

FOR THE MINIMUM TRAFFIC CONTROL REQUIREMENTS, SEE THE DETAILS ON SHEET 2. ADDITIONAL REQUIREMENTS MAY BE REQUIRED IN THE FIELD BASED ON CONDITIONS OR AT THE REQUEST OF THE INSPECTOR.

SEPTIC NOTES
 1. THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE EASEMENTS SHALL BE 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 SHALL NOT BE NECESSARY.
 2. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.

BENCH MARKS

02HD N 612,468.412 E 1,282,703.285 ELEV. 745.80
 02HC N 612,932.914 E 1,282,703.285 ELEV. 688.73
 ALL BENCHMARKS CONSIST OF A STAMPED BRASS OR ALUMINUM DISC SET IN CONCRETE. DRAWINGS ARE BASED ON MARYLAND COORDINATE SYSTEM (MCS). HORIZONTAL - NAD 83 VERTICAL - NGVD 29
NOTE:
 1. THE EXISTING FEATURES WITHIN THE DEVELOPMENT AREA WERE GENERATED FROM A FIELD RUN TOPOGRAPHIC SURVEY PERFORMED ON OR ABOUT MAY 14TH 2004 BY VAN MAR ASSOCIATES. HOWARD COUNTY GIS IS UTILIZED OUTSIDE THIS AREA.



GENERAL NOTES

- BEFORE THE START OF CONSTRUCTION, THE CONTRACTOR IS TO VERIFY THE LOCATION OF EXISTING UTILITIES BY CONTACTING "MISS UTILITY" (1-800-257-7777).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO AND MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
- WHERE REQUIRED BY ENCOUNTERED SPRINGS OR OTHER SEEPAGE CONDITIONS, UNDERDRAIN LINES SHALL BE INSTALLED USING 6-INCH DIAMETER PERFORATED UNDERDRAIN PIPE MEETING HOWARD COUNTY STANDARD SPECIFICATIONS.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS AND FOREST CONSERVATION EASEMENT AREAS.
- ALL DISTURBED AREAS AS A RESULT OF ROADWAY AND STORM DRAIN CONSTRUCTION SHALL BE SEEDED AND MULCHED WITHIN FOURTEEN (14) DAYS AFTER COMPLETION. THE SEEDING HEREON ARE BASED UPON THE HOWARD COUNTY SURVEY CONTROL THAT IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 02HD AND 02HC WERE USED FOR THIS PROJECT.
- ALL SEPTIC SYSTEMS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN TOPOGRAPHY ON-SITE PREPARED BY VAN MAR ASSOCIATES. HOWARD COUNTY GIS IS UTILIZED FOR AREAS OFF-SITE.
- 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. 02HD AND 02HC WERE USED FOR THIS PROJECT.
- THIS PROPERTY IS ZONED RC-DEO PER THE COMPREHENSIVE ZONING PLAN APPROVED ON FEBRUARY 2, 2004.
- SEWER IS PRIVATE
- THERE ARE THREE EXISTING WELLS ON THE SITE WITH WELL TAG NUMBERS H0811308, H0811309, AND H0810734. TWO OF THE WELLS SHALL BE UTILIZED AND ONE WITH WELL TAG NUMBER H0811308 SHALL BE ABANDONED AND SEALED IN ACCORDANCE WITH HEALTH DEPARTMENT REQUIREMENTS. THE WELL SHALL BE ABANDONED WITHIN THIRTY (30) DAYS OF ISSUANCE OF A BUILDING PERMIT.
- THE SEPTIC SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS.
- WATER QUALITY AND QUANTITY ON THE SITE ARE PROVIDED BY A MICROPOOL EXTENDED DETENTION POND THAT WILL BE PRIVATELY OWNED AND MAINTAINED.
- THE EXISTING UTILITIES ARE BASED ON FIELD RUN TOPOGRAPHY. THE LOCATION AND ELEVATION OF ALL UTILITIES SHALL BE SET PITCHED PRIOR TO CONSTRUCTION.
- THERE ARE NO CEMETERIES OR HISTORICAL STRUCTURES ON THE SITE.
- THERE IS NO FLOODPLAIN ON THE SITE.
- THERE ARE NO WETLANDS ON THIS SITE.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY TRAFFIC CONCEPTS, INC. DATED OCTOBER, 2005. THE TRAFFIC STUDY WAS APPROVED MAY 25, 2006.
- ALL OUTDOOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF ZONING SECTION 134.
- THIS PLAN IS SUBJECT TO THE REQUIREMENTS OF THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- THE SITE IS THE SUBJECT OF TWO PRIOR PLANNING AND ZONING REFERENCES. THESE ARE BA-04-043C&V AND BA-05-030C.
 A. BA-04-043C&V WAS A CONDITIONAL USE TO ALLOW A STRUCTURE USED PRIMARILY FOR RELIGIOUS PURPOSES AND A VARIANCE TO REDUCE THE 50' USE SETBACK FROM A PUBLIC STREET RIGHT-OF-WAY AND REDUCE THE SIDE SETBACK LINE TO 22' FOR A PARKING LOT. THE CONDITIONAL USE AND VARIANCE WERE APPROVED IN A DECISION AND ORDER DATED JUNE 13, 2005 AND SUBJECT TO THE INSTALLATION OF DECELERATION LANES AND SUBSTANTIAL COMPLETION OF PHASE II BY DECEMBER 31, 2011.
 B. BA-05-030C WAS A CONDITIONAL USE TO ALLOW A PRIVATE ACADEMIC SCHOOL ON THE PROPERTY. THE CONDITIONAL USE WAS APPROVED IN A DECISION AND ORDER DATED SEPTEMBER 15, 2006 AND SUBJECT TO THE INSTALLATION OF A DECELERATION LANE.
- THE PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16-1202 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY PROVIDING 1.32 ACRES OF FORESTATION ON THE SITE. 9,600 S.F. IS DEDUCTED FROM THE FOREST CONSERVATION SURETY REQUIREMENT BECAUSE OF THE LANDSCAPE PLANTING WHICH IS OCCURRING WITHIN THE FOREST CONSERVATION BOUNDARIES. THE REQUIRED SURETY FOR THE FOREST CONSERVATION OBLIGATION IS \$23,952.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE MAINTENANCE OF THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEV. AGREEMENT IN THE AMOUNT OF \$42,030. THIS SURETY IS BASED ON 87 SHADE TREES AT \$300.00 EACH, 88 EVERGREEN TREES AT \$150.00 EACH AND 91 SHRUBS AT \$30.00 EACH. THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERM, 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.

LEGEND

---	EXISTING CONTOUR
- - - -	PROPOSED CONTOUR
---	PROPERTY LINE
---	ADJOINING PROPERTY LINE
---	SOILS LINE
---	EXISTING PAVING
---	EXISTING GUARDRAIL
---	PROPOSED CONCRETE/PAVING
---	EXISTING UTILITY POLES & LINES
---	EXISTING BUILDING
---	PROPOSED BUILDING
○	EXISTING WELL
⊕	PROPOSED LIGHTS
⊕	⊕ DENOTES PASSING PERC TEST
⊕	⊕ DENOTES FAILING PERC TEST
⊕	⊕ DENOTES PASSING PERC TEST 5-10-04
⊕	⊕ DENOTES FAILING PERC TEST 5-10-04
⊕	⊕ DENOTES TEST PIT LOCATION 5-10-04
---	PROPOSED SIDEWALK
---	FULL DEPTH ROAD WIDENING

SITE PLAN

SCALE: 1" = 50'
 0' 50' 100' 150'

INDEX OF DRAWINGS

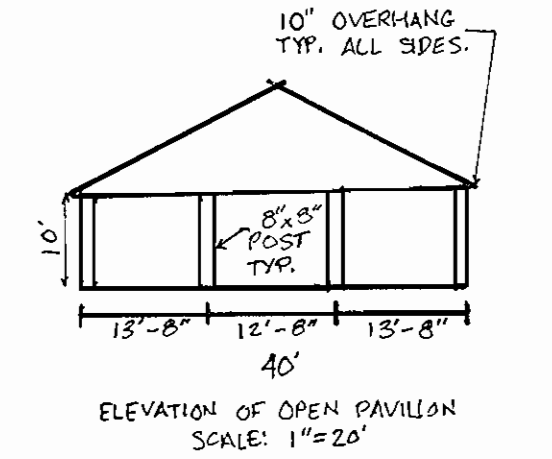
SHEET NO.	DESCRIPTION
1	SITE PLAN
2	SITE DETAILS
3	STORMWATER MANAGEMENT PLAN & DRAINAGE AREA MAP
4	STORMWATER MANAGEMENT DETAILS
5	STORMWATER MANAGEMENT NOTES & DETAILS
6	GRADING, SEDIMENT & EROSION CONTROL PLAN
7	SEDIMENT AND EROSION CONTROL DETAILS
8	SEDIMENT AND EROSION CONTROL NOTES
9	FINAL LANDSCAPE PLAN
10	FOREST CONSERVATION PLAN

SITE ANALYSIS DATA CHART

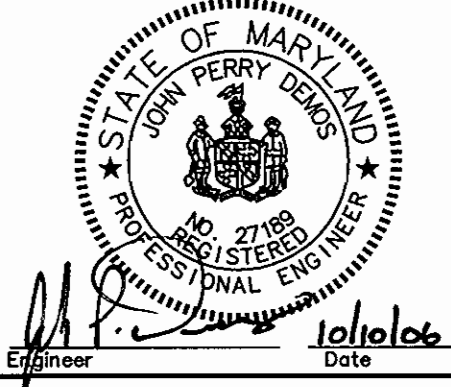
- TOTAL AREA: 382,597 S.F. ± or 8.783 AC. ±
- DISTURBED AREA: 226,813 S.F. or 5.21 AC.
- PRESENT ZONING: RC-DEO
- PROPOSED USE: CHURCH AND SCHOOL
- BUILDING COVERAGE: (1 STORY) 11,116 S.F. or 0.271 AC. ± (3.09%)
- PARKING SPACES REQUIRED: 1 SPACE PER 3 SEATS FOR 264 SEATS = 88 SPACES W/ 4 HANDICAP
- PARKING SPACES PROVIDED: 88 SPACES, 4 HANDICAP
- PREVIOUS DPZ FILE: BA04-043C&V AND BA-05-030C

ADDRESS CHART					
Lot/Parcel #	Street Addresses				
PARCEL 13	17455 OLD FREDERICK ROAD				
PERMIT INFORMATION CHART					
Subdivision Name	Section/Area	Lot/Parcel No.			
MOUNT AIRY PRESBYTERIAN CHURCH	N.A.	PARCEL 13			
L/F	Grid	Zoning	Tax Map No.	Election District	Census Tract
5158/250	#19	RC-DEO	2	4	6040.01
Water Code	Sewer Code				
WELL	SEPTIC				
DRAWING COMPLETED					
DATE	REVISION	DATE	REVISION		
6/16/06	PROF. PAVILION & PLAY AREA	END			
9/18/07	REV. SEPTIC SYSTEM	PER			
		DATE	REVISION		
OWNERS/DEVELOPERS					
MOUNT AIRY PRESBYTERIAN CHURCH 17455 OLD FREDERICK ROAD					
SITE PLAN					
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND					
DESIGNED BY:	SCALE	TAX MAP	A.D.C. MAP	JOB #	SHEET
J.P.D.	AS SHOWN	2	GRID H-7	04009	1
DRAWN BY:	DEED REF.	GRID	PLAT REF.	FILES	NO.
J.P.D.	5158/250	19	N.A.	D:\JOBS\2004\04009\DRAWINGS\SDP\SHEET1.dwg	1
CHECKED BY:	PARCEL	NO.	OF		
J.P.D.	13		10		

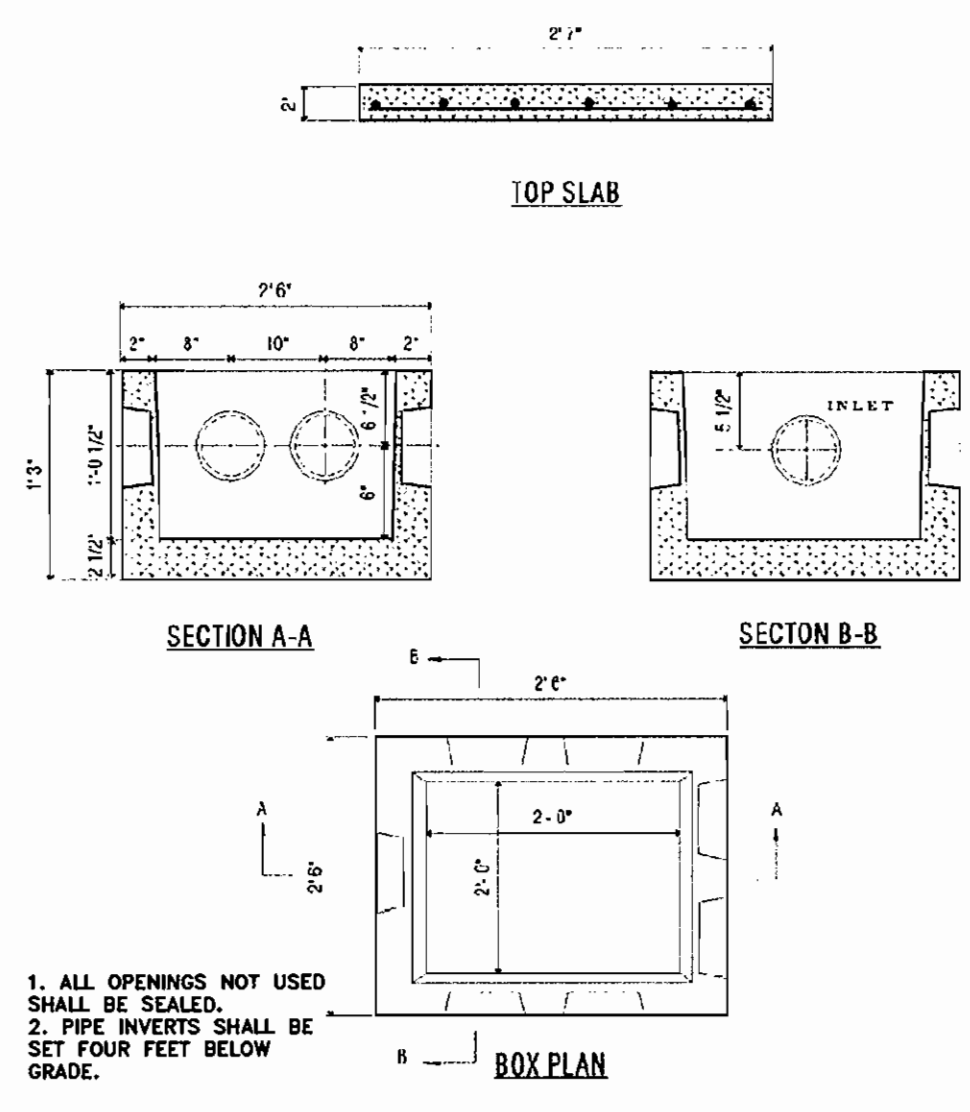
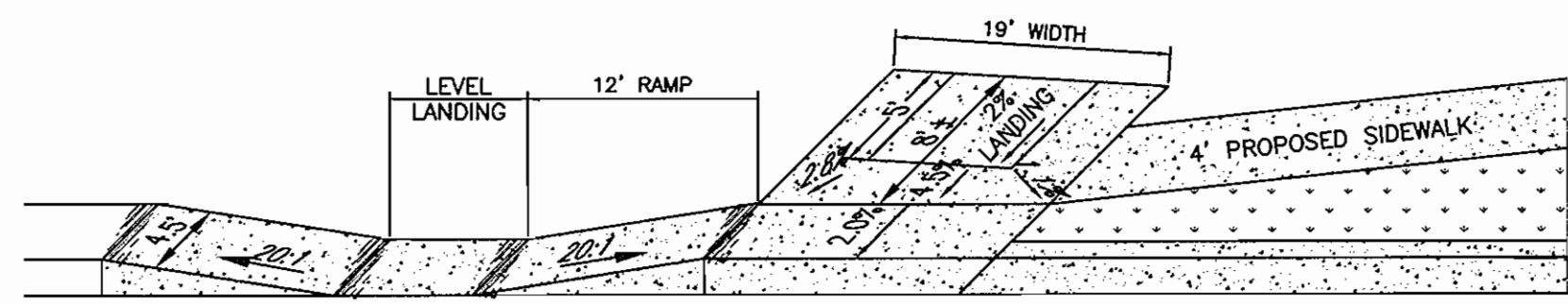
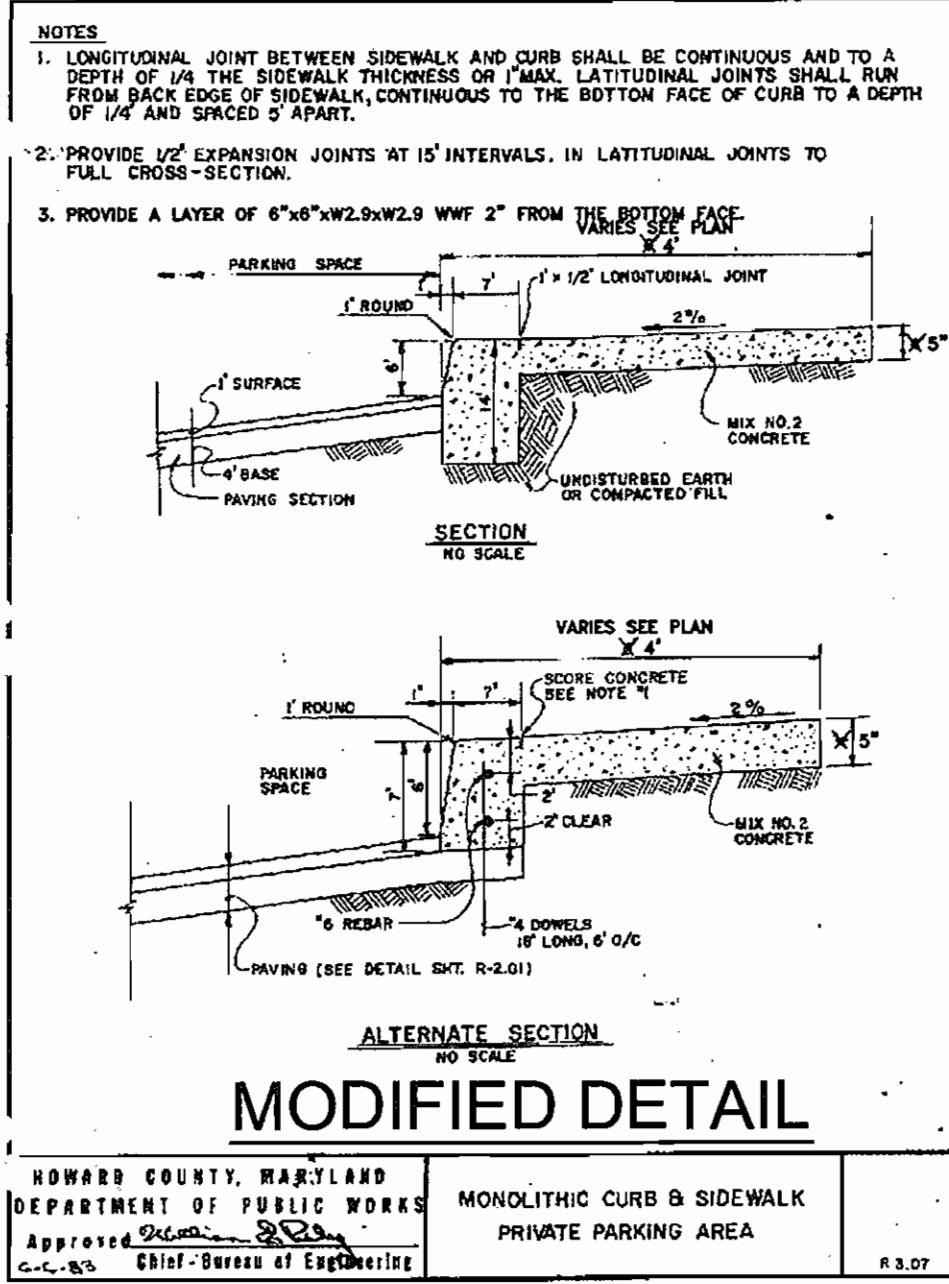
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: [Signature] 11/5/06
 Chief, Division of Land Development: [Signature] 12/7/06
 Director: [Signature] 12/11/06
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS
 County Health Officer: [Signature] 1/30/06
 Howard County Health Department



Richardson Engineering, LLC
 110 Old Padonia Road, Suite LC
 Cockeysville, Maryland 21030
 Phone: 410-560-1502 Fax: 410-560-0827



OWNERS/DEVELOPERS
 MOUNT AIRY PRESBYTERIAN CHURCH, PCA
 P.O. BOX 591
 MOUNT AIRY, MARYLAND 21771-0591
 ATTN: DAVE DETROY
 PHONE: 703-404-6549

