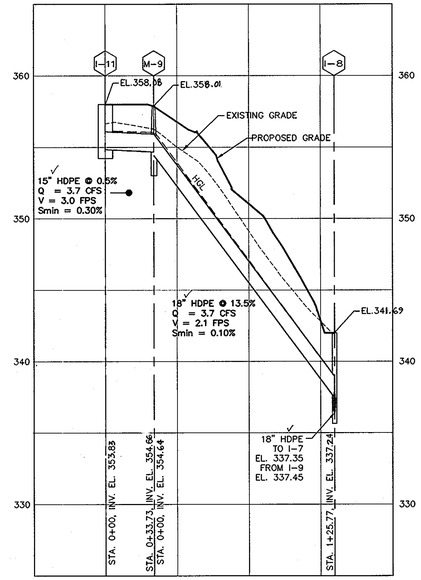
MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

F-04-36



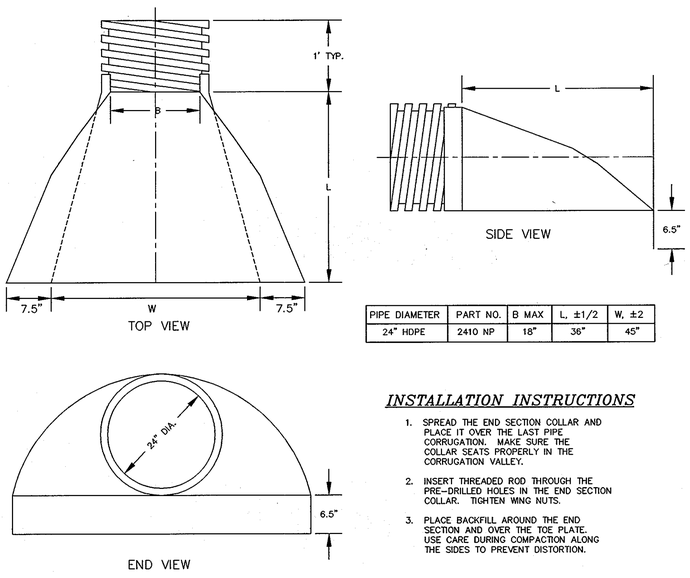
STORM DRAIN PROFILE FROM ES1 TO I-10

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



STORM DRAIN PROFILE FROM I-11 TO I-8

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



PIPE DIAMETER	PART NO.	B MAX	L, ±1/2	W, ±2
24" HDPE	2410 NP	18"	36"	45"

INSTALLATION INSTRUCTIONS

1. SPREAD THE END SECTION COLLAR AND PLACE IT OVER THE LAST PIPE CORRUGATION. MAKE SURE THE COLLAR SEATS PROPERLY IN THE CORRUGATION VALLEY.
2. INSERT THREADED ROD THROUGH THE PRE-DRILLED HOLES IN THE END SECTION COLLAR. TIGHTEN WING NUTS.
3. PLACE BACKFILL AROUND THE END SECTION AND OVER THE TOE PLATE. USE CARE DURING COMPACTION ALONG THE SIDES TO PREVENT DISTORTION.

HDPE END SECTIONS
(PART NO. 2410 NP)

NOT TO SCALE

MGWC 2.5: LIVE FASCINES

Woody vegetative system for bank stabilization

DESCRIPTION

Establishment of live fascines, also known as wattles, consists of the following:

- preparation of sausage-shaped bundles of live, woody plant cuttings,
- anchoring of these bundles in shallow ditches in a slope or streambank with live and/or inert stout stakes, and
- partial burial of the fascines to promote growth.

EFFECTIVE USES & LIMITATIONS

As with other bioengineering measures, live fascines are an economical method when materials are locally available. Additionally, wattling is often an effective measure when employed to:

- reduce runoff energy, and hence surface erosion, by breaking a slope into a series of shorter slopes,
- protect other bioengineering measures from washout and undercutting,
- replace brush layers on suitable cut slopes (since they are easier to install),
- protect streambanks from washout and seepage, particularly at toes where water levels fluctuate only moderately, and
- stabilize or protect streambanks for the following Rosgen stream types: B4, B5, B6, C1, C2, C3, C4, C5, C6, DA, E3, E4, E5, and E6.

Supplementary or alternative mitigating measures may be required for the following situations:

- streambanks with heavy surface drainage,
- areas of flashy flows,
- slopes subject to shallow mass movements (since fascines have a modest rooting depth), and
- the outsides of meander bends (high velocity areas of the channel).

MATERIAL SPECIFICATIONS

Willow, alder, and dogwood cuttings are well suited for use in live fascines. Fascine bundles can range from 5 to 30 feet (1.5 to 9 meters) in length, depending upon handling and transportation limitations, with diameters ranging from 4 to 10 inches (10 to 25 cm). Untreated twine or wire used to tie the bundles should be at least 2 millimeters thick. If inert (dead) stakes are employed to secure the bundles, they should be made from 2 by 4-inch (5 by 10-cm) lumber cut on the diagonal with lengths of 2.5 feet (0.8 meters) for cut slopes and 3 feet (0.9 meters) for fill slopes.

Approximate Cost (SI1999)
$5.50-$22 per linear ft

INSTALLATION GUIDELINES

Live fascine construction should occur during the dormancy period, usually late fall to early spring, with bundle preparation proceeding as follows (refer to Detail 2.5):

- the growing tips of all branches should be oriented downstream in the same direction, and

MGWC 2.5: LIVE FASCINES

- bundles should be tied every 12 to 18 inches (30-to-45 cm) along their lengths.

The initial row of bundles should be positioned at the height of the normal summer water level such that one half to two thirds of the bundle is submerged. These toe bundles should be protected from washout by positioning them on brush layers extending 20 to 31 inches (50 to 80 cm) into the stream. Project planners may need to study an aptly chosen vegetated reference reach for further guidance when installing live fascines.

All bundles should be anchored in trenches dug to a depth at least one-half the bundle diameter. Inert stakes should be driven every 12 to 39 inches (30 to 100 cm) through and below the lengths of the fascines with extra stakes used at bundle overlaps. The length of overlap should be approximately 1 to 3 feet (0.3 to 0.9 meters). Live stakes can be employed on the down slope side of the fascine rows or through the bundles with the tops of the stakes extending 2 to 3 inches (5 to 8 cm) above the bundle tops. Soil should be tamped into and along the sides of the bundles, leaving the top 2 inches (5 cm) exposed to promote growth.

Additional fascine rows should be installed up the slope at predetermined intervals. If the slope is dry a majority of the time, bundles should be arranged parallel to the contour according to Table 2.5a.

Table 2.5a: Fascine Spacing on Dry Slope

Slope Steepness	Contour Distance
1:1 to 1.5:1	3-4 ft (0.9-1.2 m)
1.5:1 to 2:1	4-5 ft (1.2-1.5 m)
2:1 to 2.5:1	5-6 ft (1.5-1.8 m)
2.5:1 to 3:1	6-8 ft (1.8-2.4 m)
3.5:1 to 4:1	8-9 ft (2.4-2.7 m)
4.5:1 to 5:1	9-10 ft (2.7-3.0 m)

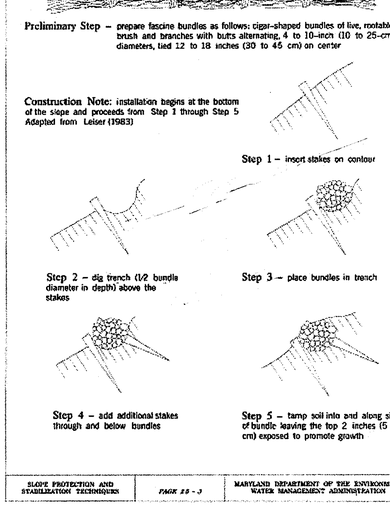
Conversely, if the slope is excessively wet, bundles should be installed at an angle to the contour to expedite slope drainage as dictated in Table 2.5b.

Table 2.5b: Fascine Spacing on Wet Slope

Slope Steepness	Contour Distance
1:1 to 1.5:1	2-3 ft (0.6-0.9 m)
1.5:1 to 2:1	3-5 ft (0.9-1.5 m)
2:1 to 2.5:1	3-5 ft (0.9-1.5 m)
2.5:1 to 3:1	4-5 ft (1.2-1.5 m)
3.5:1 to 4:1	5-7 ft (1.5-2.1 m)
4.5:1 to 5:1	6-8 ft (1.8-2.4 m)

Straw or mulching material should be spread between fascine rows on slopes flatter than 1.5:1, and jute or coir fabric should be used on slopes greater than 1.5:1 to control erosion until the fascine rows and supporting vegetation become established.

