

GENERAL NOTES

- 1.) THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- 2.) BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED DURING MAY, 2005 BY BENCHMARK ENGINEERING, INC.
- 3.) THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. IN MAY, 2005.
- 4.) THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 14FA AND 14CA WERE USED FOR THIS PROJECT.
- 5.) WATER IS PRIVATE.
- 6.) SEWER IS PRIVATE.
- 7.) THIS PROJECT IS NOT LOCATED WITHIN THE METROPOLITAN DISTRICT.
- 8.) STORMWATER MANAGEMENT SHALL BE PROVIDED BY 1 EXTENDED DETENTION WITH MICRO-POOL FACILITY AND BY NATURAL AREA CONSERVATION CREDIT. THE FACILITY SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
- 9.) EXISTING UTILITIES ARE BASED UPON FIELD SURVEY LOCATIONS.
- 10.) THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY BENCHMARK ENGINEERING, INC. DATED JULY, 2005 AND APPROVED UNDER SP-06-006. FLOODPLAIN SHOWN ALONG THE MIDDLE PATUXENT RIVER WAS TAKEN FROM THE MIDDLE PATUXENT RIVER FLOODPLAIN STUDY (CAPITAL PROJECT #D-1028).
- 11.) THE WETLANDS DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONAL, INC. IN AUGUST, 2005.
- 12.) THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP, INC. IN JUNE, 2005 AND WAS APPROVED UNDER SP-06-006.
- 13.) A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.

RIGHT OF WAY ELEVATION CHART NAD 83

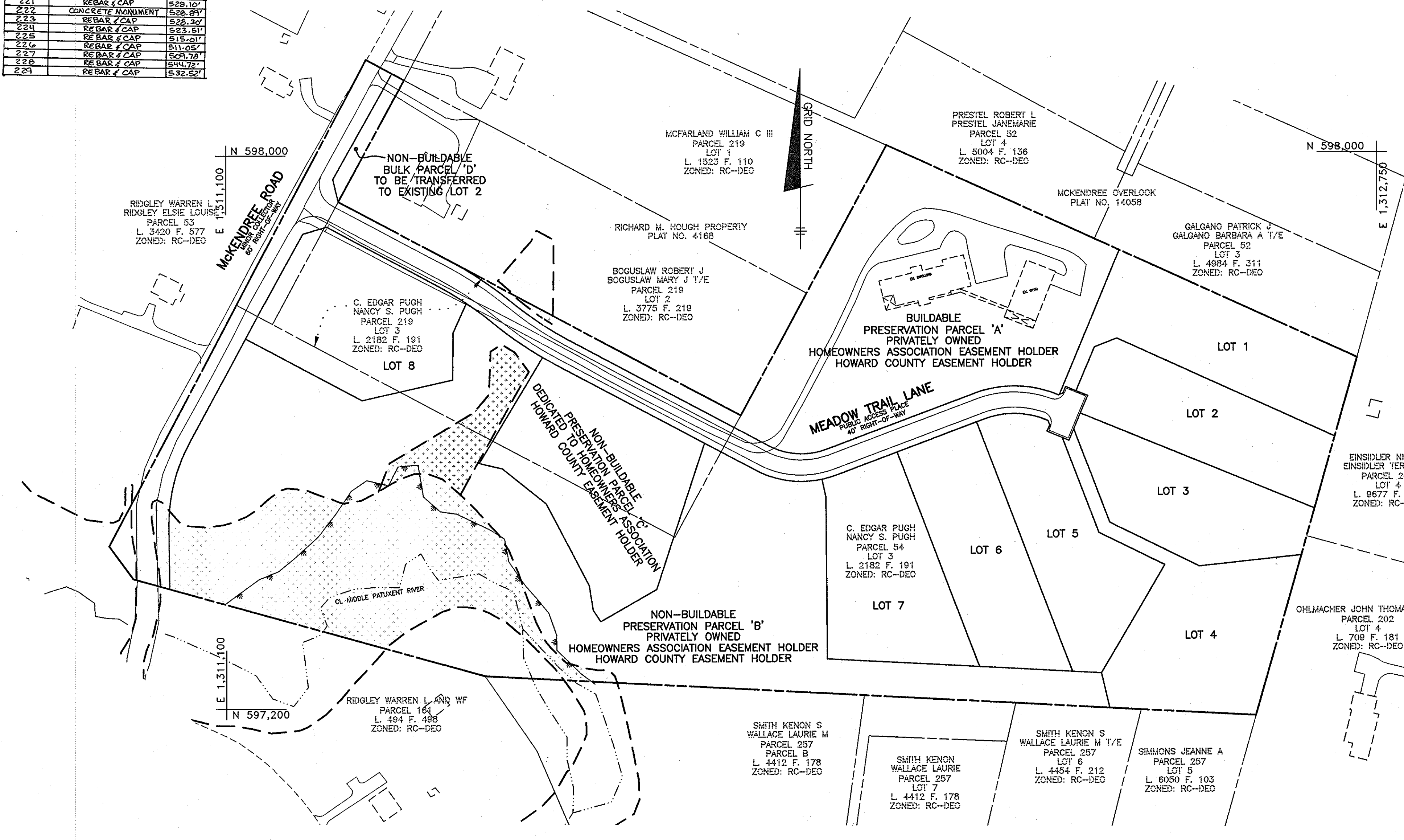
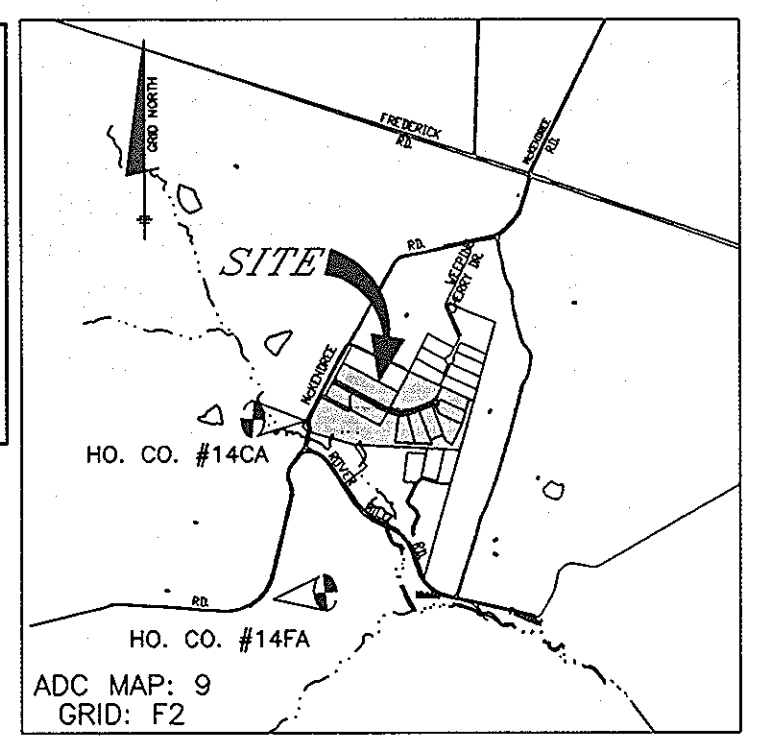
STATIONING	DESCRIPTION	ELEVATION
100	REBAR / CAP	524.47
200	REBAR / CAP	528.50
201	REBAR / CAP	523.31
202	REBAR / CAP	527.77
203	REBAR / CAP	529.52
204	REBAR / CAP	523.40
205	REBAR / CAP	521.90
206	REBAR / CAP	524.11
207	REBAR / CAP	524.32
208	CONCRETE MONUMENT	524.41
209	REBAR / CAP	524.33
210	REBAR / CAP	524.28
211	REBAR / CAP	524.79
212	REBAR / CAP	524.15
213	REBAR / CAP	524.34
214	REBAR / CAP	524.32
215	REBAR / CAP	524.27
216	REBAR / CAP	524.22
217	REBAR / CAP	523.55
218	REBAR / CAP	523.97
219	REBAR / CAP	523.65
220	REBAR / CAP	523.27
221	REBAR / CAP	523.10
222	CONCRETE MONUMENT	523.81
223	REBAR / CAP	523.30
224	REBAR / CAP	523.51
225	REBAR / CAP	515.01
226	REBAR / CAP	511.05
227	REBAR / CAP	523.72
228	REBAR / CAP	524.72
229	REBAR / CAP	522.52

MCKENDREE VIEW

ROADS, STORMWATER MANAGEMENT AND STORM DRAIN CONSTRUCTION PLANS

BENCHMARK NAD'83 HORIZONTAL
 HO. CO. #14FA
 STAMPED BRASS DISK SET ON TOP OF CONCRETE BASE.
 N 595829.611' E 1310622.17'
 ELEVATION: 560.299'

HO. CO. #14CA
 STAMPED BRASS DISK SET ON TOP OF CONCRETE BASE.
 N 597624.973' E 1311015.48'
 ELEVATION: 560.299'



SITE ANALYSIS DATA CHART

- GENERAL SITE DATA**
- 1.) PRESENT ZONING: RC-DEO
 - 2.) APPLICABLE DPZ FILE REFERENCES: SP-06-006, WP-05-112, WP-06-042
 - 3.) PROPOSED USE OF SITE: RESIDENTIAL (SFD)
 - 4.) PROPOSED WATER AND SEWER SYSTEMS: PRIVATE

AREA TABULATION

1.) GROSS TRACT AREA	22.39 AC.±
2.) AREA WITHIN 100-YEAR FLOODPLAIN	2.44 AC.±
3.) TOTAL AREA OF 25% OR GREATER STEEP SLOPES (AREA NOT IN FLOODPLAIN FOR NTA CALC.)	0.31 AC.±
4.) NET TRACT AREA	19.64 AC.±
5.) TOTAL NUMBER OF LOTS ALLOWED PER ZONING	5
1 UNIT PER 4.25 GROSS ACRES	9
1 UNIT PER 2 NET ACRES (MAX)	9
6.) TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS PROPOSED ON THIS SUBMISSION	9
7.) AREA OF CLUSTER LOTS	8.40 AC.±
8.) AREA OF NON-BUILDABLE PRESERVATION PARCELS	8.65 AC.±
(PARCELS B & C)	
9.) AREA OF BUILDABLE PRESERVATION PARCELS	3.32 AC.±
(PARCEL A)	
10.) AREA OF NON-BUILDABLE BULK PARCELS	0.09 AC.±
11.) AREA OF BUILDABLE BULK PARCELS	N/A
12.) AREA OF ROAD RIGHT-OF-WAY	1.93 AC.±
13.) OPEN SPACE ON-TOTAL SITE	N/A
14.) AREA OF RECREATIONAL OPEN SPACE REQUIRED	N/A

- 14.) THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS CARNES ENGINEERING ASSOCIATES, INC. IN AUGUST, 2005.
- 15.) THE SUBJECT PROPERTY IS ZONED RC-DEO PER THE 2-2-04 COMPREHENSIVE ZONING PLAN AND THE COMP-LITE AMENDMENTS DATED 7-28-2006. ALL ADJACENT PROPERTIES ARE ZONED RC-DEO.
- 16.) TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES LOCATED ON THIS SITE.
- 17.) NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, NEW STRUCTURES AND PAVING IS PERMITTED WITHIN THE WETLANDS, STREAM, THEIR BUFFERS, 100-YR FLOODPLAIN OR 25% OR GREATER STEEP SLOPES THAT ARE AT LEAST 20,000 S.F. OF CONTIGUOUS AREA.
- 18.) FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. IN AUGUST, 2005.
- 19.) THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AND AMENDMENTS BY COUNCIL BILL NO. 75-2006. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE BUILDING OR GRADING PERMIT APPLICATION.
- 20.) THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF 10,000 SQUARE FEET AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA IS RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAN SHALL NOT BE REQUIRED.
- 21.) THE PURPOSE OF THE PRESERVATION PARCELS AND THE JUSTIFICATION FOR THE DESIGN OF THE CLUSTER SUBDIVISION IS AS FOLLOWS:
 - PRESERVATION PARCELS 'A' IS PROPOSED AS A BUILDABLE PARCEL. ONE (1) HOUSING ALLOCATION ALLOWING ONE (1) BUILDING UNIT SHALL BE PROVIDED. IT WILL BE PRIVATELY OWNED. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH HOMEOWNERS ASSOCIATION AND HOWARD COUNTY, MARYLAND. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL, OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
 - PRESERVATION PARCEL 'B' IS PROPOSED AS A NON-BUILDABLE PARCEL TO PRESERVE ENVIRONMENTALLY SENSITIVE AREAS INCLUDING STEEP SLOPES, STREAM BUFFERS, WETLANDS, FLOODPLAIN AND EXISTING FOREST. IT WILL BE PRIVATELY OWNED. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH THE HOMEOWNERS ASSOCIATION AND HOWARD COUNTY, MARYLAND. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL, OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
 - PRESERVATION PARCELS 'C' IS PROPOSED AS A NON-BUILDABLE PARCEL FOR A STORMWATER MANAGEMENT FACILITY AS A REQUIREMENT TO CONTROL STORMWATER RUNOFF. IT WILL BE OWNED BY THE HOMEOWNERS ASSOCIATION. IT IS ENCUMBERED BY AN EASEMENT AGREEMENT WITH HOWARD COUNTY. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCEL, OUTLINES THE MAINTENANCE RESPONSIBILITIES OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
- 22.) THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- 23.) WELLS SHALL BE DRILLED PRIOR TO RECORD PLAT SUBMITTAL FOR SIGNATURE. IT IS THE DEVELOPER'S RESPONSIBILITY TO DRILL THE WELLS. IT WILL NOT BE CONSIDERED TO BE GOVERNMENTAL DELAY IF THE WELLS ARE NOT COMPLETED PRIOR TO THE SUBMISSION'S MILESTONE DATE.
- 24.) THERE IS AN EXISTING DWELLING ON PRESERVATION PARCEL 'A' TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATIONS REQUIRE.
- 25.) DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - A) WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE).
 - B) SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING.
 - C) GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE & MIN. 45' TURNING RADIUS.
 - D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOAD)
 - E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - F) STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - G) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- 27.) THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- 28.) THE TOTAL FOREST CONSERVATION OBLIGATION AMOUNT OF 3.33 ACRES SHALL BE MET BY THE ON-SITE RETENTION OF 1.14 AC. OF NET TRACT AREA FOREST WITHIN A FOREST CONSERVATION EASEMENT AND THE ON-SITE AFFORESTATION OF 2.19 AC. WITHIN A FOREST CONSERVATION EASEMENT WITH A DPW DEVELOPER'S AGREEMENT WITH SURETY IN THE TOTAL AMOUNT OF \$27,622.88.
- 29.) LANDSCAPING FOR THIS SUBDIVISION IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN INCLUDED WITH THE ROAD CONSTRUCTION PLAN SET IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL WITH A DPW DEVELOPER'S AGREEMENT WITH SURETY IN THE AMOUNT OF \$23,250.00.
- 29.) 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 INTO THE PIPESTEM LOT DRIVEWAY.
- 30.) ALL DRIVEWAY CULVERTS SHALL BE 15" CMP OR EQUIVALENT.
- 31.) WP-05-112, A WAIVER PETITION TO WAIVE SECTION 16.115(d), 16.116(c)(4) AND 16.120(c)(2) WAS DENIED BY THE PLANNING DIRECTOR ON 5-26-2005.
- 32.) WP-06-042, A WAIVER PETITION TO WAIVE SECTION 16.120(c)(2) WAS APPROVED BY THE PLANNING DIRECTOR ON 1-20-2006 SUBJECT TO THE FOLLOWING CONDITIONS:
 1. REMOVE THE 3-ACRE LOT FROM SP-06-006 AND SUBMIT A FINAL PLAN SHOWING THE NEW CONFIGURATION OF PARCEL 54 AND EXISTING LOT 3. AN ACCESS EASEMENT MUST BE RECORDED FOR THE NEW LOT CONTAINING THE EXISTING DWELLING. UPON RECORDATION OF THE FINAL PLAN FOR SP-06-006 THIS ACCESS EASEMENT WILL BE ABANDONED AND FEE SIMPLE FRONTAGE MUST BE PROVIDED VIA THE NEW PUBLIC ROAD.
 2. COMPLIANCE WITH THE SRC COMMENTS FOR SP-06-006.
 3. COMPLIANCE WITH THE SRC COMMENTS FOR THE FINAL PLAN.
 4. THE ACREAGE FROM THE 3-ACRE LOT MAY NOT BE USED IN CALCULATING THE YIELD FOR THE MAJOR SUBDIVISION (SP-06-006).