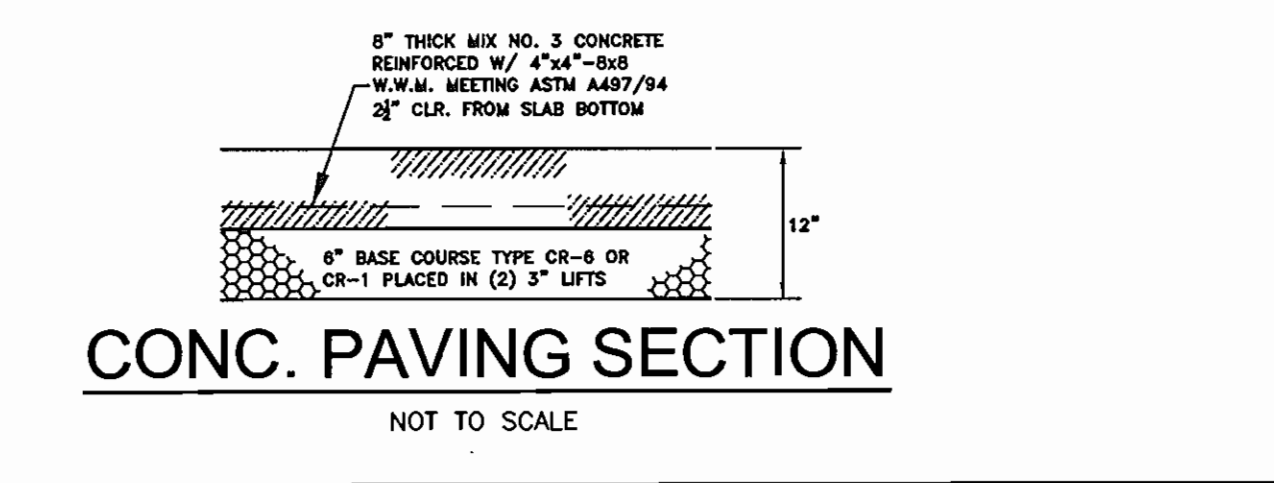
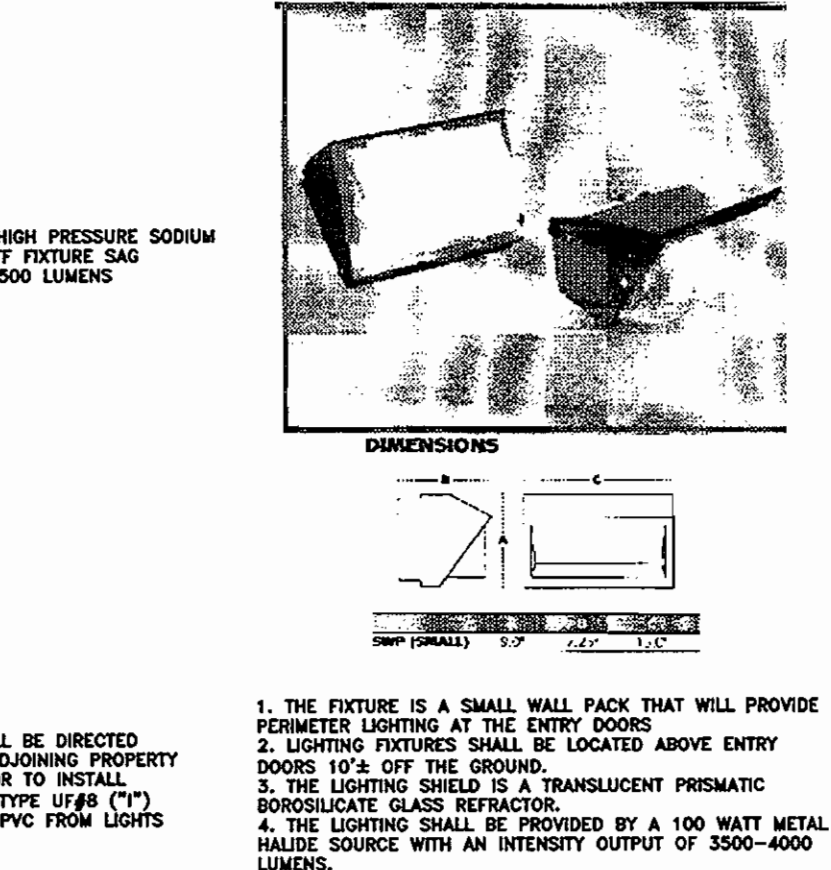
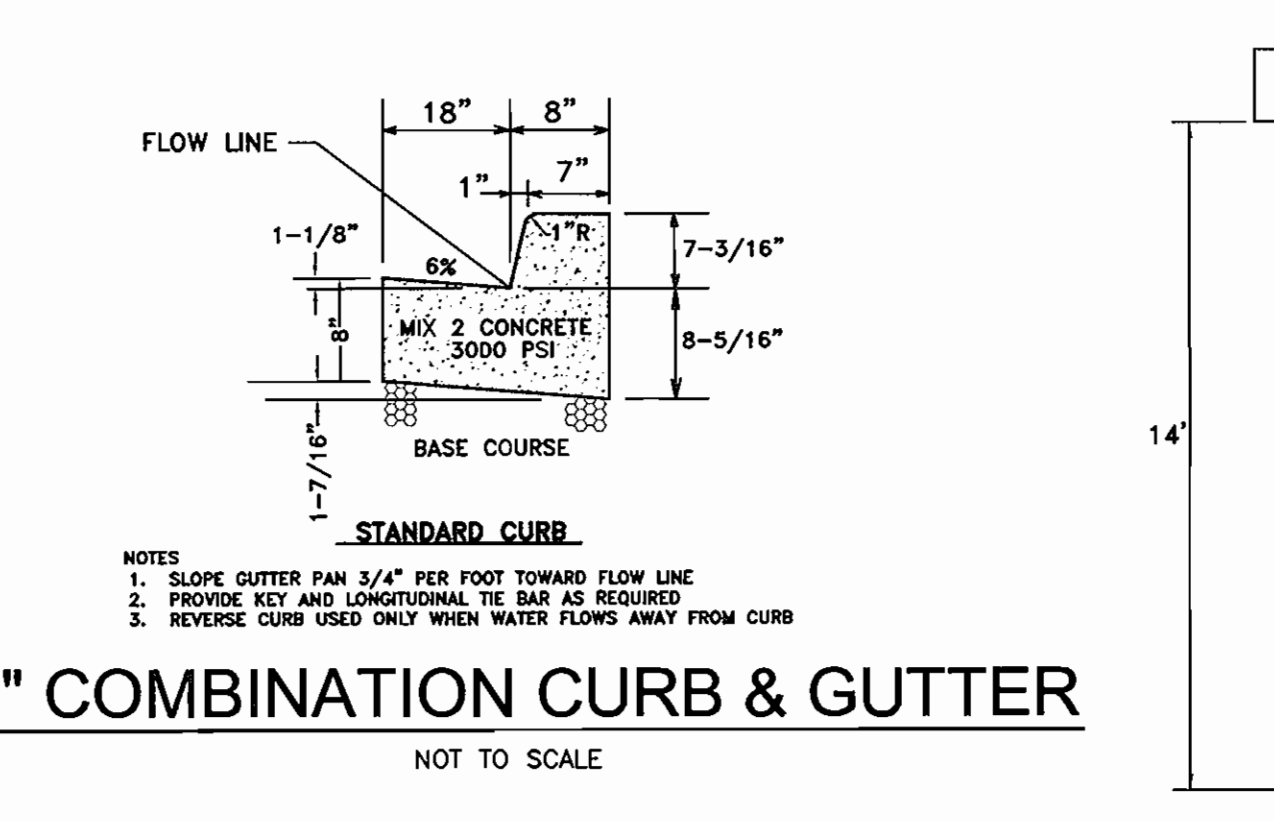
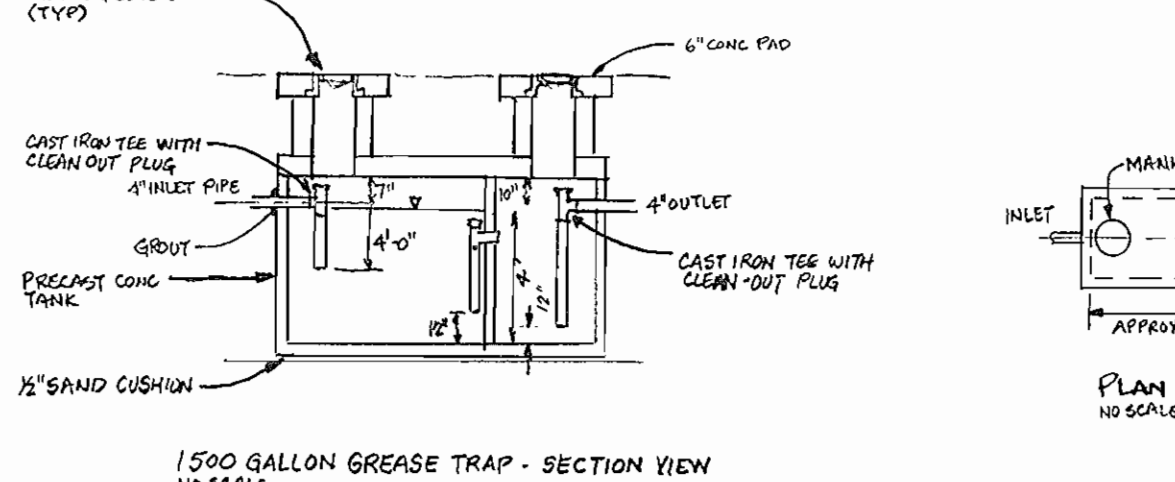
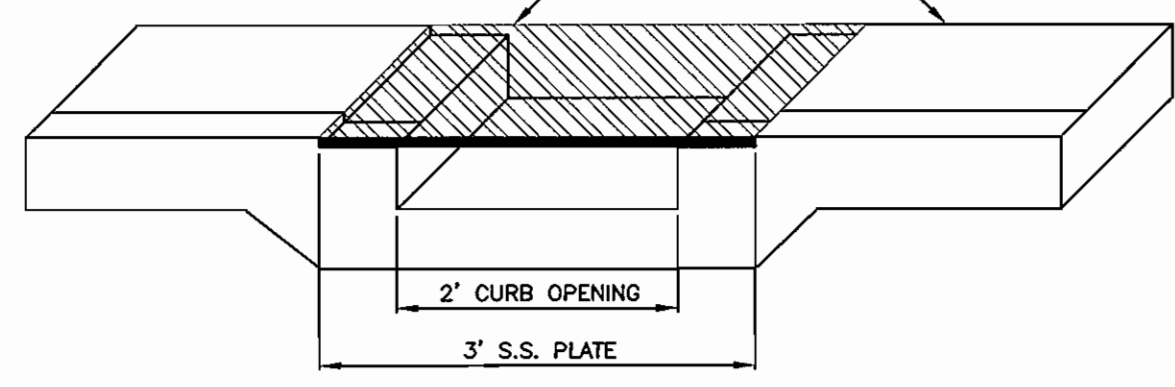
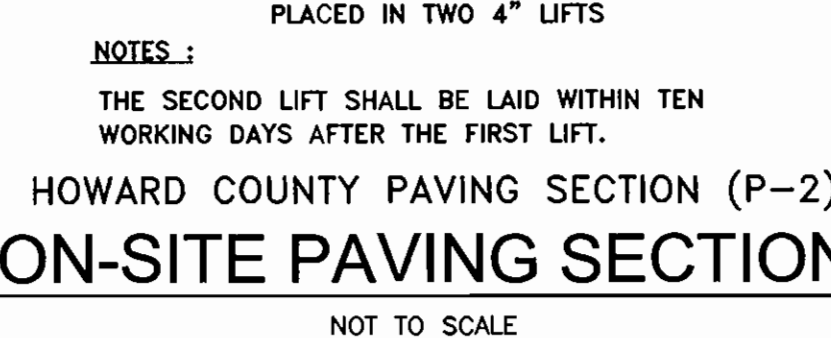
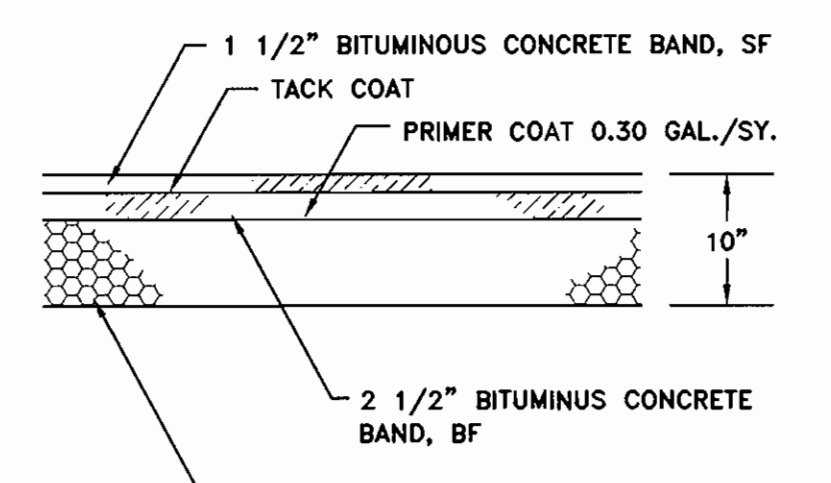
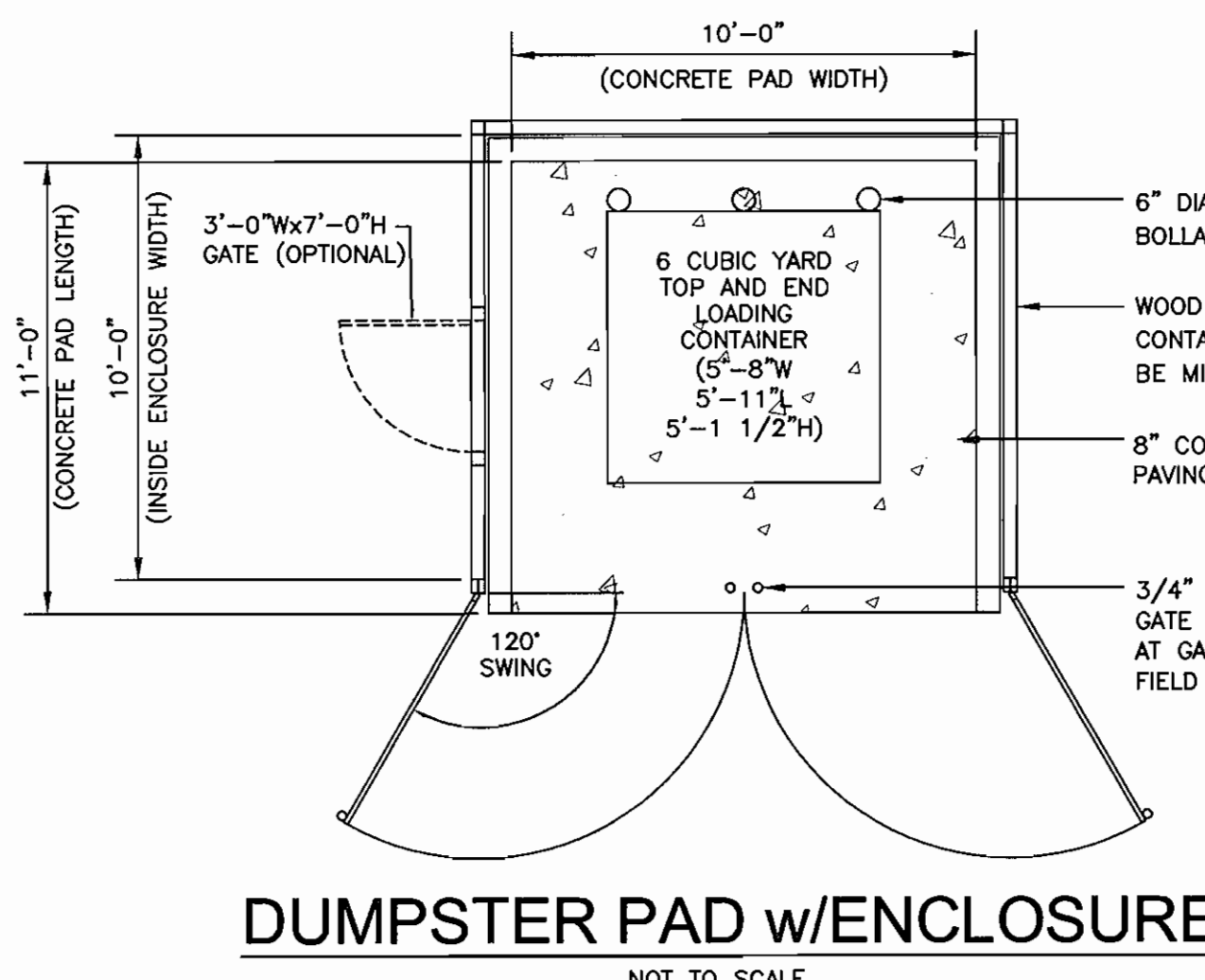
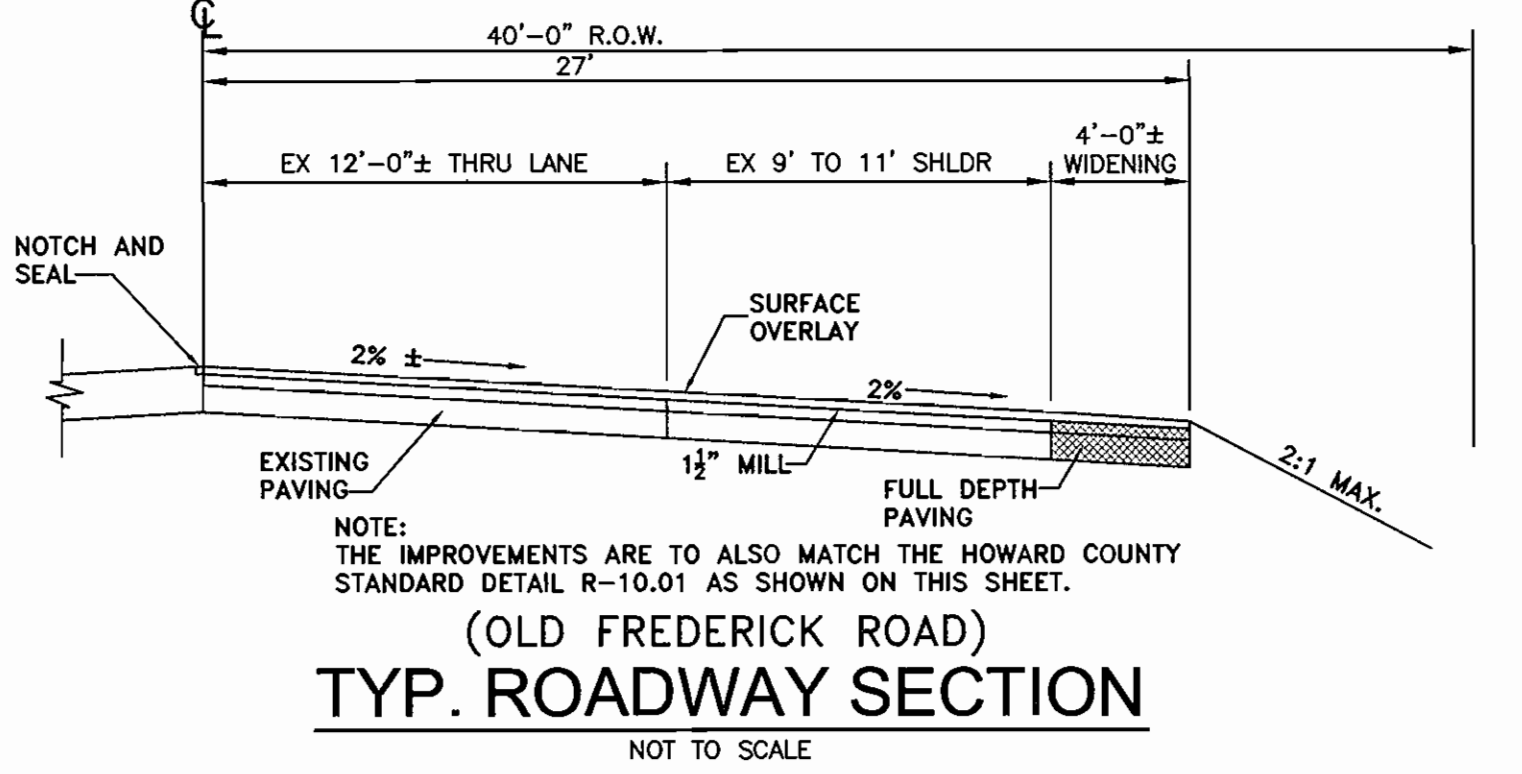
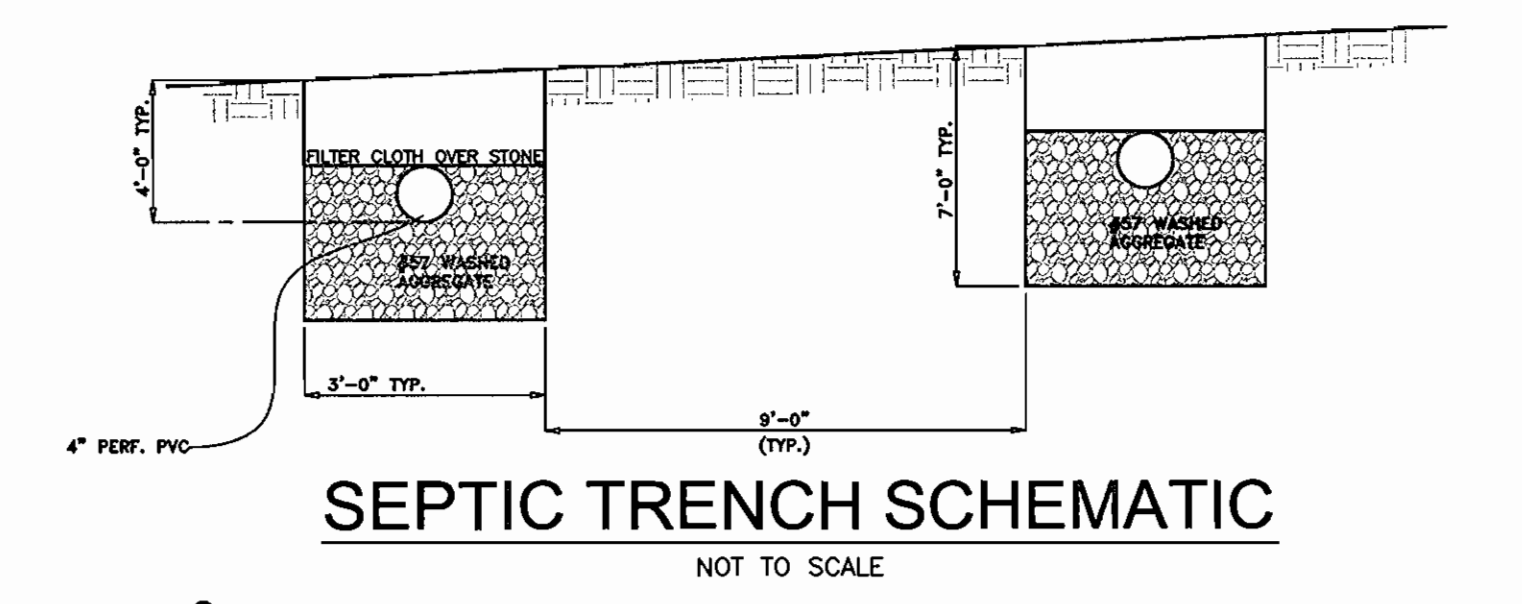


PIPE SCHEDULE

FROM	TO	PIPE TYPE	SIZE	LENGTH
RS-1	E-1	CLASS IV RCCP	27"	95'

STRUCTURE SCHEDULE

NO.	STRUCTURE	INVERT IN	INVERT OUT	Q100	DESCRIPTION / NORTHING / EASTING / TOP ELEVATION
RS-1	SWM RELEASE STRUCTURE	727.22	727.22	42.88	STRUCTURE CL / N 614,546.21 E 1,277,847.13 / WEIR = 732.50
E-1	CONCRETE END SECTION	726.34	726.26	42.88	CL PIPE END SECTION / N 614,473.18 E 1,277,910.88



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: [Signature] 11/5/06

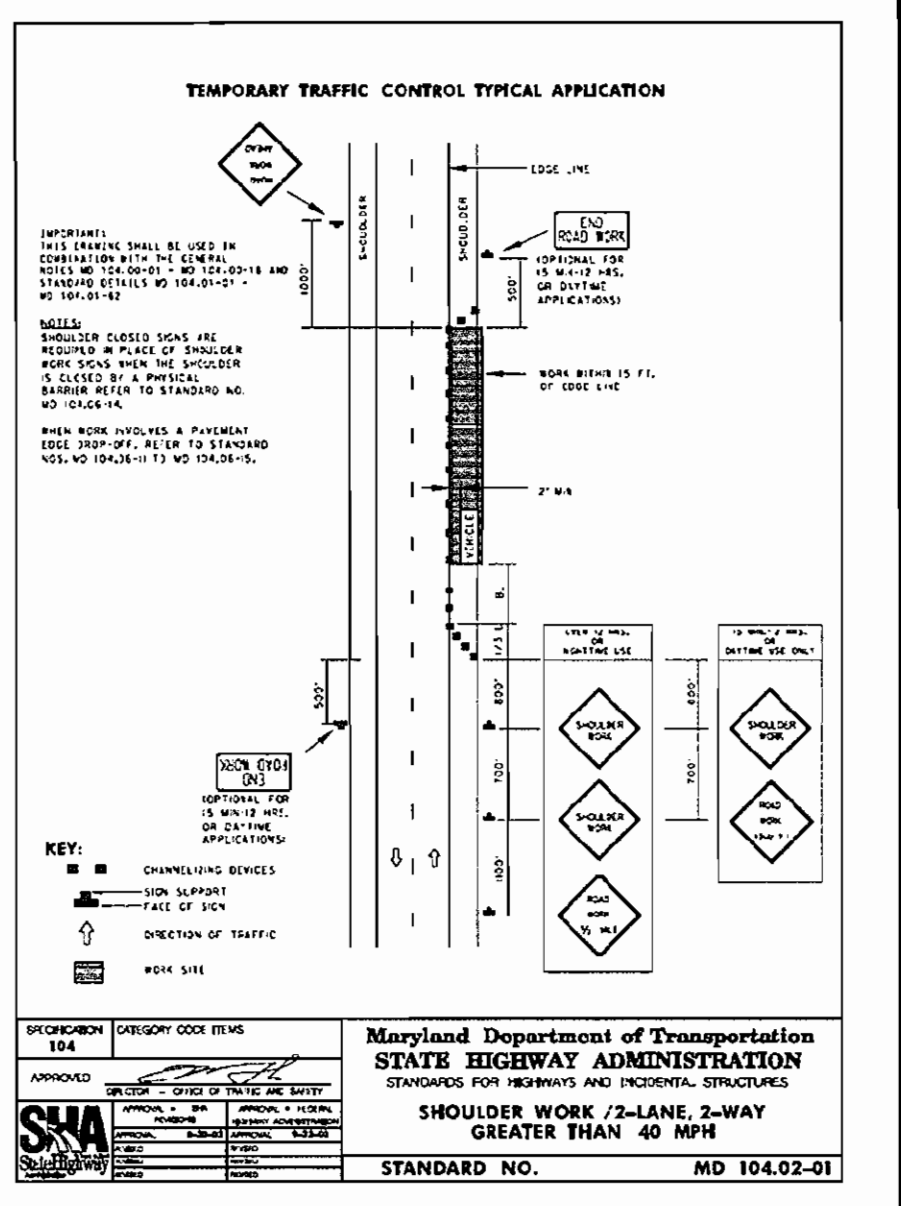
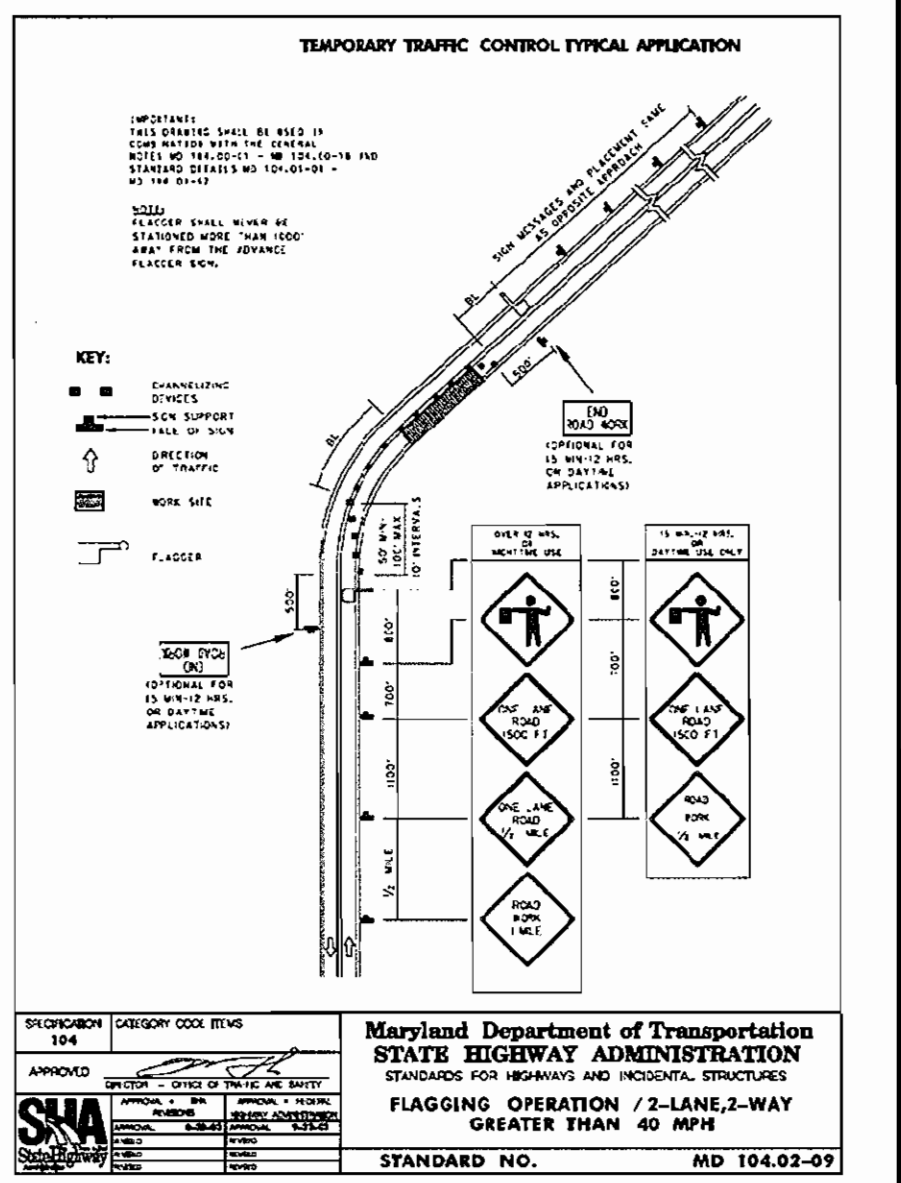
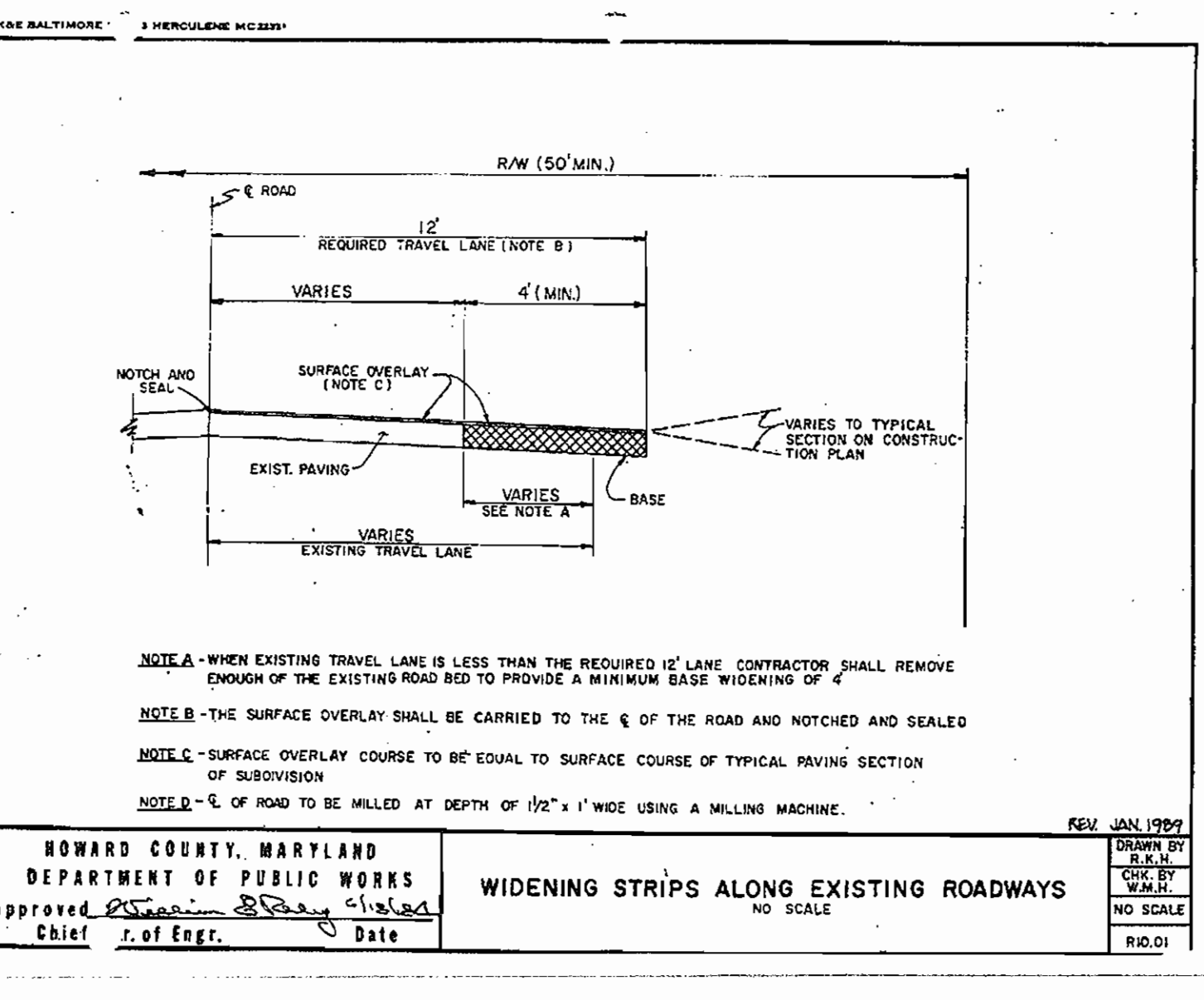
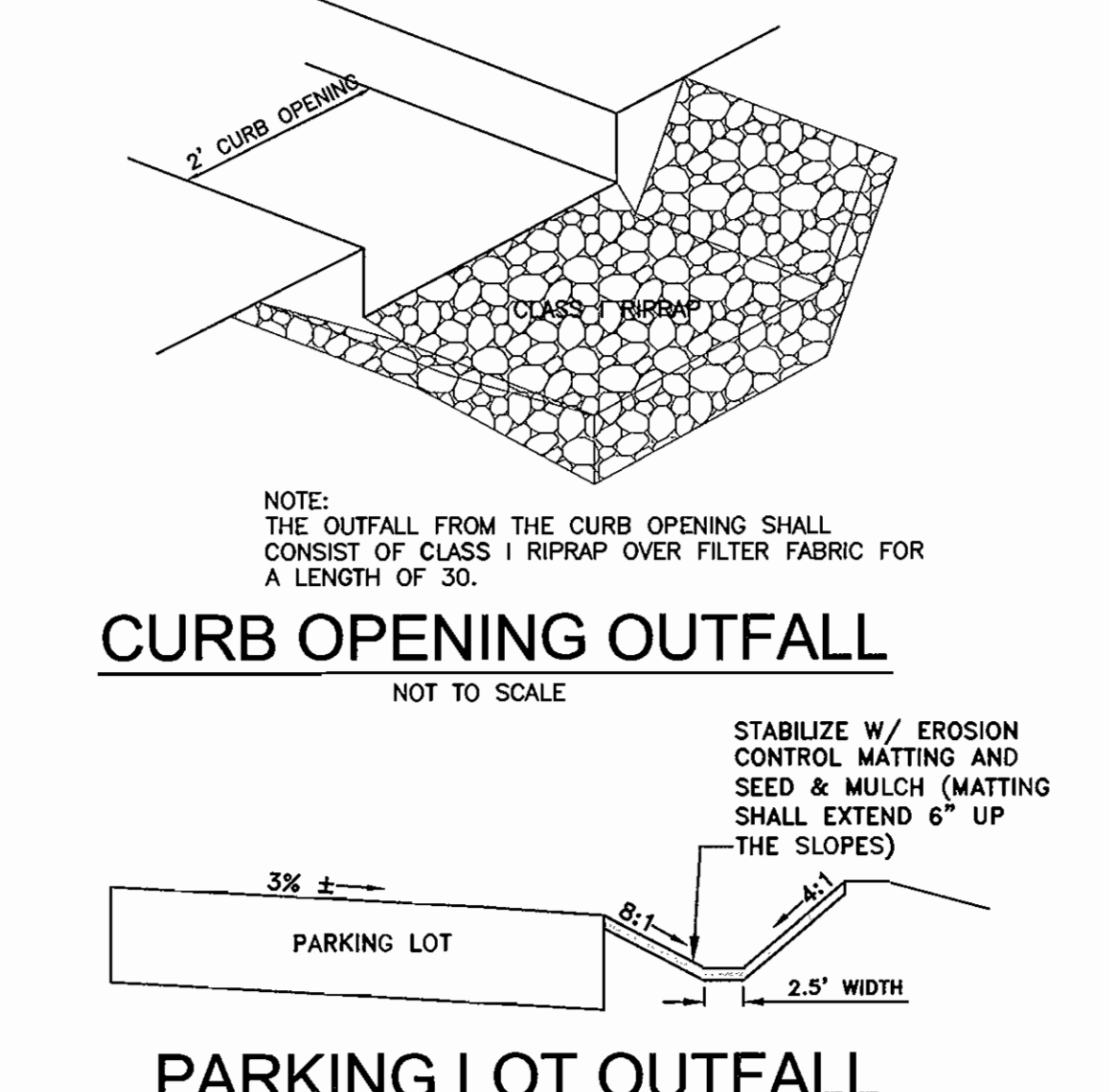
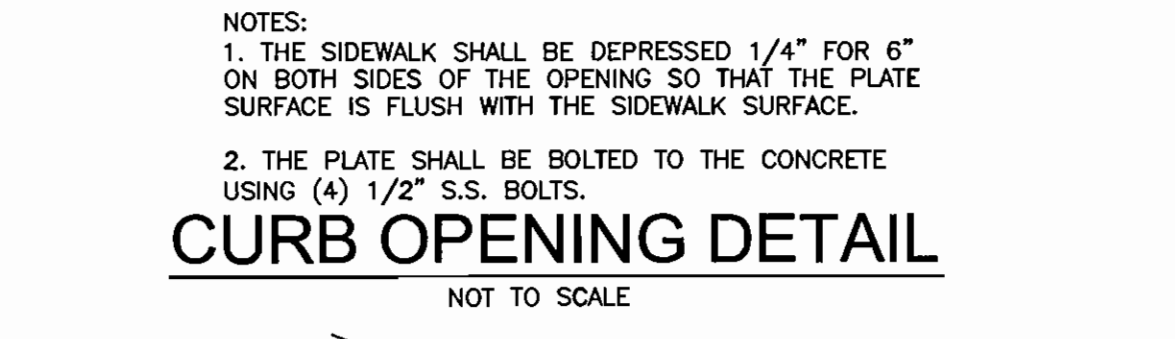
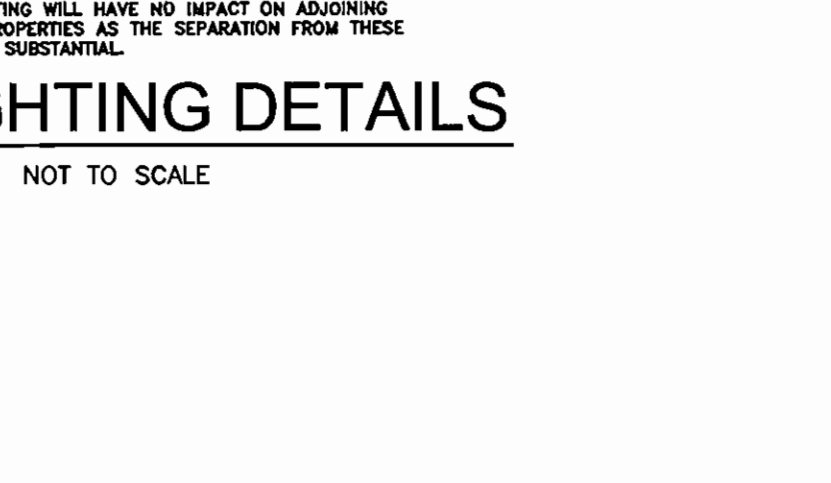
Chief, Division of Land Development: [Signature] 12/2/06