Maryland's Guidelines To Waterway Construction
DETAIL 2.5: LIVE FASCINES



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

DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF BUREAU OF HIGHWAYS — DATE 7-27-04

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/19/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7/29/04

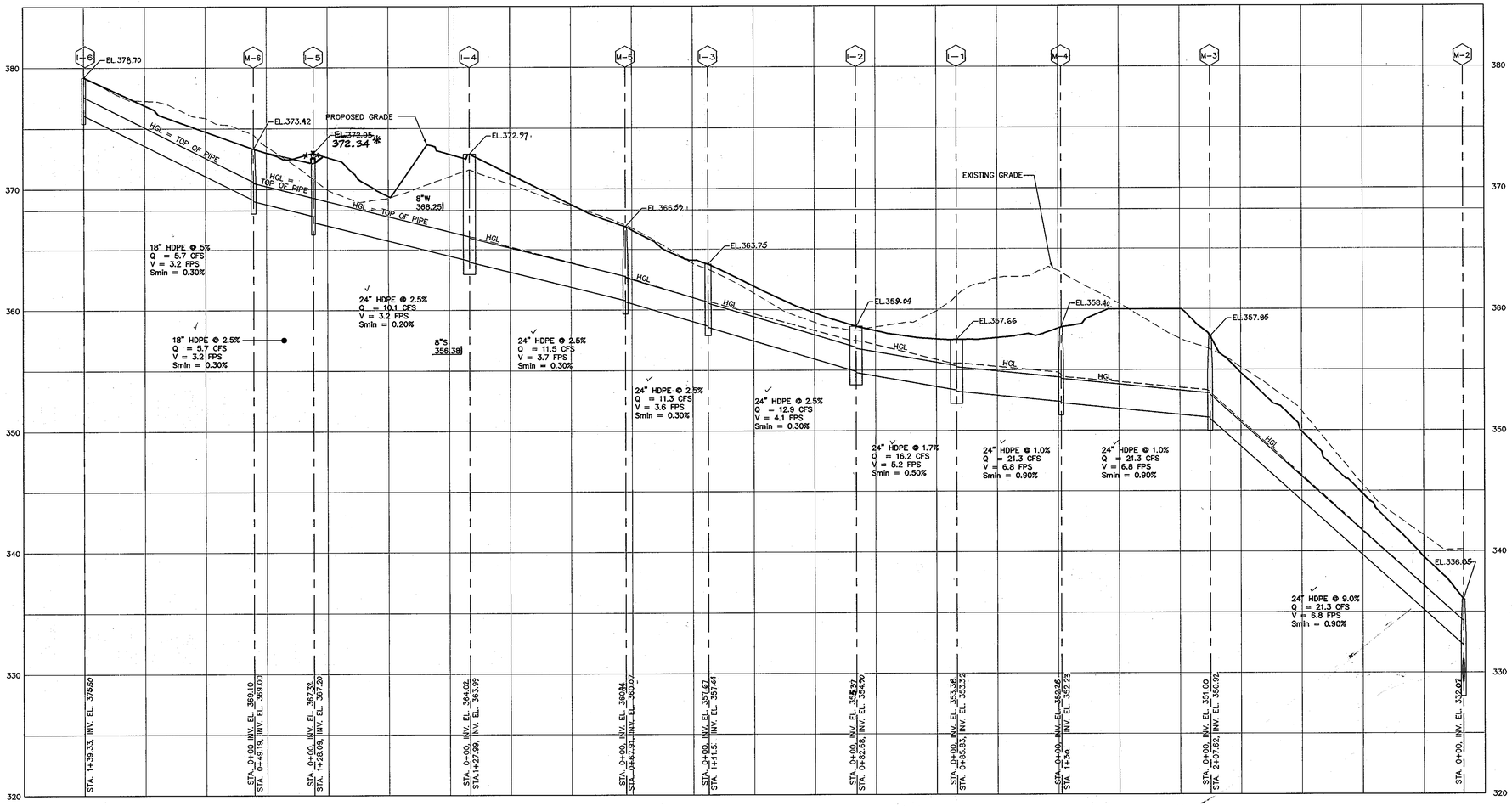
project 2002-007 | date JUNE 2004
illustration HSP | engineering HSP
scale AS SHOWN | approval JBM

no.	description	date
2	AS-BUILT CHANGES	9/08
1	AS-BUILT INFORMATION ADDED.	OCT. '06
-	revisions	

ILCHESTER OAKS
LOTS 1 THRU 22, OPEN SPACES 23 THRU 26 & NON-BUILDABLE PARCEL "A"
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT — HOWARD COUNTY, MARYLAND
STORM DRAIN PROFILES

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5531 Wash. (410) 997-0298 Fax.

02-007\DWG\FINAL\007-STORM DRAIN.DWG



STORM DRAIN PROFILE FROM I-6 TO M-2

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

STRUCTURE SCHEDULE

NO.	LOCATION*	TOP**	INV. IN	INV. OUT	COMMENTS
ES-1	N567491.778 E1378102.110	-----	328.13	-----	24" ø HDPE END SECTION
I-1	AMBROSIA DRIVE, STA. 5+56.71 14.85' RT.	357.66	353.38	353.32	INLET TYPE A-10 (HO. CO. STD SD 4.41) – SUMP
I-2	AMBROSIA DRIVE, STA. 4+74.03 14.84' RT.	359.04	355.57	354.90	INLET TYPE A-10 (HO. CO. STD SD 4.41)
I-3	AMBROSIA DRIVE, STA. 3+53.63 14.82' RT.	363.75	357.57	357.64	INLET TYPE A-10 (HO. CO. STD SD 4.40)
I-4	AMBROSIA DRIVE, STA. 1+71.41 14.85' RT.	372.97	364.02	363.99	INLET TYPE A-10 (HO. CO. STD SD 4.41)
* I-5	N567877.377 E1377612.620 *372.34 ~~372.95~~		367.32	367.20	INLET TYPE K WITH GRATE (HO. CO. STD SD-4.12 & SD-4.13) – SUMP
I-6	N568041.620 E1377578.343	376.70	-----	375.50	INLET TYPE K WITH GRATE (HO. CO. STD SD-4.12 & SD-4.13) – SUMP
I-7	N567805.937 E1378294.823	340.20	333.37	333.14	INLET TYPE K WITH GRATE (HO. CO. STD SD-4.12 & SD-4.13) – SUMP
I-8	N567890.083 E1378260.983	342.0	337.29	337.19	INLET TYPE K WITH GRATE (HO. CO. STD SD-4.12 & SD-4.13) – SUMP
I-9	N568008.270 E1378240.259	344.55	340.61	340.41	INLET TYPE K WITH GRATE (HO. CO. STD SD-4.12 & SD-4.13) – SUMP
I-10	N568080.418 E1378180.973	349.97	-----	343.78	INLET TYPE K WITH GRATE (HO. CO. STD SD-4.12 & SD-4.13) – SUMP
I-11	N567947.865 E1378130.947	358.08	-----	353.83	INLET TYPE A-10 (HO. CO. STD SD 4.41) – SUMP
M-1	N567524.661 E1378115.465	335.41	328.75	328.70	MH (HO. CO. STD G 5.01)
M-2	N567539.155 E1378163.545	336.86	329.84	329.76	MH (HO. CO. STD G 5.01)
M-3	N567734.141 E1378092.241	357.85	351.00	350.92	MH (HO. CO. STD G 5.01)
M-4	AMBROSIA DRIVE, STA. 6+45.44 5.75' RT.	358.40	352.28	352.23	MH (HO. CO. STD G 5.01)
M-5	AMBROSIA DRIVE, STA. 2+94.79 18.94' RT.	366.59	360.44	360.07	MH (HO. CO. STD G 5.01)
M-6	N567918.114 E1377642.828	373.42	369.10	369.00	MH (HO. CO. STD G 5.01)
M-7	N567573.010 E1378246.960	335.94	330.37	330.33	MH (HO. CO. STD G 5.01)
M-8	N567646.949 E1378259.890	344.01	332.36	332.22	MH (HO. CO. STD G 5.01)
M-9	N567715.012 E1378251.208	358.01	354.66	354.64	MH (HO. CO. STD G 5.01)

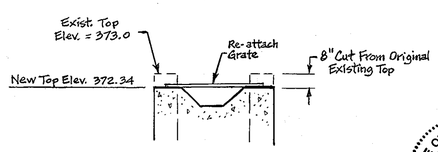
Modified - Reduced Depth of Slot (Top Elev. Lowered 0.62 Ft.) *Revision #1

* STATIONS GIVEN TO CENTERLINE FACE OF INLET AT TOP OF CURB FOR INLETS LOCATED WITHIN THE ROAD RIGHT-OF-WAY. STATIONS FOR "K" INLETS TO CL OF INLET. LOCATION OF MANHOLES IS TO CL OF MANHOLE COVER. END SECTION GIVEN TO THE CENTERLINE OF PIPE AT THE CONNECTION OF THE STORM DRAIN PIPE TO THE END SECTION.