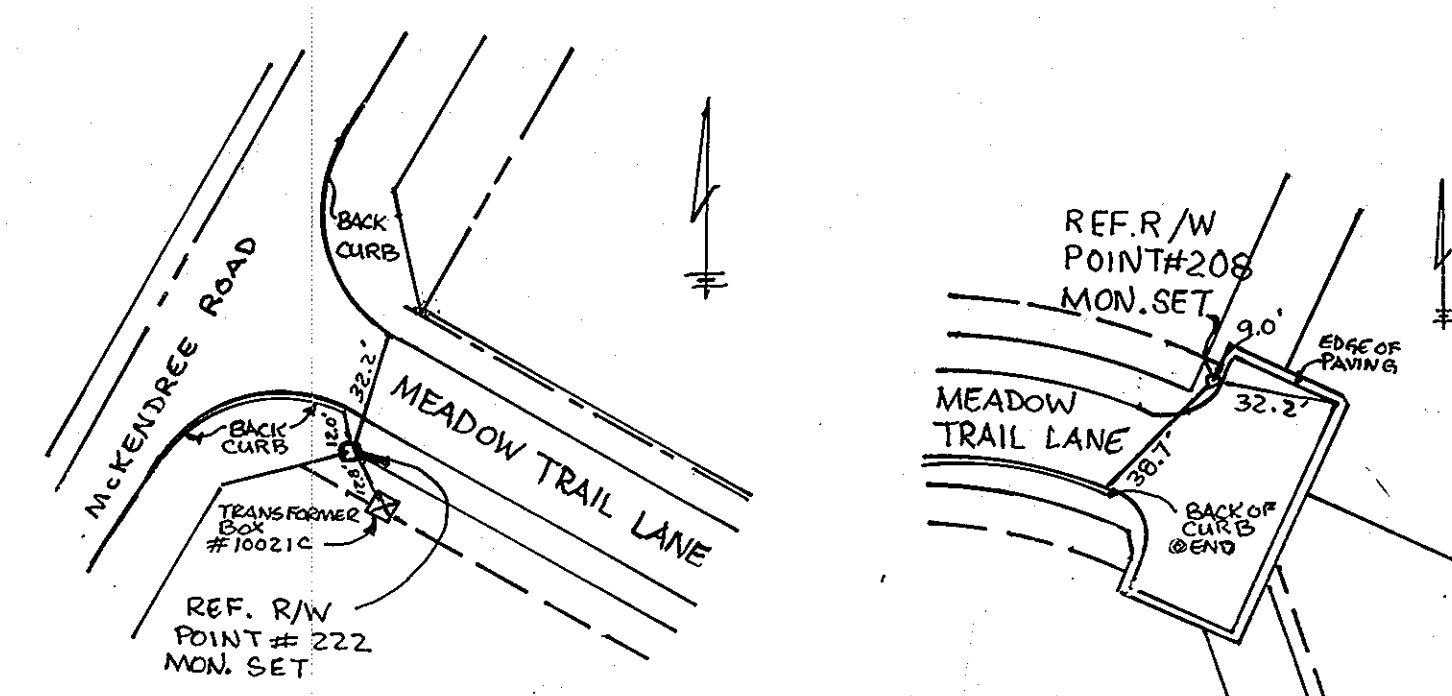
PLAN VIEW
SCALE: 1" = 100'

- 33.) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- 34.) THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- 35.) THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK TO BEING DONE.
- 36.) THIS PROJECT DOES NOT IMPACT ANY JURISDICTIONAL WETLAND, WATERWAY OR FLOODPLAIN THEREFORE, NO AUTHORIZATION FROM MDE OR THE U.S. ARMY CORPS OF ENGINEERS IS NECESSARY PER MDE LETTER DATED 3-20-2007 (TRACKING # 200761067/07-NI-3049).

APPROVED: DEPARTMENT OF PUBLIC WORKS
William R. McCall 6-5-07 DATE
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John J. McCall 6/19/07 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEVELOPMENT ENGINEERING DIVISION
John J. McCall 6/14/07 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



DENSITY EXCHANGE CHART

GROSS AREA	22.39 AC.±
100-YEAR FLOODPLAIN & STEEP SLOPE AREA	2.75 AC.± (2.44 + 0.31)
NET TRACT AREA	19.64 AC.±
DWELLING UNITS ALLOWED (as matter of right)	22.39 AC.± @ 1 DU per 4.25 GROSS ACRES = 5
MAXIMUM DWELLING UNITS ALLOWED W/ CEO'S	19.64 AC.± @ 1 DU per 2.00 NET ACRES = 9
PROPOSED DWELLING UNITS	9
NUMBER OF CED UNITS TO BE RECEIVED	9 - 5 (base density) = 4
SENDING PARCEL INFORMATION	4 CED UNITS PARKER PROPERTY PARCEL 17 TAX MAP: 15, GRID: 10 RE-PLAN NUMBER: (NOT YET RECORDED)

SHEET INDEX

NO.	TITLE
1	TITLE SHEET
2	ROAD PLAN, PROFILES, AND DETAILS
3	GRADING, SEDIMENT AND EROSION CONTROL PLAN
4	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
5	STORMWATER MANAGEMENT DETAILS
6	STORM DRAIN DRAINAGE AREA MAP
7	STORM DRAIN PROFILES AND DETAILS
8	LANDSCAPE AND STREET TREE PLAN
9	FOREST CONSERVATION PLAN
10	FOREST CONSERVATION NOTES, CHARTS AND DETAILS AND INTERNAL SWMF LANDSCAPING AND SOILS BORING LOGS

STATE OF MARYLAND
 DONALD MOON
 PROFESSIONAL ENGINEER
 No. 21453
 A.S. BUILT 12-15-08

NO.	DATE	REVISION
1	1-18-08	REVISED GEN. NOTE #8 TO READ 'PRIVATELY OWNED AND MAINTAINED'

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 WWW.BEI-CIVLENGINEERING.COM

Donald Moon 4/16/07

OWNER:
 C. EDGAR PUGH, JR.
 2289 MCKENDREE ROAD
 WEST FRIENDSHIP, MARYLAND 21794
 410-442-2189

DEVELOPER:
 MCKENDREE VIEW LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

McKENDREE VIEW
 LOTS 1-8; BUILDABLE PRESERVATION PARCEL A;
 NON-BUILDABLE PRESERVATION PARCELS B & C;
 NON-BUILDABLE BULK PARCEL D

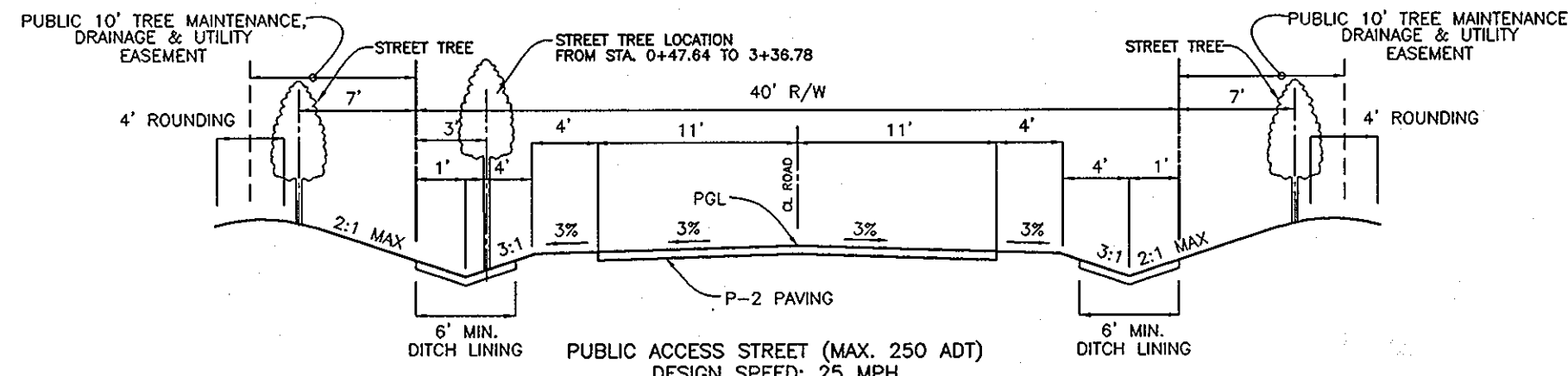
LOCATION: TAX MAP: 14, GRID: 12, PARCEL: 54
 PARCEL: P/0 219
 2289 MCKENDREE ROAD
 ELECTION DISTRICT NO. 4 - HOWARD COUNTY, MARYLAND

TITLE SHEET
 SP-06-006 WP-05-112 WP-06-042

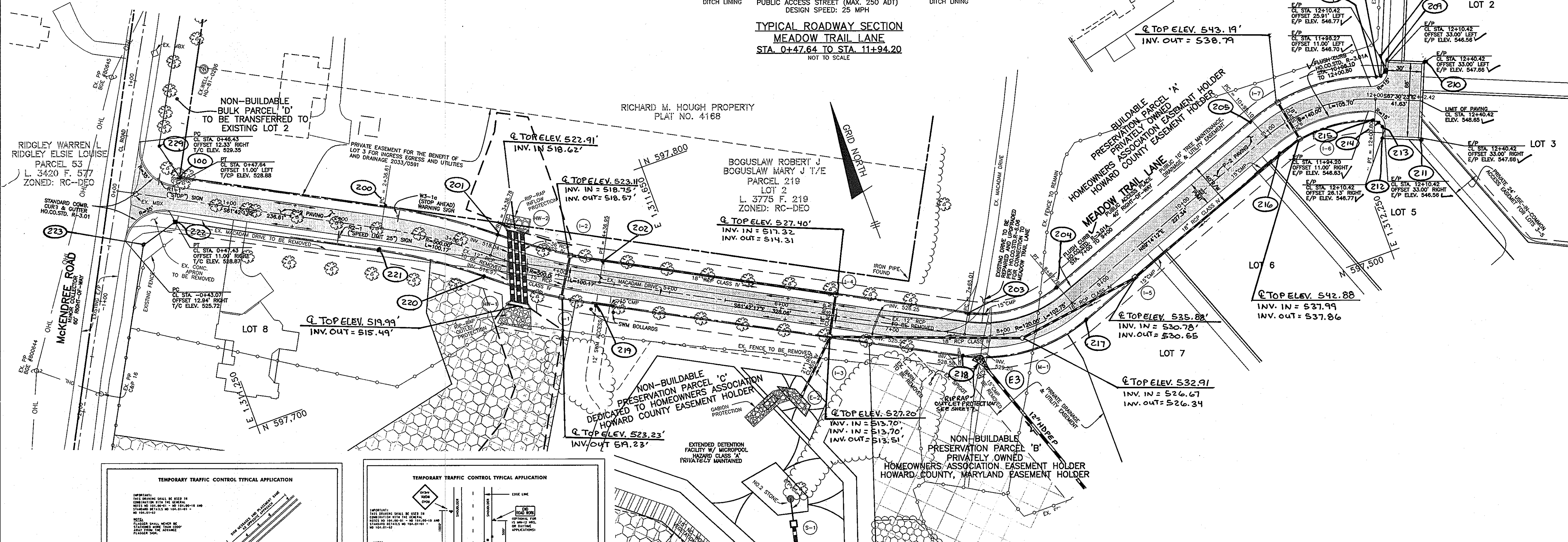
DATE: APRIL, 2007 PROJECT NO. 1777
 SCALE: 1" = 50' SHEET 1 OF 10

DESIGN: DBT DRAFT: DBT CHECK: DAM

CENTER LINE CURVE DATA							
STREET NAME	STATION	RADIUS	ARC	DELTA	TANGENT	CHORD	
MEADOW TRAIL LANE	2+36.61 TO 3+36.78	500.00'	100.17'	11°28'42"	50.25'	S55°57'56"E	100.00'
	3+36.78 TO 4+36.95	500.00'	100.17'	11°28'42"	50.25'	S55°57'56"E	100.00'
	7+65.01 TO 8+67.76	120.00'	102.75'	49°03'30"	54.76'	S86°14'02"E	99.64'
	10+95.10 TO 12+00.80	40.00'	109.70'	43°15'25"	55.51'	S89°08'05"E	103.20'

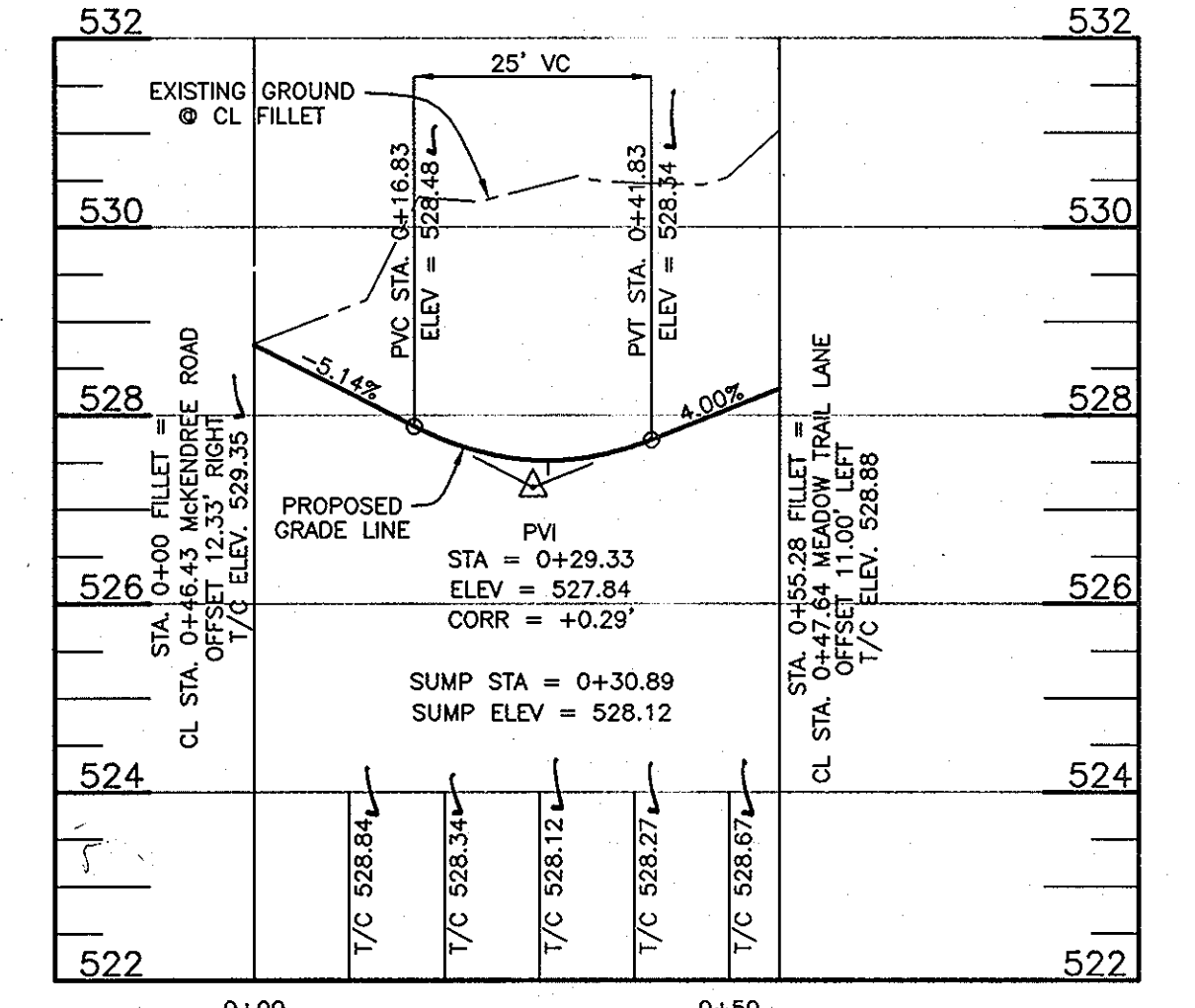


TYPICAL ROADWAY SECTION
MEADOW TRAIL LANE
STA. 0+47.64 TO STA. 11+94.20
NOT TO SCALE

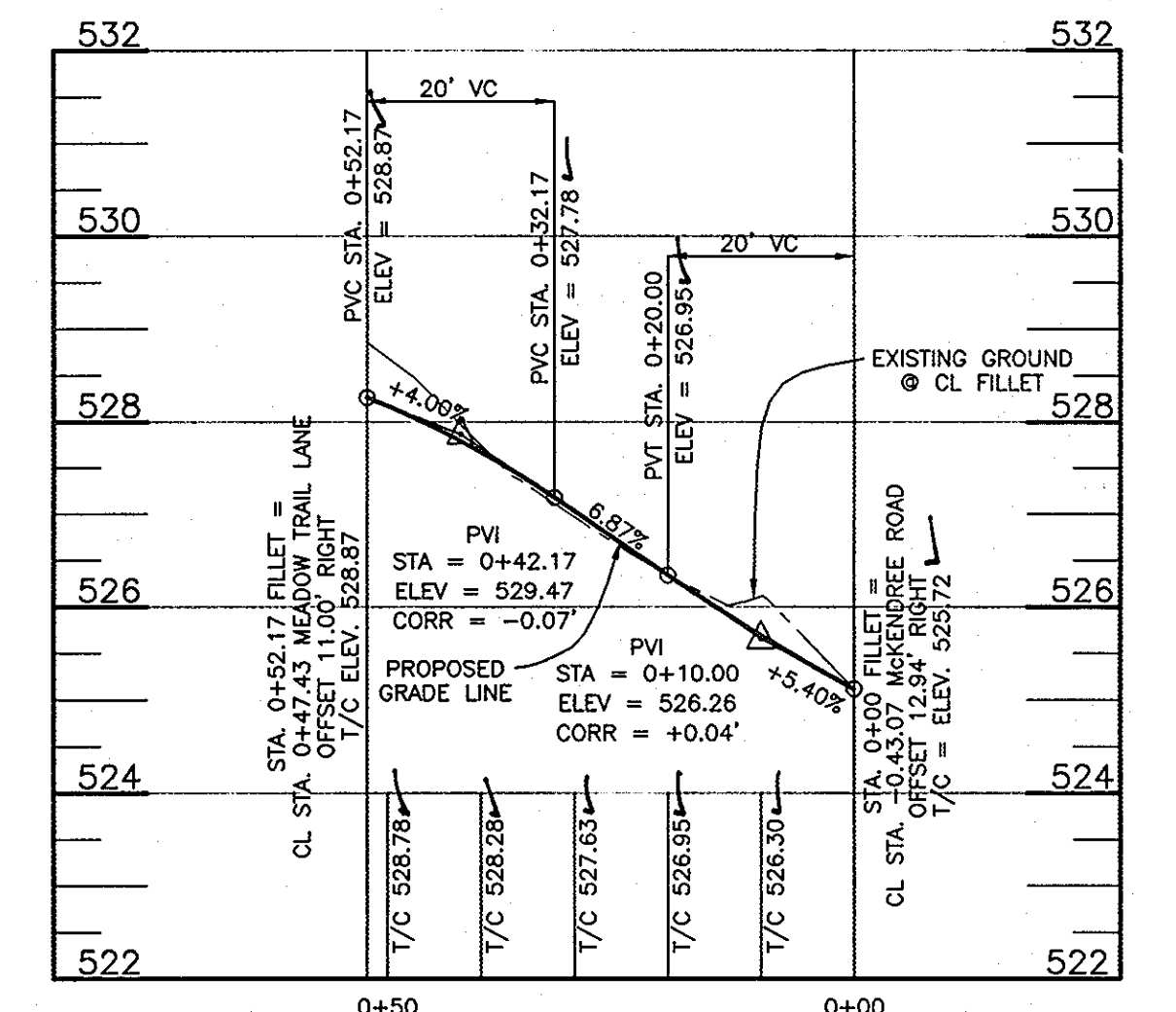


PLAN VIEW
1" = 50'