Director: [Signature] 12/1/06

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS

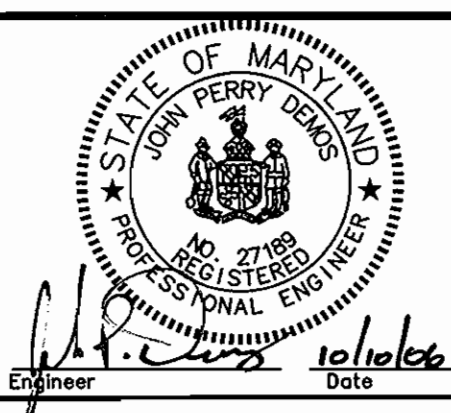
County Health Officer: [Signature] 11/30/06

Howard County Health Department



Richardson Engineering, LLC

110 Old Padonia Road, Suite LC
Cockeysville, Maryland 21030
Phone: 410-560-1502 Fax: 410-560-0827



OWNERS/DEVELOPERS

MOUNT AIRY PRESBYTERIAN CHURCH, PCA
P.O. BOX 591
MOUNT AIRY, MARYLAND 21771-0591
ATTN: DAVE DETROY
PHONE: 703-404-6549

SITE DETAILS

MOUNT AIRY PRESBYTERIAN CHURCH
17455 OLD FREDERICK ROAD

FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGNED BY: J.P.D.
SCALE: AS SHOWN
DRAWN BY: J.P.D.
DEED REF.: 5158/250
CHECKED BY: J.P.D.
PARCEL: 13

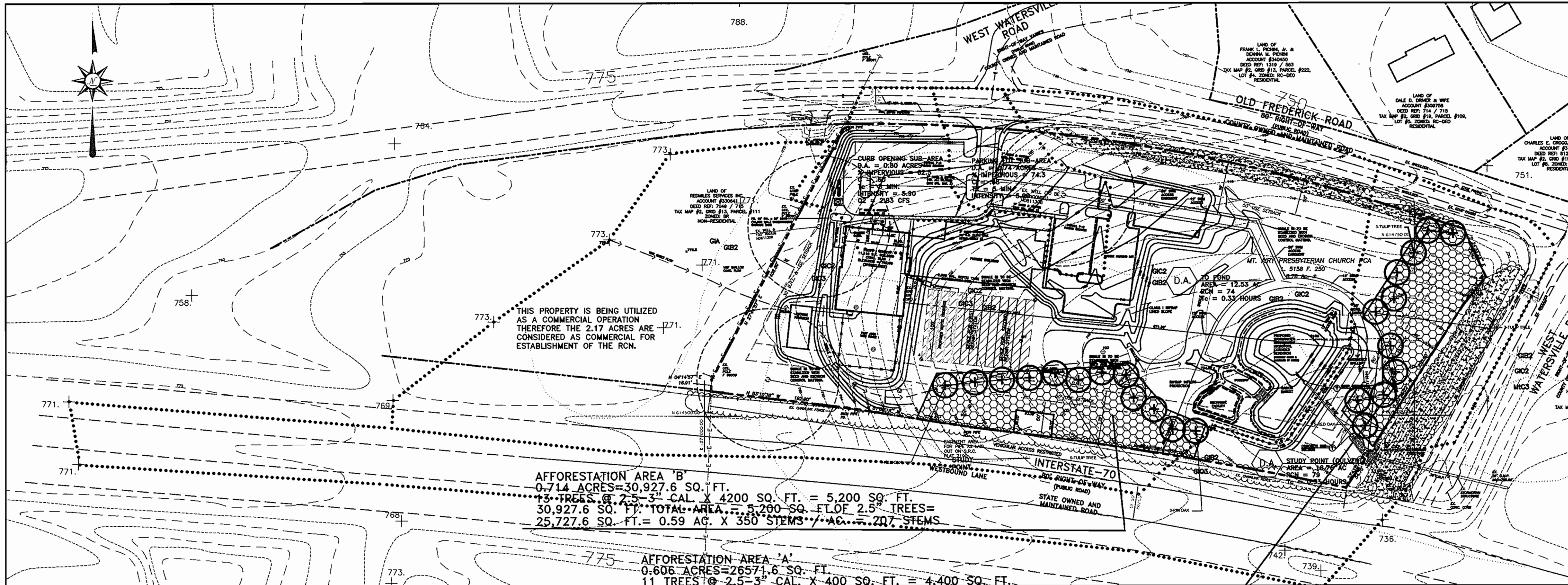
DATE	REVISION	BY
01/18/07	REVISE SEPTIC SYSTEM	FLK

DRAWING COMPLETED 10-10-06

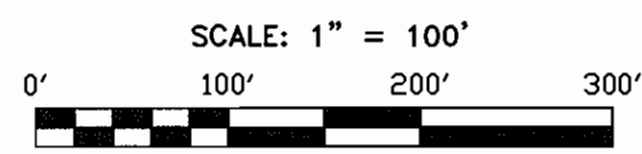
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SDP-06-063



OVERALL DRAINAGE AREA MAP

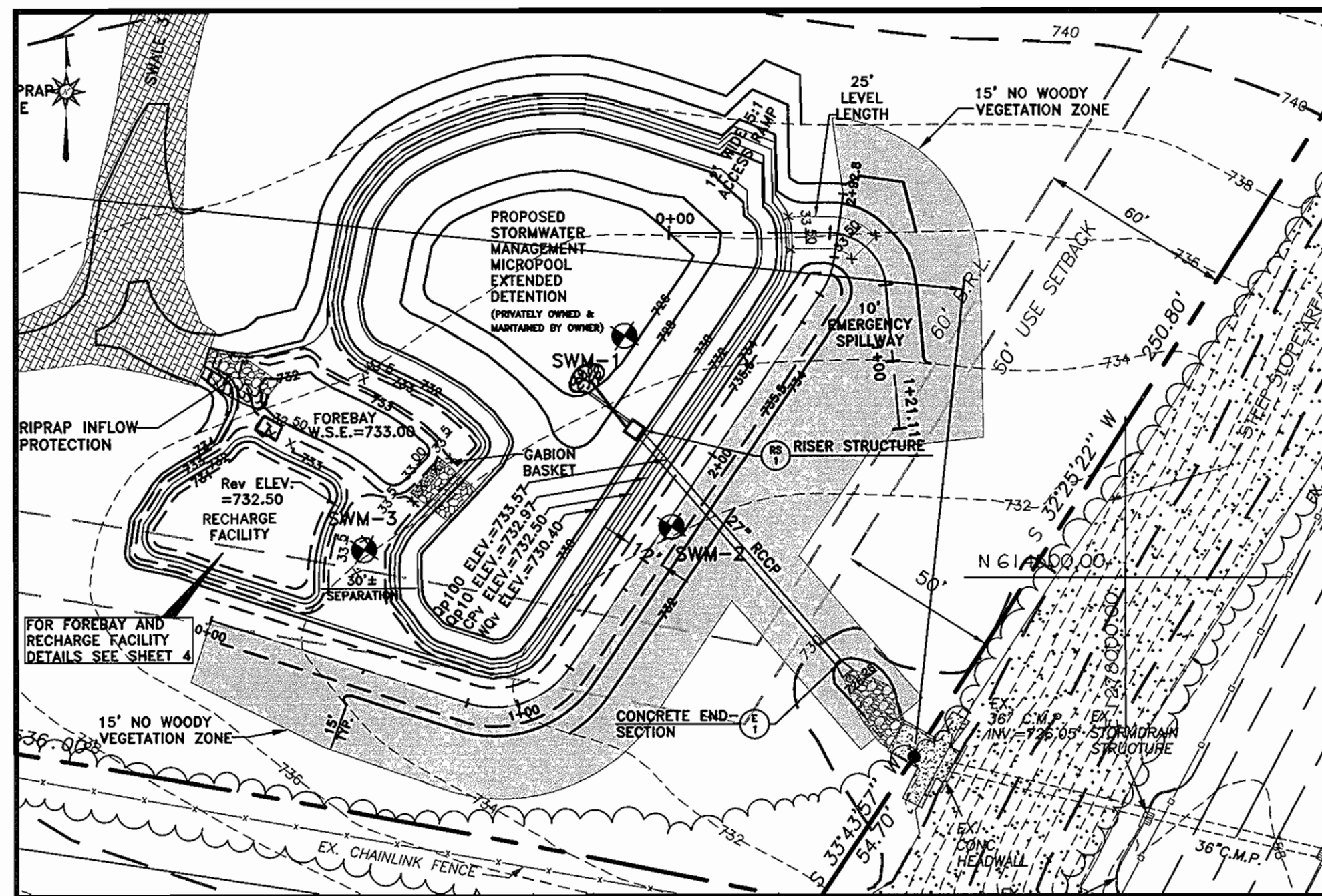


	ACREAGE (ACRES)	Q10 (CFS)	V10 (FPS)	COMMENT
SWALE 1	4.18	16	2.43	
SWALE 2	9.53	36	5.60	
SWALE 3	1.30	6	1.44	

DESIGN STORM	POND INFLOW (CFS)	POND DISCHARGE (CFS)	W.S.E. (AC.FT.)	STORAGE VOL. (AC.FT.)
1-YEAR	7.95	.21	731.50	0.45
10-YEAR	31.97	1.79	732.97	0.98
100-YEAR	55.13	42.88	733.57	1.25

	ACREAGE (ACRES)	Rev (C.F.)	WQv (CU FT)	Cpv (CU FT)	10-YR (CFS)	100-YR (CFS)
REQUIRED	8.78(SITE)	2,178 C.F. OR .55 AC.	8,712	(Q1=6 CFS) 6,708	CONVEYED SAFELY	CONVEYED SAFELY
PROVIDED	8.78(SITE) 12.99(POND)	RECHARGE FACILITY 2,596 C.F.	11,000	34,866	CONVEYED SAFELY	CONVEYED SAFELY

	Q1 (CFS)	Q10 (CFS)	Q100 (CFS)
EXISTING	10.7	45.9	81.2
PROPOSED	10.35	28.66	60.69



POND PLAN
SCALE: 1" = 40'

STORMWATER MANAGEMENT DATA

- TOTAL SITE AREA = 8.78 ACRES
- WATERSHED = SOUTH BRANCH PATAPSCO RIVER
- EXISTING IMPERVIOUS = 0.00 ACRES
- ZONING = RC-DEO
- PROPOSED IMPERVIOUS = 2.10 ACRES
- RCN = 70
- TIME OF CONCENTRATION = 0.10 HOURS
- Q1 = 6.2 CFS
- WATER QUALITY IS ADDRESSED IN THE MULTIPLE POND
- RECHARGE IS ADDRESSED IN A SEPARATE RECHARGE FACILITY.
- THE FACILITY IS AN 'A' HAZARD CLASSIFICATION.
- REQUIRED WQ STORAGE VOLUME = 8,712 CU.FT.
- REQUIRED REV VOLUME = 2,178 CU.FT.
- REQUIRED CPV VOLUME = 6,708 CU.FT.
- PERMANENT POOL ELEVATION = 730.00
- WATER QUALITY W.S.E. = 730.40
- CPV W.S.E. = 732.50
- STORMWATER MANAGEMENT UNDER THIS PLAN INCLUDES THE FUTURE PAVILLION, PARKING AREA, AND SANCTUARY.

POND CONSTRUCTION SPECIFICATIONS

- 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 OBSTRUCTIONAL 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 EMBANKMENT.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBSTRUCTIONAL MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MIN 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.
- EARTH FILL**

1. 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 OBSTRUCTIONAL MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT, AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, 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.

2. PLACEMENT: AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT. FILL MATERIALS SHALL BE PLACED IN MINIMUM 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.

3. 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 TIERED 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 THAT OF MAXIMUM DRY DENSITY. MOISTURE CONTENT WITHIN R2% OF THE OPTIMUM, EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THE REQUIRED DENSITY TO BE DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION TO BE DETERMINED BY ASHTO METHOD T-99 (STANDARD PROCTOR).

4. 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 AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1:1 OR FLATTER. THE BACKFILL 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.
- STRUCTURE 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 EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERED OR OTHER PARTS OF THE WORK AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HARVESTING THEIR PURPOSE AS SUCH, THE TRENCH SHALL BE MAINTAINED AS DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE UNDER NO CIRCUMSTANCES SHALL 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 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 513 AS MODIFIED. THE MIXTURE SHALL HAVE A 100-200 PSI 28 DAY UNCONFINED COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE 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 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 TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHALL COMPLETELY FILL ALL VOIDS ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACKFILL OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF THE STRUCTURE UNDER NO CIRCUMSTANCES SHALL BE EQUIPMENT BE DRIVEN OVER ANY PART OF THE STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OF PIPE. BACKFILL MATERIAL OUTSIDE THE STRUCTURE 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 CONDUITS**

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.
- REINFORCED CONCRETE PIPE**

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

 - MATERIALS: REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.
 - BEDDING: REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING/CRADLE FOR THEIR ENTIRE LENGTH. THIS BEDDING/CRADLE SHALL CONSIST OF HIGH DENSITY POLYETHYLENE (HDPE) PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 50% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 8 INCHES. WHEN 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.
 - 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.
 - BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
 - OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.
- PLASTIC PIPE**

THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

 - MATERIALS: PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 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 ASHTO M252 TYPE S, AND 12"-24" SHALL MEET THE REQUIREMENTS OF ASHTO M294 TYPE S.
 - JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
 - 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.
 - BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
 - OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.
- 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. GROUNDLINE 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**

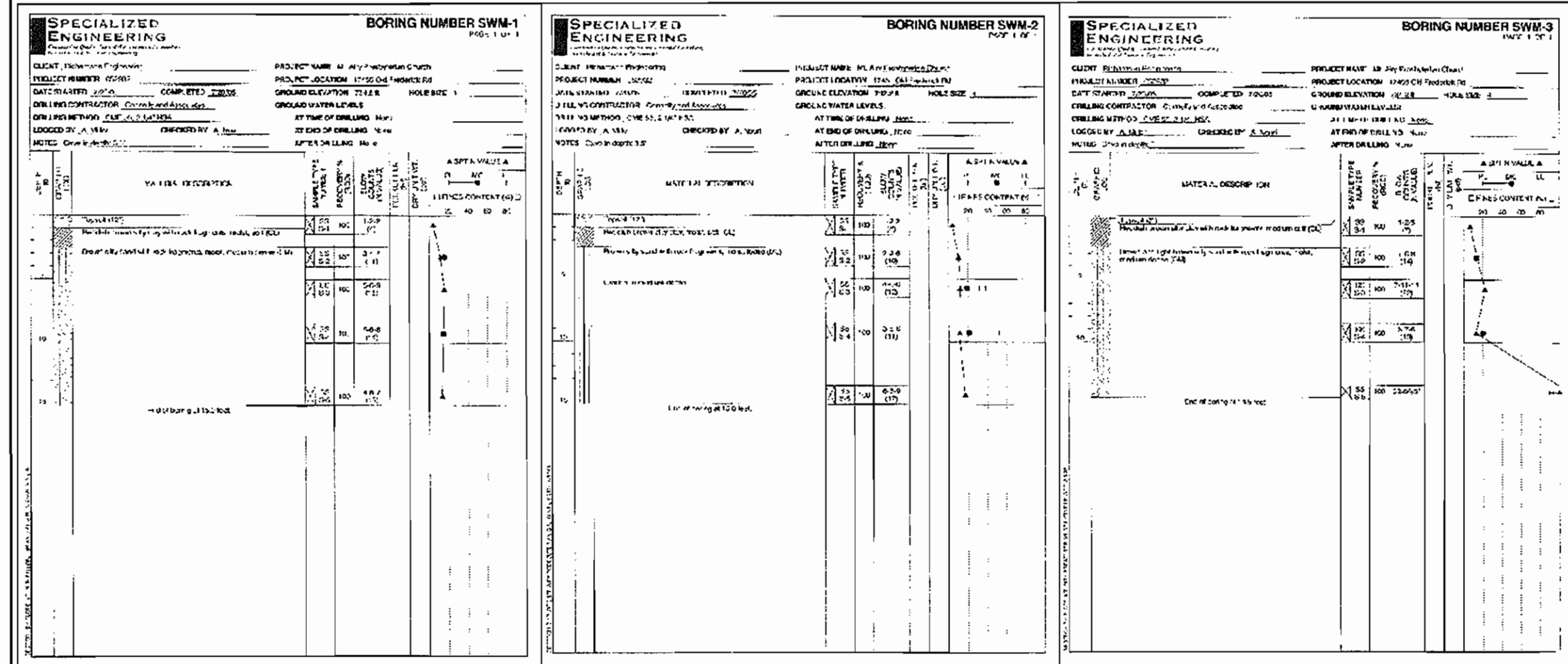
ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COUNTERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH AND MAINTAIN ALL TEMPORARY 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. TEMPORARY PROTECTIVE WORKS OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HARVESTING THEIR PURPOSE AS SUCH, THE TRENCH SHALL BE MAINTAINED AS DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE UNDER NO CIRCUMSTANCES SHALL 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.
- STABILIZATION**

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SOIL 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.
- CONSTRUCTION INSPECT, BY DESIGNATED ENGINEERS**

THE CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITY AND DECLARATION THAT THE FACILITY HAS BEEN BUILT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS SHALL BE UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A MINIMUM OF TWO WEEKS ADVANCE NOTICE OF THE DATE THAT HE EXPECTS TO START CONSTRUCTION. AT THIS SAME TIME, THE CONTRACTOR SHALL ALSO PROVIDE THE ENGINEER, IN WRITING, A LIST OF ALL MATERIALS TO BE INCORPORATED INTO THE WORK, ALONG WITH THEIR SOURCES OF SUPPLY. THE ENGINEER SHALL BE GIVEN SUFFICIENT NOTICE OF ALL UPCOMING ACTIVITIES, PRIOR TO AND DURING THE PROCESS OF THE WORK, IN ORDER THAT ARRANGEMENTS CAN BE MADE FOR:

 - INSPECTION OF ALL MATERIALS AND THEIR ASSOCIATED CERTIFICATIONS PRIOR TO THEIR INSTALLATION/PLACEMENT IN THE PROPOSED WORK.
 - INSPECTION AND RELATED TESTING OF THE CONSTRUCTION OF THE CUTOFF/CORE TRENCH(ES), AND POND EMBANKMENT; INSTALLATION OF THE PRINCIPAL SPILLWAY, ANTI-SEEP COLLARS AND RISER ASSEMBLY; CONSTRUCTION OF THE EMERGENCY SPILLWAY AND OTHER CRITICAL FLOW CHANNELS.
 - INSPECTION OF ALL OTHER SIGNIFICANT CONSTRUCTION/INSTALLATION ITEMS FOR THE PROPOSED FACILITY AND RELATED PIPING INCLUDING BACKFILLING AND SOIL COMPACTION. THE ENGINEER SHALL ALSO DIRECT THE HANDLING OF WATER DURING CONSTRUCTION, MINOR CHANGES NOT AFFECTING THE INTEGRITY OF THE DAM IN ORDER TO COMPENSATE FOR UNUSUAL SOIL CONDITIONS, AND THE REMOVAL AND REPLACEMENT OF DEFECTIVE FILL.