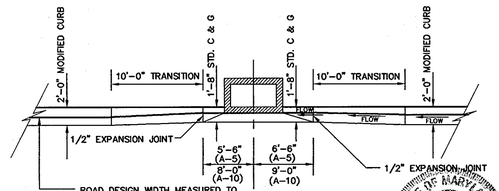
** ELEVATIONS MEASURED TO CENTER OF ALL INLETS.

PIPE SCHEDULE

QUANTITY	PIPE SIZE
128	15" HDPE
876	18" HDPE
1030	24" HDPE



EXISTING INLET I-5
MODIFICATION TO
REDUCE HEIGHT OF INLET
Scale: 1"=3'
(Revision #1 - By CFS)



CURB TRANSITION – INLETS
NTS

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

DEVELOPER
ELLICOTT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF BUREAU OF HIGHWAYS — DATE 7-27-04

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/1/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7/30/04

* For Revision #1 Only
5-10-06

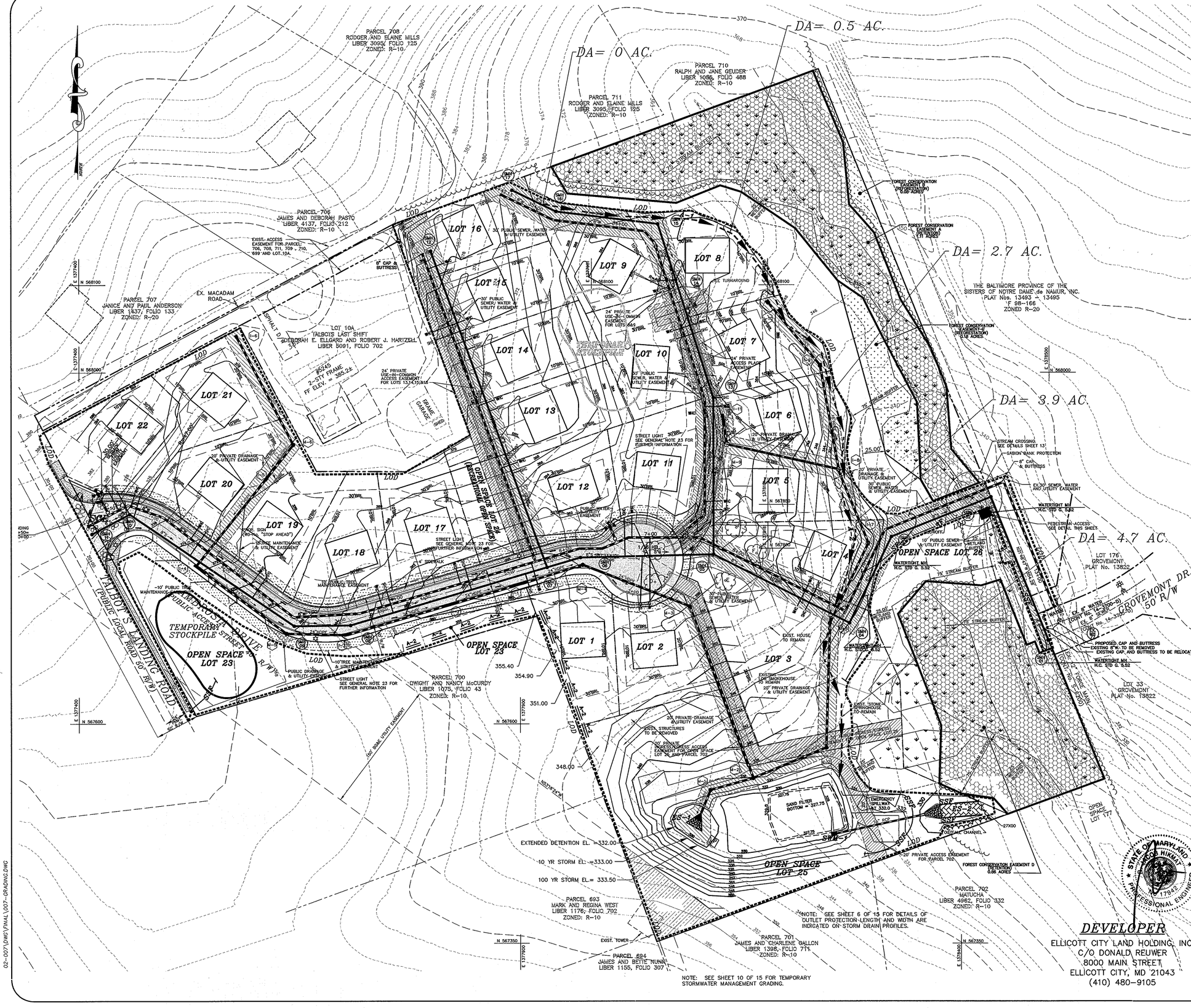
no.	description	date
revisions		
3	AS BUILT CHANGES	9/08
2	AS-BUILT INFORMATION ADDED	
1 *	Modified St. 1-5: Lowered Top & Shortened Height of Slot (By CFS)	5/10/06

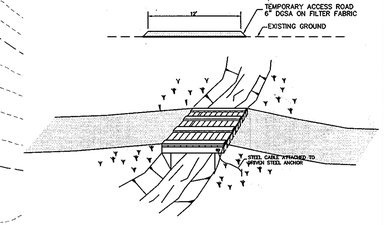
project	2002-007	date	JUNE 2004
illustration	HSP	engineering	HSP
scale	AS SHOWN	approval	JBM

ILCHESTER OAKS
LOTS 1 THRU 22, OPEN SPACES 23 THRU 26 & NON-BUILDABLE PARCEL "A"
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT — HOWARD COUNTY, MARYLAND
STORM DRAIN PROFILES

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

02-007\DWG\FINAL\007-STORM DRAIN.DWG





MATERIAL SPECIFICATIONS

- STRINGERS: STRINGERS SHOULD EITHER BE LOGS, SAWN TIMBER, PRESTRESSED CONCRETE BEAMS, METAL BEAMS, OR OTHER APPROVED MATERIALS.
- DECK MATERIALS: DECK MATERIALS SHOULD BE OF SUFFICIENT STRENGTH TO TO SUPPORT THE ANTICIPATED LOAD.