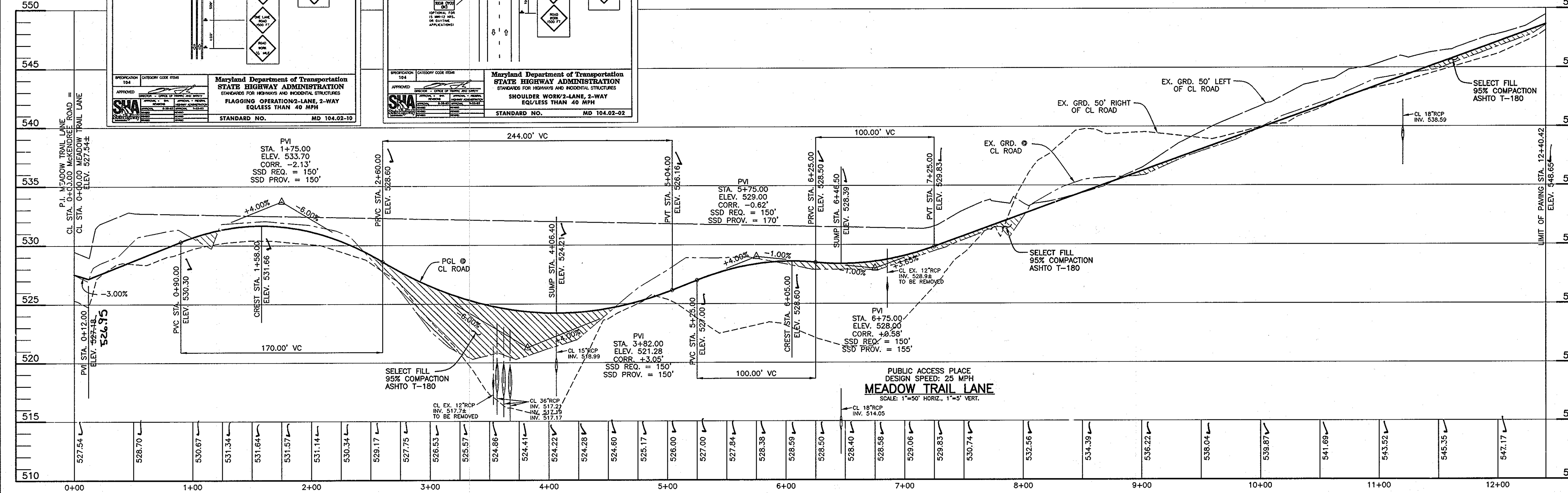
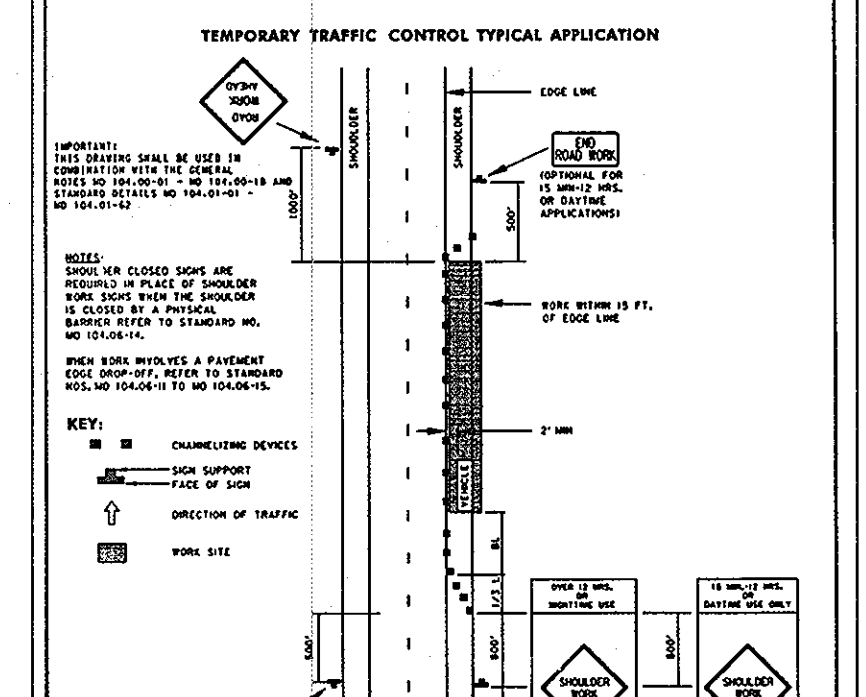
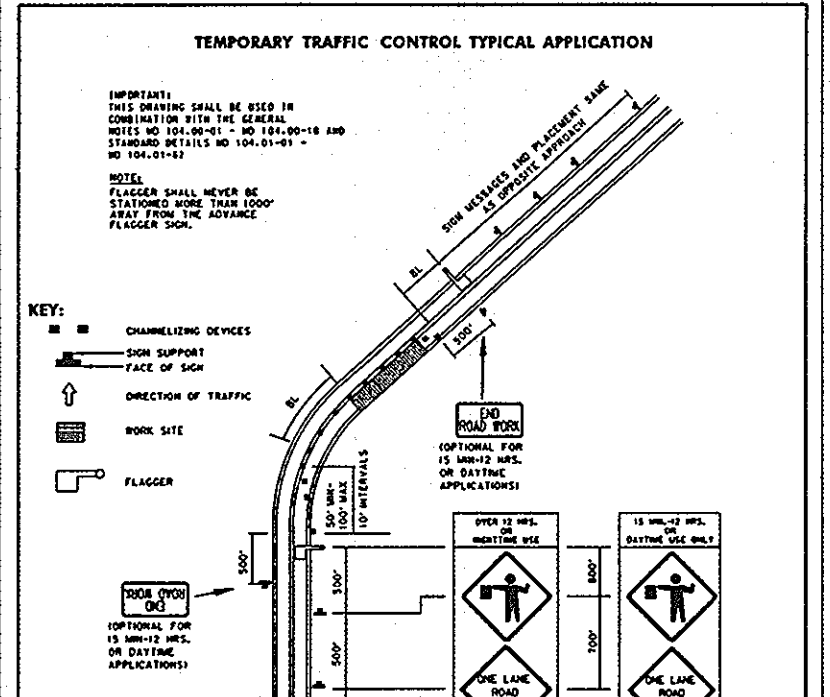
SIGN POSTS:
ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.



FILLET PROFILE
NORTH CORNER
MCKENDREE ROAD/MEADOW TRAIL LANE
SCALE: 1"=20' HORIZ., 1"=2' VERT.



FILLET PROFILE
SOUTH CORNER
MCKENDREE ROAD/MEADOW TRAIL LANE
SCALE: 1"=20' HORIZ., 1"=2' VERT.



PUBLIC ACCESS PLACE
DESIGN SPEED: 25 MPH
MEADOW TRAIL LANE
SCALE: 1"=50' HORIZ., 1"=5' VERT.

AS-BUILT 12-15-08

APPROVED: DEPARTMENT OF PUBLIC WORKS
William T. Mahall 6-5-07
CHIEF, BUREAU OF HIGHWAYS
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Collette 6/19/07
CHIEF, DIVISION OF LAND DEVELOPMENT
CHIEF, DEVELOPMENT ENGINEERING DIVISION

NO.	DATE	REVISION
2	10-9-08	ADD 12" HDPEP WEST OF LOT 7
1	1-18-08	REVISED DETENTION FACILITY CALL-OUT TO 'PRIVATELY MAINTAINED'

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS
8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6844
WWW.BEI-CVLENGINEERING.COM

OWNER:
C. EDGAR PUGH, JR.
2289 MCKENDREE ROAD
WEST FRIENDSHIP, MARYLAND 21794
410-442-2189

DEVELOPER:
MCKENDREE VIEW LLC
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
410-465-4244

TITLE:
ROAD PLAN, PROFILES & DETAILS

DATE: APRIL, 2007 PROJECT NO. 1777
DESIGN: DBT DRAFT: DBT CHECK: DAM SCALE: AS SHOWN SHEET 2 OF 10

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

Donald Maer 4/16/07
 ENGINEER - DONALD A. MASON, P.E. # 21443 DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jim Magala 5/31/07
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

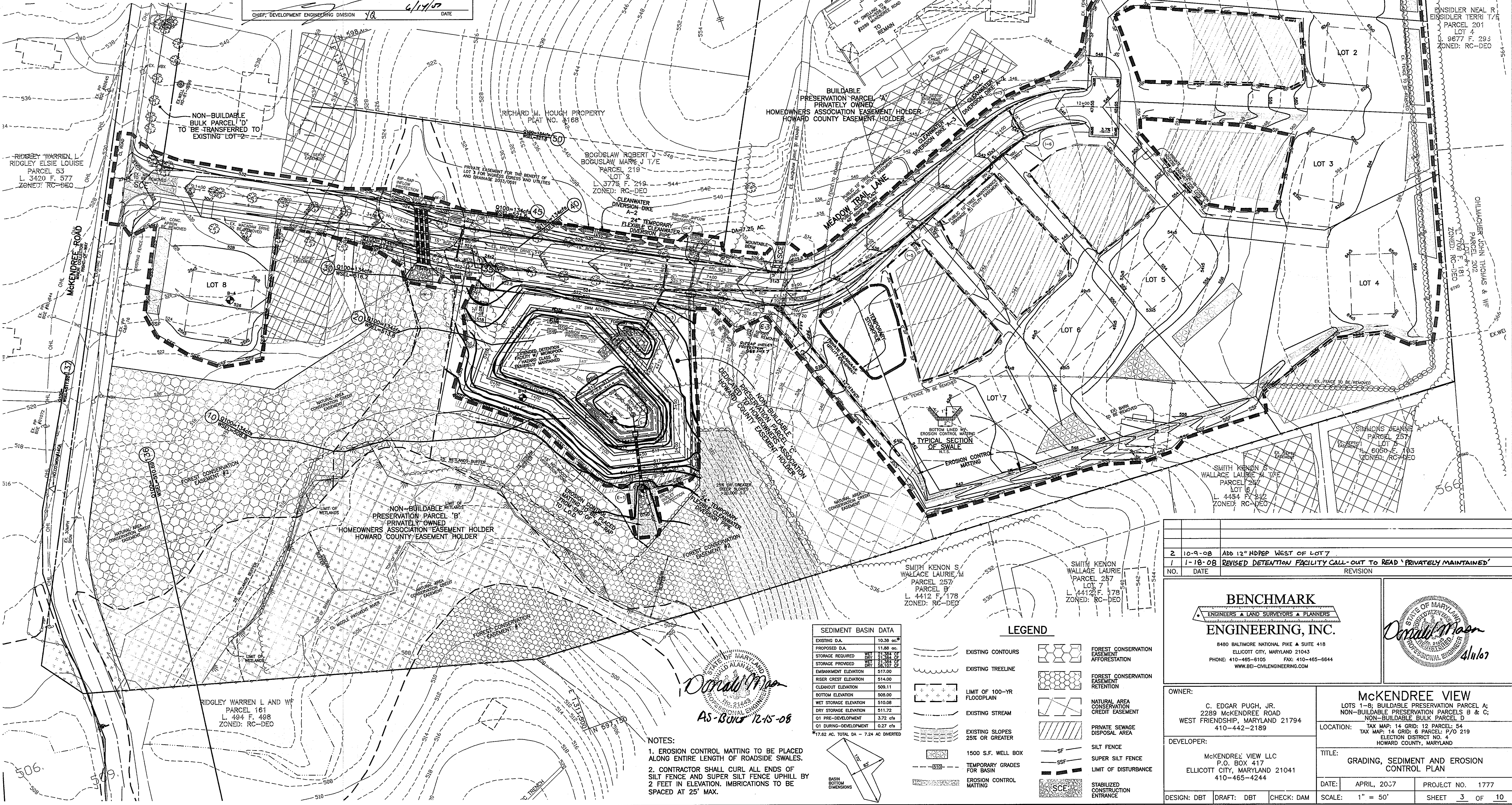
Walter Z. ... 6-5-07
 CHIEF, BUREAU OF HIGHWAYS DATE

Collins 6/14/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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

Donald Maer PE NO. 21443 DATE 12-15-08
 DONALD A. MASON

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.



SEDIMENT BASIN DATA

EXISTING D.A.	10.38 ac*
PROPOSED D.A.	11.88 ac
STORAGE REQUIRED	21,384 cu ft
STORAGE PROVIDED	21,107 cu ft
EMBANKMENT ELEVATION	517.00
RISER CREST ELEVATION	514.00
CLEANOUT ELEVATION	509.11
BOTTOM ELEVATION	508.00
WET STORAGE ELEVATION	510.08
DRY STORAGE ELEVATION	511.72
Q1 PRE-DEVELOPMENT	3.72 cfs
Q1 DURING-DEVELOPMENT	0.27 cfs
*77.62 ac. TOTAL DA - 7.24 ac DIVERTED	

LEGEND

[Symbol]	EXISTING CONTOURS	[Symbol]	FOREST CONSERVATION EASEMENT AFFORESTATION
[Symbol]	EXISTING TREELINE	[Symbol]	FOREST CONSERVATION EASEMENT RETENTION
[Symbol]	LIMIT OF 100-YR FLOODPLAIN	[Symbol]	NATURAL AREA CONSERVATION CREDIT EASEMENT
[Symbol]	EXISTING STREAM	[Symbol]	PRIVATE SEWAGE DISPOSAL AREA
[Symbol]	EXISTING SLOPES 25% OR GREATER	[Symbol]	SILT FENCE
[Symbol]	1500 S.F. WELL BOX	[Symbol]	SUPER SILT FENCE
[Symbol]	TEMPORARY GRADES FOR BASIN	[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	EROSION CONTROL MATTING	[Symbol]	STABILIZED CONSTRUCTION ENTRANCE

NOTES:

- EROSION CONTROL MATTING TO BE PLACED ALONG ENTIRE LENGTH OF ROADSIDE SWALES.
- CONTRACTOR SHALL CURL ALL ENDS OF SILT FENCE AND SUPER SILT FENCE UP HILL BY 2 FEET IN ELEVATION. IMBRICATIONS TO BE SPACED AT 25" MAX.

NO.	DATE	REVISION
2	10-9-08	ADD 12" HDPEP WEST OF LOT 7
1	1-18-08	REVISED DETENTION FACILITY CALL-OUT TO READ 'PRIVATELY MAINTAINED'

BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE A SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-8105 FAX: 410-465-8644
 WWW.BEI-CIVILENGINEERING.COM

OWNER:
 C. EDGAR PUGH, JR.
 2289 MCKENDREE ROAD
 WEST FRIENDSHIP, MARYLAND 21794
 410-442-2189

DEVELOPER:
 MCKENDREE VIEW LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

MCKENDREE VIEW
 LOTS 1-8; BUILDABLE PRESERVATION PARCEL A;
 NON-BUILDABLE PRESERVATION PARCELS B & C;
 NON-BUILDABLE BULK PARCEL D

LOCATION: TAX MAP: 14 GRID: 12 PARCEL: 54
 TAX MAP: 14 GRID: 6 PARCEL: P/O 219
 ELECTION DISTRICT NO. 4
 HOWARD COUNTY, MARYLAND

TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN

DATE: APRIL, 2007 **PROJECT NO.:** 1777
SCALE: 1" = 50' **SHEET:** 3 OF 10

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for ponds 10-376. All references to ASTM and ASHTO specifications apply to the most recent version.

Site Preparation

Area designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped to 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 and grubbed to the ground surface. For dry stormwater 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 dam 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.

Fill

Material - The fill material shall be taken from approved designated borrow areas. If soil is free of roots, slumps, wood, rubbish, stones greater than 3/4" frozen or other objectionable material, fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification Cc, Sc, Gc, or Cl, and must have at least 30% passing the #20 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 permeable material shall 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 track of heavy equipment. Compaction shall be achieved by the use of a minimum of two 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 to obtain this density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by ASHTO Method T-99 (Standard Proctor).

Cut Off Trench - A cut off trench shall be excavated into impervious material along or parallel to the centerline of the embankment. The trench shall be a minimum of four feet wide and shall extend up to at least 10 year water elevation or as shown on the plans. The height sides shall be 1:1 or steeper. The trench shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density at minimum permeability.