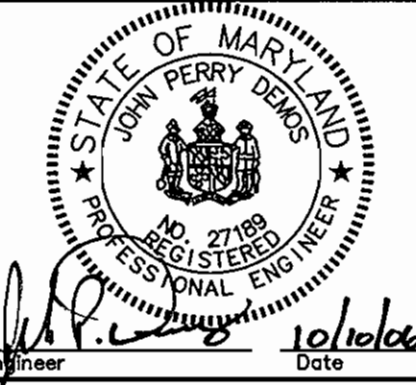
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER PONDS (P-1 THROUGH P-5)

- ROUTINE MAINTENANCE:**
- THE FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. VISUAL INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
 - TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.
 - DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
 - VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS THE RIPRAP OR GABION OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- NON-ROUTINE MAINTENANCE:**
- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
 - SEDIMENT SHALL BE REMOVED FROM THE POND, AND FOREBAY, NO LATER THAN WHEN THE CAPACITY OF THE POND, OR FOREBAY IS HALF FULL OF SEDIMENT OR WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: [Signature] Date: 11/5/06
 Chief, Division of Land Development: [Signature] Date: 12/7/06
 Director: [Signature] Date: 11/10/06

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS
 County Health Officer: [Signature] Date: 11/30/06
 Howard County Health Department

Richardson Engineering, LLC
 110 Old Padonia Road, Suite LC
 Cockeysville, Maryland 21030
 Phone: 410-560-1502 Fax: 410-560-0827



OWNERS/DEVELOPERS
 MOUNT AIRY PRESBYTERIAN CHURCH, PCA
 P.O. BOX 591
 MOUNT AIRY, MARYLAND 21771-0591
 ATTN: DAVE DETROY
 PHONE: 703-404-6549

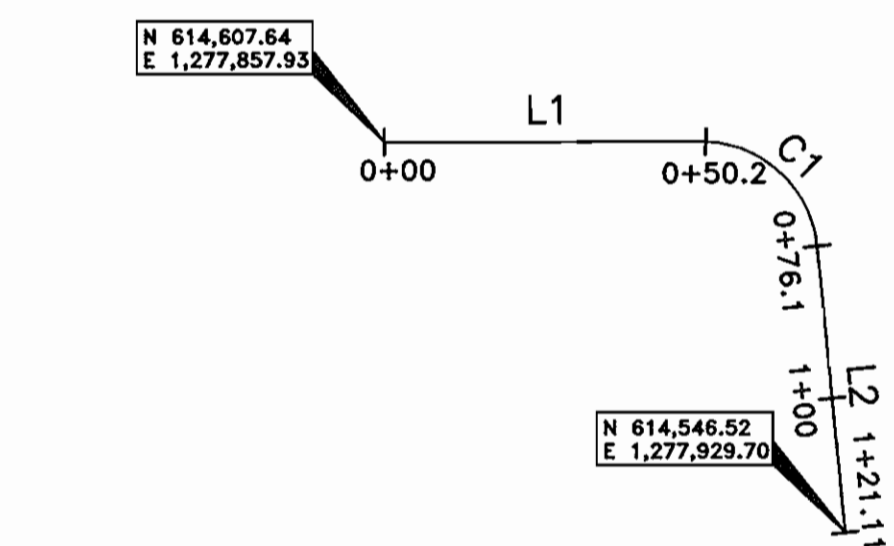
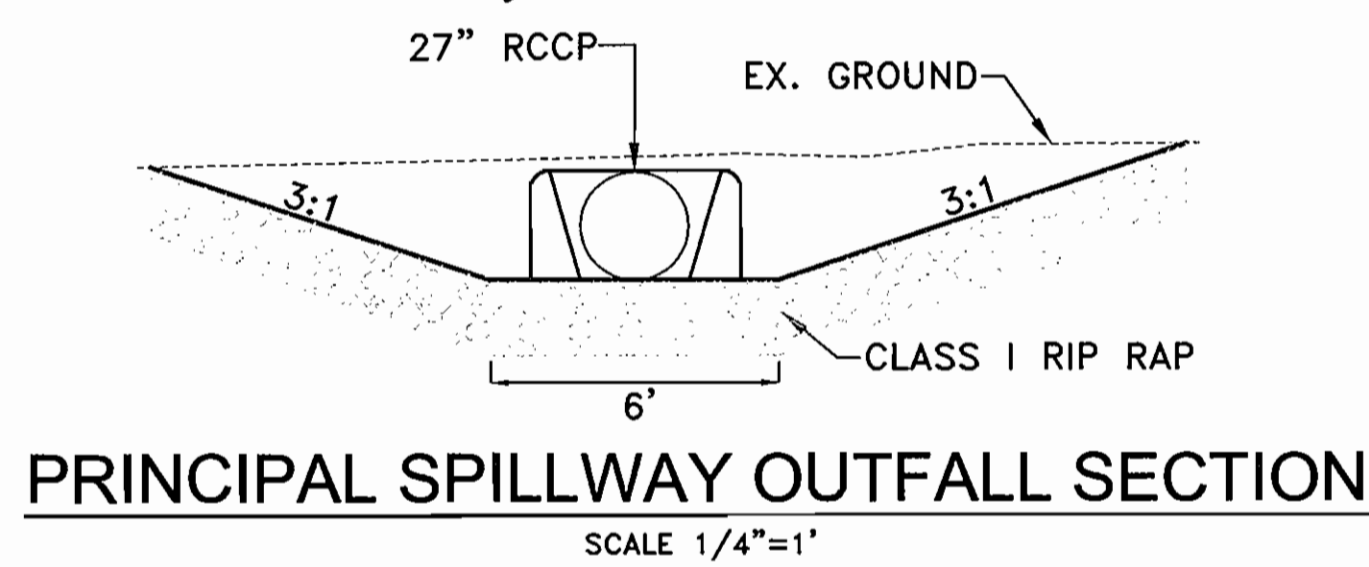
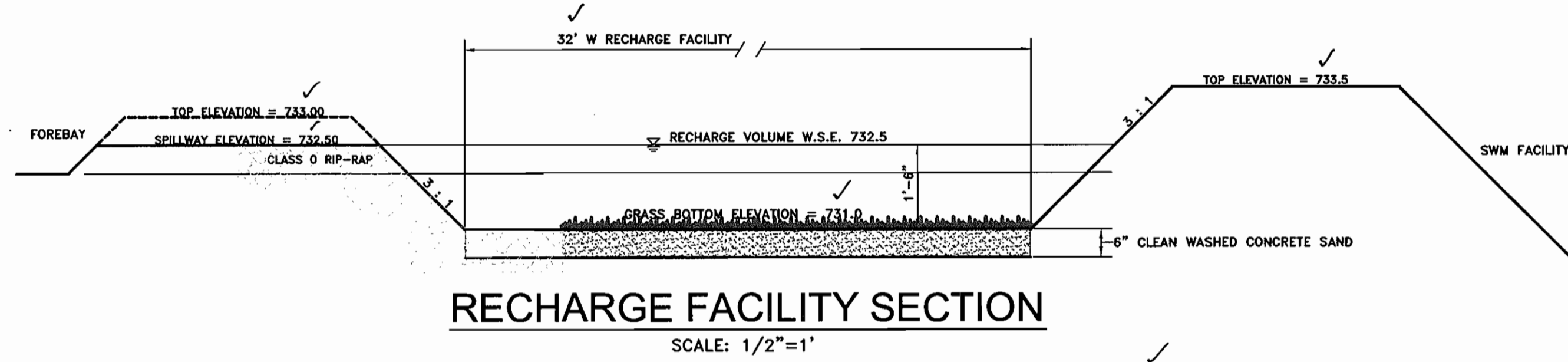
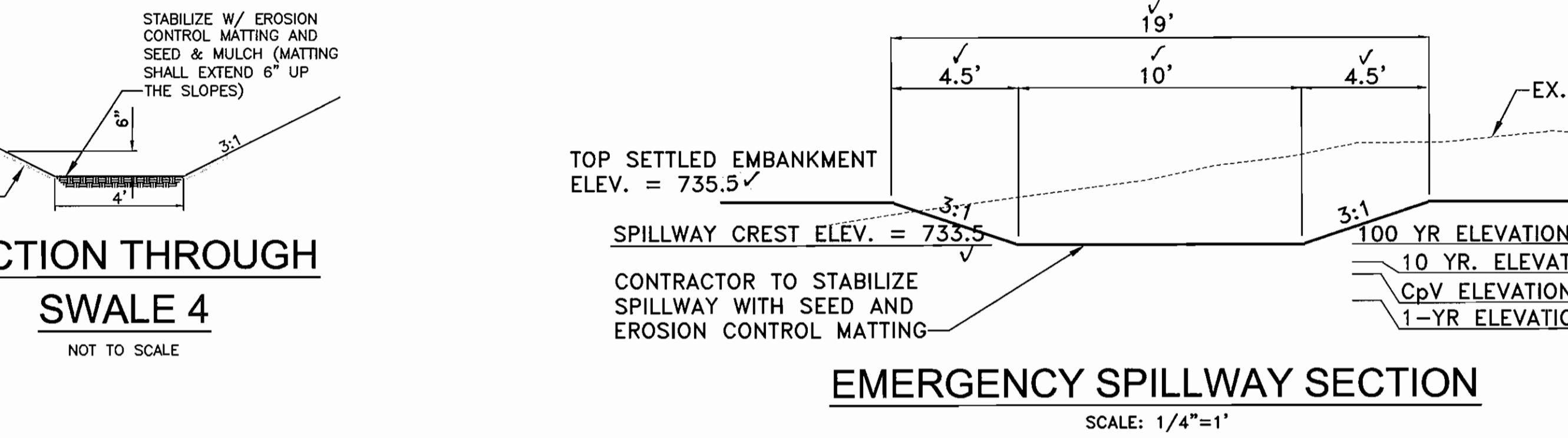
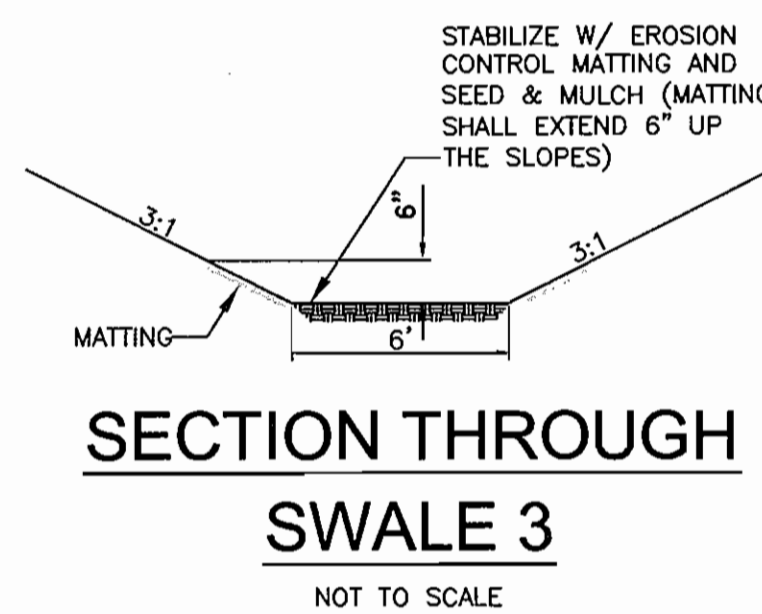
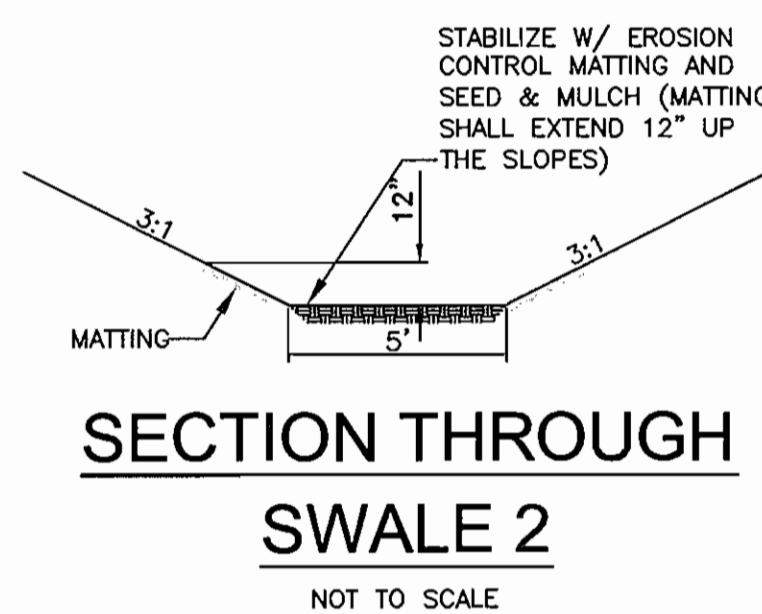
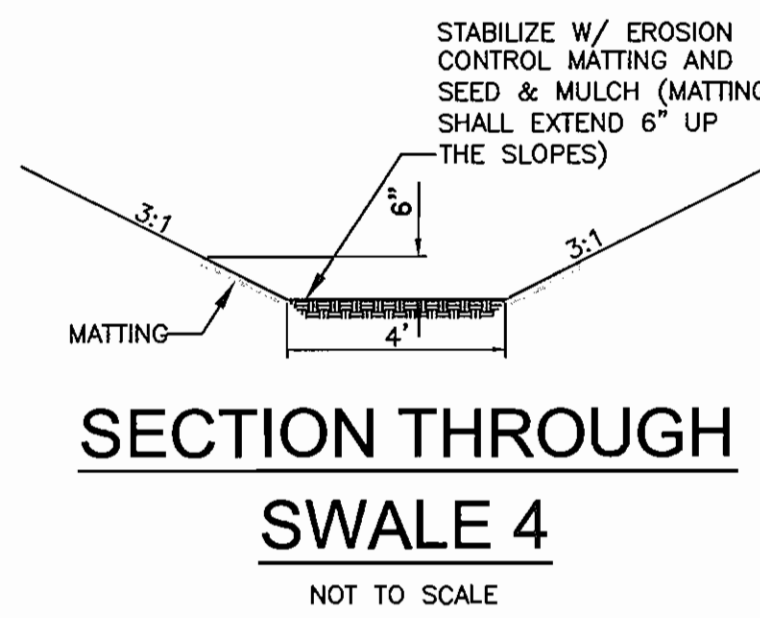
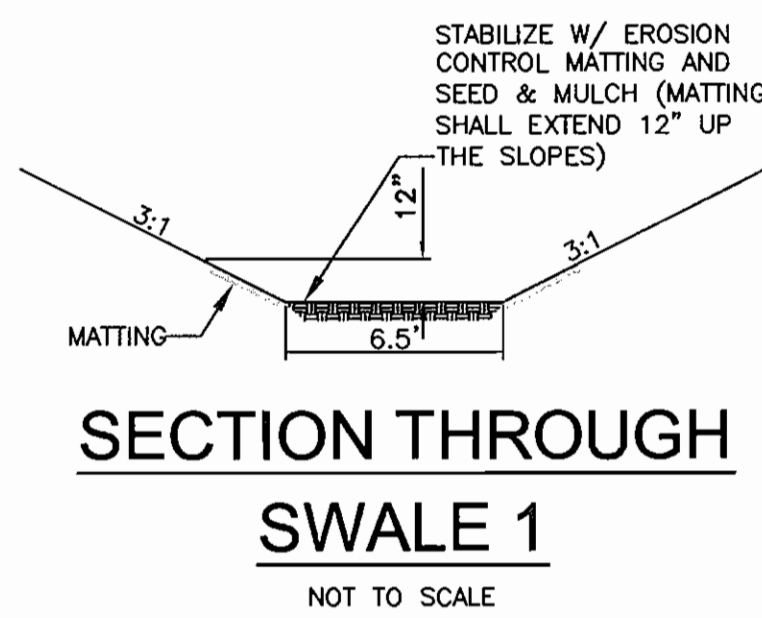
DESIGNED BY: J.P.D.
DRAWN BY: J.P.D.
CHECKED BY: J.P.D.

MOUNT AIRY PRESBYTERIAN CHURCH 17455 OLD FREDERICK ROAD STORMWATER MANAGEMENT PLAN & DRAINAGE AREA MAP FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN DEED REF. 5158/250	TAX MAP 2 GRID 19 PARCEL 13	A.D.C. MAP 2 GRID H-7 JOB # 04009 FILES: D:\1005\2004\04009\DRAWINGS\SDP\SHEETS.dwg	SHEET NO. 3 OF 10
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DATE REVISION BY
 DRAWING COMPLETED 10-10-06

SURVEYED AS-BUILT 04/02/08

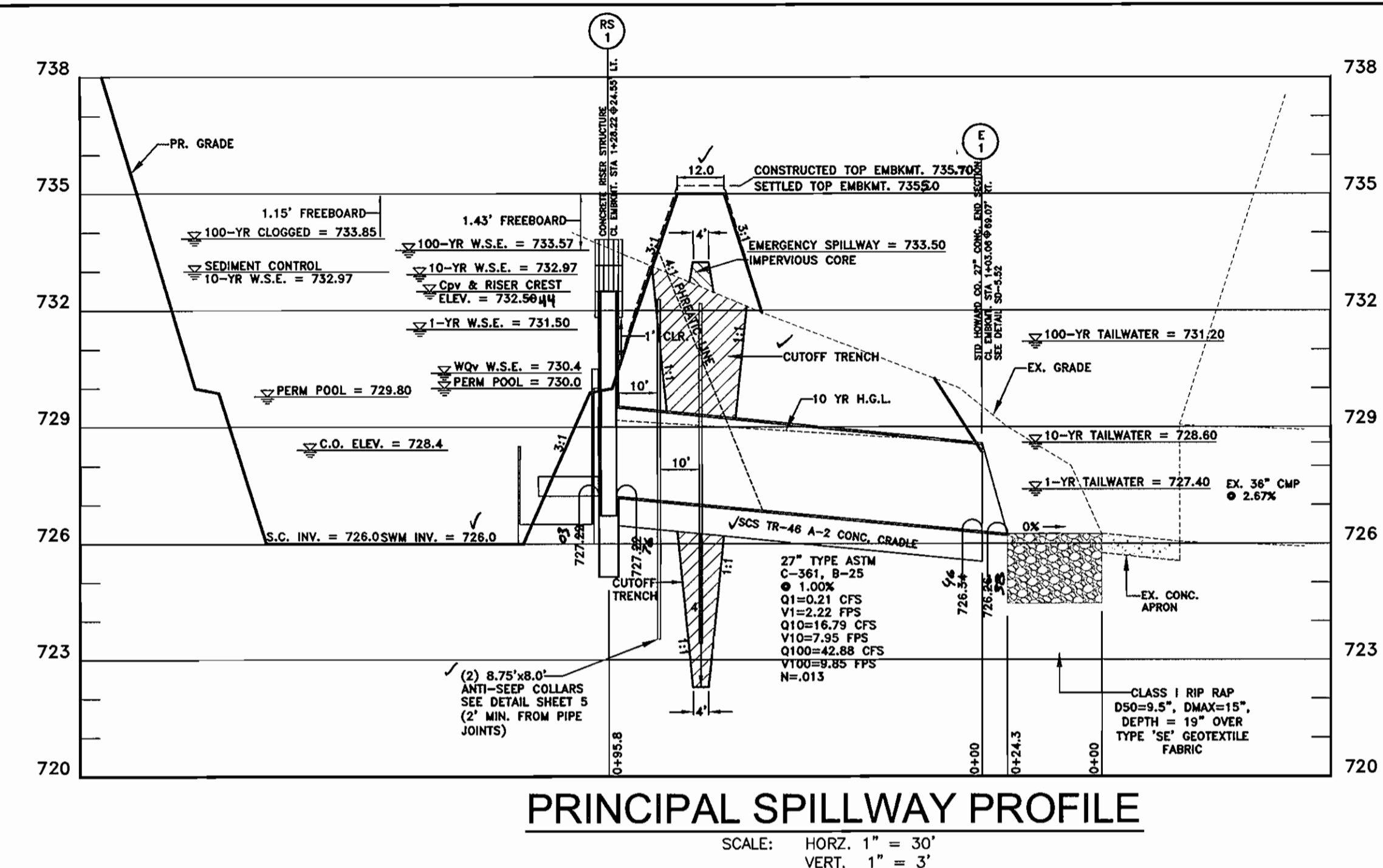
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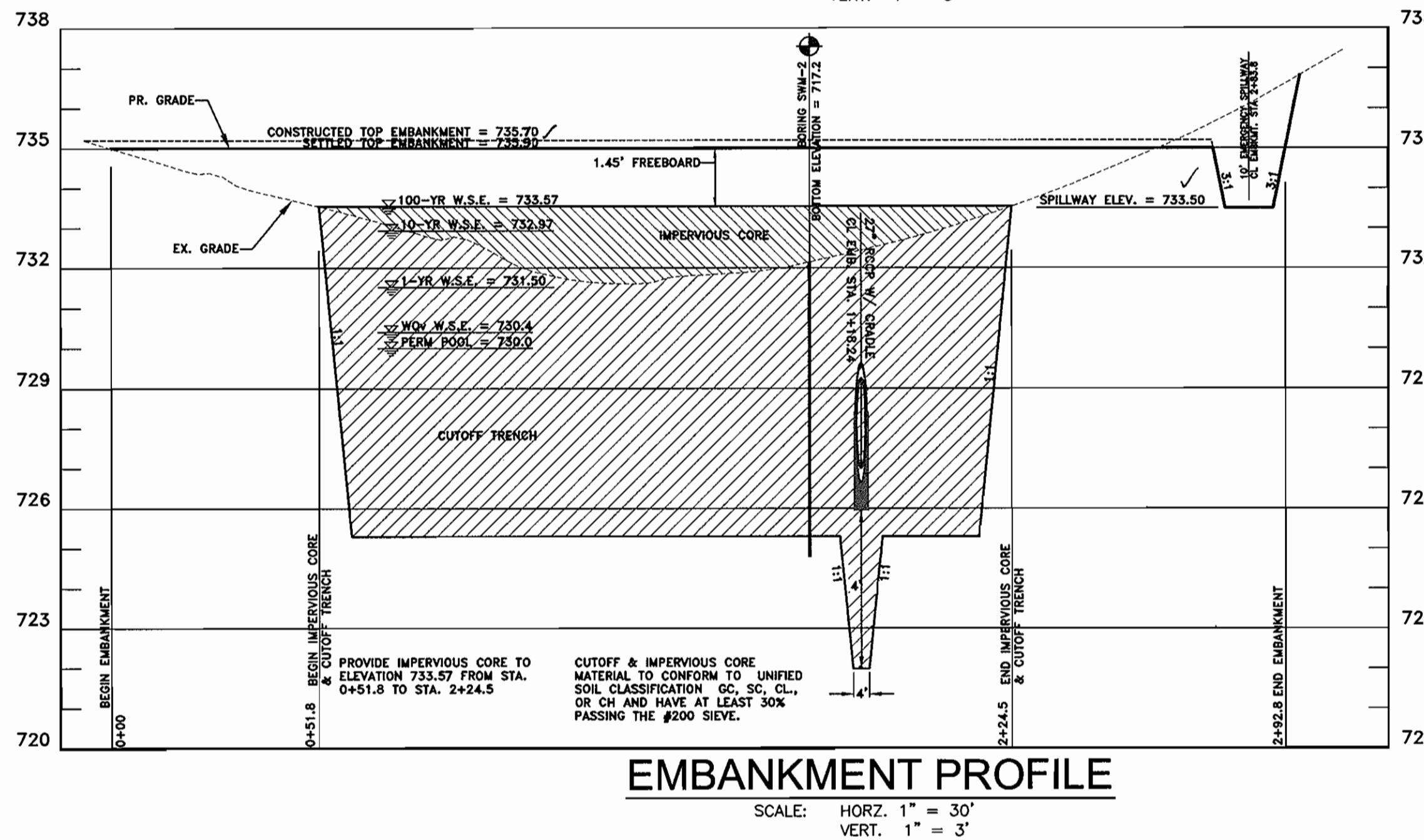
EMERGENCY SPILLWAY GEOMETRY
SCALE: 1"=30'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	28.00'	36.27'	33.78'	N 70°56'53" E	74°12'40"
C2	28.00'	12.58'	12.48'	N 20°58'00" E	25°45'05"

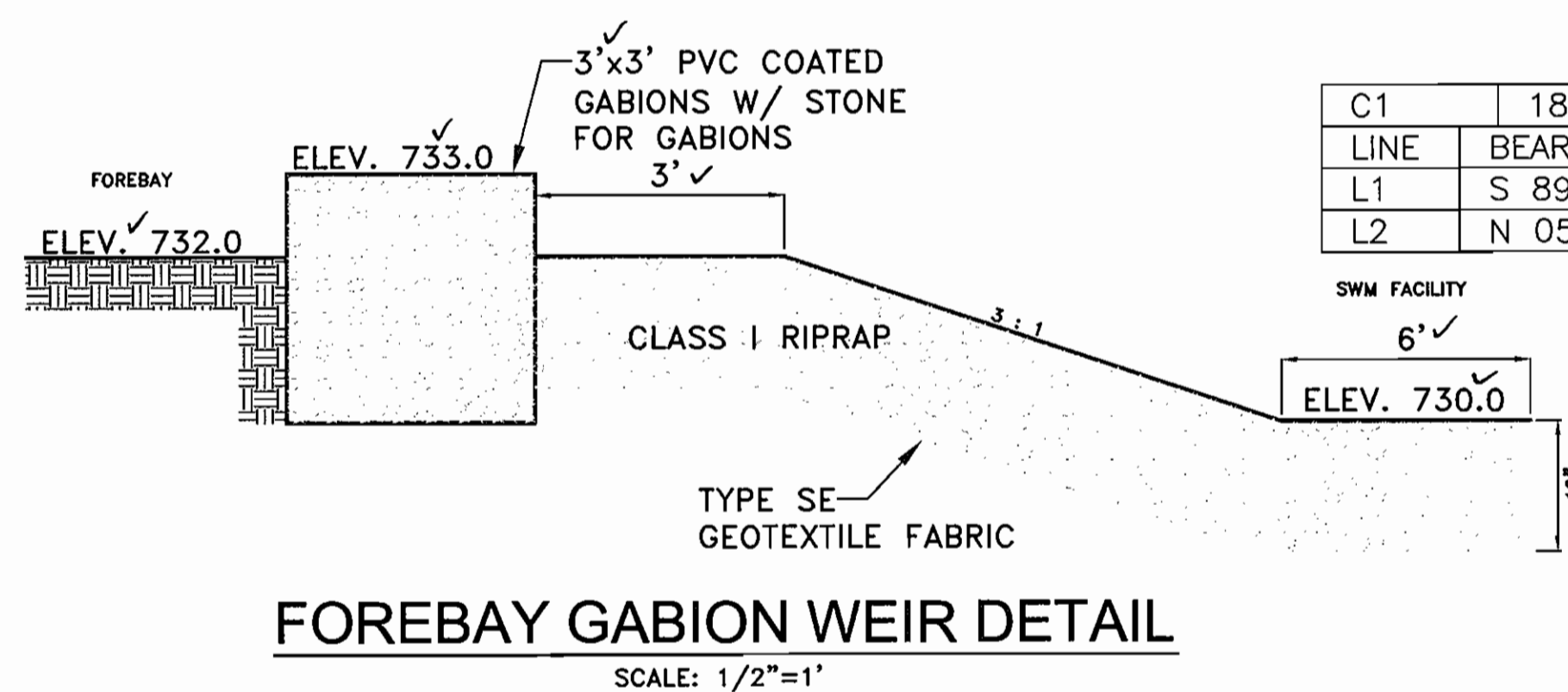
EMBANKMENT GEOMETRY
SCALE: 1"=30'



PRINCIPAL SPILLWAY PROFILE
SCALE: HORZ. 1"=30'
VERT. 1"=3'



EMBANKMENT PROFILE
SCALE: HORZ. 1"=30'
VERT. 1"=3'



FOREBAY GABION WEIR DETAIL
SCALE: 1/2"=1'

STRUCTURE SCHEDULE

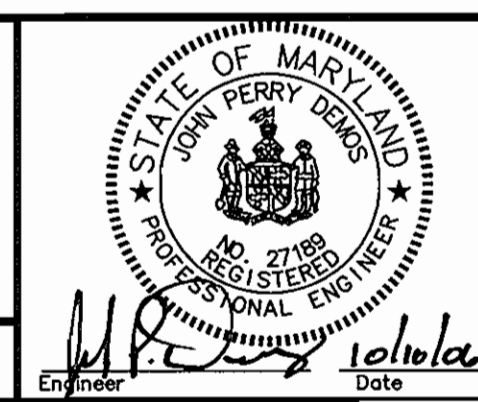
NO.	STRUCTURE	INVERT IN	INVERT OUT	Q100	DESCRIPTION / NORTHING / EASTING / TOP ELEVATION
RS-1	SWM RELEASE STRUCTURE	727.82	727.82	42.88	STRUCTURE CL / N 614,546.21 E 1,277,847.13 / WEIR = 732.50
E-1	CONCRETE END SECTION	726.34	726.28	42.88	CL PIPE @ END SECTION / N 614,473.18 E 1,277,910.88

PIPE SCHEDULE

FROM	TO	PIPE TYPE	SIZE	LENGTH
RS-1	E-1	CLASS IV RCCP	27"	15' 98"

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: [Signature] Date: 11/5/06
 Chief, Division of Land Development: [Signature] Date: 12/2/06
 Director: [Signature] Date: 12/1/06
 APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS
 County Health Officer: [Signature] Date: 11/30/06
 Howard County Health Department