CONSTRUCTION SEQUENCE

THE PROPOSED CONSTRUCTION, MAINTENANCE AND REMOVAL SEQUENCE IS AS FOLLOWS:

1. ABUTMENTS SHOULD BE PLACED PARALLEL TO, AND ON, STABLE BANKS SUCH THAT THE STRUCTURE IS AT OR ABOVE BANKFULL DEPTH TO PREVENT THE ENTRAPMENT OF FLOATING MATERIALS AND DEBRIS.
2. THE PEDESTRIAN BRIDGE SHOULD BE CONSTRUCTED TO SPAN THE ENTIRE CHANNEL. IF THE BANKFULL CHANNEL WIDTH EXCEEDS 8 FEET (2.5 METERS) THEN A FOOTING, PIER, OR OTHER BRIDGE SUPPORT MAY BE CONSTRUCTED WITHIN THE WATERWAY. NO SUPPORT WILL BE PERMITTED WITHIN THE CHANNEL FOR WATERWAYS LESS THAN 8 FEET WIDE. ONE ADDITIONAL BRIDGE SUPPORT WILL BE PERMITTED FOR EACH ADDITIONAL 8 FOOT WIDTH OF THE CHANNEL.
3. ALL DECKING MEMBERS SHOULD BE PLACED PERPENDICULARLY TO THE STRINGERS, BUTTED TIGHTLY, AND SECURELY FASTENED TO THE STRINGERS. DECKING MATERIALS MUST BE BUTTED TIGHTLY TO PREVENT ANY SOIL MATERIAL TRACKED ONTO THE GRIDGE FROM FALLING INTO THE WATERWAY.
4. ALTHOUGH RUN PLANKS ARE OPTIONAL, THEY MAY BE NECESSARY TO PROPERLY DISTRIBUTE LOADS. ONE RUN PLANK SHOULD BE PROVIDED FOR EACH TRACK OF THE EQUIPMENT WHEELS AND SHOULD BE SECURELY FASTENED TO THE LENGTH OF THE SPAN.
5. ALL AREAS DISTURBED DURING INSTALLATION SHOULD BE STABILIZED WITHIN 14 CALENDAR DAYS IN ACCORDANCE WITH A REVEGETATION PLAN APPROVED BY THE WMA.
6. PERIODIC INSPECTION SHOULD BE PERFORMED BY THE USER TO ENSURE THAT THE BRIDGE, STREAMBED, AND STREAM BANKS ARE MAINTAINED AND NOT DAMAGED
7. MAINTENANCE SHOULD BE PERFORMED AS NEEDED TO ENSURE THAT THE STRUCTURE COMPLIES WITH ALL STANDARDS AND SPECIFICIATIONS. THIS SHOULD INCLUDE THE REMOVAL OF TRAPPED SEDIMENT AND DEBRIS WHICH SHOULD THEN BE DISPOSED OF AND STABILIZED OUTSIDE THE FLOODPLAIN.

PEDESTRIAN BRIDGE DETAILS

LEGEND

- SCE — DENOTES STABILIZED CONSTRUCTION ENTRANCE
- SF — DENOTES SILT FENCE
- SSF — DENOTES SUPER SILT FENCE
- DENOTES A-1 DIVERSION DYKE
- DENOTES LIMIT OF DISTURBANCE
- WETLANDS
- 100 YEAR FLOODPLAIN
- INFLOW PROTECTION
- A-2 — TEMPORARY SWALE
- GABION BANK PROTECTION

NOTE:

SEE SHEET 10 OF 14 FOR TEMPORARY SEDIMENT BASIN PLAN & DETAILS

PURPOSE NOTE:
SHOW AS-BUILT POND GRADING, REMOVE PIPE STEMS, ACCESS EASEMENT AROUND POND. REMOVE RETAINING WALL

BY THE DEVELOPER:

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

SIGNATURE OF DEVELOPER — DATE 10/27/08

DONATO & COMPANY, LLC
PRINTED NAME OF DEVELOPER

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 10/27/08

CYRUS HIKMAT
PRINTED NAME OF ENGINEER

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

USDA — NATURAL RESOURCE CONSERVATION SERVICE — DATE

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 11/13/08

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF BUREAU OF HIGHWAYS — DATE 11-18-08

APPROVED: DEPARTMENT OF PLANNING AND ZONNING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11/24/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/20/08

DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
C/O DONALD REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

NOTE: SEE SHEET 6 OF 15 FOR DETAILS OF OUTLET PROTECTION-LENGTH AND WIDTH ARE INDICATED ON STORM DRAIN PROFILES.

NOTE: SEE SHEET 10 OF 15 FOR TEMPORARY STORMWATER MANAGEMENT GRADING.

STATE OF MARYLAND — CYRUS HIKMAT — 17945 — PROFESSIONAL ENGINEER

project	2002-007	date	JUNE 2004
illustration		engineering	HSP
scale	1"=50'	approval	JBM

no.	description	date
1	ADD TEMPORARY STOCKPILE AREA, EXTEND LOD, ADD SSF SURROUNDING STOCKPILE AREA	1/14/05
2	SHOW AS-BUILT POND GRADING, REMOVE PIPE STEMS, ACCESS EASEMENT AROUND POND, REMOVE RETAINING WALL	10/27/08

revisions

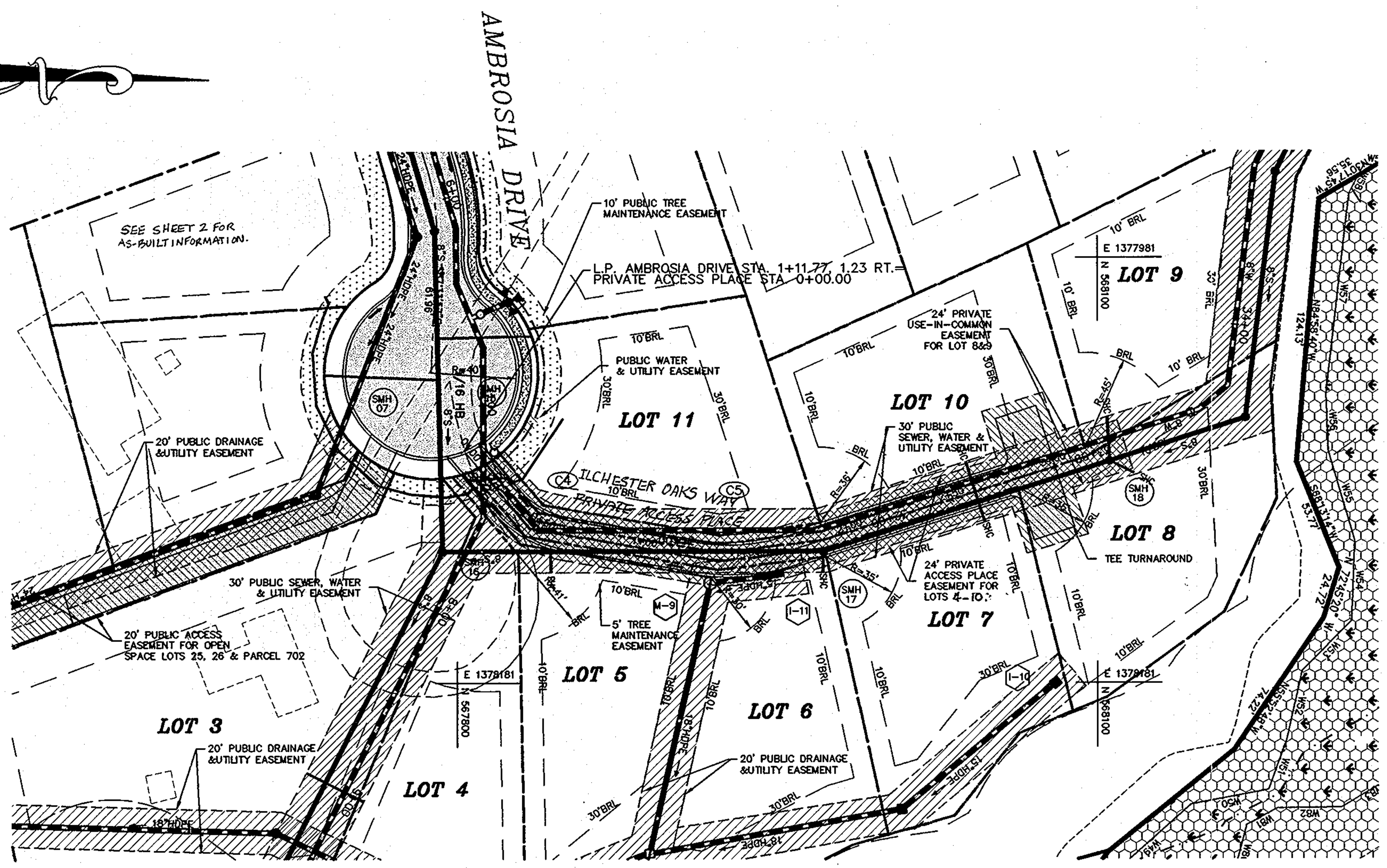
ILCHESTER OAKS
LOTS 1 THRU 22, OPEN SPACES 23 THRU 26 & NON-BUILDABLE PARCEL "A"
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
REVISED FINAL GRADING AND EROSION & SEDIMENT CONTROL PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
6072 Dorsey Hall Drive, Suite 202 Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5627 Wash. (410) 997-0298 Fax.