Plastic Pipe - The following criteria shall apply for plastic 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 shall extend to the sides of the pipe at least 6 inches 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. Where rock or soft, spongy or other unsuitable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill". 5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

6. Backfilling shall conform to "Structure Backfill". 7. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

8. Backfilling shall conform to "Structure Backfill". 9. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

10. Backfilling shall conform to "Structure Backfill". 11. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

12. Backfilling shall conform to "Structure Backfill". 13. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

14. Backfilling shall conform to "Structure Backfill". 15. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

16. Backfilling shall conform to "Structure Backfill". 17. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

18. Backfilling shall conform to "Structure Backfill". 19. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

20. Backfilling shall conform to "Structure Backfill". 21. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

22. Backfilling shall conform to "Structure Backfill". 23. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

24. Backfilling shall conform to "Structure Backfill". 25. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

26. Backfilling shall conform to "Structure Backfill". 27. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

28. Backfilling shall conform to "Structure Backfill". 29. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

29. Backfilling shall conform to "Structure Backfill". 30. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

30. Backfilling shall conform to "Structure Backfill". 31. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

31. Backfilling shall conform to "Structure Backfill". 32. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

32. Backfilling shall conform to "Structure Backfill". 33. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

33. Backfilling shall conform to "Structure Backfill". 34. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

34. Backfilling shall conform to "Structure Backfill". 35. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

35. Backfilling shall conform to "Structure Backfill". 36. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

36. Backfilling shall conform to "Structure Backfill". 37. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

37. Backfilling shall conform to "Structure Backfill". 38. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1850).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL", REVISIONS THERE TO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, 10 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52), TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:
TOTAL AREA OF SITE 22.99 ACRES
AREA DISTURBED 9.33 ACRES
AREA TO BE ROOFED OR PAVED 0.66 ACRES
AREA TO BE VEGETATIVELY STABILIZED 8.67 ACRES
TOTAL CUT 9980 CY
TOTAL FILL 4769 CY
OFFSITE WASTE AREA LOCATION NA
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR THE PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH IS BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH IS BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

TEMPORARY SEEDBED PREPARATIONS

- APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT).
SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT) FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.7 LBS/1000 SQ FT) FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.
MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTATED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 2/8 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES, 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.
REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDBED PREPARATIONS

- SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
1. PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ FT).
2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE OF FERTILIZER (2.2 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.
SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.5 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIODS FEBRUARY 29 THROUGH FEBRUARY 28, PROTECT SITE BY OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.
MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTATED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 2/8 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.
MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TOPSOIL SPECIFICATIONS

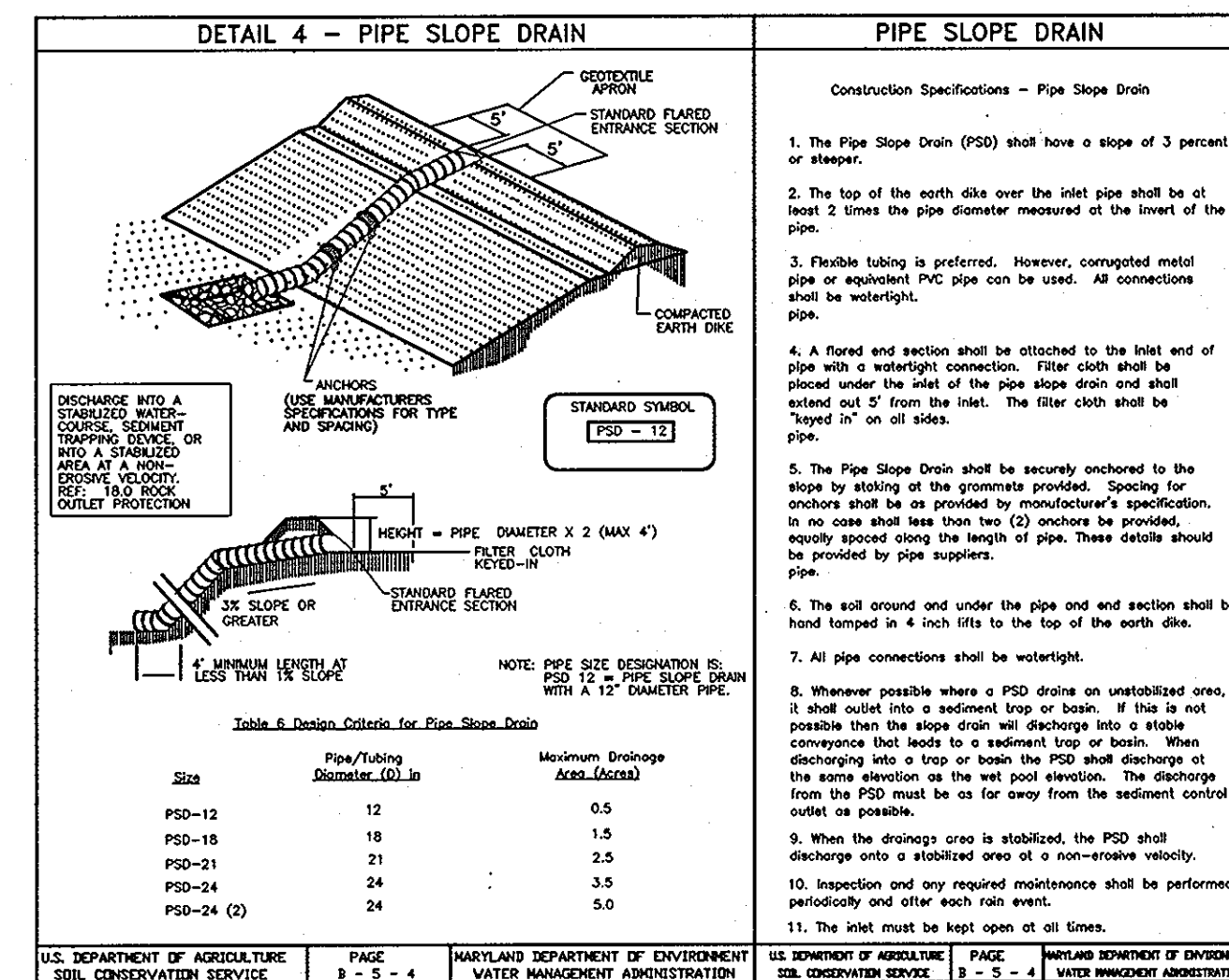
- 1. Topsoil salvaged from the existing site may be used provided that it meets standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS in cooperation with Maryland Agricultural Experiment Station.
2. Topsoil Specifications - Soil to be used as topsoil must meet the following:
i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Rejected topsoil shall not be a mixture of contrasting texture subsoils and shall contain less than 5% by volume of stones, sticks, logs, coarse fragments, roots, sticks, rocks, trash, or other materials larger than 1-1/2" in diameter.
ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutgrass, poison ivy, thistle, or others as specified.
iii. Where the subsoil is either highly acidic or composed of heavy clay, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over the area and worked into the soil in conjunction with tillage operations as described in the following procedures:
i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
ii. For sites having disturbed areas under 5 acres:
a. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
b. Organic content or topsoil shall be not less than 1.5 percent by weight.
c. Topsoil having soluble soil content greater than 500 parts per million shall not be used.
d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit distribution of phytotoxic materials.
iii. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
iv. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
v. Topsoil Application
i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, slope sill fences and sediment traps and basins.
ii. Grades on the area to be topsoiled, which have been previously established, shall be maintained, otherwise, higher in elevation.
iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that seeding or sodding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water ponds.
iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
vi. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
i. Composted Sludge Material for use as a soil conditioner for sites having distributed areas over 5 acres shall be limited to pre-set amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
a. Composted sludge shall be supplied by, or originate from, a person or persons that permit the lines of acquisition of the compost by the Maryland Department of the Environment under COMAR 26.04.08.
b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
ii. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 1 lb/1,000 square feet, and 1/3 the normal lime application rate.
References: Guidelines Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.

30.0 DUST CONTROL

- Controlling dust blowing and movement on construction sites and roads.
Purpose
To prevent blowing and movement of dust from excess soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.
Conditions Where Practice Applies
This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.
Specifications
1. Mulches - See standards for vegetative stabilization with mulches only. Mulch should be applied to the surface of the soil to be stabilized.
2. Vegetative Cover - See standards for temporary vegetative cover.
3. Tillage - To roughen surface and bring silt to the surface. This is an emergency measure which is used to control soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effects.
4. Irrigation - This is generally done as an emergency treatment. It is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.
5. Barriers - Solid board fences, all fences, snow fences, burp fences, straw bales, and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
6. Calcium Chloride - Apply at rates that will keep surface moist. May need retreatment.
Permanent Methods
1. Permanent Vegetation - See standards for permanent vegetative cover and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.
2. Topsoiling - Covering with less erodible soil materials. See standards for topsoiling.
3. Stone - Cover surface with crushed stone or coarse gravel.
References
1. Agriculture Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.
2. Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT. (DAY 1) AND ADE PERMIT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, TREE PROTECTION FENCES, SUPER SILT FENCES, SILT FENCES, TEMPORARY CLEANWATER DIVERSION DIKES AND TEMPORARY CLEANWATER DIVERSION PIPE. (DAY 2-7)
3. INSTALL SEDIMENT BASIN. ADD IMMEDIATE ECM AT END OF RIP-RAP FO E-1 (DAY 8-18)
4. INSTALL ANY REMAINING SEDIMENT CONTROL DEVICES. (DAY 19-22)
5. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR AND WITH A 5-DAY CLEAR WEATHER (NO PRECIPITATION) FORECAST FROM THE NWI, INSTALL CULVERTS FROM HW-1 TO HW-2 AND CLOSE SSF OVER ENDWALLS. OBTAIN PERMITS FROM INSPECTOR BEFORE PROCEEDING. (DAY 34-44)
6. BRING ROAD BED TO SUBGRADE AND STABILIZE SLOPES IN ACCORDANCE WITH THE TEMPORARY SEEDBED NOTES. UTILIZE DUST CONTROL METHODS. (DAY 45-55)
7. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, INSTALL STORM DRAINS AND SWALES. (DAY 56-70)
8. PAVE ROADWAYS. (DAY 71-75)
9. COMPLETE MASS GRADING OF SITE AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDBED NOTES. (DAY 76-90)
10. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, CONVERT SEDIMENT BASIN TO PERMANENT STORMWATER MANAGEMENT FACILITY. SHAPE FACILITY PER FINAL GRADING SHOWN ON THE PLANS AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDBED NOTES. REMOVE ALL OLD AND NEW TRASH, JUNK AND DEBRIS FROM ENTIRE SITE INCLUDING FOREST CONSERVATION AREAS, FLOODPLAIN, STREAMS, WETLANDS AND BUFFER AREAS. (DAY 91-108)
11. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES, AND STABILIZED DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDBED NOTES. (DAY 109-114)



ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.
DONALD A. MASON, P.E. 4/16/07

DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT.
C. EDGAR PUGH, JR. 5/19/2007

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
USDA - NATURAL RESOURCE CONSERVATION SERVICE 5/31/07

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.
HOWARD SCD 5/31/07

APPROVED: DEPARTMENT OF PUBLIC WORKS
Walter Z. Malachuk 6-5-07

APPROVED: DEPARTMENT OF PLANNING AND ZONING
C. Edgard Pugh, Jr. 6/19/07

CHIEF, DEVELOPMENT ENGINEERING DIVISION YQ 6/19/07

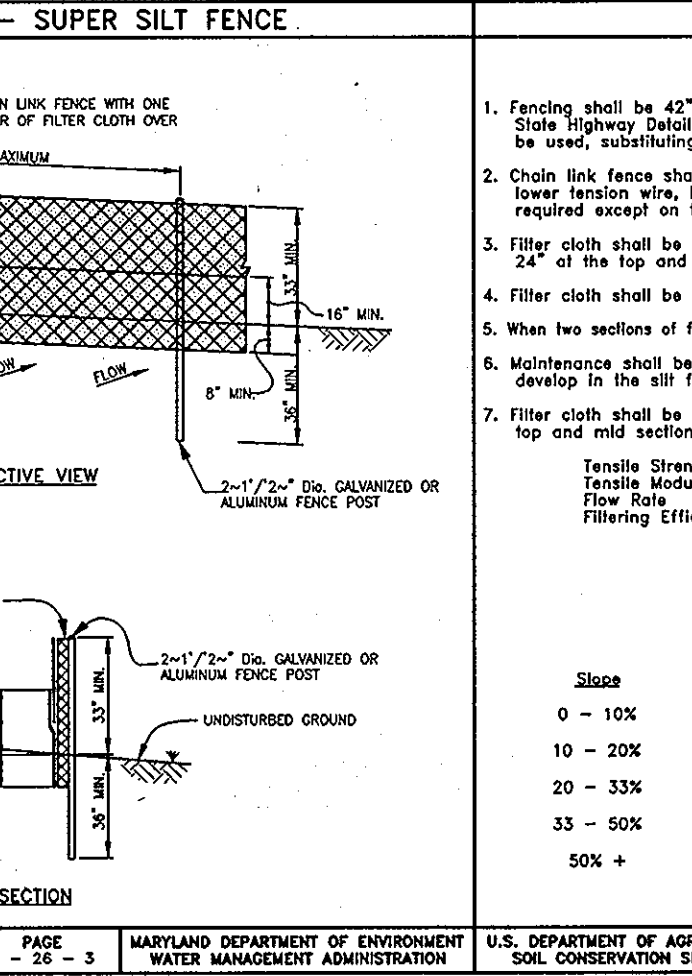
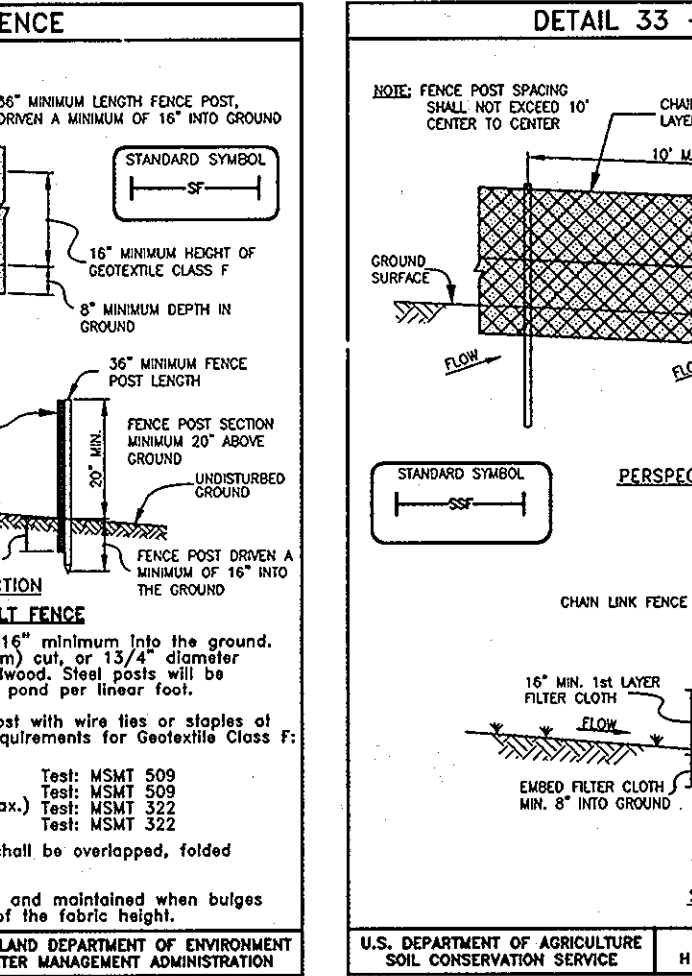
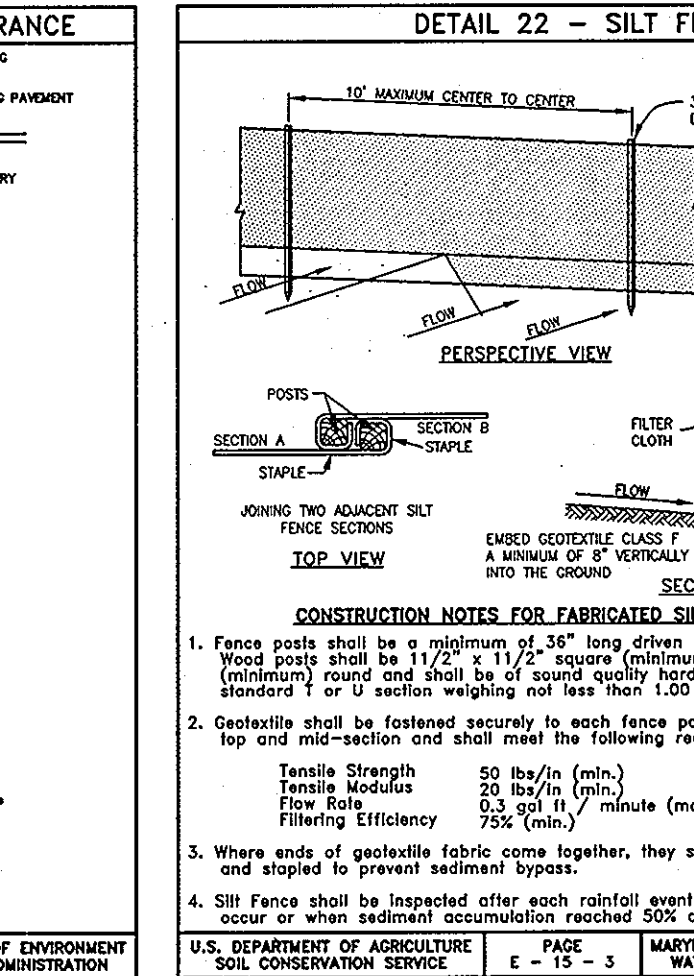
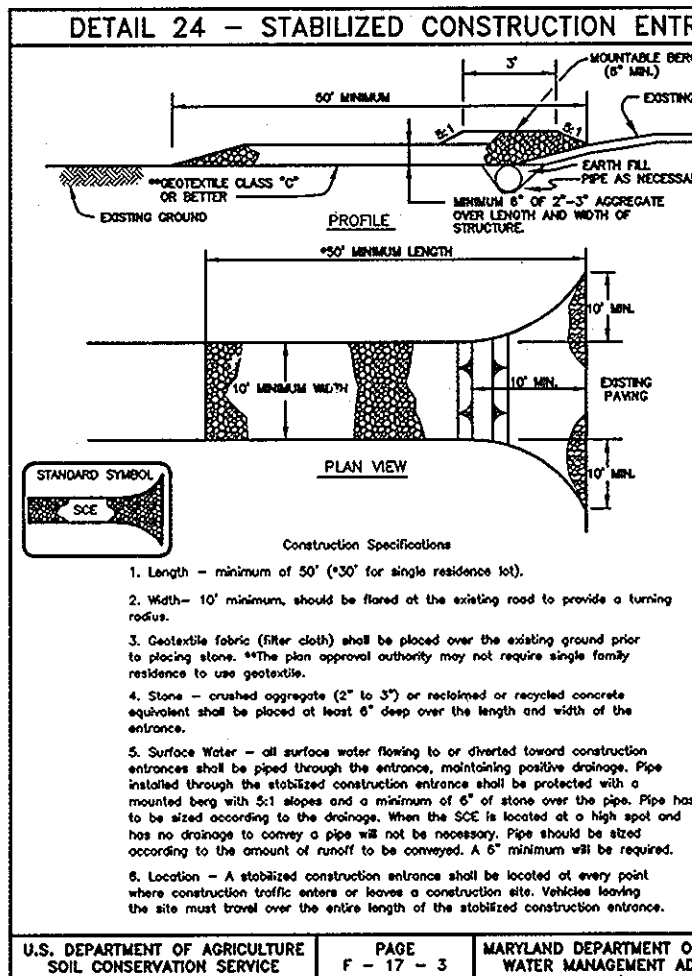
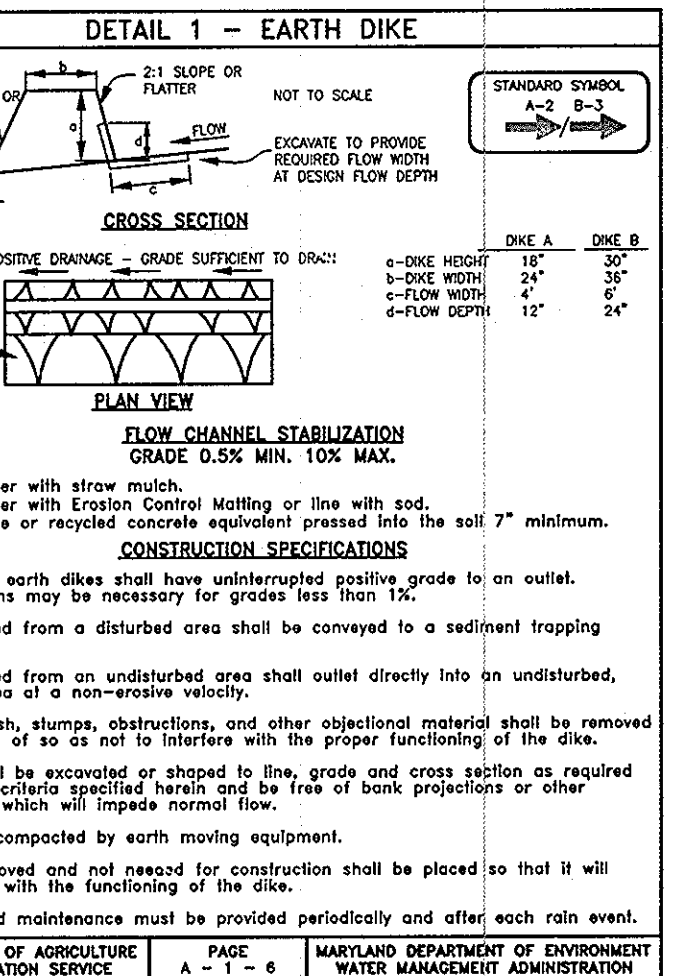
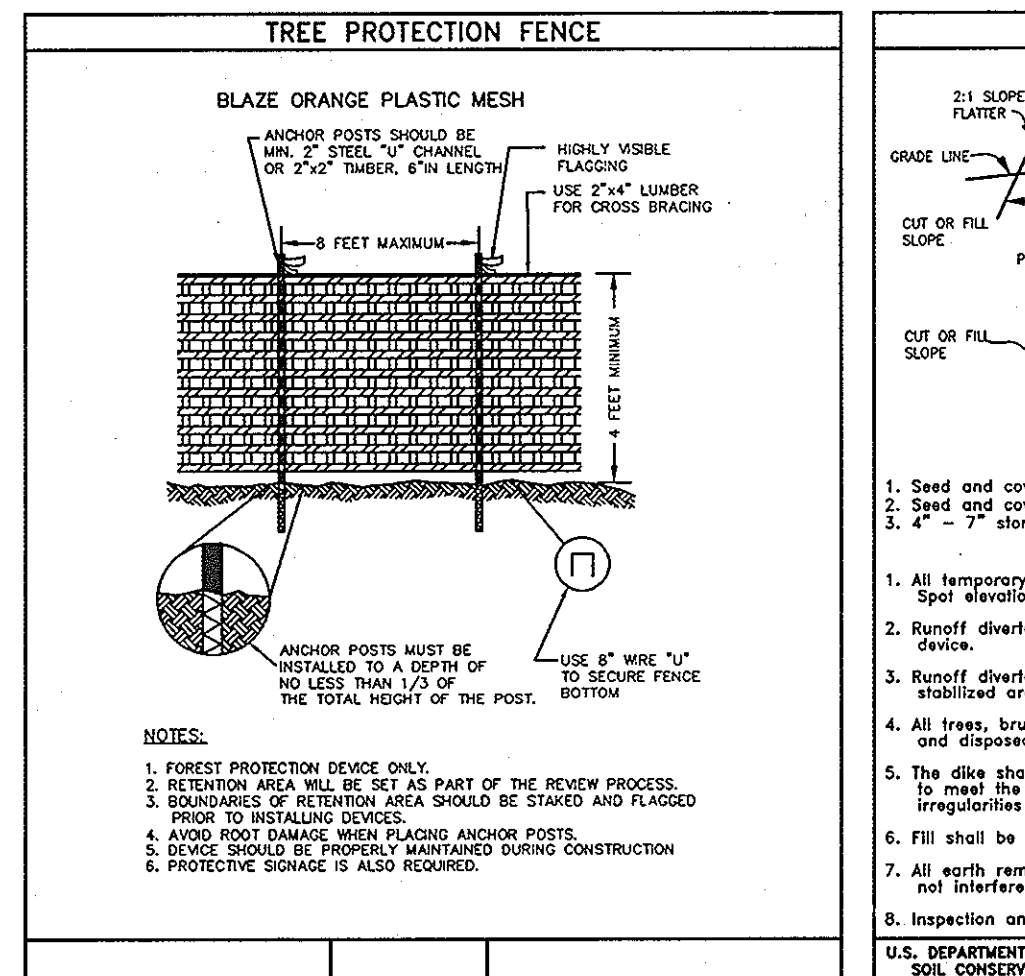