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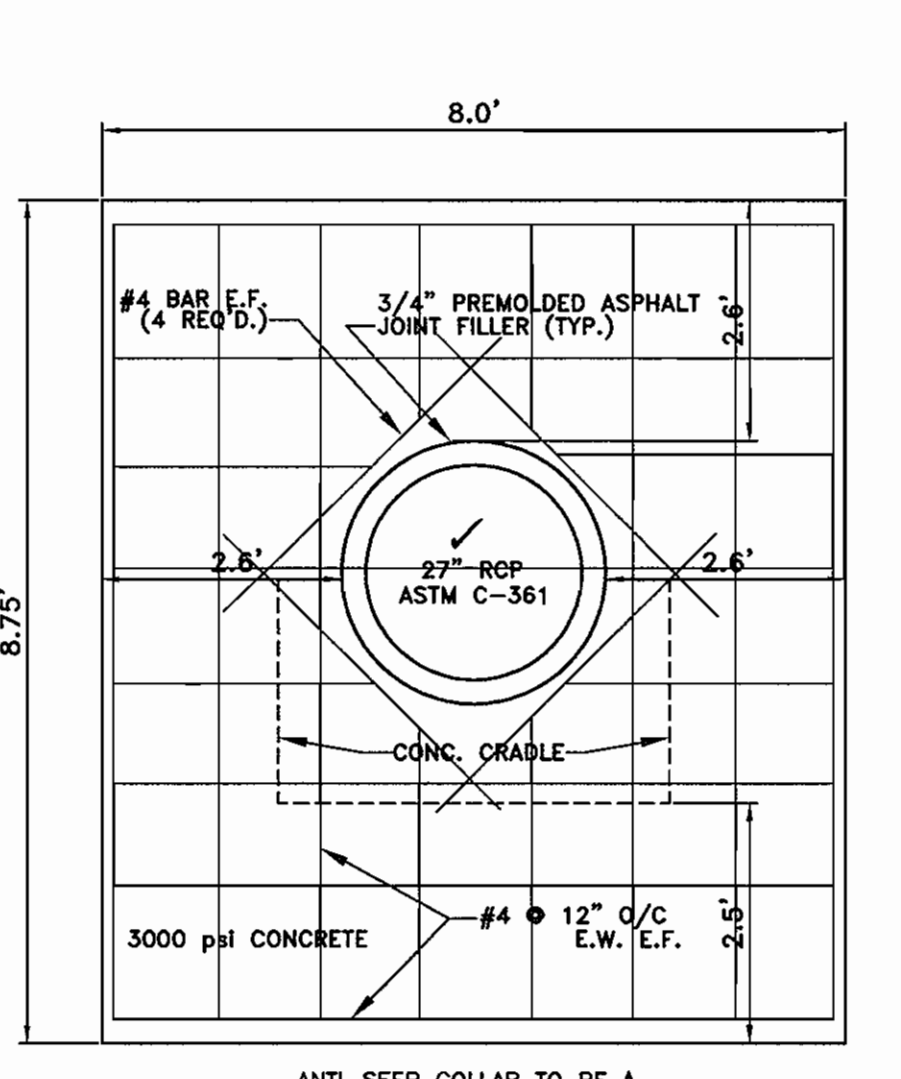
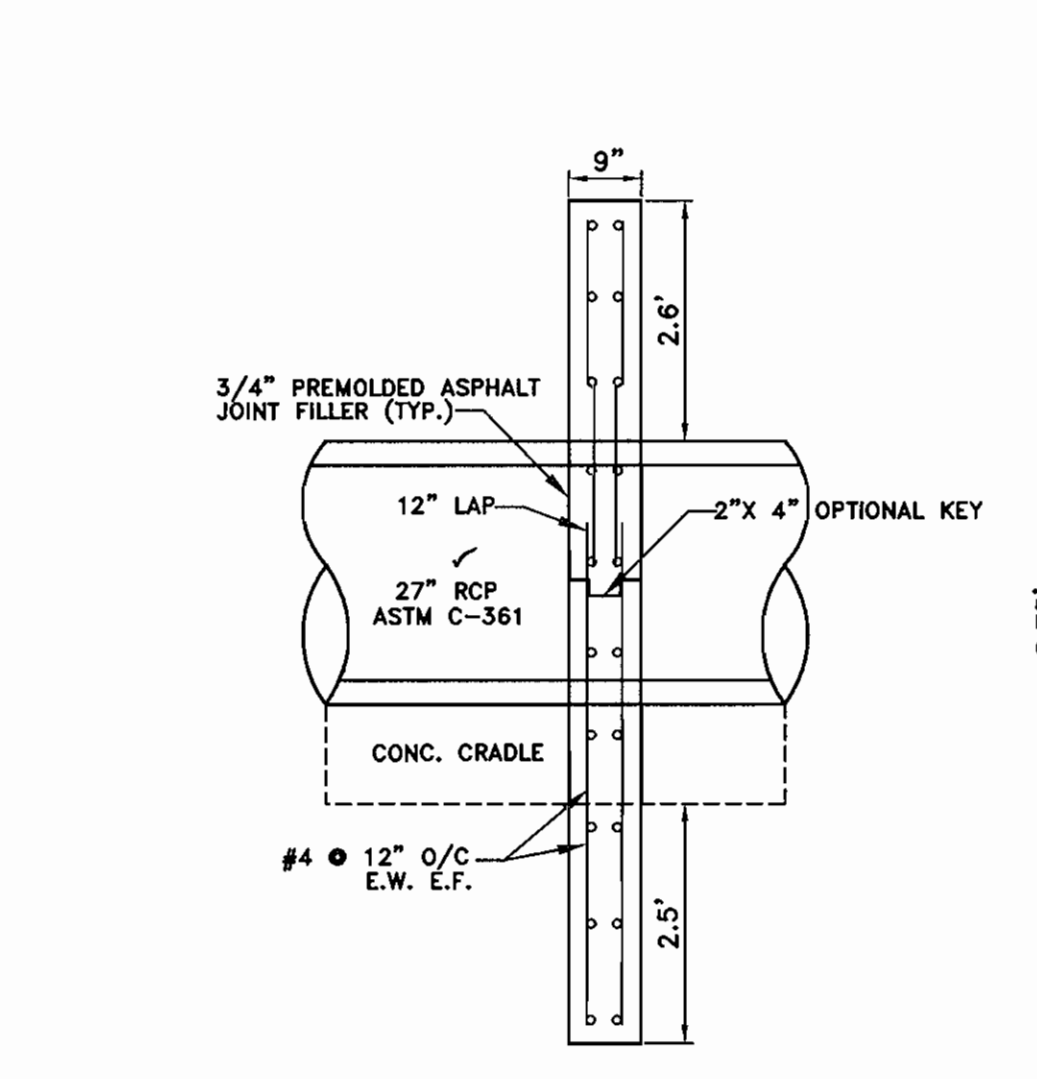
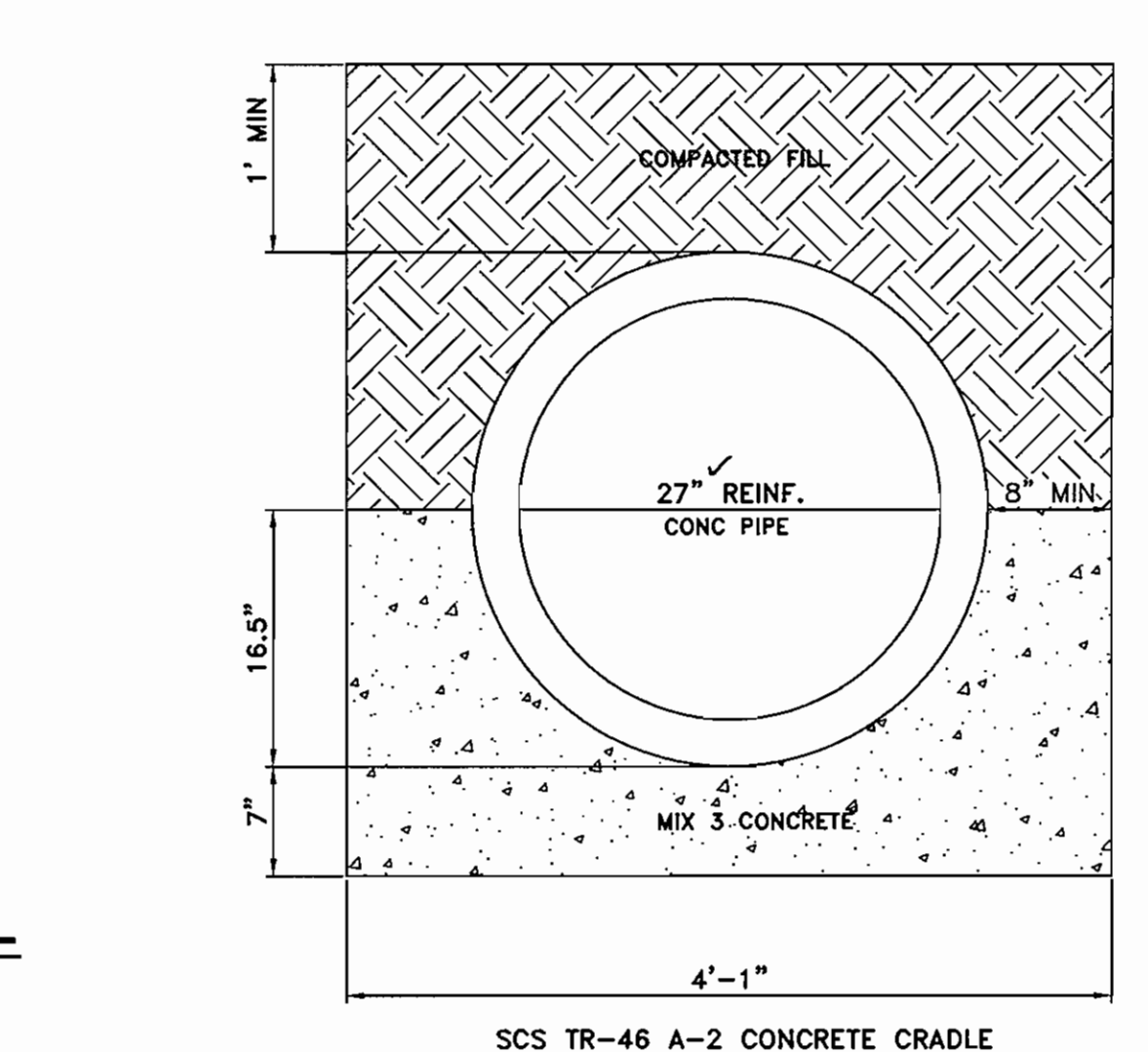
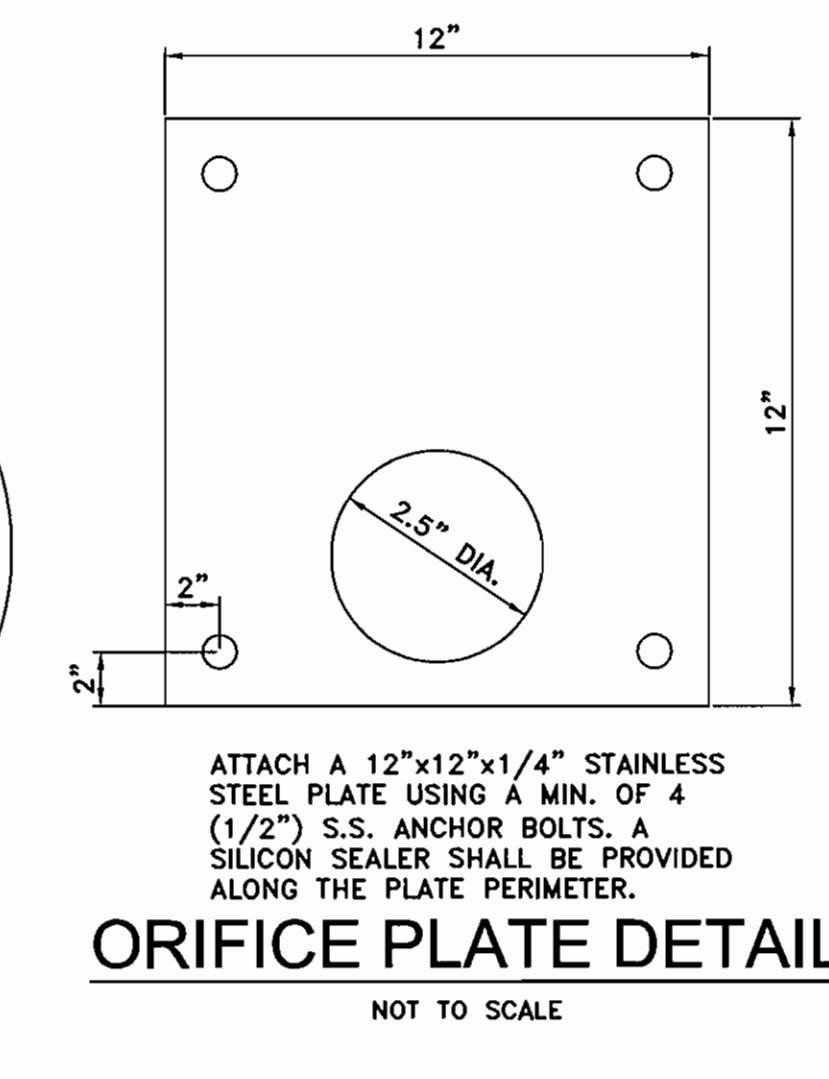
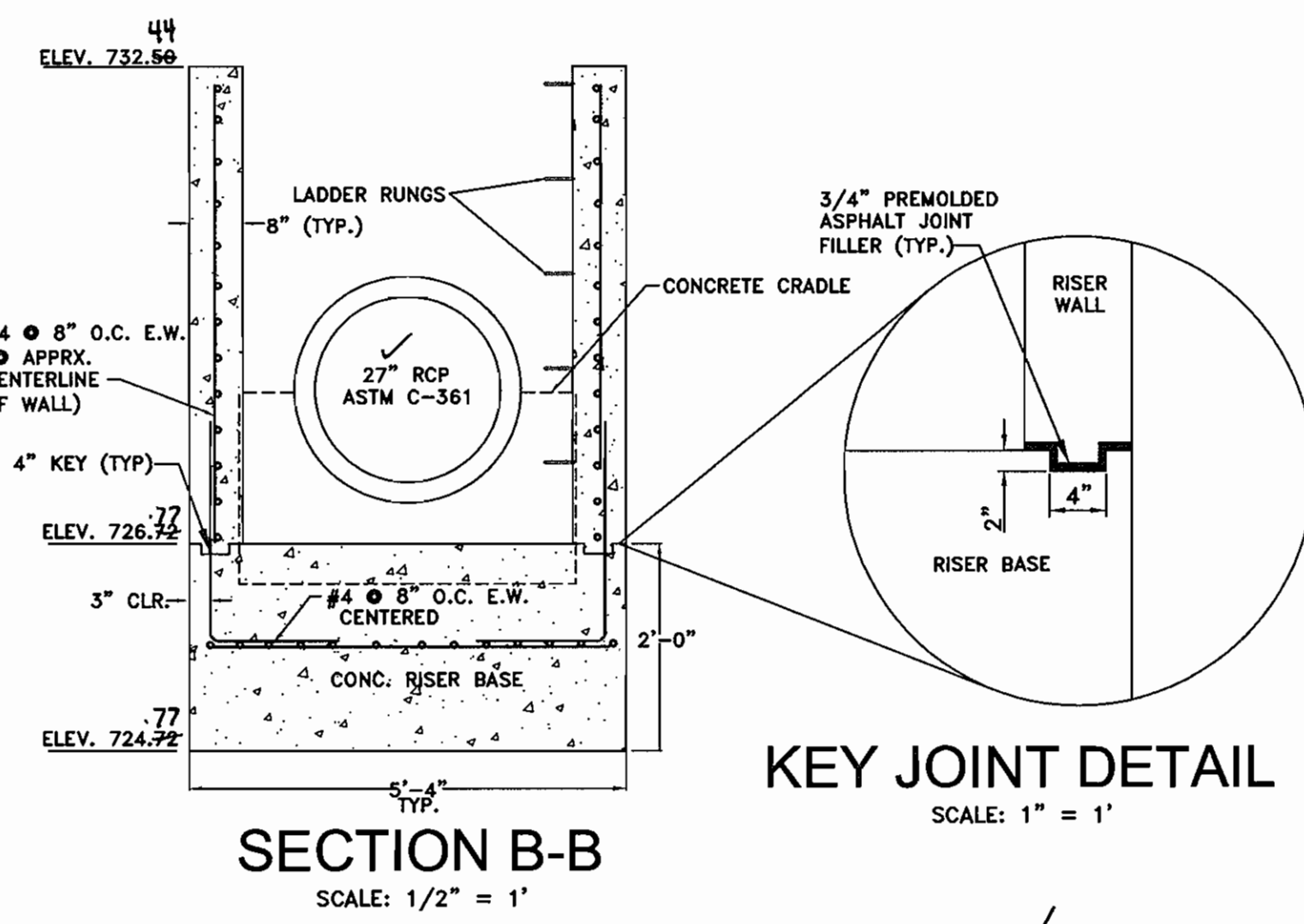
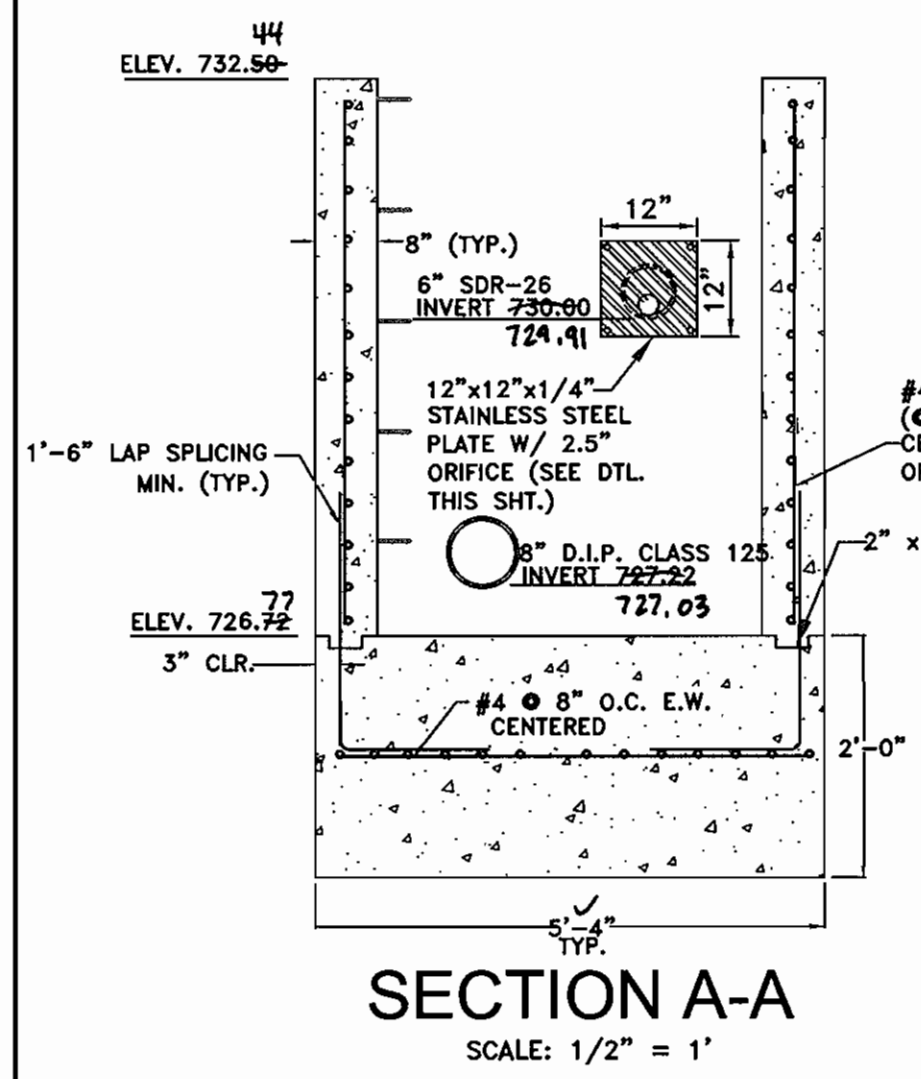
MOUNT AIRY PRESBYTERIAN CHURCH
 17455 OLD FREDERICK ROAD
 STORMWATER MANAGEMENT DETAILS

DATE	REVISION	BY

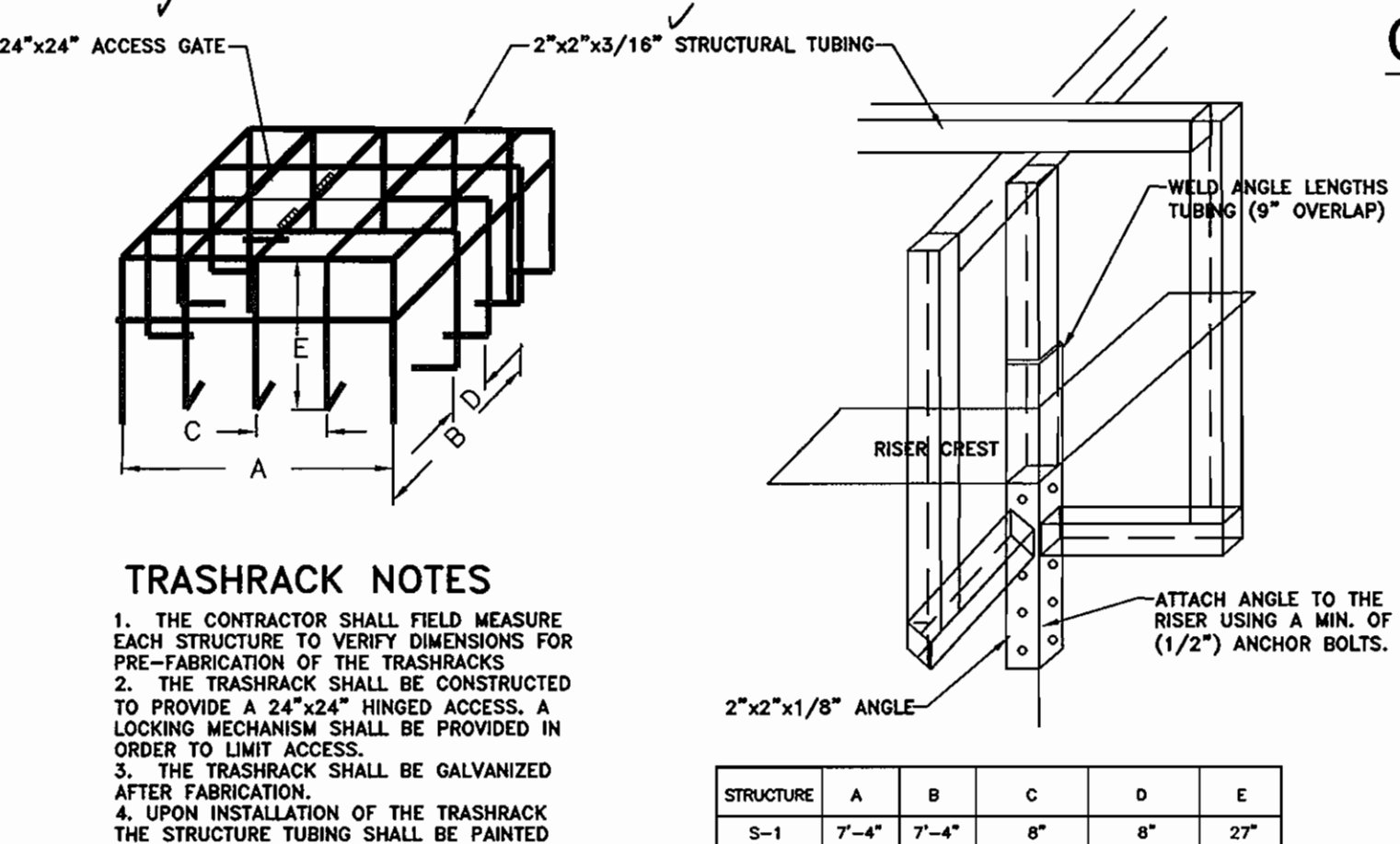
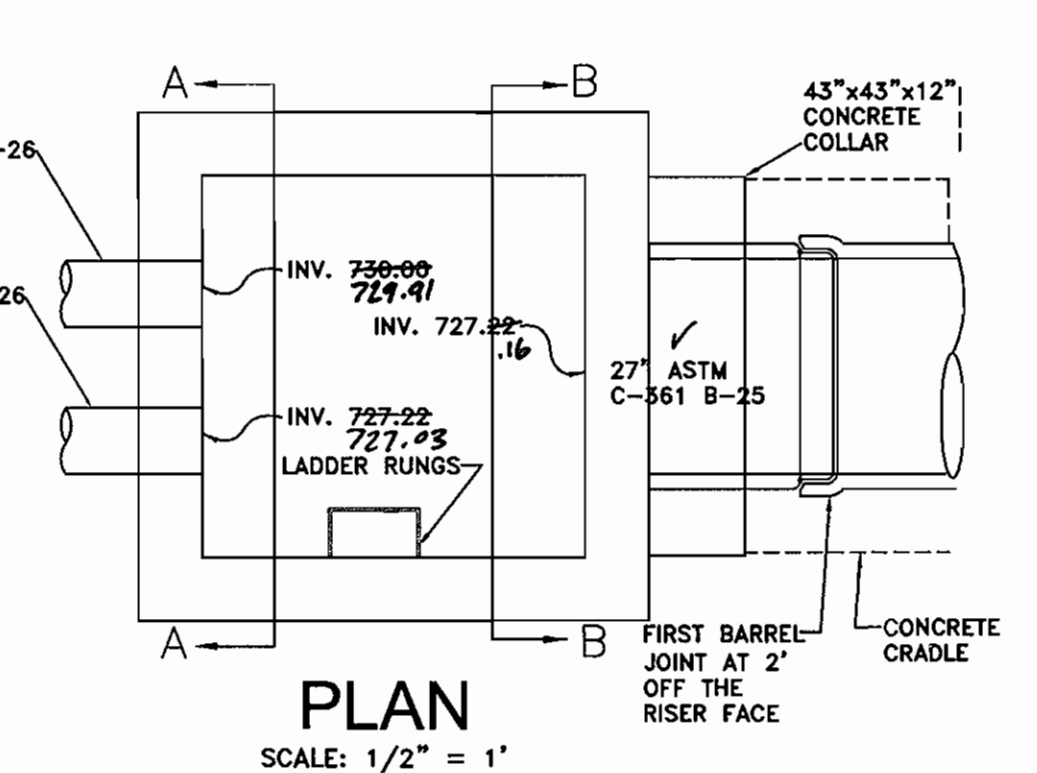
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DRAWING COMPLETED 10-10-06

DESIGNED BY:	SCALE:	TAX MAP:	A.D.C. MAP 2:	JOB #:	SHEET
J.P.D.	AS SHOWN	GR 2	GRID H-7	04009	4
DRAWN BY:	DEED REF.:	PARCEL:	PLAT REF.:	FILES:	NO.
J.P.D.	5158/250	19	N.A.	D:\JOBS\2004\04009\DRAWINGS\SDP\SHEET4.dwg	4
CHECKED BY:	SCALE:	TAX MAP:	A.D.C. MAP 2:	JOB #:	SHEET
J.P.D.	5158/250	GR 2	GRID H-7	04009	4

AS-BUILT 04/02/08
 SDP-06-063

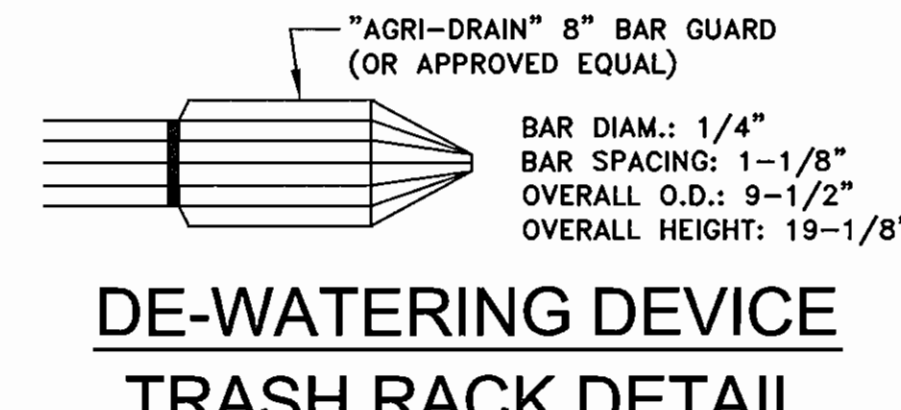


- STRUCTURAL NOTES**
1. CONCRETE CONSTRUCTION SHALL BE DESIGNED, REINFORCED, AND CONSTRUCTED IN ACCORDANCE WITH ACI 318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
 2. CONCRETE SHOWN ON THIS DRAWING SHALL BE SH4 MIX NO. 3.
 3. REINFORCING STEEL SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A618, GRADE 60.
 4. CONTRACTOR MAY (AT HIS OPTION) FURNISH THE RISER STRUCTURES AS PRECAST UNITS, PROVIDED THAT SHOP DRAWINGS OF THE PRECAST STRUCTURES ARE SUBMITTED TO, AND APPROVED BY, THE ENGINEER PRIOR TO CONSTRUCTION.
 5. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" MIN.
 6. TRASH RACK & ORIFICE GRATING ASSEMBLIES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
 7. IF RISERS ARE PRECAST, A WATER-TIGHT CONNECTION SHALL BE PROVIDED BETWEEN THE RISERS AND THE BASES USING WASTIC. THE CONNECTION SHALL BE MADE USING 8 (4x4x3/4) ANGLES WITH 2 (5/8") GALVANIZED ANCHOR BOLTS FOR LEG.
 8. IF RISERS ARE PRECAST, PROVIDE A WATER-TIGHT COLLAR 12" x 12" THICK AT BARREL PIPE CONNECTION AT RISER. IF RISER IS CAST IN PLACE, CAST WALL DIRECTLY AROUND BARREL PIPE TO FORM A WATER-TIGHT SEAL.