F-04-36

02-007\DWG\FINAL\007-GRADING.DWG

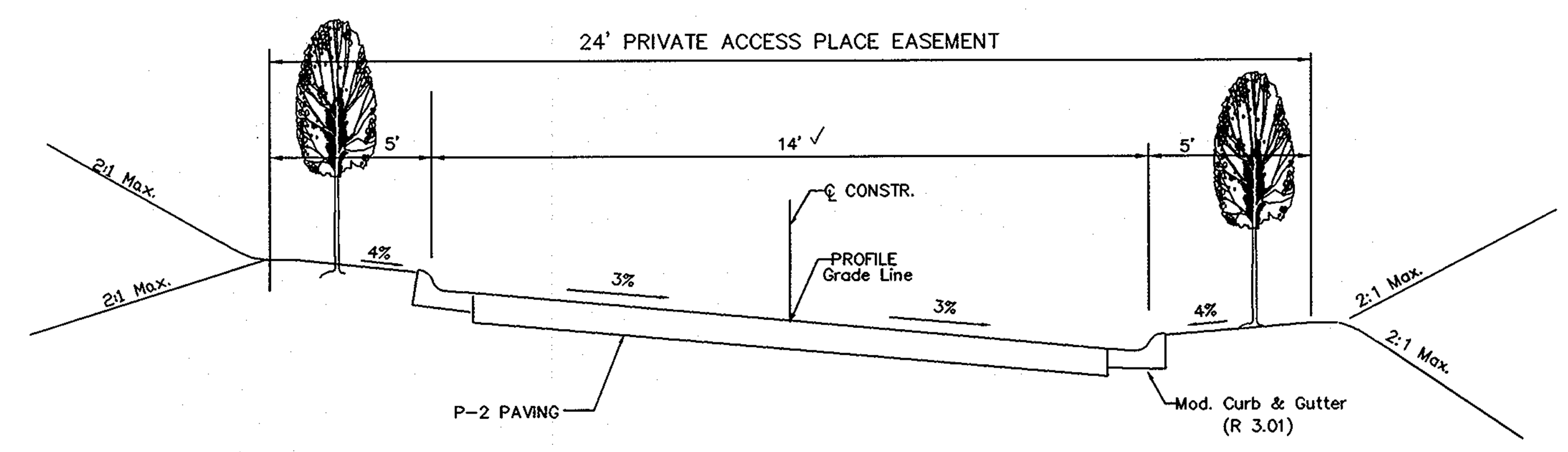
NOTE: SEE GRADING PLAN FOR CONTINUATION OF THE STORM DRAIN.



ILCHESTER OAKS WAY PLAN

SCALE: 1"=50'

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C4	50.00'	34.98'	18.24'	40°04'47"	N29°59'12"W 34.27'
C5	100.00'	48.13'	24.54'	27°34'32"	N03°50'27"E 47.67'



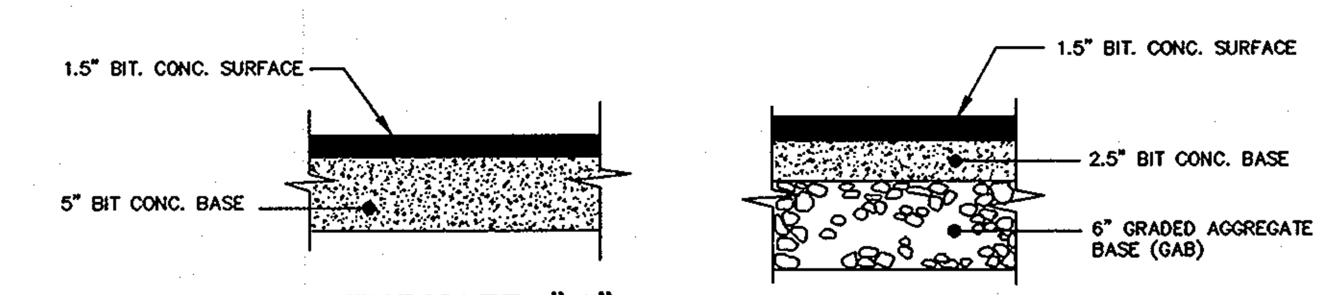
TYPICAL ROADWAY SECTION

CLASSIFICATION: PRIVATE ACCESS PLACE

DESIGN SPEED: 25 MPH

STA.0+00 TO STA. 3+10.92

SECTION NOT TO SCALE



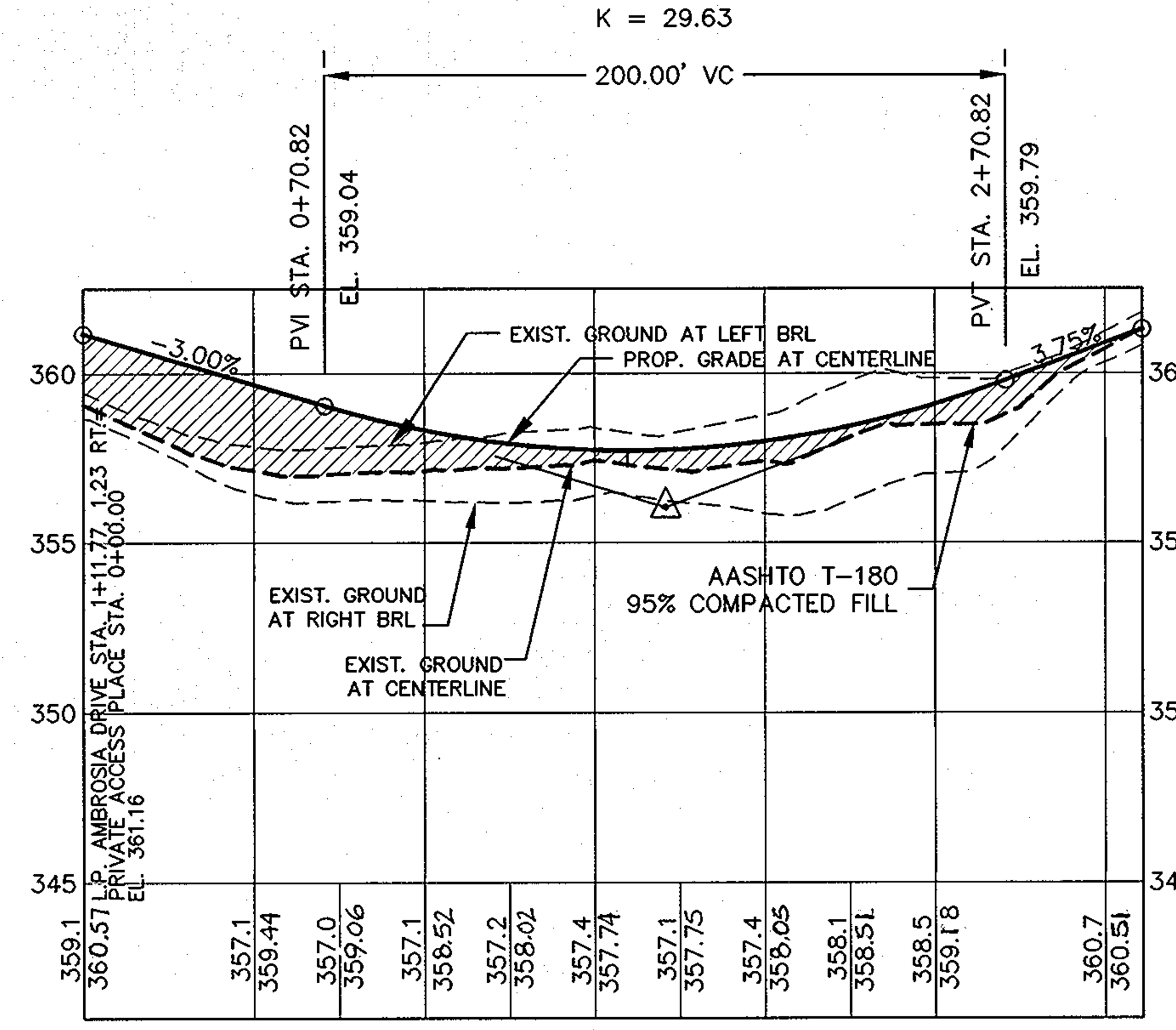
ALTERNATE "A" ALTERNATE "B"