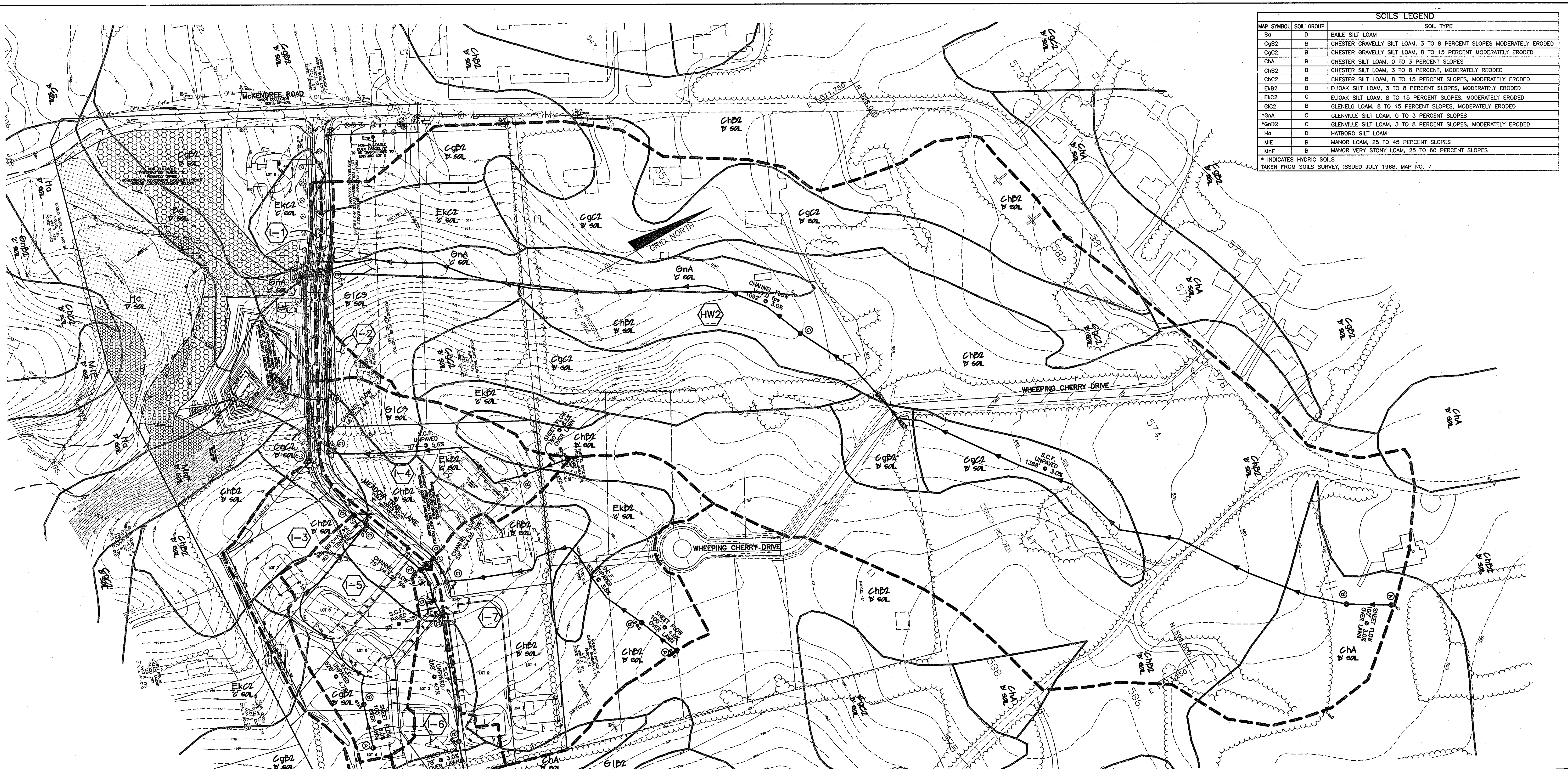
Table with 4 columns: Slope, Slope (degrees), Slope Length (feet), Silt Fence Length (feet). Rows include 0-10%, 10-20%, 20-33%, 33-60%, and 60%+ slopes.

BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-8105 FAX: 410-465-8644 WWW.BE-CVLENGINEERING.COM

MCKENDREE VIEW LOTS 1-8, BUILDABLE PRESERVATION PARCEL A, NON-BUILDABLE PRESERVATION PARCELS B & C; LOCATION: TAX MAP: 14, GRID: 12, PARCEL: 54; TAX MAP: 14, GRID: 6, PARCEL: 17, 21; ELECTION DISTRICT NO. 4 HOWARD COUNTY, MARYLAND; TITLE: SEDIMENT AND EROSION CONTROL NOTES AND DETAILS; DATE: APRIL, 2007 PROJECT NO. 1777; DESIGN: DBT DRAFT: DBT CHECK: DAM SCALE: AS SHOWN SHEET 4 OF 10

SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
So	D	BAILE SILT LOAM
CgB2	B	CHESTER GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES MODERATELY ERODED
CgC2	B	CHESTER GRAVELLY SILT LOAM, 8 TO 15 PERCENT MODERATELY ERODED
ChA	B	CHESTER SILT LOAM, 0 TO 3 PERCENT SLOPES
ChB2	B	CHESTER SILT LOAM, 3 TO 8 PERCENT, MODERATELY ERODED
ChC2	B	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
EkB2	B	ELOAK SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
EkC2	C	ELOAK SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
GcC2	B	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
GnA	C	GLENVILLE SILT LOAM, 0 TO 3 PERCENT SLOPES
GnB2	C	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
Ha	D	HATBORO SILT LOAM
MIE	B	MANOR LOAM, 25 TO 45 PERCENT SLOPES
MVF	B	MANOR VERY STONY LOAM, 25 TO 60 PERCENT SLOPES

* INDICATES HYDRIC SOILS
TAKEN FROM SOILS SURVEY, ISSUED JULY 1966, MAP NO. 7



STORM DRAIN DATA						
INLET NO.	AREA (AC)	'C' FACTOR	I ₁₀ (in/hr)	Q ₁₀ (cfs)	% IMPERVIOUS	
I-1	0.24	0.49	6.60	0.77	45.8	
I-2	0.44	0.37	6.60	1.07	33.6	
I-3	1.90	0.23	6.60	2.87	17.9	
I-4	3.00	0.33	6.30	6.21	26.0	
I-5	2.63	0.22	6.10	3.56	21.2	
I-6	1.26	0.23	6.08	1.76	22.2	
I-7	6.35	0.24	5.62	8.69	21.8	
HW-2	41.92	0.21	4.35	38.29	12.0	

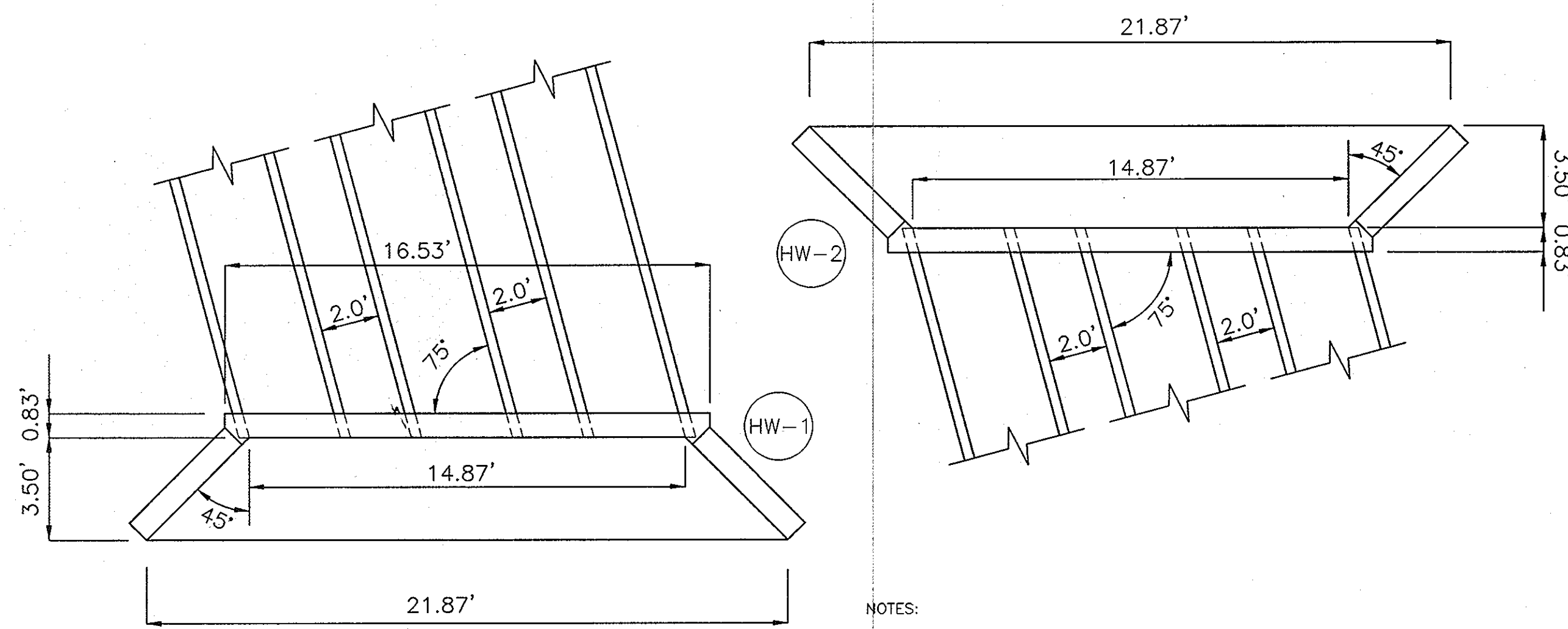
- LEGEND**
- EXISTING CONTOURS
 - EXISTING TREELINE
 - EXISTING STREAM
 - EXISTING SLOPES 25% OR GREATER
 - SOILS DELINEATION LINE
 - SOILS TYPE
 - 100-YR FLOODPLAIN LIMIT
 - DRAINAGE DIVIDE
 - TIME OF CONCENTRATION TRAVEL PATH

APPROVED: DEPARTMENT OF PUBLIC WORKS
Walter F. Muhl 6-5-07
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Catharine 6/19/07
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 6/14/07 DATE

1	10-9-08	ADD 12" HDPEP WEST OF LOT 7	REVISION
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 WWW.BEI-ONLINEENGINEERING.COM			
OWNER: C. EDGAR PUGH, JR. 2289 MCKENDREE ROAD WEST FRIENDSHIP, MARYLAND 21794 410-442-2189		MCKENDREE VIEW LOTS 1-8; BUILDABLE PRESERVATION PARCEL A; NON-BUILDABLE PRESERVATION PARCELS B & C; NON-BUILDABLE BULK PARCEL D LOCATION: TAX MAP: 14 GRID; 12 PARCEL: 54 TAX MAP: 14 GRID; 6 PARCEL: P/O 219 ELECTION DISTRICT NO. 4 HOWARD COUNTY, MARYLAND	
DEVELOPER: MCKENDREE VIEW LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244		TITLE: STORM DRAIN DRAINAGE AREA MAP	
DESIGN: DBT	DRAFT: DBT	CHECK: DAM	SCALE: 1" = 100'
PROJECT NO. 1777		SHEET 6 OF 10	



NOTES:
 CONTRACTOR SHALL PROVIDE 3"-45° BEVEL AROUND PIPE OPENINGS ON UP-STREAM HEADWALLS.
 SEE HO. CO. STD SD-5.11 FOR SPECIFICATIONS ON REINFORCING STEEL.