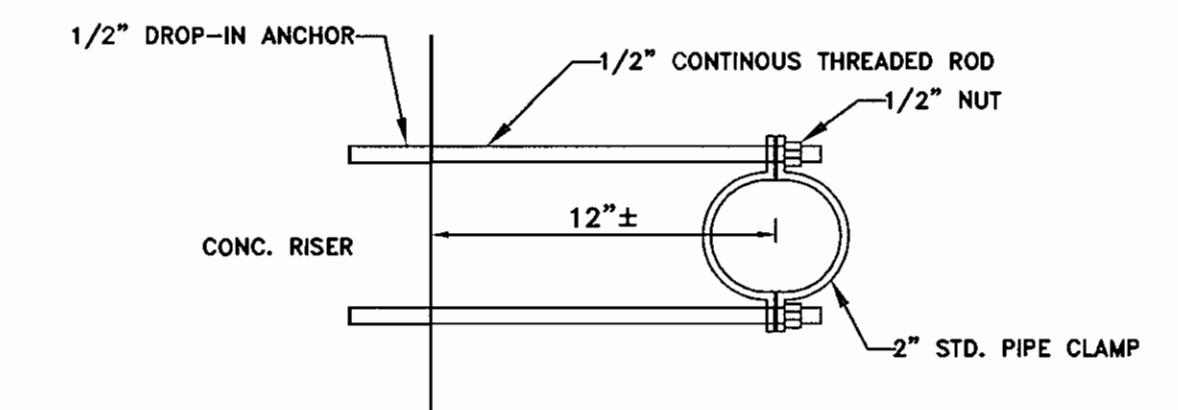


- TRASHRACK NOTES**
1. THE CONTRACTOR SHALL FIELD MEASURE EACH STRUCTURE TO VERIFY DIMENSIONS FOR PRE-FABRICATION OF THE TRASHRACKS.
 2. THE TRASHRACK SHALL BE CONSTRUCTED TO PROVIDE A 24"x24" HINGED ACCESS. A LOCKING MECHANISM SHALL BE PROVIDED IN ORDER TO LIMIT ACCESS.
 3. THE TRASHRACK SHALL BE GALVANIZED AFTER FABRICATION.
 4. UPON INSTALLATION OF THE TRASHRACK THE STRUCTURE TUBING SHALL BE PAINTED WITH BATTLESHIP GREY PAINT.

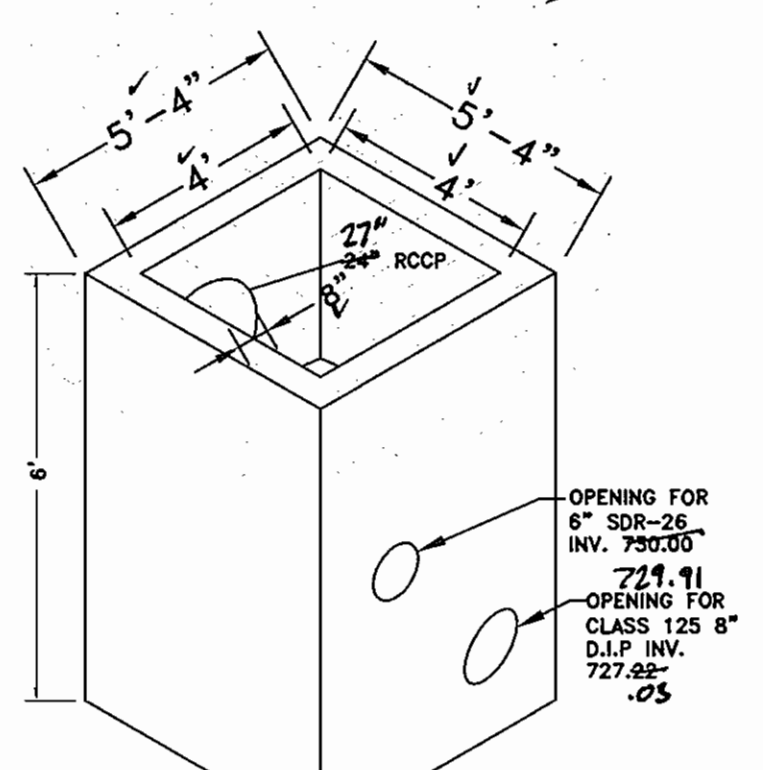
STRUCTURE	A	B	C	D	E
S-1	7'-4"	7'-4"	8"	8"	27"



NOTE: THE ASPHALT JOINT FILLER SHALL BE PLACED BETWEEN ALL CONCRETE SURFACES EXCEPT BETWEEN THE PIPE AND CRADLE.



NOTE: ALL MATERIALS SHALL BE ELECTRO-GALVANIZED.



PIPE SCHEDULE

FROM	TO	PIPE TYPE	SIZE	LENGTH
RS-1	E-1	RCCP	27 24"	93 00'

STRUCTURE SCHEDULE

NO.	STRUCTURE	INVERT IN	INVERT OUT	TOP ELEVATION	NORTHING/EASTING / SEE NOTE BELOW
RS-1	RELEASE STRUCTURE	730.00	727.61	733.50	614,546.21 / 1,277,847.13
		729.91	-10	732.94	

NOTE: RELEASE STRUCTURE IS COORDINATED TO THE CENTERLINE OF THE BOX.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* Date: 11/30/06

Chief, Division of Land Development: *[Signature]* Date: 12/1/06

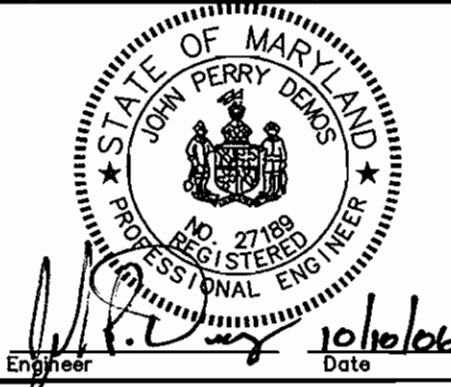
Director: *[Signature]* Date: 12/11/06

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS

County Health Officer: *[Signature]* Date: 11/30/06

Richardson Engineering, LLC

110 Old Padonia Road, Suite LC
Cockeysville, Maryland 21030
Phone: 410-560-1502 Fax: 410-560-0827



OWNERS/DEVELOPERS

MOUNT AIRY PRESBYTERIAN CHURCH, PCA
P.O. BOX 591
MOUNT AIRY, MARYLAND 21771-0591
ATTN: DAVE DETROY
PHONE: 703-404-6549

STORMWATER MANAGEMENT NOTES & DETAILS

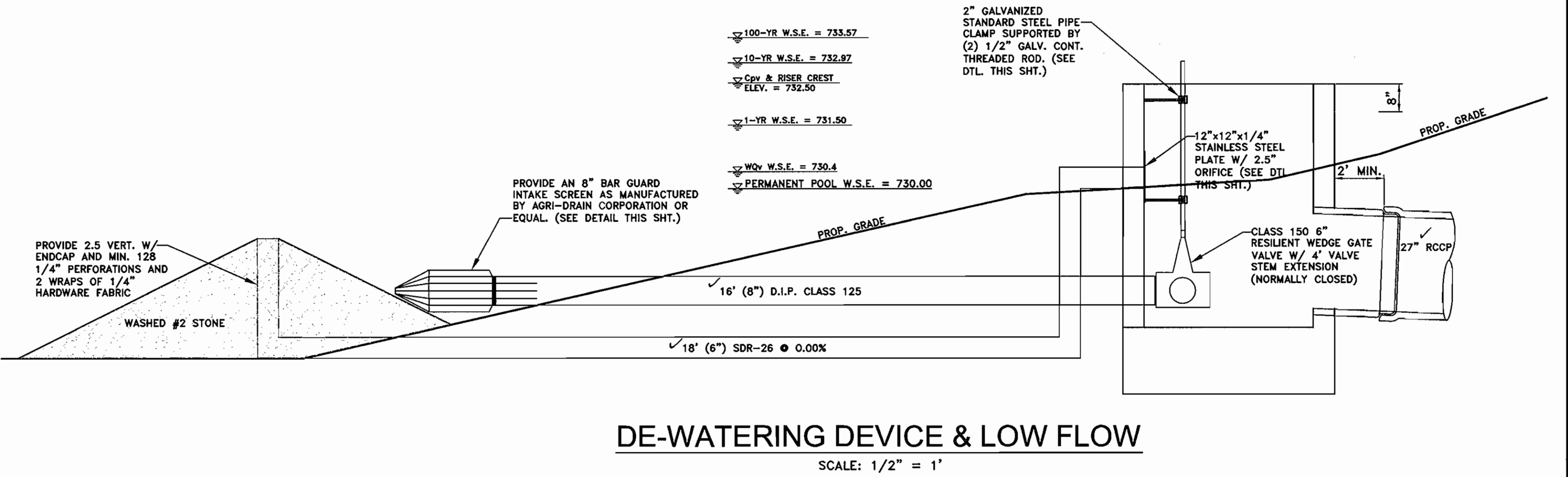
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGNED BY: J.P.D. SCALE: AS SHOWN
DRAWN BY: J.P.D. DEED REF.: 5158/250
CHECKED BY: J.P.D. TAX MAP 2 GRID H-7 PLAT REF.: N.A. PARCEL 13

MOUNT AIRY PRESBYTERIAN CHURCH
17455 OLD FREDERICK ROAD

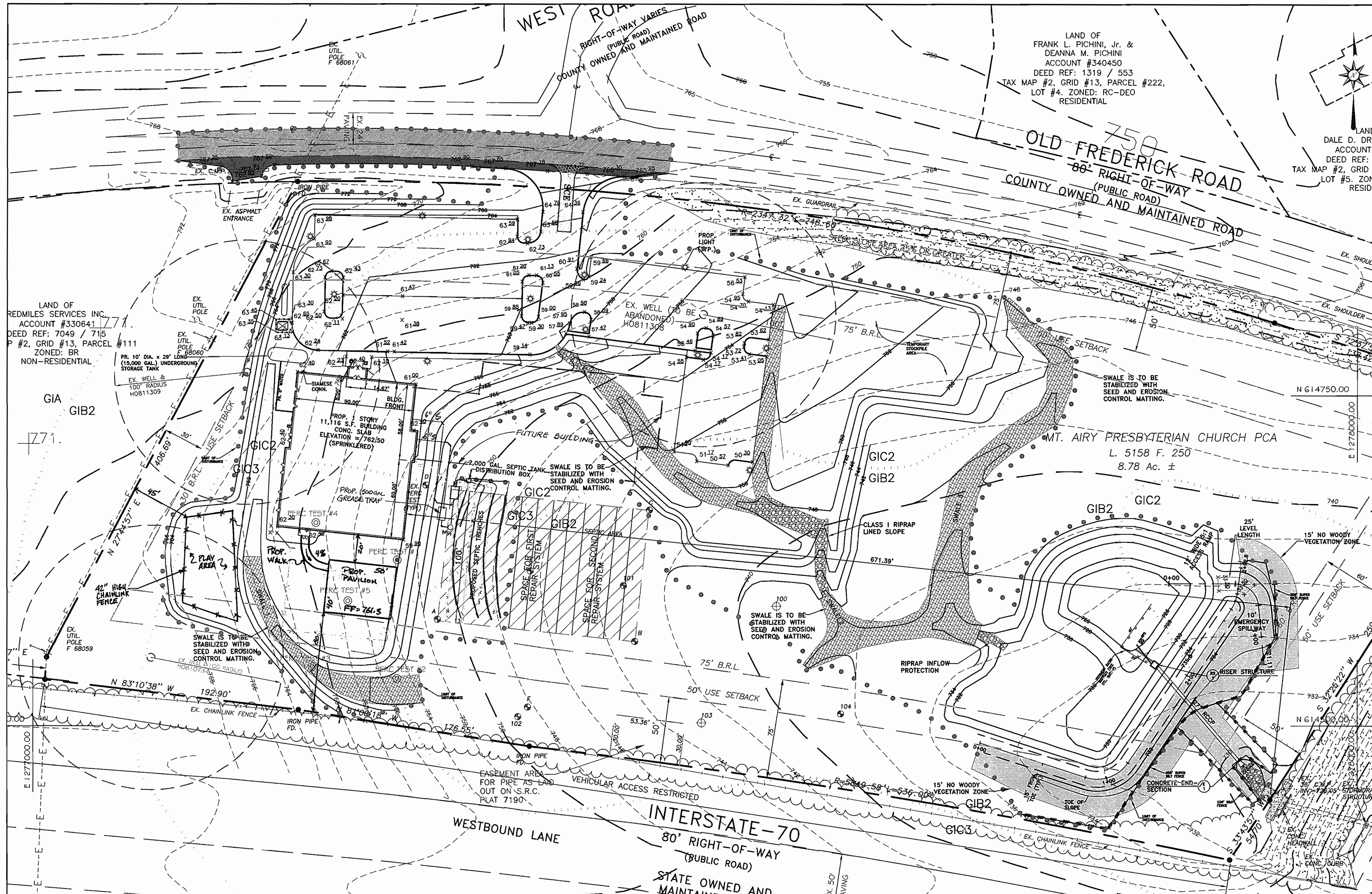
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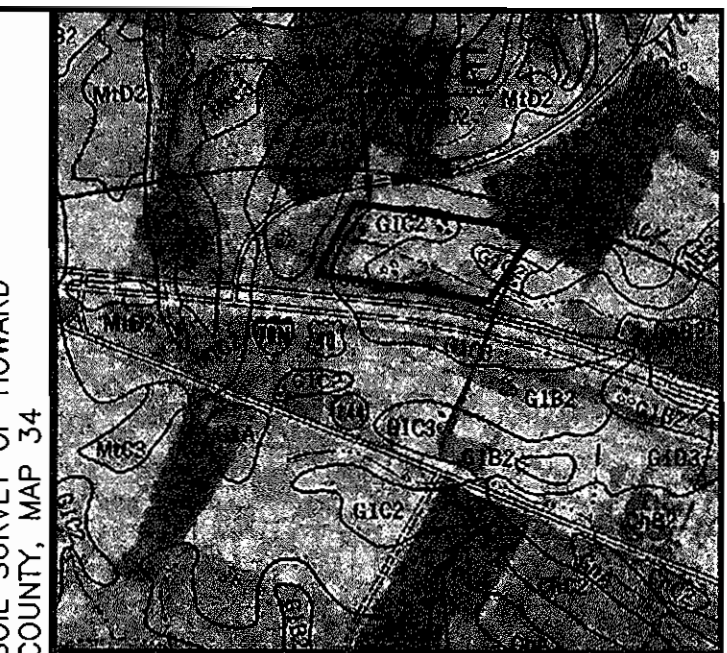
AS-BUILT 04/02/08

SDP-06-063



SOILS DATA

SYMBOL	SOILS TYPE
GIA	GLENELG LOAM, 0-3%
GIB2	GLENELG LOAM, 3-8%
GIC2	GLENELG LOAM, 8-15%
MIC3	MT. AIRY CHANNERY LOAM, 8-15%



SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION AT 410-313-1855 .
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING SEC. G. TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	382,597 SF / 8.78 AC.
AREA DISTURBED	226,813SF 5.21 AC.
AREA TO BE:	
ROOFED OR PAVED	91,476 SF / 2.10 AC.
VEGETATIVELY STABILIZED	135,337 SF / 3.11 AC.
TOTAL CUT	6,674 CU. YDS
TOTAL FILL	12,955 CU. YDS
- OFFSITE WASTE/BORROW AREA LOCATION- A SITE WITH A CURRENTLY ACTIVE GRADING PERMIT.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

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

Jim Myer 11/2/06
 USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

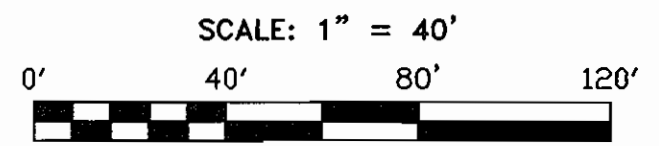
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John P. Demos 11/2/06
 HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE
 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."

John P. Demos 11/2/06
 SIGNATURE OF ENGINEER DATE

SEDIMENT AND EROSION CONTROL PLAN



LEGEND

- 100- EXISTING CONTOUR
- EXISTING PAVED AREAS
- EXISTING BUILDING
- PROPOSED PAVING
- PROPOSED CONTOUR
- SOIL LINES
- SILT FENCE
- SSF-SSF-SSF SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- EROSION CONTROL MATTING
- REMOVABLE PUMP STATION

DEVELOPER'S CERTIFICATE

"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 DAY OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Dave Detro 10/16/06
 SIGNATURE OF DEVELOPER DATE

OWNERS/DEVELOPERS

MOUNT AIRY PRESBYTERIAN CHURCH, PCA
 P.O. BOX 591
 MOUNT AIRY, MARYLAND 21771-0591
 ATTN: DAVE DETROY
 PHONE: 703-404-6549

GRADING & SEDIMENT AND EROSION CONTROL PLAN

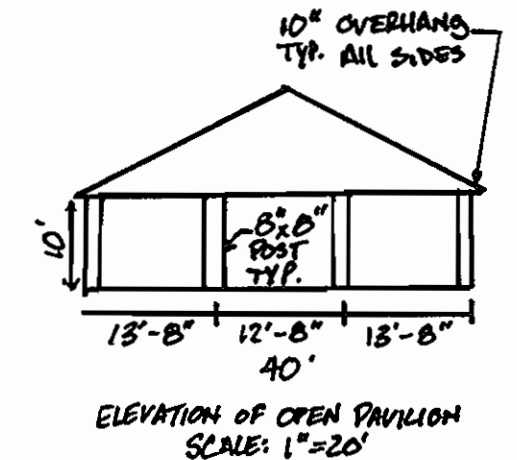
DESIGNED BY:	J.P.D.	SCALE	TAX MAP
DRAWN BY:	J.P.D.	AS SHOWN	2
CHECKED BY:	J.P.D.	DEED REF.	GRID H-7
		5158/250	PLAT REF.
			N.A.

SOIL CONSERVATION DISTRICT

DATE	11/2/06	PROJ. PAVILION & PLAY AREA	CND
DATE	01/18/07	REV. SEPTIC SYSTEM	PER
DATE		REVISION	BY
DRAWING COMPLETED	10-10-06	JOB #	04009
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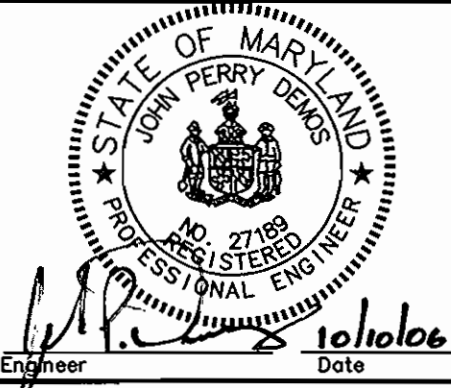
APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 11/5/06
 Chief, Development Engineering Division Date
[Signature] 12/7/06
 Chief, Division of Land Development Date
[Signature] 12/11/06
 Director Date

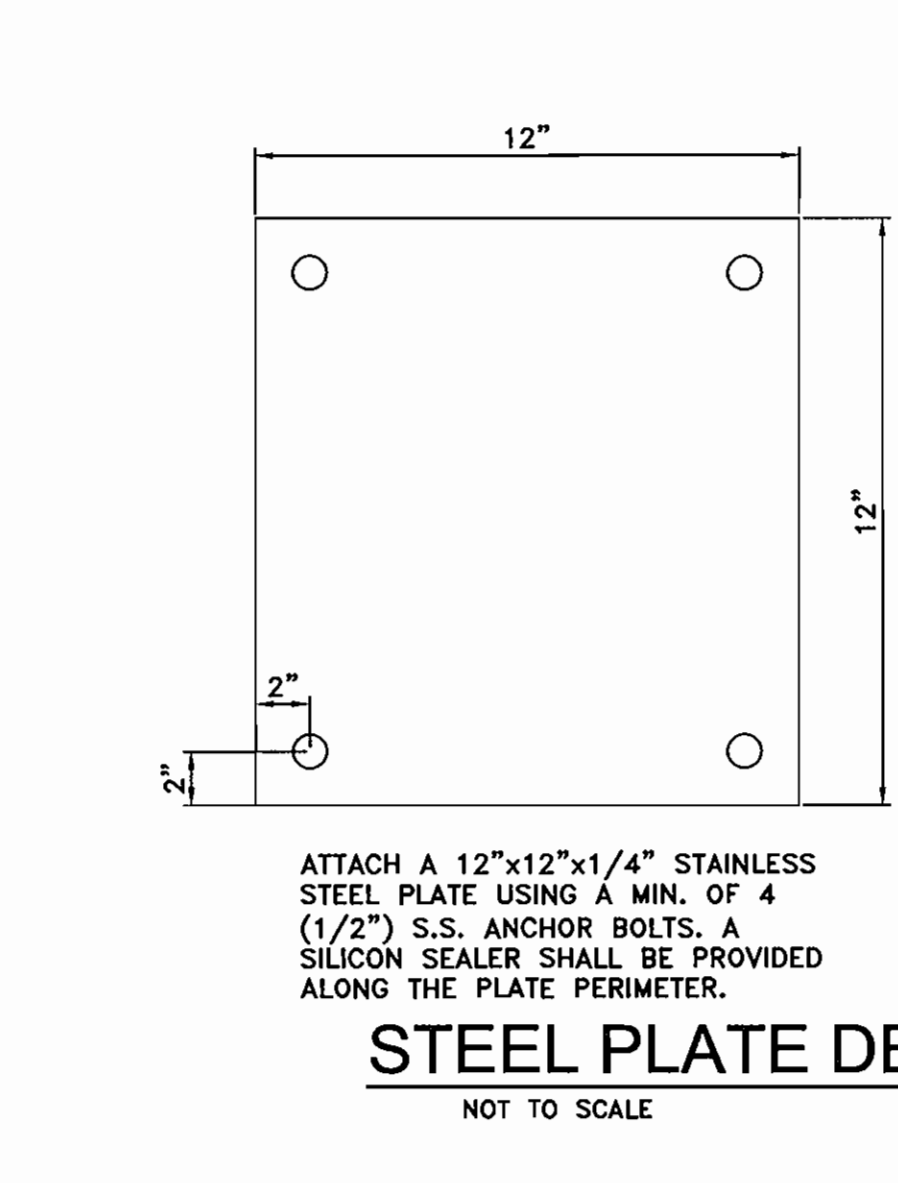
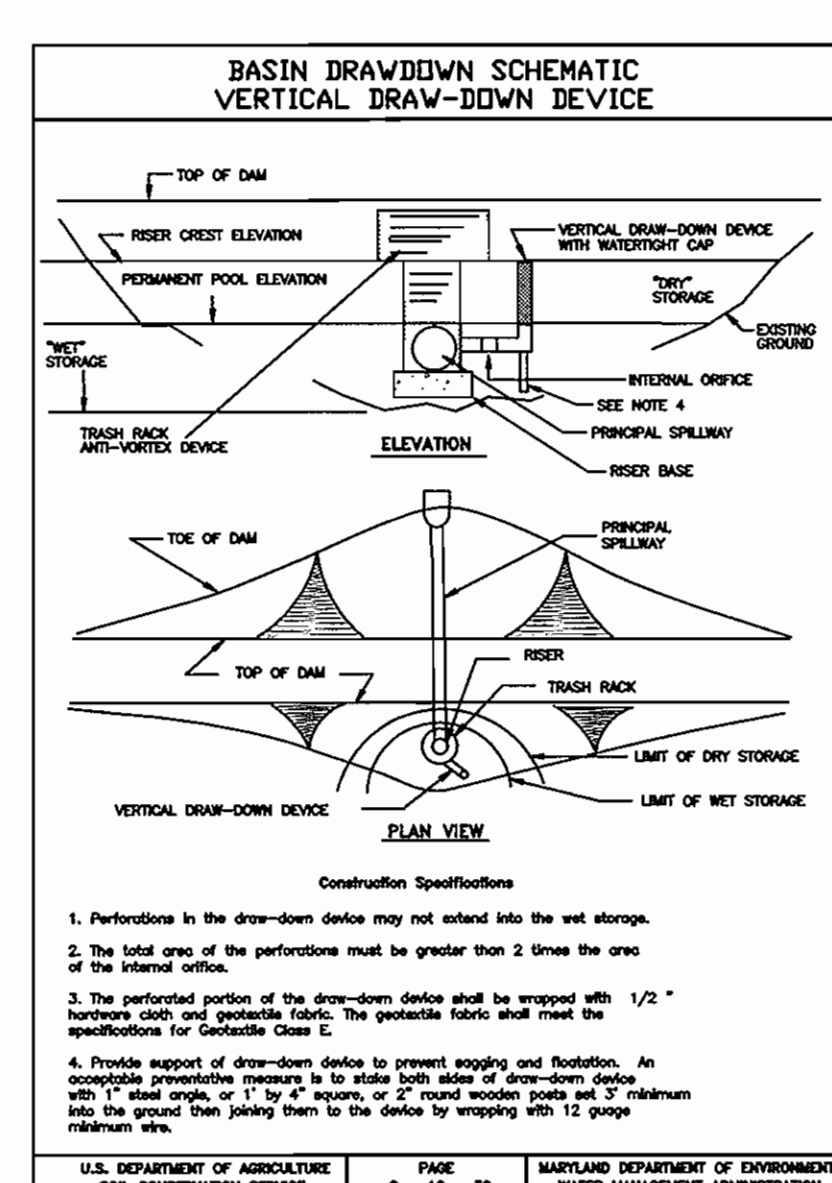
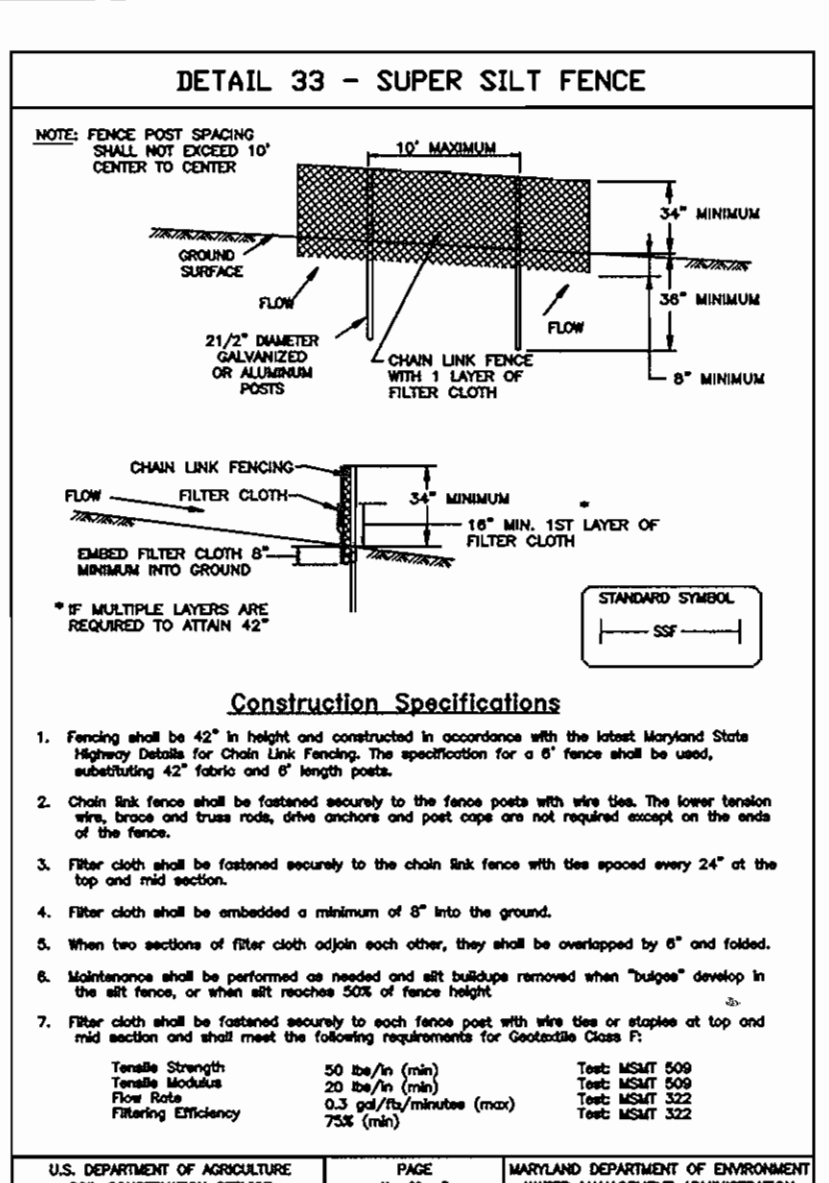
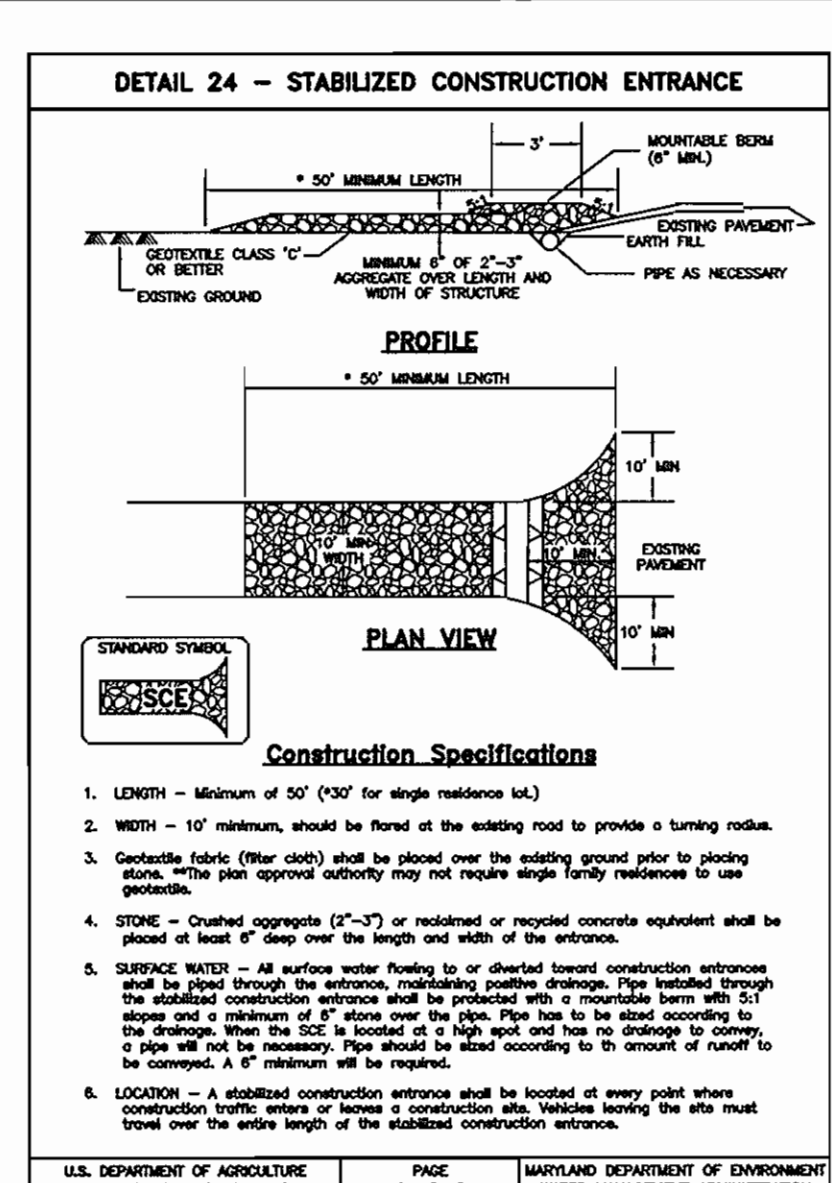
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS
[Signature] 11/30/06
 County Health Officer Date
 Howard County Health Department