PAVING SECTION P-2

TYP. ROADWAY PAVING SECTION

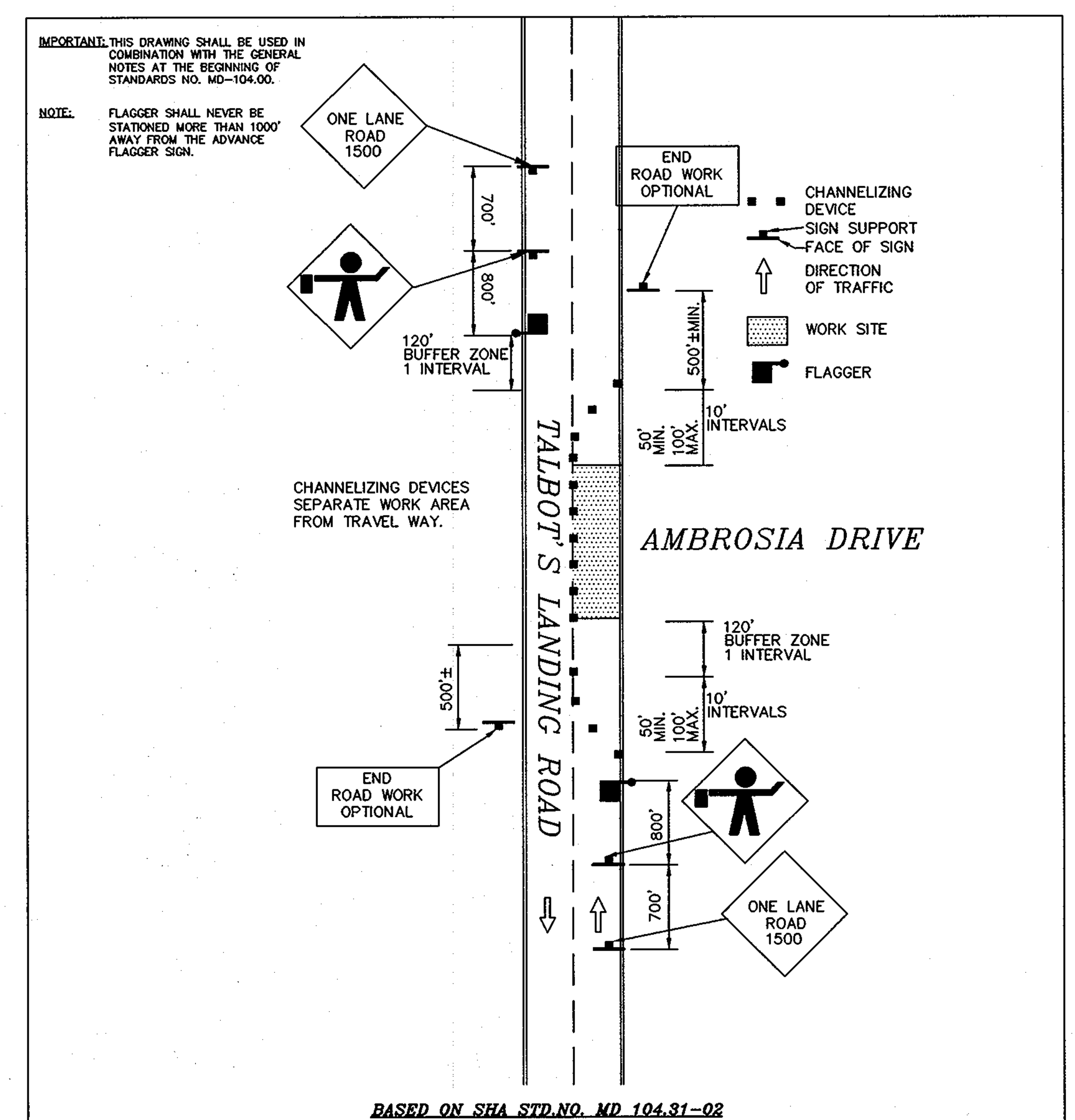
N.T.S.

LOW POINT ELEV = 357.70
LOW POINT STA = 1+59.71
PVI STA = 1+70.82
PVI ELEV = 356.04
A.D. = 6.75
K = 29.63



PRIVATE ACCESS PLACE PROFILE

SCALE: HOR. 1"=50'
VER. 1"=5'



TEMPORARY TRAFFIC CONTROL PLAN

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

STATE OF MARYLAND R. JACOB HIKMAT No. 17942 PROFESSIONAL ENGINEER

DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF BUREAU OF HIGHWAYS 7-27-04 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT 8/10/04 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 7/30/04 DATE

project	date
2002-007	JUNE 2004
illustration	engineering
HSP	HSP
scale	approval
AS SHOWN	JBM

no.	description	date
1	AS-BUILT CHANGES	9/08
2	AS-BUILT INFORMATION ADDED	OCT. 06
	revisions	

ILCHESTER OAKS

LOTS 1 THRU 22, OPEN SPACES 23 THRU 26 & NON-BUILDABLE PARCEL "A"

TAX MAP 31 PARCEL 641 AND P/O PARCEL 699

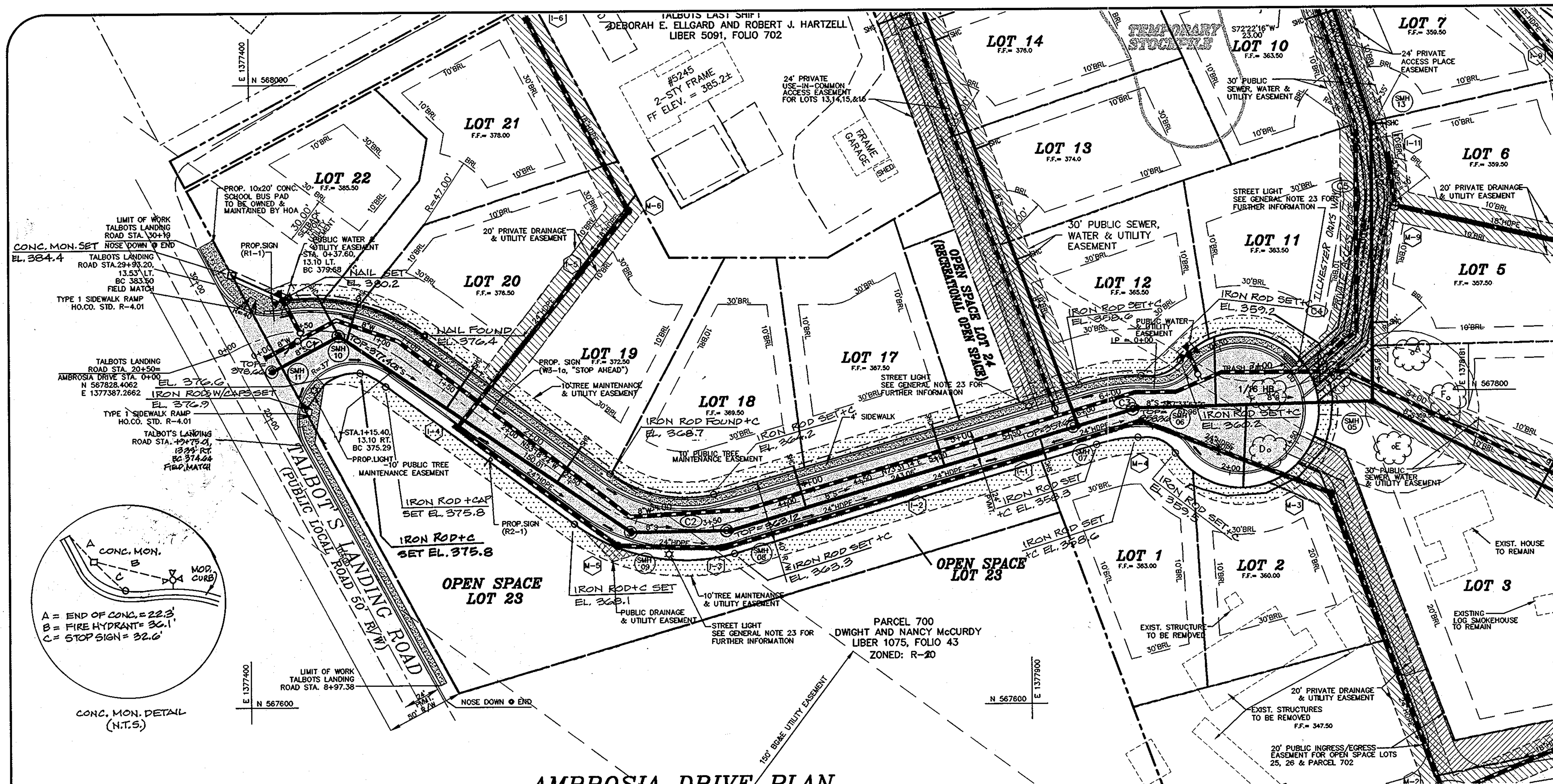
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ILCHESTER OAKS WAY PLAN AND PROFILE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