PLAN VIEW

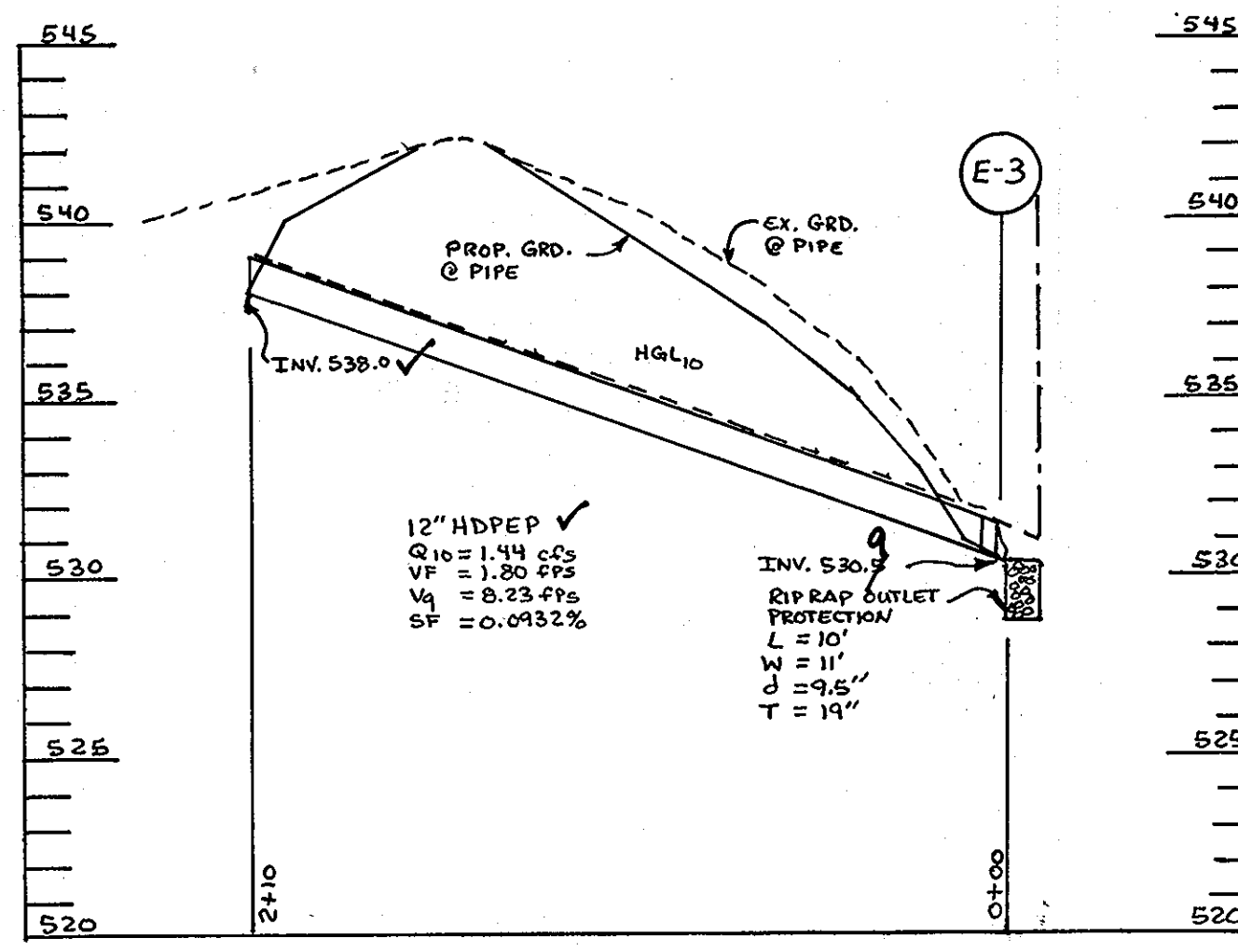
A

FRONT ELEVATION

SECTION A-A

HW-1 AND HW-2 MODIFIED TYPE 'A' HEADWALL

SCALE: 1" = 4'



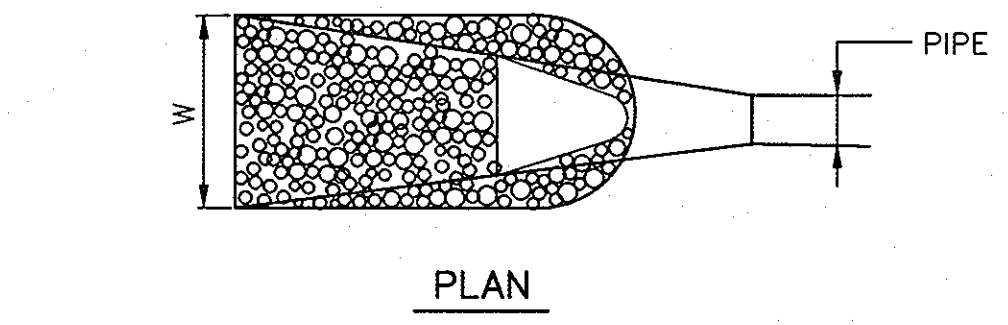
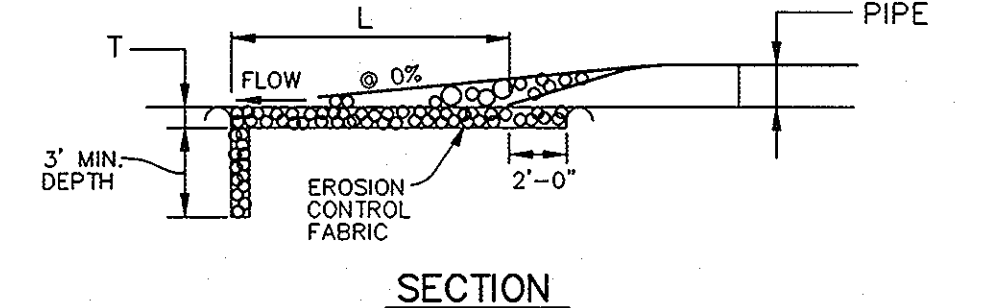
PROFILE OF CULVERT WEST OF LOT 7

STRUCTURE SCHEDULE									
NO.	TYPE	LOCATION	PIPE INV. IN	PIPE INV. OUT	TOP ELEV.	THROAT ELEV.	HO. CO. STD.		
E-1	36" CONC. END SECT.	N 597394.5155 E 1311654.1244	---	507.00	NA	NA	SD - 5.51		
E-2	21" CONC. END SECT.	N 597557.7554 E 1311712.8248	513.06	513.00	NA	NA	SD - 5.52		
E-3	12" HDPEP END SECT.	N 597527.8306 E 1311876.6437	---	530.59	NA	NA	SD - 4.11 OR 4.39		
I-1	D	CL STA. 4+08.40 OFFSET 19.00' RIGHT MEADOW TRAIL LANE	---	519.18	523.26	522.43	SD - 4.11 OR 4.39		
I-2	D	CL STA. 4+08.40 OFFSET 19.00' LEFT MEADOW TRAIL LANE	518.80	518.55	523.26	422.43	SD - 4.11 OR 4.39		
I-3	D	CL STA. 6+46.50 OFFSET 19.00' RIGHT MEADOW TRAIL LANE	513.85	513.60	527.44	526.61	SD - 4.11 OR 4.39		
I-4	D	CL STA. 6+46.50 OFFSET 19.00' LEFT MEADOW TRAIL LANE	514.45	514.25	527.44	526.61	SD - 4.11 OR 4.39		
I-5	D	CL STA. 8+15.00 OFFSET 19.00' RIGHT MEADOW TRAIL LANE	531.80	530.80	535.35	535.35	SD - 4.11 OR 4.39		
I-6	D	CL STA. 11+20.00 OFFSET 19.00' RIGHT MEADOW TRAIL LANE	538.21	538.01	543.30	542.47	SD - 4.11 OR 4.39		
I-7	D	CL STA. 11+20.00 OFFSET 19.00' LEFT MEADOW TRAIL LANE	---	538.97	543.30	542.47	SD - 4.11 OR 4.39		
HW-1	MOD. TYPE 'A' HEADWALL	N 597720.2320 E 1311504.4887	---	515.49	519.99	NA	SD - 5.11		
HW-2	MOD. TYPE 'A' HEADWALL	N 597787.2477 E 1331526.8398	518.62	---	523.42	NA	SD - 5.11		
M-1	4'-0" MANHOLE	CL STA. 8+15.00 OFFSET 7.00' RIGHT MEADOW TRAIL LANE	526.64	526.44	NA	G - 5.12			
S-1	CUSTOM STRUCTURE	N 597452.9643 E 1311667.6795	511.00 (D. PIPE)	508.00 (C. PIPE)	517.00	NA	NA		

- 1) STRUCTURE LOCATION FOR MANHOLES IS AT THE CENTER OF THE MANHOLE.
- 2) STRUCTURE LOCATION FOR INLETS IS AT THE CENTER OF THE INLET.
- 3) STRUCTURE ELEVATION AND LOCATION FOR ENDSECTIONS IS AT THE MIDPOINT OF THE END OF STRUCTURE.
- 4) PRECAST STRUCTURES MEETING HS-20 LOADING MAY BE USED.

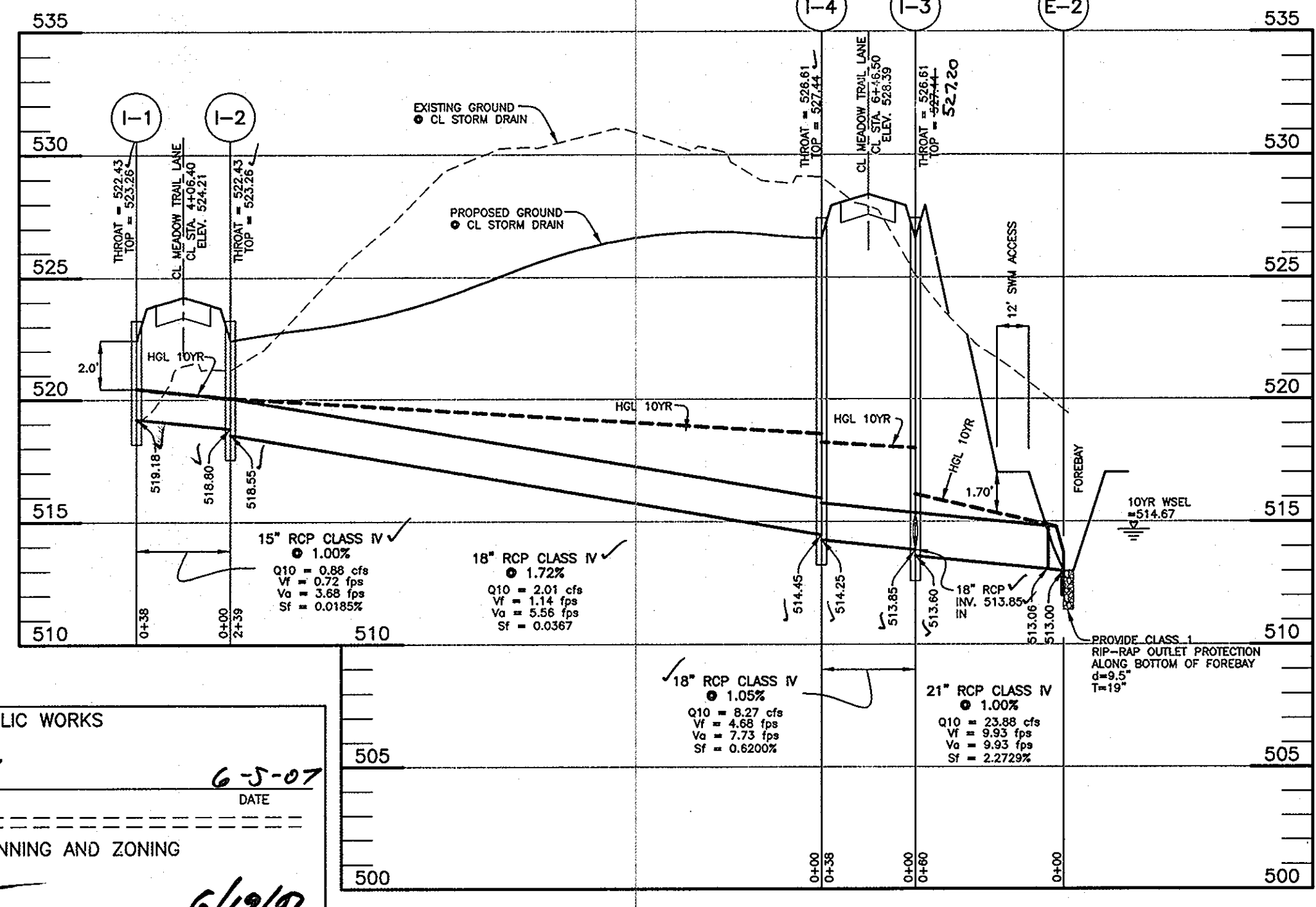
PIPE SCHEDULE		
PIPE SIZE	LENGTH	TYPE
15"	38'	RCCP CLASS IV
18"	792'	RCCP CLASS IV
21"	60'	RCCP CLASS IV
36"	192'	RCCP CLASS IV
12"	80'	HDPEP

- CONSTRUCTION SPECIFICATIONS
1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
 2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
 3. GEOTEXTILE CLASS C28 OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE FABRIC. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
 4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR THE RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SHALL FILL THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
 5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

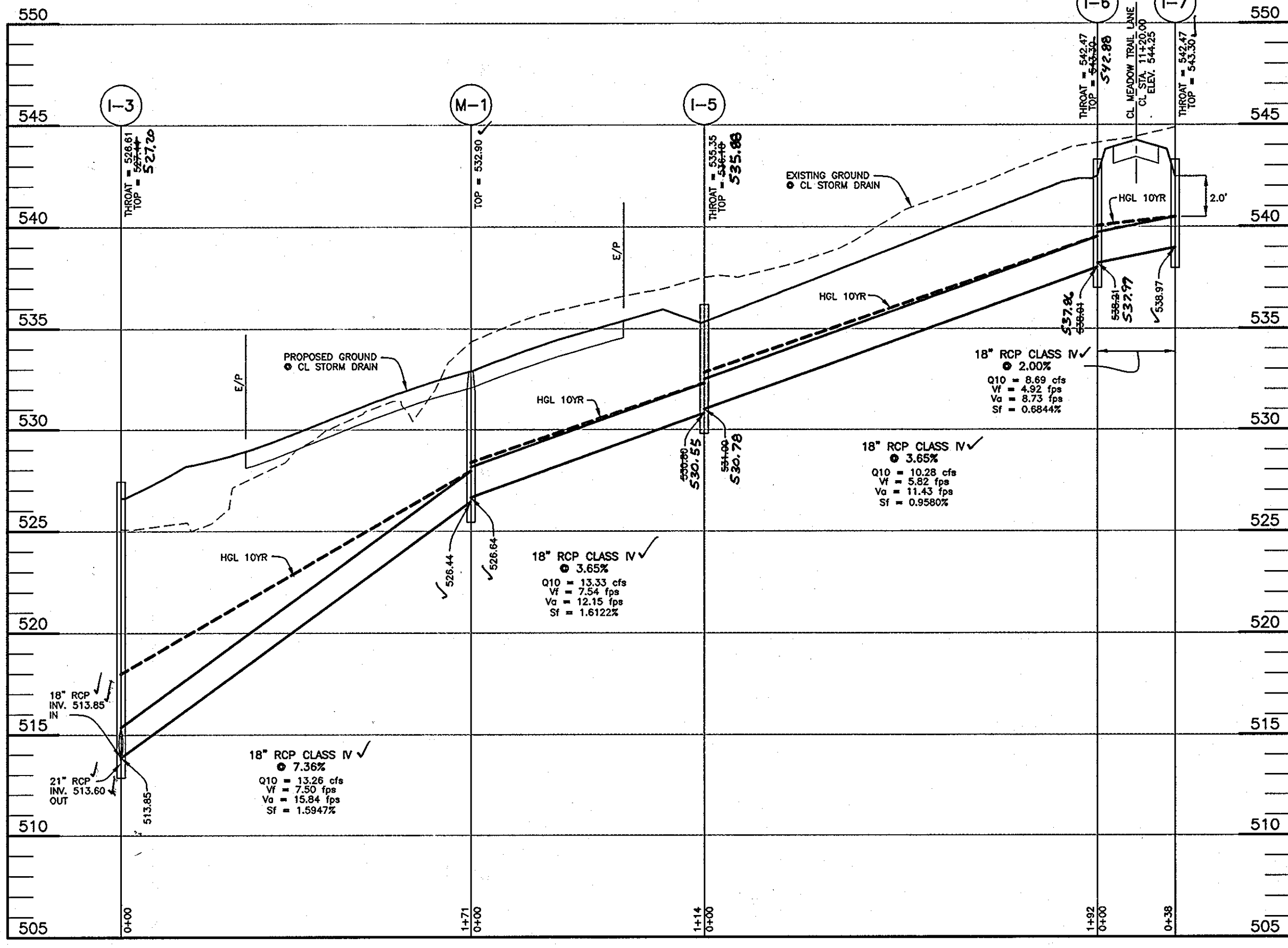


STRUCTURE	D=80	LENGTH (L)	WIDTH (W)	THICKNESS (T)	SHA CLASS
E-1	9.5'	32.0'	15.8'	1.58'	I
E-2	9.5'	FOREBAY	1.58'	1.58'	I
HW-1	9.5'	18.0'	30.6'	1.58'	I
E-3	9.5'	10.0'	11.0'	1.58'	I

OUTLET PROTECTION DETAIL NOT TO SCALE



PROFILE OF TEMPORARY FLEXIBLE CLEANWATER DIVERSION PIPE



NOTE: ALL REINFORCED CONCRETE PIPE TO BE CLASS IV.

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 6-5-07 DATE
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 6/19/07 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: [Signature] 6/14/07 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

NO.	DATE	REVISION
1	10-9-08	ADD PROFILE FOR PIPE WEST OF LOT 7, REMOVE STRUCK SCHED. PIPING FROM OUTLET PROTECTION DETAIL.