Richardson Engineering, LLC
 110 Old Padonia Road, Suite LC
 Cockeysville, Maryland 21030
 Phone: 410-560-1502 Fax: 410-560-0827

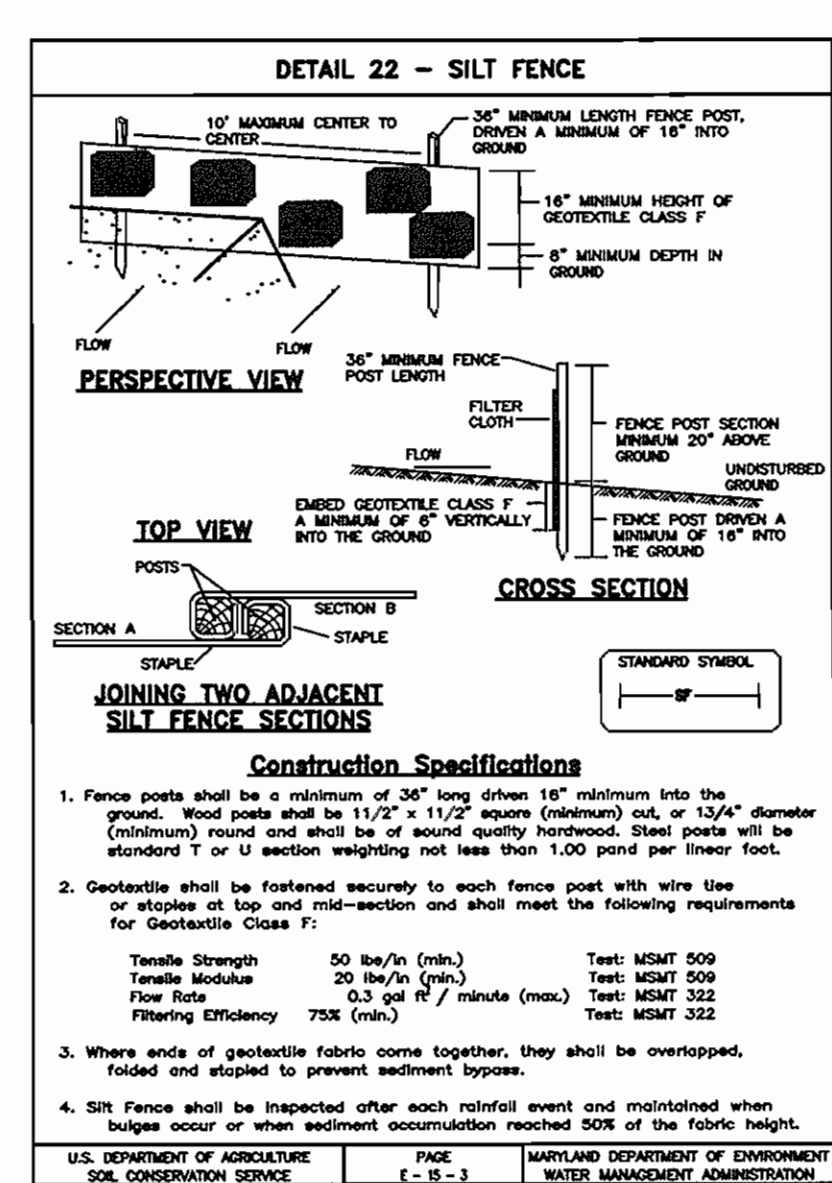
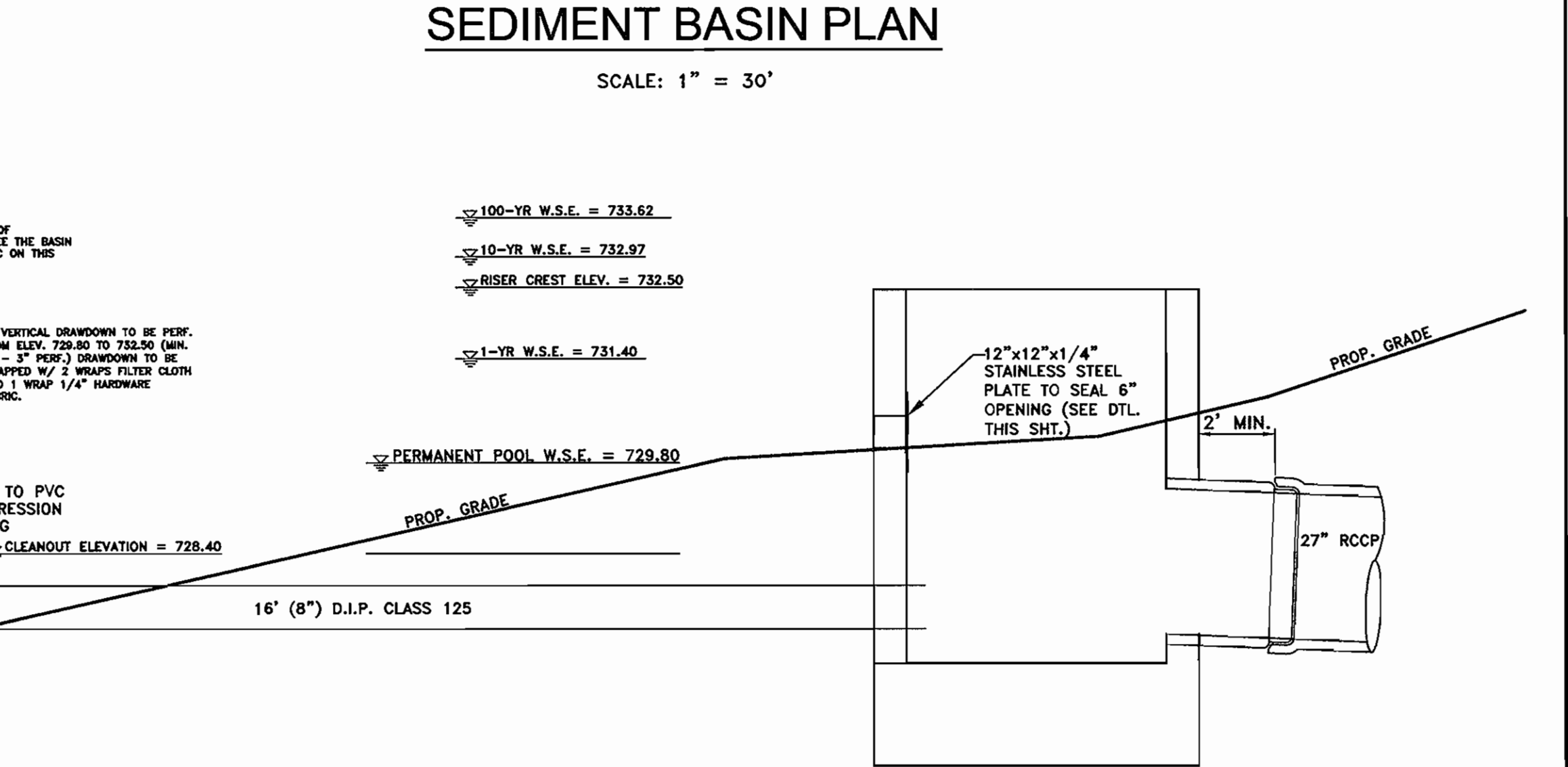
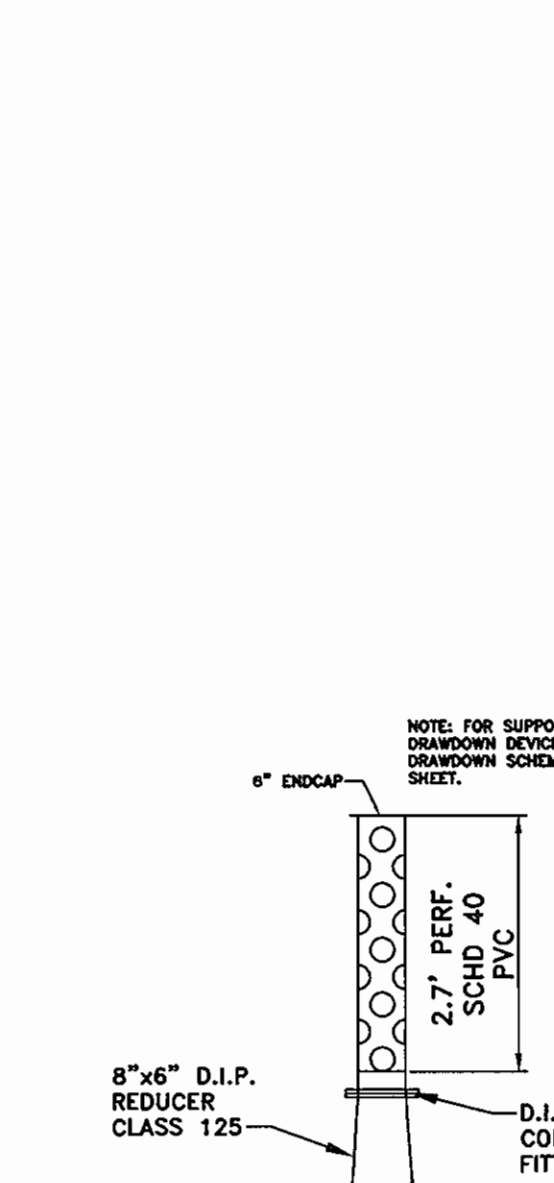
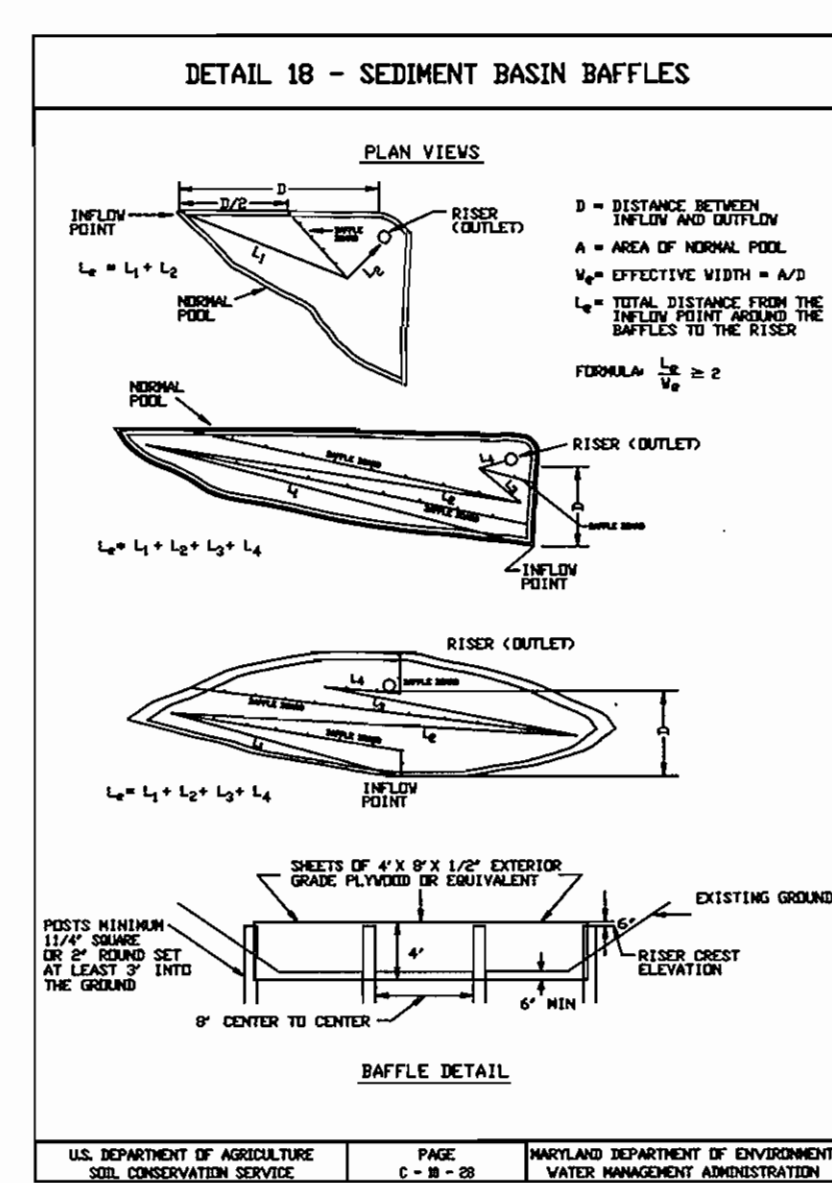
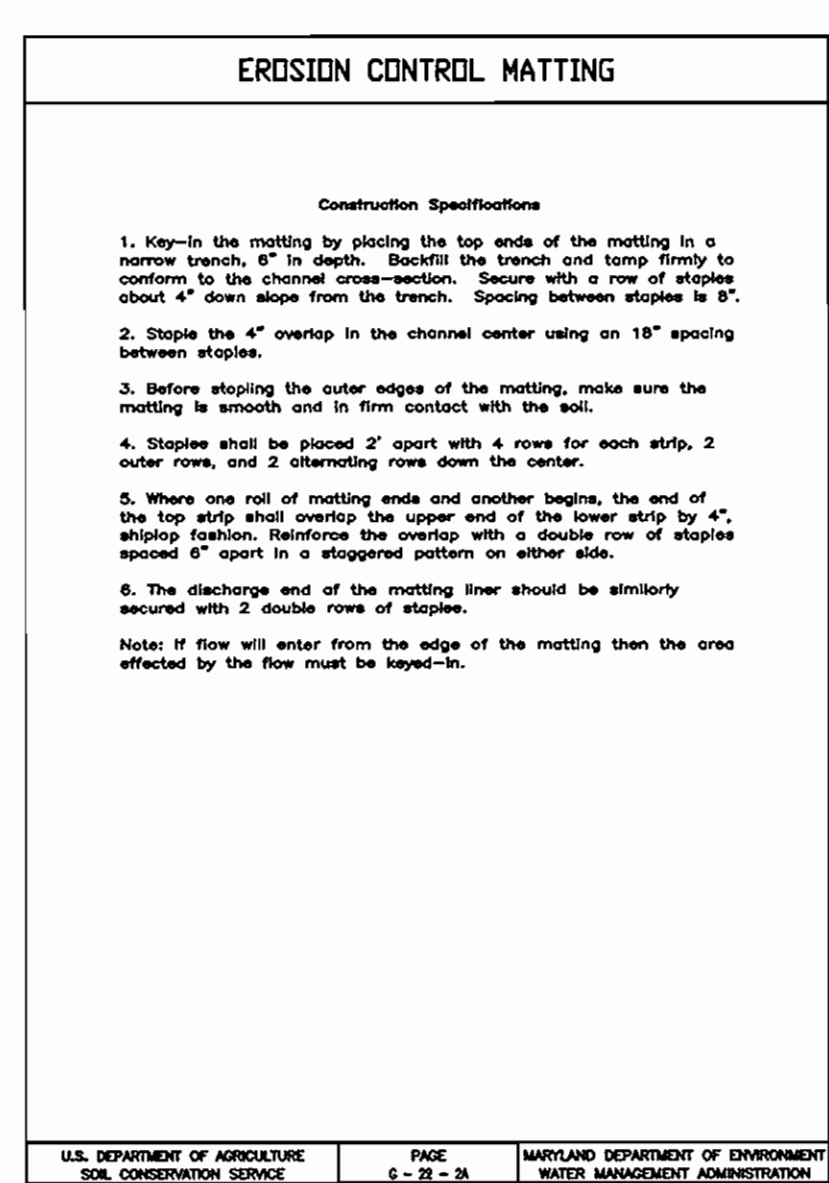
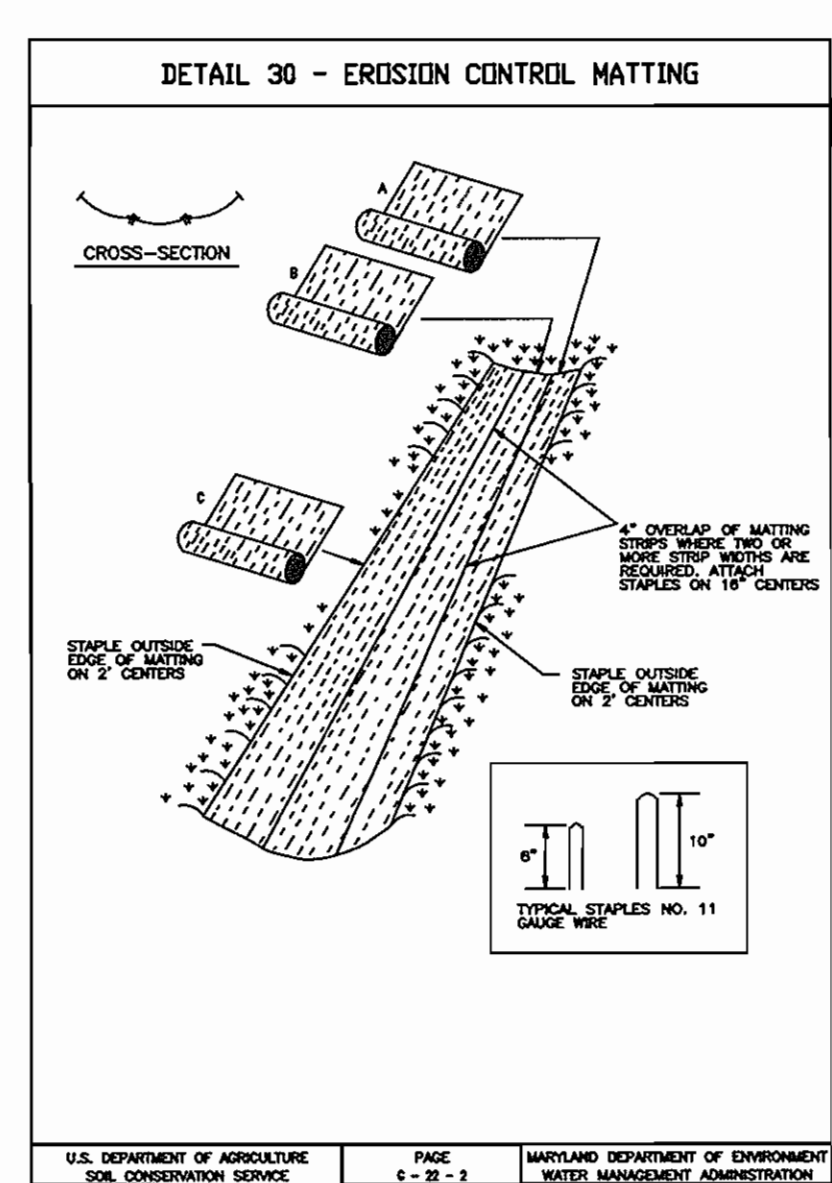
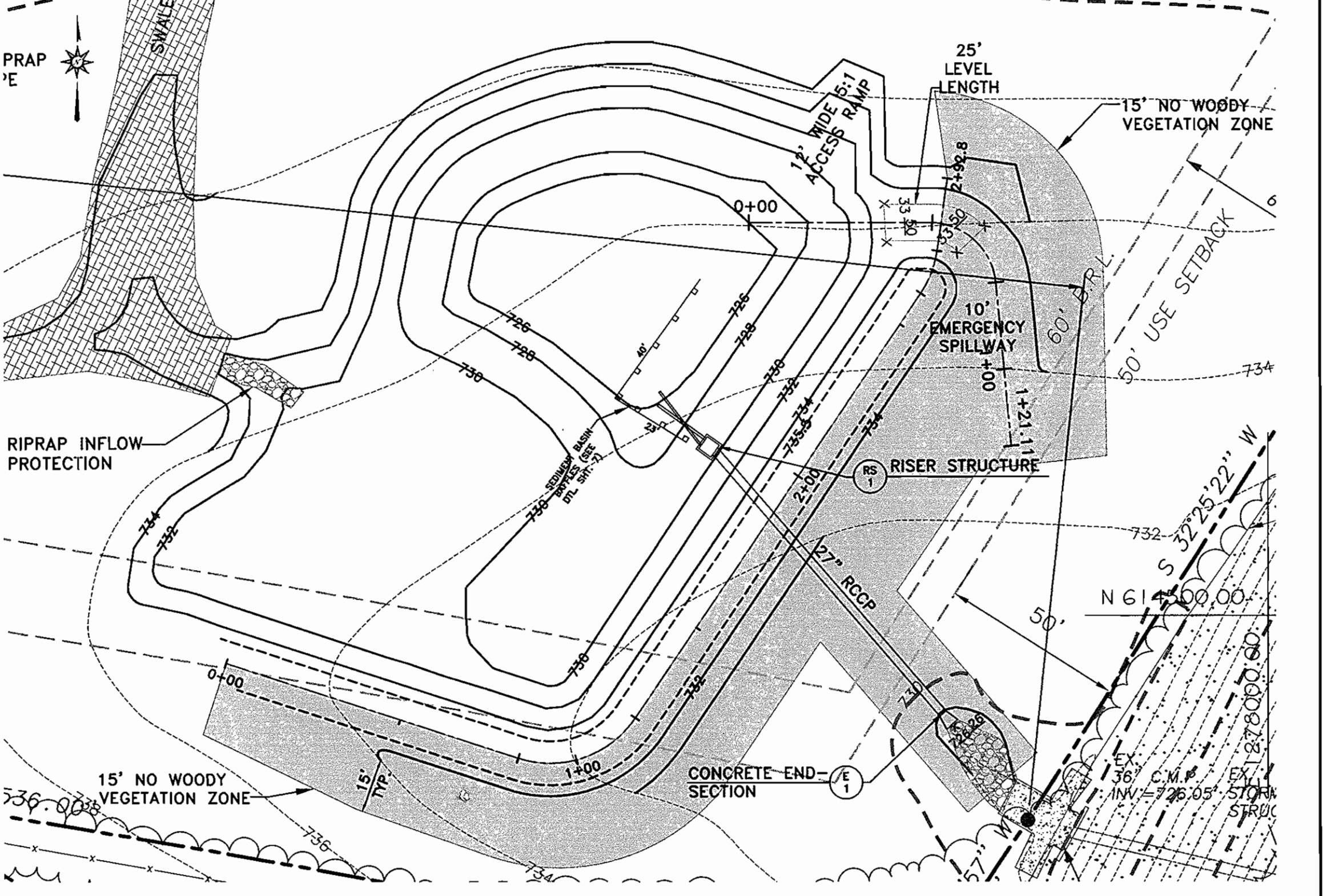
[Signature] 10/16/06
 ENGINEER DATE





SEDIMENT BASIN 1 DATA

D.A. (EXISTING & PROPOSED)	12.53 AC.
FACILITY CLASSIFICATION	"A"
STOR. REQ'D (WET & DRY)	45,108 C.F.
STOR. PROVID (WET & DRY)	45,108 C.F.
PRE-DISTURBANCE Q1	3.8 CFS
POST-DISTURBANCE Q1	1.9 CFS
WEIR LENGTH / BARREL SIZE	16' / 27"
RISER CREST EL.	732.50 FT.
PERMANENT POOL EL.	729.80 FT.
Basin Cleanout EL.	728.40 FT.
INSIDE SLOPES	3:1
EMBANKMENT WIDTH	12.0'
TOP BASIN ELEV.	735.90'
BASIN DIMENSIONS	84'x91'
BASIN INVERT	726.00



DEVELOPER'S CERTIFICATE

"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 DAY OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

David De Troie 10/16/06
 SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATE

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."