F-04-36

02-007\DWG\FINAL\007-DRIVEPLAN.DWG



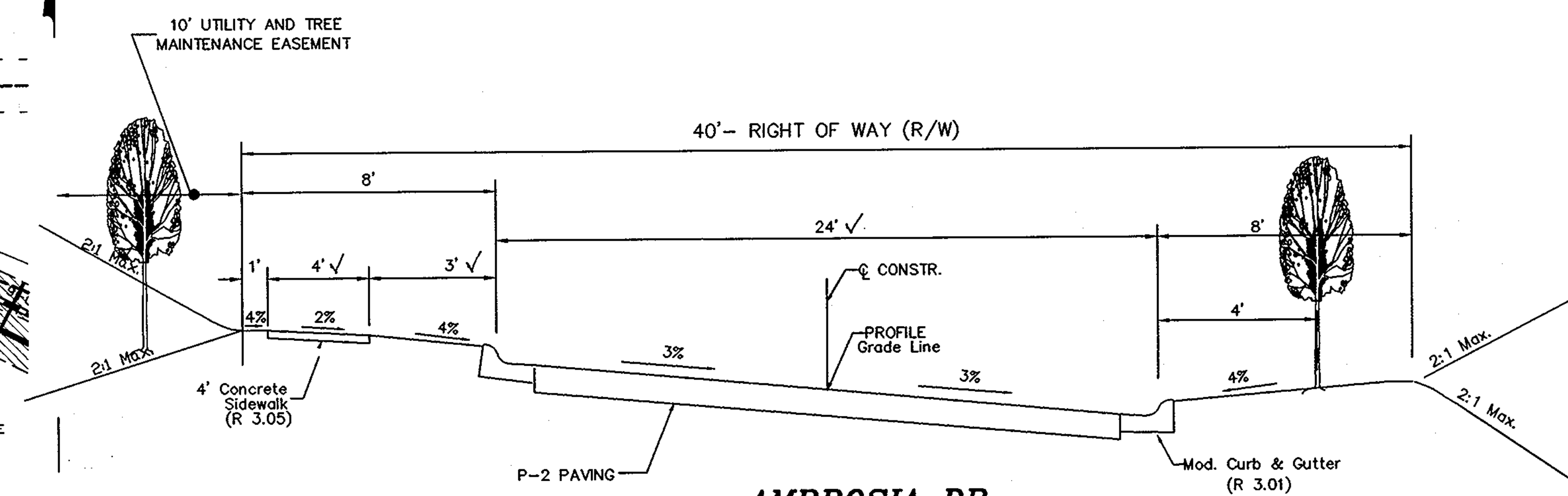
AMBROSIA DRIVE PLAN

SCALE: 1"=50'

NOTE: SEE GRADING PLAN FOR CONTINUATION OF THE STORM DRAIN.

CURVE TABLE

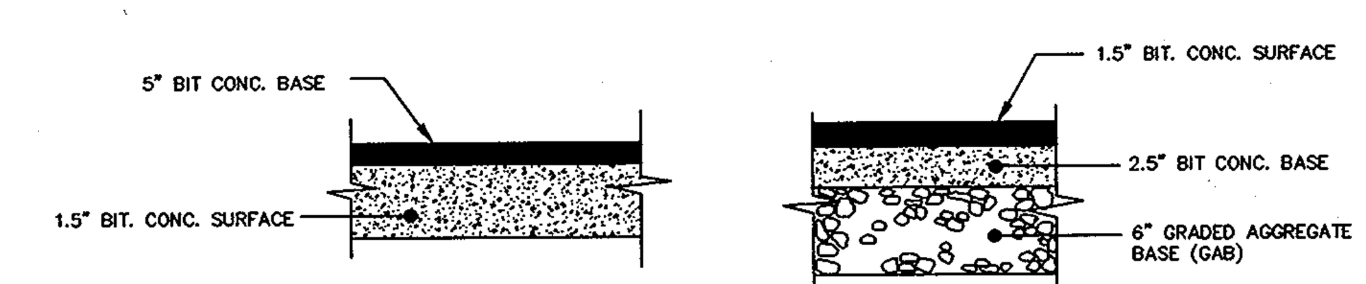
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD
C1	100.00'	113.12'	63.47'	64°48'38"	N85°42'43"W 107.18'
C2	100.00'	92.80'	50.05'	53°10'22"	S79°53'35"E 89.51'
C3	100.00'	33.01'	16.66'	18°54'49"	S82°58'39"W 32.86'



AMBROSIA DR. TYPICAL ROADWAY SECTION

CLASSIFICATION: ACCESS STREET
DESIGN SPEED: 25 MPH
STA.0+00 TO STA. 6+39.73

SECTION NOT TO SCALE

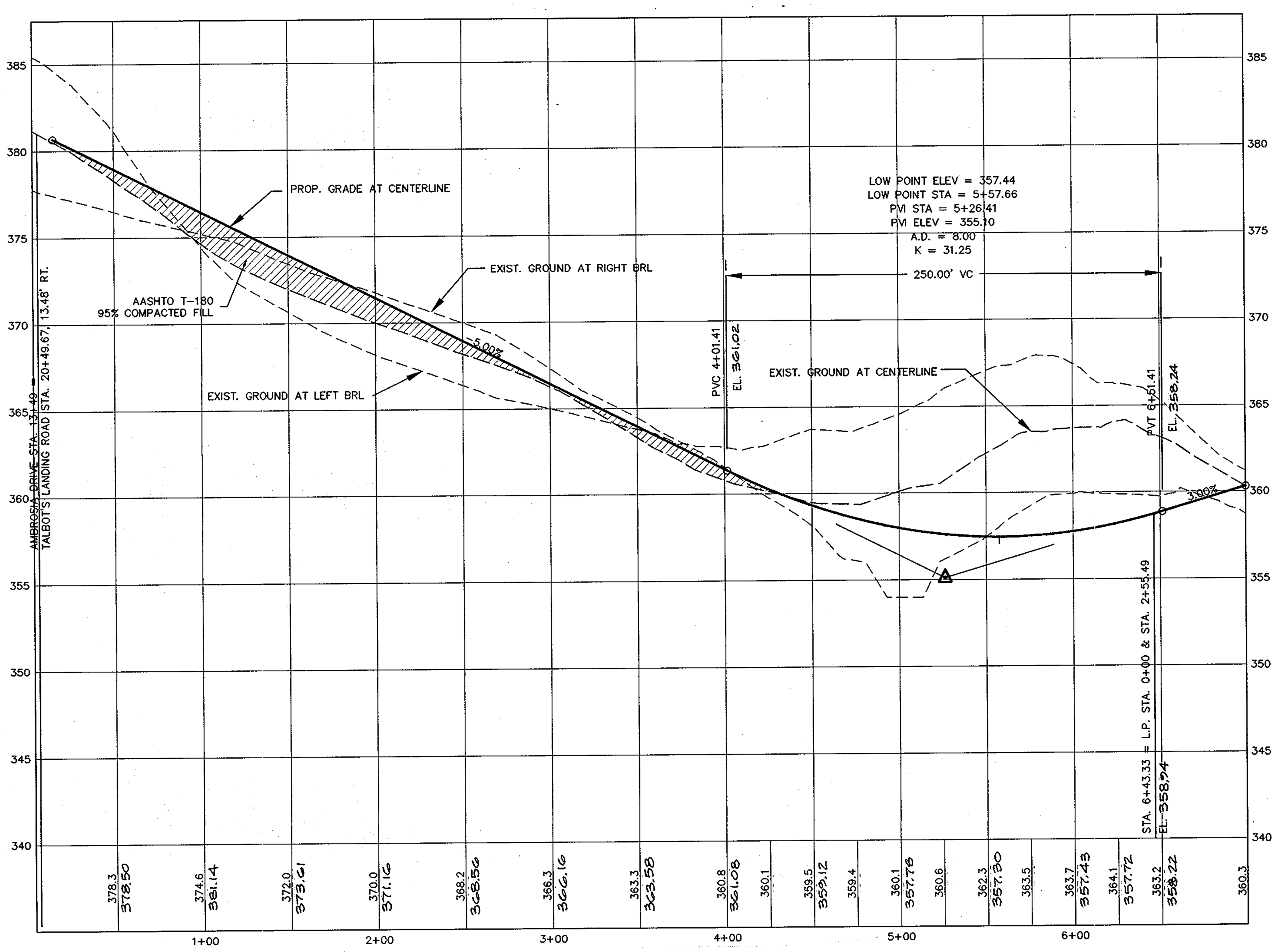


PAVING SECTION P-2

N.T.S.