OWNER:
 C. EDGAR PUGH, JR.
 2289 MCKENDREE ROAD
 WEST FRIENDSHIP, MARYLAND 21794
 410-442-2189

DEVELOPER:
 MCKENDREE VIEW LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

DESIGN: DBT DRAFT: DBT CHECK: DAM SCALE: AS SHOWN SHEET 7 OF 10

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-8644
 WWW.BE-CVLENGINEERING.COM

MCKENDREE VIEW
 LOTS 1-8; BUILDABLE PRESERVATION PARCEL A;
 NON-BUILDABLE PRESERVATION PARCELS B & C;
 NON-BUILDABLE BULK PARCEL D

LOCATION: TAX MAP: 14 GRID: 12 PARCEL: 54
 TAX MAP: 14 GRID: 6 PARCEL: 17/0 219
 ELECTION DISTRICT NO. 4
 HOWARD COUNTY, MARYLAND

TITLE:
 STORM DRAIN PROFILES AND DETAILS

DATE: APRIL, 2007 PROJECT NO. 1777

SCHEDULE A PERIMETER LANDSCAPE EDGE						
CATEGORY	ADJ. TO ROADS (1)	ADJ. TO ROADS (2)	ADJ. TO PERIMETER PROPERTY (3)	ADJ. TO PERIMETER PROPERTY (4)	ADJ. TO PERIMETER PROPERTY (5)	TOTALS
LANDSCAPE TYPE	B	B	A	A	A	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1:50 (SHADE) 1:40 (EVERGREEN)	1:50 (SHADE) 1:40 (EVERGREEN)	1:60 (SHADE) 1:50 (EVERGREEN)	1:60 (SHADE) 1:50 (EVERGREEN)	1:60 (SHADE) 1:50 (EVERGREEN)	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	YES* 228'	YES* 152'	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED	229'	210'	2485'	225'		
SHADE TREES	0**	5	4	42	4	55
EVERGREEN TREES	0**	6	-	-	-	6
OTHER TREES (2:1 SUBSTITUTE)	0**	-	-	-	-	-
SHRUBS	0**	-	-	-	-	-
NUMBER OF PLANTS PROVIDED	0	5	4	42	4	55
SHADE TREES	-	6	-	-	-	6
EVERGREEN TREES	-	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTE)	-	-	-	-	-	-
SHRUBS	-	-	-	-	-	-

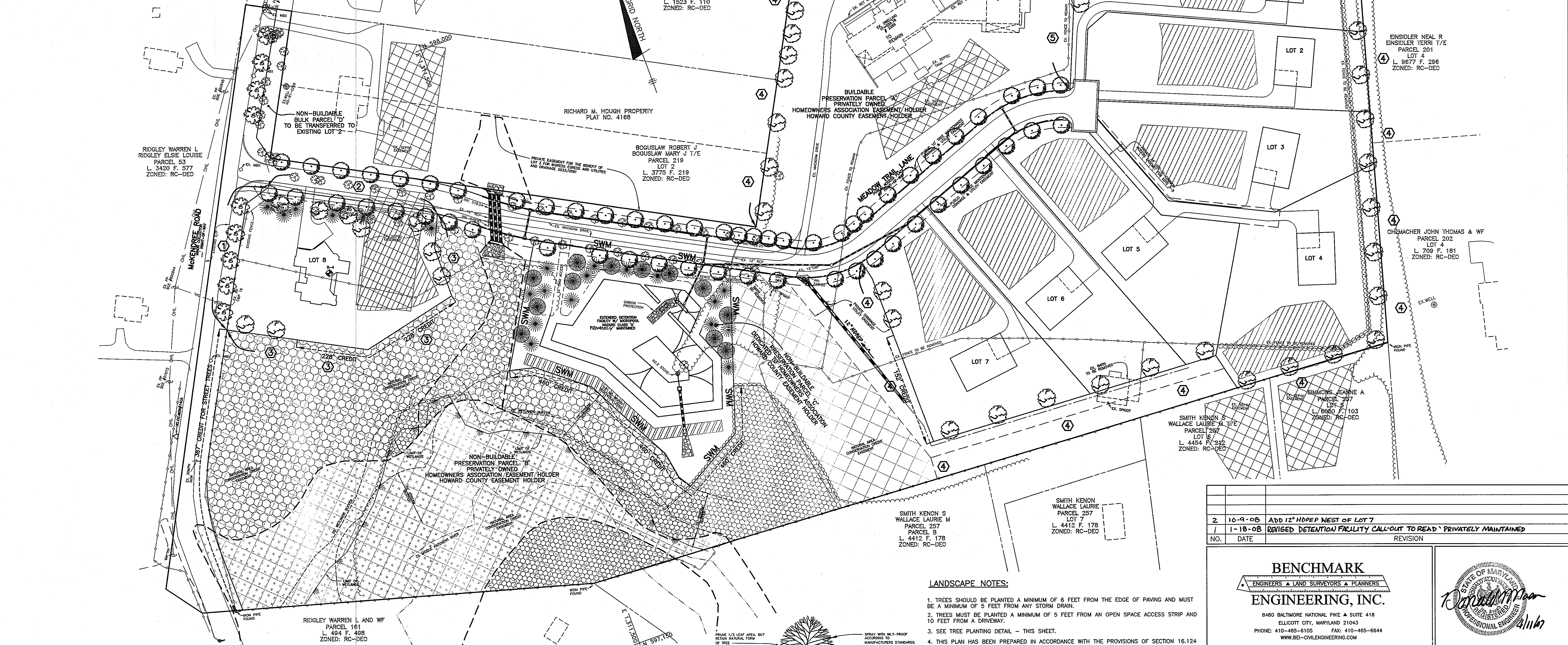
SCHEDULE D SWM PERIMETER LANDSCAPING	
LINEAR FEET OF PERIMETER	1061'
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES, 43.4%
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
LINEAR FEET OF REQUIRED PLANTING	601'
BUFFER TYPE	"B"
NUMBER OF TREES REQUIRED	12
SHADE TREES	12
EVERGREEN TREES	15
NUMBER OF TREES PROVIDED	12
SHADE TREES	12
EVERGREEN TREES	15

STREET TREE SCHEDULE			
ROAD NAME	PERIMETER	TREES REQ.	TREES PROV.
McKENDREE ROAD	346'	9	9
MEADOW TRAIL LANE	229'	58	58
TOTAL		67	67

PUBLIC STREET TREE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
(Symbol)	9	PLATANUS X ACERFOLIO 'BLOODGOOD'	2 1/2" - 3" cal.	STREET TREES TO BE PROVIDED BY THE DEVELOPER
(Symbol)	58	ACER SACCHARINUM 'GREEN MOUNTAIN'	2 1/2" - 3" cal.	STREET TREES TO BE PROVIDED BY THE DEVELOPER

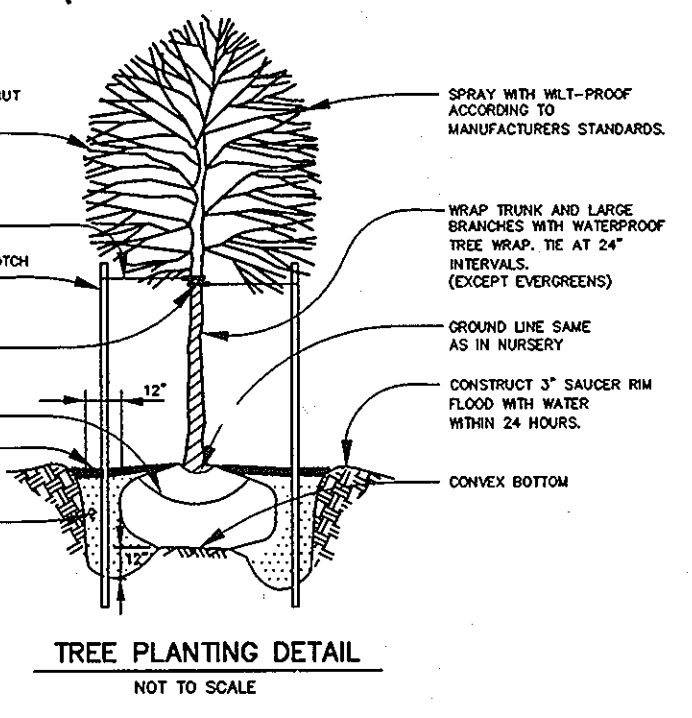
LANDSCAPE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
(Symbol)	55	QUERCUS RUBRA 'RED OAK'	2-1/2" - 3" cal.	SHADE TREES ALONG PERIMETER TO BE PROVIDED BY THE DEVELOPER
(Symbol)	21	PINUS STROBUS (Eastern White Pine)	6" - 8" ht.	EVERGREEN TREES ALONG PERIMETER TO BE PROVIDED BY THE DEVELOPER
(Symbol)	12	TILIA CORDATA 'GREENSPICE'	2 1/2" - 3" cal.	SHADE TREES ALONG SWM FACILITY TO BE PROVIDED BY THE DEVELOPER

*EXISTING WOODS 30' OR GREATER IN WIDTH
**TREES NOT REQUIRED FOR FRONT OF LOT FACING ROAD



APPROVED: DEPARTMENT OF PUBLIC WORKS
W. J. ... 6/3/07
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
C. ... 6/19/07
 CHIEF, DIVISION OF LAND DEVELOPMENT
J. ... 6/14/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

DEVELOPER'S/BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
 STEVEN K. BREEDEN 5/1/07 DATE
 JAMES R. MOXLEY 5/1/07 DATE



- LANDSCAPE NOTES:**
- TREES SHOULD BE PLANTED A MINIMUM OF 6 FEET FROM THE EDGE OF PAVING AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
 - TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM A DRIVEWAY.
 - SEE TREE PLANTING DETAIL - THIS SHEET.
 - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
 - AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWIT LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.
 - THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
 - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$23,250.00. (\$20,100.00 FOR 67 SHADE TREES, \$3,150.00 FOR 21 EVERGREENS)

NO.	DATE	REVISION
2	10-9-08	ADD 12" HDPEP WEST OF LOT 7
1	1-18-08	REVISED DETENTION FACILITY CALL-OUT TO READ 'PRIVATELY MAINTAINED'

BENCHMARK ENGINEERING, INC.
 ENGINEERS • LAND SURVEYORS • PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-8105 FAX: 410-465-6644
 WWW.BE-CVLENGINEERING.COM

OWNER: C. EDGAR PUGH, JR.
 2289 McKENDREE ROAD
 WEST FRIENDSHIP, MARYLAND 21794
 410-442-2189

DEVELOPER: McKENDREE VIEW LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

McKENDREE VIEW
 LOTS 1-8; BUILDABLE PRESERVATION PARCEL A;
 NON-BUILDABLE PRESERVATION PARCELS B & C;
 NON-BUILDABLE BULK PARCEL D

LOCATION: TAX MAP: 14 GRID: 12 PARCEL: 54
 TAX MAP: 14 GRID: 6 PARCEL: 17/0 219
 ELECTION DISTRICT NO. 4
 HOWARD COUNTY, MARYLAND

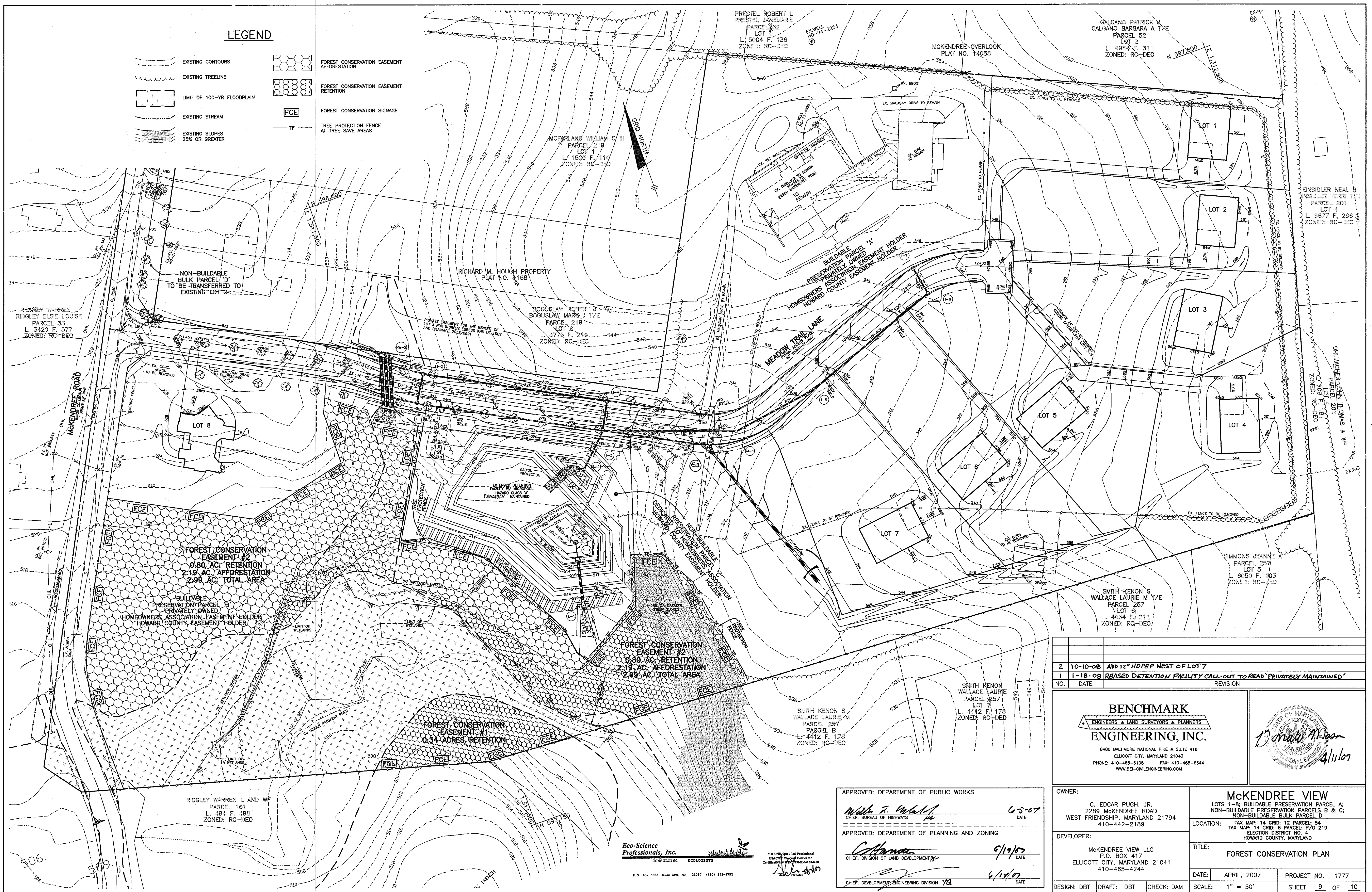
TITLE: LANDSCAPE PLAN

DATE: APRIL, 2007 PROJECT NO. 1777
 SCALE: 1" = 60' SHEET 8 OF 10

DESIGN: DBT DRAFT: DBT CHECK: DAM

LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- LIMIT OF 100-YR FLOODPLAIN
- EXISTING STREAM
- EXISTING SLOPES 25% OR GREATER
- FOREST CONSERVATION EASEMENT AFFORESTATION
- FOREST CONSERVATION EASEMENT RETENTION
- FCE FOREST CONSERVATION SIGNAGE
- TF TREE PROTECTION FENCE AT TREE SAVE AREAS



NO.	DATE	REVISION
2	10-10-08	ADD 12" HDPEP WEST OF LOT 7
1	1-18-08	REVISED DETENTION FACILITY CALL-OUT TO ROAD 'PRIVATELY MAINTAINED'

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-485-0105 FAX: 410-485-6644
WWW.BE-CIVLENGINEERING.COM

Donald M. Dean
4/11/07

APPROVED: DEPARTMENT OF PUBLIC WORKS

Walter F. Walsh 6/5/07
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

C. Hanna 9/19/07
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 6/14/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNER:

C. EDGAR PUGH, JR.
2289 MCKENDREE ROAD
WEST FRIENDSHIP, MARYLAND 21794
410-442-2189

DEVELOPER:

McKENDREE VIEW LLC
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041
410-465-4244

McKENDREE VIEW
LOTS 1-8; BUILDABLE PRESERVATION PARCEL A;
NON-BUILDABLE PRESERVATION PARCELS B & C;
NON-BUILDABLE BULK PARCEL D

LOCATION: TAX MAP: 14 GRID: 12 PARCEL: 54
TAX MAP: 14 GRID: 6 PARCEL: P/O 219
ELECTION DISTRICT NO. 4
HOWARD COUNTY, MARYLAND

TITLE: **FOREST CONSERVATION PLAN**

DATE: APRIL, 2007 PROJECT NO. 1777

DESIGN: DBT DRAFT: DBT CHECK: DAM SCALE: 1" = 50' SHEET 9 OF 10

Eco-Science Professionals, Inc.

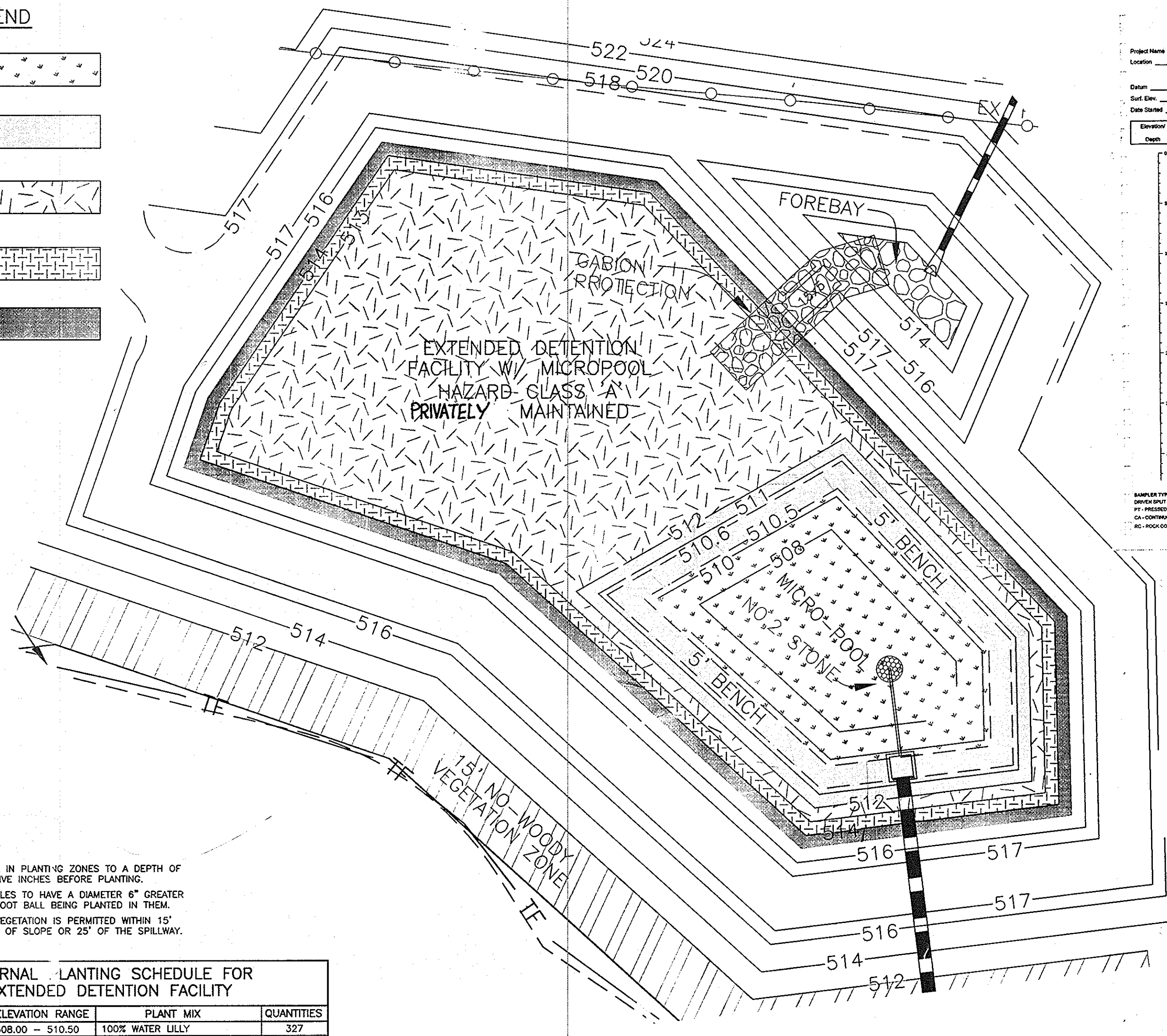
CONSULTING SC00202578

P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752

MD 2007, Qualified Professional
USACE 07049 Delmar
Certification # 0704900414442

LEGEND

- ZONE 1
- ZONE 2
- ZONE 3
- ZONE 4
- ZONE 5



- NOTES:**
- LOOSEN SOIL IN PLANTING ZONES TO A DEPTH OF THREE TO FIVE INCHES BEFORE PLANTING.
 - PLANTING HOLES TO HAVE A DIAMETER 6" GREATER THAN THE ROOT BALL BEING PLANTED IN THEM.
 - NO WOODY VEGETATION IS PERMITTED WITHIN 15' OF THE TOE OF SLOPE OR 25' OF THE SPILLWAY.