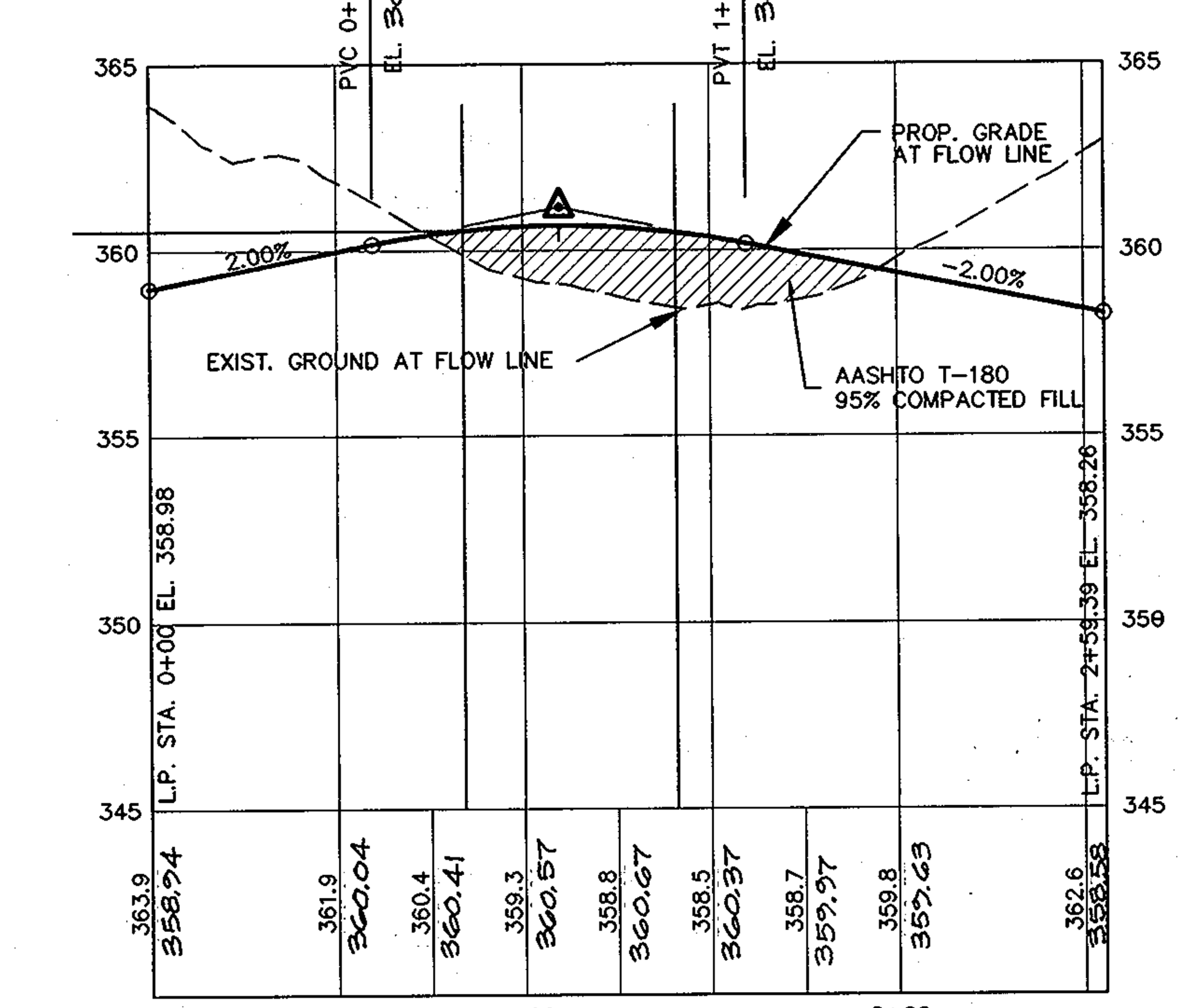
TYP. PAVING SECTION FOR AMBROSIA DR.

NOTE:
EXISTING PAVEMENT ON TALBOT'S LANDING ROAD IS TO BE SAW CUT AS REQUIRED FOR CONSTRUCTION OF CURB & GUTTER. NEW PAVEMENT OF TALBOT'S LANDING ROAD SHALL CONFORM TO HOWARD COUNTY STD.P-2 PAVING SECTION IF REQUIRED.



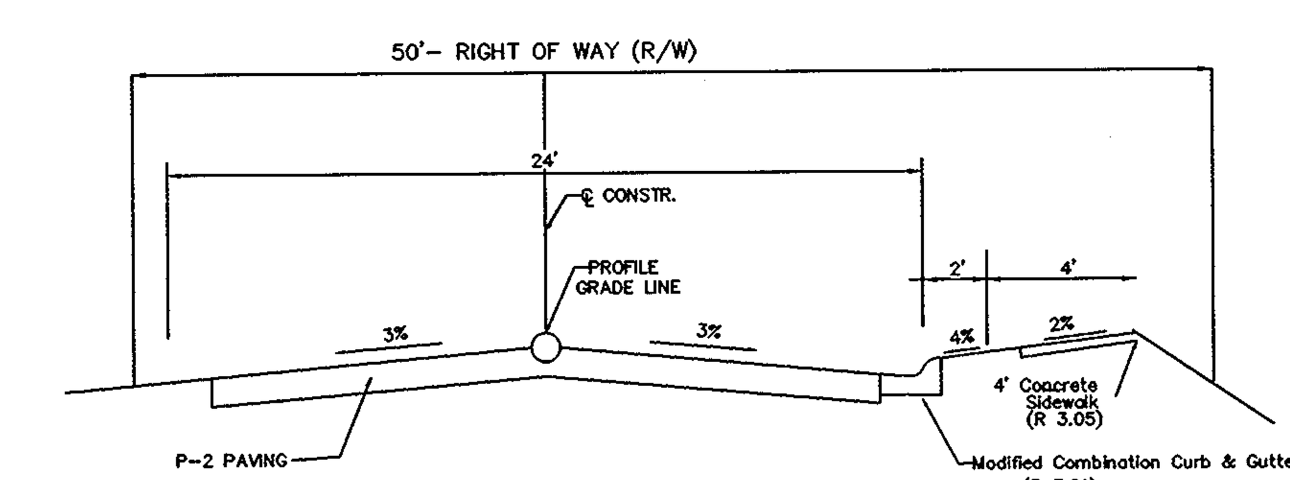
AMBROSIA DRIVE PROFILE

SCALE: HOR. 1"=50'
VER. 1"=5'



AMBROSIA DRIVE LINEAR PROFILE

SCALE: HOR. 1"=50'
VER. 1"=5'



TYPICAL ROADWAY SECTION TALBOT'S LANDING ROAD

SECTION NOT TO SCALE

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

STATE OF MARYLAND R. JACOB HIKMAT No. 17942 PROFESSIONAL ENGINEER

DEVELOPER

ELLICOTT CITY LAND HOLDING, INC.
C/O DON REUWER
8000 MAIN STREET
ELLICOTT CITY, MD 21043
(410) 480-9105

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF BUREAU OF HIGHWAYS — DATE 7-27-04

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/10/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7/30/04

project	date
2002-007	JUNE 2004
illustration	engineering
HSP	HSP
scale	approval
NTS	JBM

no.	description	date
1	AS-BUILT INFORMATION ADDED.	OCT. '06
2	AS-BUILT CHANGES	9/08

revisions

ILCHESTER OAKS

LOTS 1 THRU 22, OPEN SPACES 23 THRU 26 & NON-BUILDABLE PARCEL "A"
TAX MAP 31 PARCEL 641 AND P/O PARCEL 699
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

AMBROSIA DRIVE ROAD PLAN AND PROFILE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

F-04-36

02-007\DWG\FINAL\007-ROAD PLAN.DWG