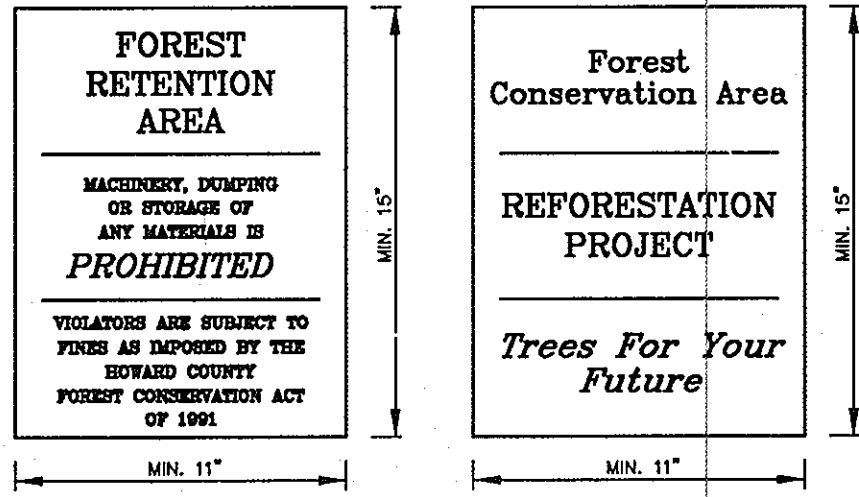
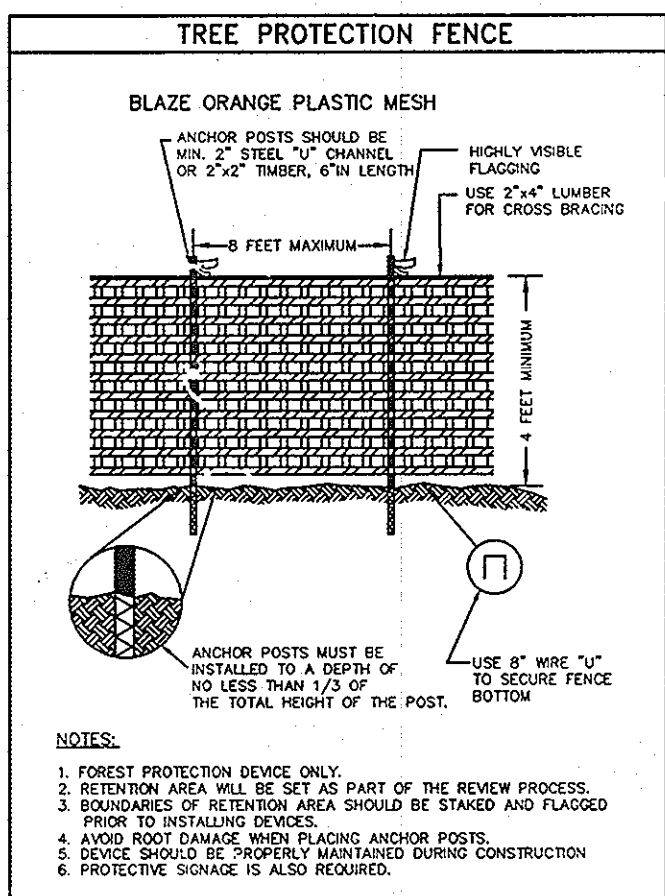
INTERNAL PLANTING SCHEDULE FOR EXTENDED DETENTION FACILITY

ZONE	AREA (SF)	ELEVATION RANGE	PLANT MIX	QUANTITIES
1	2,942	508.00 - 510.50	100% WATER LILLY	327
2	2,339	510.50 - 512.00	50% BROAD WATER WEED 25% DUCK POTATO 25% ARROW ARUM	130 65 65
3	9,106	512.00 - 513.00	50% CUTGRASS, RICE 50% SWITCHGRASS	508 508
4	1,412	513.00 - 514.00	(CP) 50% LOWGRASS-MEADOW 25% VIOLETS, COMMON BLUE 25% CONEFLOWER-CUT-LEAF	89 45 45
5	1,667	(CP) 514.00 - 515.00	75% WITCHGRASS, NEEDLE-LEAF 25% CONEFLOWER SWEET	139 48
6	0	N/A	N/A	0

ALL PLANTINGS TO BE QUART BULBS AND SPACED AT 3' O.C.

INTERNAL LANDSCAPING FOR EXTENDED DETENTION FACILITY #1

SCALE: 1" = 20'

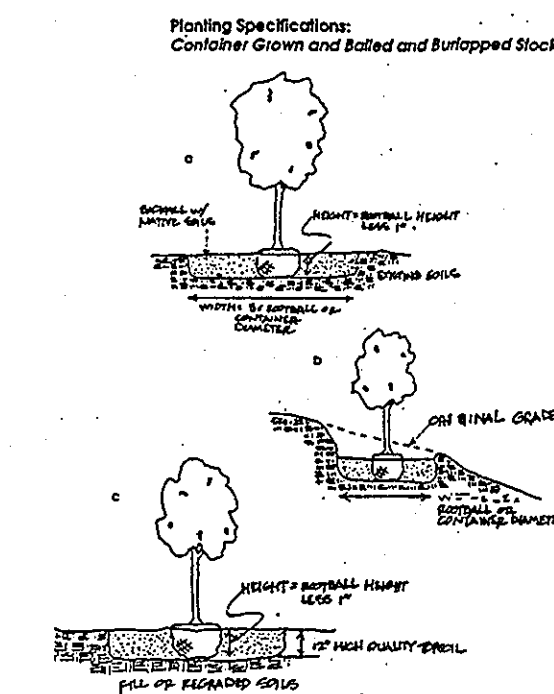
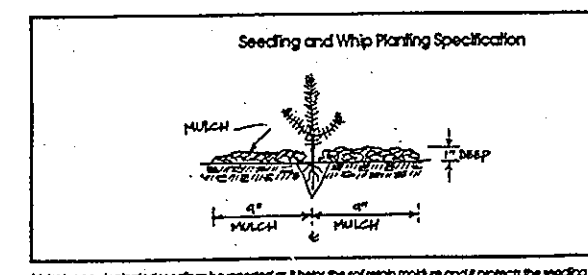


APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 6-5-07
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 6/19/07
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: [Signature] 6/14/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS
 P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752



PLANTING NOTES:

- MULTIFLORA ROSE CONTROL MAY BE REQUIRED AS PART OF THIS PLANTING PLAN.
- BAREROOT PLANT MATERIAL MAY BE USED TO OFFSET THE COST OF MULTIFLORA ROSE REMOVAL AND MAINTENANCE. BAREROOT MATERIAL IS USED IT MUST BE PLANTED IN MARCH - APRIL AND AN ANTI-DESICCANT FOLIAGE IS USED TO PROTECT ROOT SYSTEMS. CONTAINER GROWN STOCK IS RECOMMENDED.
- PLANTS SHOULD BE FLAGGED TO AID ON LOCATION DURING MAINTENANCE. PLANTINGS SHOULD ALSO BE PLANTED IN A GRID PATTERN TO FACILITATE MAINTENANCE AND REMOVAL OF INVASIVE AND EXOTIC SPECIES.

FCE Planting Area #1 - 2.19 acres

Planting units required: 1,533
 Planting units proposed: 1,534

Qty	Species	Size	Spacing	Total Units
17	Acer rubrum - Red maple	1" cal.	15' o.c.	
17	Acer saccharinum - Silver maple	1" cal.	15' o.c.	
28	Liriodendron tulipifera - Tulip poplar	1" cal.	15' o.c.	
17	Quercus alba - White oak	1" cal.	15' o.c.	
17	Quercus rubra - Red oak	1" cal.	15' o.c.	
96	Total 1" caliper trees (3.5 planting units per tree)	FCA Unit credit		336
80	Acer rubrum - Red maple	2-3" whip	11" o.c.	
69	Acer saccharinum - Silver maple	2-3" whip	11" o.c.	
40	Cornus florida - Flowering dogwood	2-3" whip	11" o.c.	
20	Diospyros virginiana - Persimmon	2-3" whip	11" o.c.	
95	Liriodendron tulipifera - Tulip poplar	2-3" whip	11" o.c.	
70	Platanus occidentalis - Sycamore	2-3" whip	11" o.c.	
50	Prunus serotina - Black cherry	2-3" whip	11" o.c.	
75	Quercus alba - White oak	2-3" whip	11" o.c.	
75	Quercus rubra - Red Oak	2-3" whip	11" o.c.	
25	Viburnum prunifolium - Blackhaw	2-3" whip	11" o.c.	
599	Total whip plantings (2 planting units per tree)	FCA Unit credit		1,198
				Total Unit Credit 1,534

2" CALIPER TREES = 7 PLANTING UNITS
 1" CALIPER TREES = 3.5 PLANTING UNITS
 WHIPS / SHELTERS = 2 PLANTING UNITS
 SEEDLINGS = 1 PLANTING UNIT

PLANTING SHALL BE INSTALLED IN A CURVILINEAR FASHION ALONG A CONTOUR TO AVOID A GRID APPEARANCE BUT SHOULD BE SPACED TO FACILITATE MAINTENANCE. LARGER STOCK TREES (1" AND 2" CALIPER) SHOULD BE STAGGERED ALONG THE OUTER PERIMETER OF THE PLANTING AREAS TO SERVE AS A DEMARCATION OF THE FCE.

MULTIFLORA ROSE CONTROL NOTE

MULTIFLORA ROSE IS PREVALENT IN CERTAIN AREAS TO BE AFFORESTED. PRIOR TO PLANTING ALL MULTIFLORA ROSE SHOULD BE REMOVED. PRIOR TO PLANTING ALL MULTIFLORA ROSE SHOULD BE REMOVED. PHYSICAL REMOVAL OF ALL TOP GROWTH FOLLOWED BY A PERIODIC HERBICIDE TREATMENT OF STUMP SPROUTS IS RECOMMENDED. NATIVE TREE AND SHRUB SPECIES OCCURRING WITHIN THE ROSE THICKETS SHOULD BE RETAINED WHEREVER POSSIBLE. HERBICIDE TREATMENTS SHOULD BE CONDUCTED ON 2 MONTH INTERVALS DURING THE FIRST GROWING SEASON AND ONCE EACH IN THE SPRING AND FALL FOR SUBSEQUENT YEARS. HERBICIDE USE SHALL BE MADE SPECIFICALLY TO ADDRESS WOODY PLANT MATERIAL AND SHALL BE APPLIED AS PER MANUFACTURERS SPECIFICATIONS. CARE SHOULD BE TAKEN NOT TO SPRAY PLANTED TREES OR NATURALLY OCCURRING NATIVE TREE/SHRUB SEEDLINGS. IT IS RECOMMENDED THAT INITIATION OF ROSE REMOVAL BEGIN AT LEAST SIX MONTHS PRIOR TO PLANTING.

FOREST CONSERVATION NOTES:

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16-1200 OF THE HOWARD COUNTY CODE. FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
- PERMANENT SIGNAGE SHALL BE PLACED 50'-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.
- PORTIONS OF THE SITE OCCURRING WITHIN THE 100-YEAR FLOODPLAIN ARE NOT INCLUDED AS PART OF THE NET TRACT AREA OF THE SITE. AREAS OF FLOODPLAIN FOREST OCCURRING WITHIN THE LIMITS OF A FOREST CONSERVATION EASEMENT WILL BE PROTECTED BY THE EASEMENT RESTRICTIONS BUT HAVE NOT BEEN CREDITED TOWARD THE PROJECTS FCA OBLIGATIONS.
- THE TOTAL FOREST CONSERVATION OBLIGATION AMOUNT OF 3.33 ACRES SHALL BE MET BY THE ON-SITE RETENTION OF 1.14 AC. OF NET TRACT AREA FOREST WITHIN A FOREST CONSERVATION EASEMENT AND THE ON-SITE AFFORESTATION OF 2.19 AC. WITHIN A FOREST CONSERVATION EASEMENT WITH A DPW DEVELOPERS AGREEMENT SURETY IN THE AMOUNT OF \$57,629.88.

APPENDIX G FOREST CONSERVATION WORKSHEET

NOTE: THIS SUBMISSION PLAN IS USING "RURAL CLUSTER OPTION A" OF THE APPENDIX L OF THE FOREST CONSERVATION MANUAL BY ONLY INCLUDING THE AREAS OF LAND USE CHANGE.

	ACRES		ACRES
I. BASIC SITE DATA		V. AFFORESTATION CALCULATIONS	
GROSS SITE AREA	22.39	A. NET TRACT AREA	16.63
AREA WITHIN 100 YEAR FLOODPLAIN	2.44	B. AFFORESTATION MINIMUM (20% x A)	3.33
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE) (PRESERVATION PARCEL "X")	3.32	C. EXISTING FOREST ON NET TRACT AREA	1.14
NET TRACT AREA	16.63	D. FOREST AREAS TO BE CLEARED	0.00
LAND USE CATEGORY (R-RD, R-RMD, R-S, C/1/0, I)	R-RMD	E. FOREST AREAS TO BE RETAINED	1.14
(RESIDENTIAL - RURAL, LOW DENSITY RESIDENTIAL - RURAL, MEDIUM DENSITY RESIDENTIAL - SUBURBAN, COMMERCIAL/INDUSTRIAL/OFFICE, INSTITUTIONAL)			
II. INFORMATION FOR CALCULATIONS		SELECT THE ALTERNATE THAT APPLIES:	
A. NET TRACT AREA	16.63	1. No clearing below the minimum	
B. REAFFORESTATION THRESHOLD (25% x A)	4.16	If existing forests are less than the afforestation minimum (if C is less than B) and NO clearing is proposed, the following calculations apply:	
C. AFFORESTATION MINIMUM (20% x A)	3.33	TOTAL AFFORESTATION REQUIRED	2.19
D. EXISTING FOREST ON NET TRACT AREA	1.14	B = C	
E. FOREST AREAS TO BE CLEARED	0.00	Afforestation must make total forest area equal the minimum required.	
F. FOREST AREAS TO BE RETAINED	1.14		
III. DETERMINING REQUIREMENTS: AFFORESTATION OR REAFFORESTATION			
1. Reafforestation		2. Clearing below the minimum	
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reafforestation requirements may apply.		If existing forests are less than the afforestation minimum (if C is less than B) and clearing is proposed, the following calculations apply:	
GO TO SECTION IV		AFFORESTATION FOR UNFORESTED AREAS BELOW MINIMUM	NA
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reafforestation is required. No further calculations are needed.		REAFFORESTATION FOR CLEARING BELOW MINIMUM	NA
GO TO SECTION V		D x 2	
2. Afforestation		TOTAL AFFORESTATION + REAFFORESTATION REQUIRED	NA
If existing forest areas are less than the afforestation minimum (if D is less than C), afforestation requirements apply.		(B - C) + (D x 2)	
GO TO SECTION V		Afforestation requires the total forest area to be equal to the minimum and it requires compensation for clearing.	

FOREST CONSERVATION EASEMENT BEARING AND DISTANCE DESCRIPTIONS SHALL BE PROVIDED ON THE FINAL PLAN.

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-8105 FAX: 410-465-8644
 WWW.BEI-CVLENGINEERING.COM

McKENDREE VIEW
 LOTS 1-8; BUILDABLE PRESERVATION PARCEL A
 NON-BUILDABLE PRESERVATION PARCELS B & C
 NON-BUILDABLE BULK PARCEL D

LOCATION: TAX MAP: 14 GRID: 12 PARCEL: 54
 TAX M.C.: 14 GRID: 6 PARCEL: P/O 219
 ELECTION DISTRICT NO. 4
 HOWARD COUNTY, MARYLAND

TITLE: FOREST CONSERVATION NOTES, CHARTS & DETAILS AND INTERNAL SWMF LANDSCAPING AND SOILS BORING LOGS

DATE: APRIL, 2007 PROJECT NO. 1777

DESIGN: DBT DRAFT: DBT CHECK: DAM SCALE: 1" = 50' SHEET 10 OF 10