John P. Deane 10/16/06
 SIGNATURE OF ENGINEER DATE

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

Jim Meyer 10/16/06
 USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John P. Deane 10/16/06
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division 11/30/06
 Chief, Division of Land Development 12/7/06
 Director 12/11/06

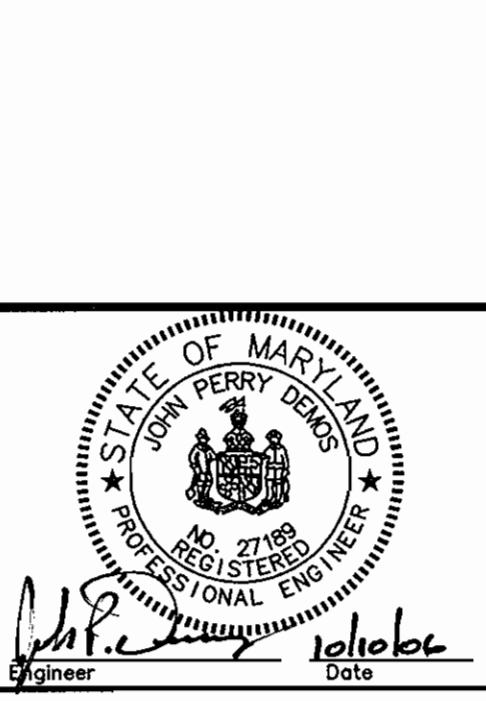
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS
 County Health Officer 11/30/06
 Howard County Health Department

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division 11/30/06
 Chief, Division of Land Development 12/7/06
 Director 12/11/06

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS
 County Health Officer 11/30/06
 Howard County Health Department

Richardson Engineering, LLC

110 Old Padonia Road, Suite LC
 Cockeysville, Maryland 21030
 Phone: 410-560-1502 Fax: 410-560-0827



OWNERS/DEVELOPERS		MOUNT AIRY PRESBYTERIAN CHURCH, PCA P.O. BOX 591 MOUNT AIRY, MARYLAND 21771-0591 ATTN: DAVE DETROY PHONE: 703-404-6549	
MOUNT AIRY PRESBYTERIAN CHURCH 17455 OLD FREDERICK ROAD SEDIMENT AND EROSION CONTROL DETAILS		FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
DESIGNED BY: J.P.D.	SCALE: AS SHOWN	TAX MAP 2	A.D.C. MAP 2
DRAWN BY: J.P.D.	DEED REF. 5158/250	GRID 19	GRID H-7
CHECKED BY: J.P.D.	PARCEL 13	PLAT REF. N.A.	DATE 10-10-06
JOB # 04009		SHEET NO. 7 OF 10	
DRAWINGS: SDP\SHEET7.dwg		FILES: D:\JOBS\2004\04009\DRAWINGS\SDP\SHEET7.dwg	

SDP-06-063

TOPSOIL SPECIFICATIONS

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

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

CONDITIONS WHERE PRACTICE APPLIES

- I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - D. THE SOIL IS SO ACID/PH: THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS -- SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

A. 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. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2" IN DIAMETER.

B. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

C. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS/1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

III. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS & MATERIALS.

TOPSOIL APPLICATION

I. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS & BASINS.

II. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" OR 8" HIGHER IN ELEVATION.

III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"-8" LAYER AND SLIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

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.

GENERAL NOTES

1. THE CONTRACTOR/OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS. NO FURTHER CONSTRUCTION ACTIVITY SHALL TAKE PLACE UNTIL ALL REQUIRED PERMITS HAVE BEEN OBTAINED.

2. THE LIMITS OF DISTURBANCE SHALL BE CLEARLY DELINEATED IN THE FIELD PRIOR TO GRADING OF THE SITE TO ENSURE COMPLIANCE WITH APPROVED PLANS. ANY WORK BEYOND LIMITS OF DISTURBANCE IS CONSIDERED TO BE A VIOLATION OF THIS PLAN.

3. ALL SEDIMENT CONTROL PRACTICES MUST BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY. UPON COMPLETION OF INSTALLATION OF PERIMETER SEDIMENT CONTROL PRACTICES, THE SITE MUST BE INSPECTED BY DPW. NO ADDITIONAL CONSTRUCTION ACTIVITY WILL BE AUTHORIZED WITHOUT THE APPROVAL OF DPW.

4. ALL POINTS OF INGRESS AND EGRESS SHALL BE PROTECTED TO PREVENT TRACKING OF MUD INTO PUBLIC WAYS. DURING CONSTRUCTION, EVERY MEANS WILL BE TAKEN TO CONTROL SOIL EROSION AND SILTATION. IF NECESSARY, A WASH RACK MAY NEED TO BE ESTABLISHED.

5. EARTH DIKES, SEDIMENT TRAPS, ETC. WILL BE LOCATED AS SHOWN ON THESE DRAWINGS. FIELD CHANGES AND MINOR ADJUSTMENTS ARE PERMISSIBLE AS LONG AS THE INSTALLATION FUNCTIONS AND CONFORMS TO SPECIFICATIONS. ALL SUCH CHANGES MUST BE APPROVED BY THE SITE INSPECTOR PRIOR TO INSTALLATION. MAJOR CHANGES TO THE APPROVED PLAN WILL REQUIRE REAPPROVAL BY THE HOWARD SOIL CONSERVATION DISTRICT.

6. FOLLOWING INITIAL SOIL DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

- A. SEVEN CALENDAR DAYS ON SLOPES GREATER THAN 3:1 AND ALL WATERWAYS, AND TO THE SURFACE OF ALL PERIMETER CONTROLS.
- B. FOURTEEN CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS OF THE PROJECT SITE.

7. SEDIMENT BASINS MUST BE BUILT TO DESIGN SPECIFICATIONS SHOWN. IF THE BASIN IS TO BE USED AS A FUTURE SWM POND, THE BASIN WILL BE BUILT IN ACCORDANCE WITH THE LATEST MD-378 SPECIFICATIONS. SPECIFIED MATERIALS MUST BE USED. NO CHANGES OR MODIFICATIONS WILL BE MADE WITHOUT WRITTEN AUTHORIZATION OF THE HOWARD SOIL CONSERVATION DISTRICT.

8. TEMPORARY FENCING SHALL BE PLACED AROUND ALL SEDIMENT BASINS, TRAPS, AND PONDS DURING CONSTRUCTION AND SITE GRADING.

9. AT THE END OF EACH WORKING DAY ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT OPERATIONAL. A WEEKLY LOG WILL BE KEPT IN ACCORDANCE WITH NOI/NPDES REGULATIONS. A COPY OF THE APPROVED SEDIMENT CONTROL PLANS SHALL BE AVAILABLE AT THE SITE AT ALL TIMES.

10. CUT AND/OR FILL SHALL BE DONE IN CONFORMANCE WITH 1994 EROSION AND SEDIMENT CONTROL STANDARD AND SPECIFICATIONS FOR LAND GRADING.

11. SURFACE FLOWS OVER CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER REDIRECTING FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO SAFELY CONVEY WATER DOWN SLOPES WITHOUT CAUSING EROSION.

12. OFF-SITE WASTE OR BORROW AREAS SHALL HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN PRIOR TO THE IMPORT OR EXPORT OF MATERIAL TO THE PROJECT SITE.

13. ALL MATERIAL ORIGINATING FROM THE DEVELOPMENT OF THE PROPERTY AND DEPOSITED ON THE PUBLIC RIGHT-OF-WAY SHALL BE IMMEDIATELY REMOVED.

14. STORM DRAIN INLETS AND OUTLETS SHALL BE PROTECTED PER 1994 EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS.

15. TOPSOILING, LIMING, FERTILIZING, SEEDING, MULCHING, SADDLING, ETC. ARE ALL ESSENTIAL PARTS OF SEDIMENT CONTROL AND MUST BE COMPLETED ALONG WITH ALL OTHER PRACTICES.

16. TRAPS TO BE REMOVED SHALL BE DEWATERED AS PER THE 1994 EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS.

17. PRIOR TO REMOVAL OR CONVERSION OF SEDIMENT BASINS TO SWM FACILITIES, THE STORM DRAINS WILL BE FLUSHED.

18. SEDIMENT CONTROL PRACTICES WILL BE MAINTAINED UNTIL ALL DISTURBED AREAS FOR WHICH PRACTICES WERE INSTALLED HAVE BEEN STABILIZED. SEDIMENT CONTROL PRACTICES MAY BE REMOVED ONLY WITH THE AUTHORIZATION OF DPW. ALL DISTURBED AREAS RESULTING FROM THE REMOVAL OF SEDIMENT CONTROL DEVICES SHALL BE STABILIZED IMMEDIATELY. REMOVAL PRIOR TO INSPECTOR APPROVAL CONSTITUTES A VIOLATION.

SEQUENCE OF CONSTRUCTION

1. INITIAL GRADING PERMIT AND NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES & PERMITS AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBANCE @ 410-313-2455.

2. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SUPER SILT FENCE AT LOCATIONS SHOWN ON PLAN. (2 DAYS)

3. UPON RECEIVING NOTIFICATION TO PROCEED FROM THE INSPECTOR, BEGIN SITE GRADING ONLY FOR CONSTRUCTION OF THE SEDIMENT BASIN. (10 DAYS)

4. THE SEDIMENT BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GRADING AS INDICATED ON THE SEDIMENT AND EROSION CONTROL PLANS.

5. UPON COMPLETION OF THE BASIN AND RECEIVING NOTIFICATION TO PROCEED FROM THE INSPECTOR, BEGIN SITE GRADING. CONSTRUCTION AND STABILIZATION OF SWALES 1, 2 & 3 SHALL TAKE PLACE AS SOON AS SITE GRADING ALLOWS. (30 DAYS)

6. BEGIN BUILDING CONSTRUCTION. (120 DAYS)

7. INSTALL STONE BASE IN AREAS TO BE PAVED AND CONSTRUCT SIDEWALKS. (15 DAYS)

8. CONSTRUCT OLD FREDERICK ROAD WIDENING AND ENTRANCE IMPROVEMENTS. (10 DAYS)

9. INSTALL PAVING. (5 DAYS)

10. FINE GRADE REMAINING AREAS AND PROVIDE PERMANENT STABILIZATION. (2 DAYS)

11. WITH APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR BEGIN CONVERSION OF THE SEDIMENT BASIN TO FINAL STORMWATER MANAGEMENT SCHEME. (10 DAYS)

12. STABILIZE AREAS DISTURBED AS A RESULT OF SEDIMENT BASIN CONVERSION. (1 DAY)

13. WITH APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR REMOVE ANY REMAINING SEDIMENT CONTROL AND STABILIZE AREAS DISTURBED AS PART OF THE REMOVAL. (2 DAYS)

20.0 STANDARD AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.

1. Perform all grading operations at right angles to the slope. Final grading and shaping is necessary for all erosion control structures.

2. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.

3. Soil amendment (fertilizer and lime specifications)
a. Soil tests must be performed to determine the exact ratios and application rates for fertilizers on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.

b. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Humus may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable State Fertilizer laws and shall bear the name, trade name or trademarks and warranties of the producer.

c. Line materials shall be ground limestone (hydrated or burnt lime) may be substituted with content at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.

d. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

C. Seedbed Preparation
1. Temporary Seeding
a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disk harrows or chisel plows or ripper mounted on construction equipment.

b. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should be graded low and high to the contour of the slope with ridges running parallel to the contour of the slope.

c. Apply fertilizer and lime as prescribed on plans.

d. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

e. Minimum soil conditions required for permanent vegetative establishment
1. Soil pH shall be between 6.0 and 7.5.
2. Soluble salts shall be less than 500 parts per million (ppm).
3. The soil shall contain less than 40% clay but enough fine grained material (>200' sieve) to provide a moderate amount of moisture. An exception is if loamess or serecia lepedeate (less than a sandy soil (<200' sieve plus clay) would be acceptable.

4. Soil shall contain 1.5% minimum organic matter by weight.

5. Soil must contain sufficient pore space to permit adequate root penetration.

6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3 - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding into gullies.

c. Apply soil amendments as per soil test or as included on the plans.

d. Mix soil amendments into the top 3 - 5" of topsoil by disking or other suitable means. Low areas should be rolled to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be graded by a dozer, leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 - 3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications
1. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job. Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.

ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used after the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80°F can weaken bacteria and make the inoculant less effective.

E. Method of Seeding
i. Hydroseeding - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.

a. If fertilizer is being applied at the time of seeding, the application rate amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total of soluble nitrogen (P2O5 (phosphorous) 200/lb/acre) K2O (potassium) 200 lbs/acre.

b. Lime - Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.

c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

ii. Dry Seeding - This includes use of conventional drop or broadcast spreaders.

a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.

b. Where practical, seed should be applied in two directions perpendicular to each other, apply the seed in each direction.

iii. Drill or Cultipacker Seeding - Mechanized seeders that apply and cover seed with soil.

a. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.

b. Where practical, seed should be applied in two directions perpendicular to each other apply half the seeding rate in each direction.

F. Mulch Specifications (in order of preference)
i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, colored, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

DEVELOPER'S CERTIFICATE

"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 DAY OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Signature: *Diana DeTroye* DATE: 10/11/06

SIGNATURE OF DEVELOPER
PRINT NAME BELOW SIGNATURE

ENGINEER'S CERTIFICATE

BY THE ENGINEER:
"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE AND COMPLIANT 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: *Jack P. Demas* DATE: 10/12/06

SIGNATURE OF ENGINEER
PRINT NAME BELOW SIGNATURE

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

Signature: *Jim Murray* DATE: 10/12/06

USDA-NATURAL RESOURCE
CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *John J. ...* DATE: 10/12/06

HOWARD SOIL CONSERVATION DISTRICT DATE

Permanent Seeding Summary

No.	Species	Application Rate (lb/acre)	Seeding Depth	Fertilizer Rate (10-20-20)	Lime Rate
1	GRASS MIXTURE (PERMANENT)	150	3/4" - 4/8"	20 lb/acre 1000 lb/acre	2 lb/acre 1000 lb/acre
2	WHEAT	110	3/4" - 4/8"	20 lb/acre 1000 lb/acre	2 lb/acre 1000 lb/acre

Temporary Seeding Summary

No.	Species	Application Rate (lb/acre)	Seeding Depth	Fertilizer Rate (10-20-20)	Lime Rate
1	PERMANENT	140	3/4" - 4/8"	20 lb/acre 1000 lb/acre	2 lb/acre 1000 lb/acre
2	WHEAT	110	3/4" - 4/8"	20 lb/acre 1000 lb/acre	2 lb/acre 1000 lb/acre
3	WHEAT	30	3/4" - 4/8"	20 lb/acre 1000 lb/acre	2 lb/acre 1000 lb/acre

* FOR HYDROSEEDING OR DRY SEEDING, APPLY AT SURFACE FOR DRILL OR CULTIPACKER SEEDING DEPTH = 1/4" MIN.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* Date: 11/5/06

Chief, Division of Land Development: *[Signature]* Date: 12/7/06

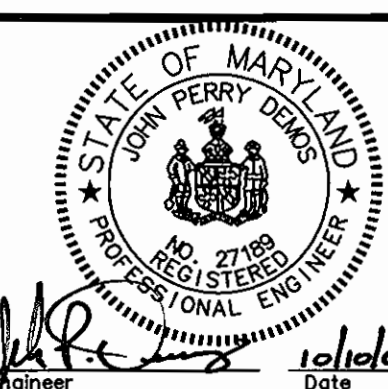
Director: *[Signature]* Date: 12/11/06

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS

County Health Officer: *[Signature]* Date: 11/30/06

Richardson Engineering, LLC

110 Old Padonia Road, Suite LC
Cockeysville, Maryland 21030
Phone: 410-560-1502 Fax: 410-560-0827



OWNERS/DEVELOPERS

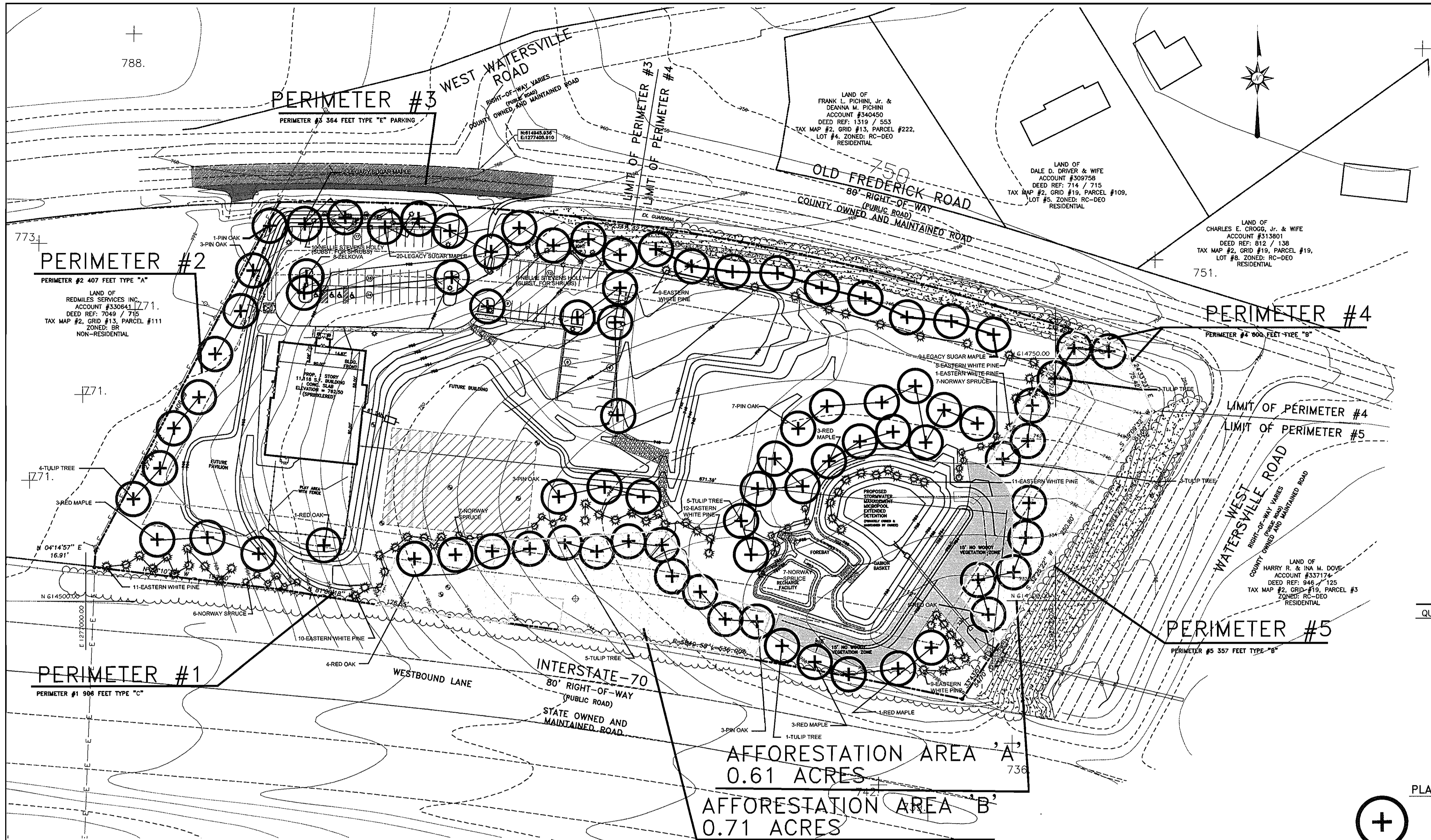
MOUNT AIRY PRESBYTERIAN CHURCH
P.O. BOX 591
MOUNT AIRY, MARYLAND 21771-0591
ATTN: DAVE DETROY
PHONE: 703-404-6549

SEDIMENT AND EROSION CONTROL NOTES

DESIGNED BY: J.P.D.	SCALE: AS SHOWN	TAX MAP 2	A.D.C. MAP 2	JOB # 04009	SHEET NO. 8
DRAWN BY: J.P.D.	DEED REF. 5158/250	GRID 13	PLAT REF. N.A.	FILES: D:\JOBS\2004\04009\DRAWINGS\SDP\SHEET8.dwg	OF 10
CHECKED BY: J.P.D.		PARCEL 13			

DRAWING COMPLETED 10-10-06

SDP-06-063

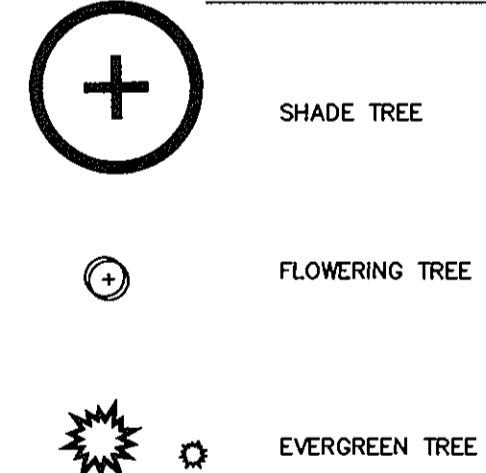


- ### PLANTING NOTES
- PLANTS, RELATED MATERIALS, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.
 - ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED AND HAVE A VIGOROUS ROOT SYSTEM. PLANT MATERIAL SHALL BE HEALTHY,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

PLANT LIST

QUANTITY	BOTANICAL NAME/COMMON NAME	MINIMUM SIZE	ROOT	REMARKS
10	ACER RUBRUM / RED MAPLE	2 - 2 1/2"	CAL	B&B
19	ACER SACCHARUM 'LEGACY' / LEGACY SUGAR MAPLE	2 - 2 1/2"	CAL	B&B
21	LIRIODENDRON TULIPIFERA / TULIP TREE	2 - 2 1/2"	CAL	B&B
17	QUERCUS PALUSTRIS / PIN OAK	2 - 2 1/2"	CAL	B&B
10	QUERCUS RUBRA / RED OAK	2 - 2 1/2"	CAL	B&B
8	ZELKOVA SERRATA 'VILLAGE GREEN'	2 - 2 1/2"	CAL	B&B
19	ILEX 'NELLIE STEVENS' / NELLIE STEVENS HOLLY	5-6'		B&B
27	PICEA ABIES / NORWAY SPRUCE	5-6'		B&B
69	PINUS STROBUS / EASTERN WHITE PINE	5-6'		B&B

PLANTING LEGEND



AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS HEREWITH 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 THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.

DEVELOPER'S/BUILDERS 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 INSTALLATION, ACCOMPANIED BY AND EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

DATE: 10/16/06
 NAME: DAVID DETROY

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.

FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEV. AGREEMENT IN THE AMOUNT OF \$42,030. THIS SURETY IS BASED ON 87 SHADE TREES AT \$300.00 EACH, 85 EVERGREEN TREES AT \$150.00 EACH AND 91 SHRUBS AT \$30.00 EACH.

THE OWNER, TENTANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERM, 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.

FINAL LANDSCAPE PLAN

SCALE: 1" = 60'



SCHEDULE A PERIMETER LANDSCAPE EDGE

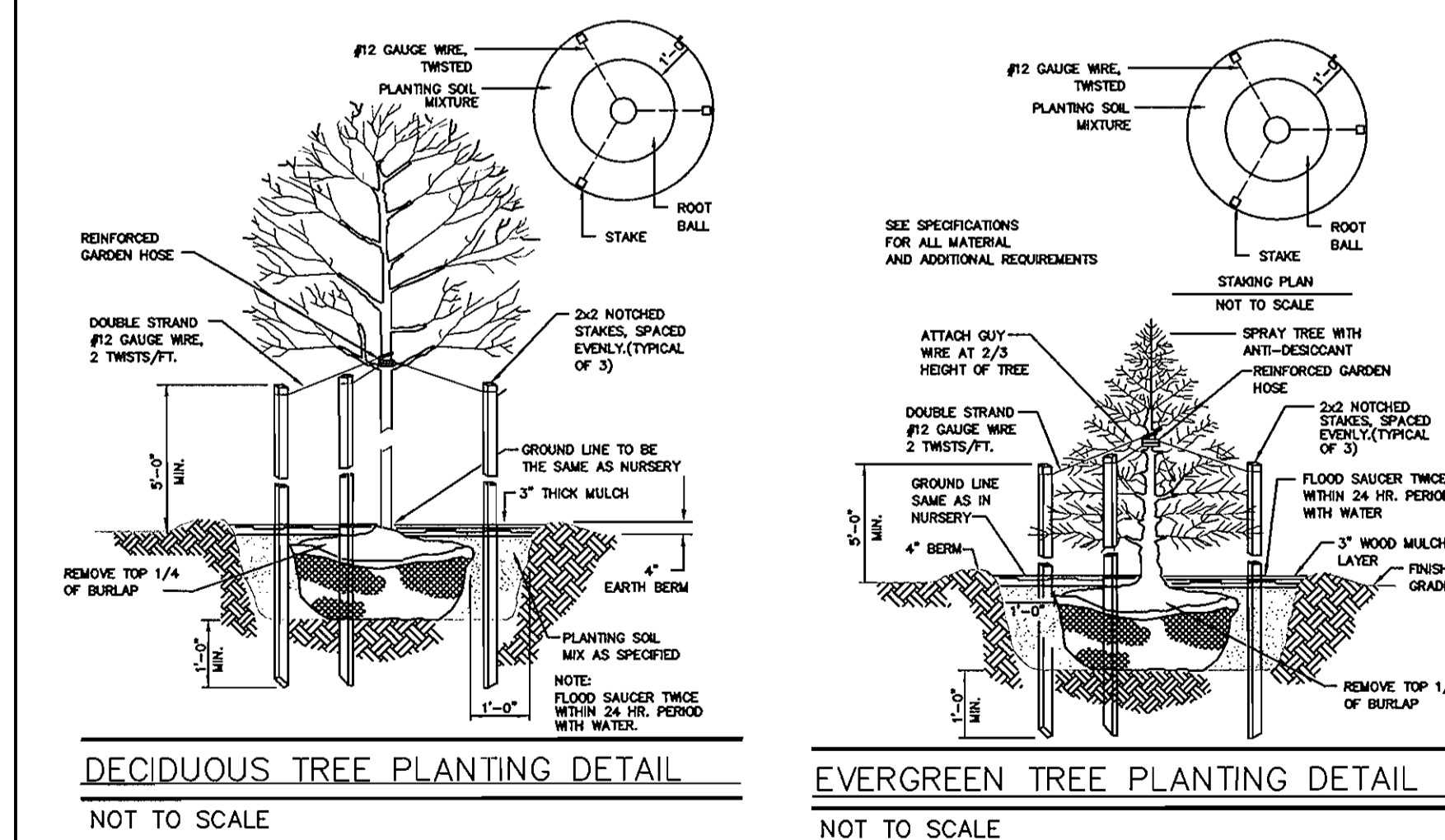
CATEGORY	ADJACENT TO PERIMETER:				
	#1	#2	#3	#4	#5
LANDSCAPE TYPE	C	A	PARKING - E	B	B
LINEAR FEET OF ROADWAY/FRONTAGE/PERIMETER	906	407	364	600	357
CREDIT FOR EXISTING VEGETATION (YES NO, LINEAR FEET)	0	0	0	0	0
CREDIT FOR WALL FENCE OR BERM (YES NO, LINEAR FEET)	0	0	0	0	0
NUMBER OF PLANTS REQUIRED	SHADE TREES 1/40=23 EVERGREEN TREES 1/20=46 SHRUBS 0	SHADE TREES 1/60=7 EVERGREEN TREES 0 SHRUBS 0	SHADE TREES 1/40=11 EVERGREEN TREES 0 SHRUBS 1/4=91	SHADE TREES 1/50=12 EVERGREEN TREES 0 SHRUBS 1/40=15	SHADE TREES 1/50=8 EVERGREEN TREES 0 SHRUBS 1/40=9
NUMBER OF PLANTS PROVIDED	SHADE TREES 23 EVERGREEN TREES 46 OTHER TREES (2:1 SUBSTITUTION) 0	SHADE TREES 7 EVERGREEN TREES 0 OTHER TREES (2:1 SUBSTITUTION) 0	SHADE TREES 11 EVERGREEN TREES 18 OTHER TREES (2:1 SUBSTITUTION) 0	SHADE TREES 12 EVERGREEN TREES 15 OTHER TREES (2:1 SUBSTITUTION) 0	SHADE TREES 9 EVERGREEN TREES 10 OTHER TREES (2:1 SUBSTITUTION) 0

SCHEDULE 'B' PARKING LOT INTERNAL LANDSCAPING

CATEGORY	NON-RESIDENTIAL (1:20)
NUMBER OF PARKING SPACES	88
NUMBER OF TREES REQUIRED	5
NUMBER OF TREES PROPOSED	8
SHADE TREES	
OTHER TREES (2:1 SUBSTITUTION)	

SCHEDULE 'D' STORMWATER MANAGEMENT AREA LANDSCAPING

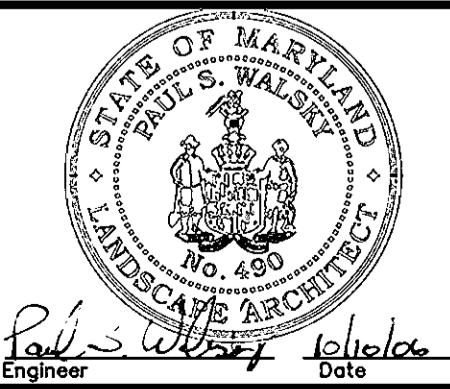
LINEAR FEET OF PERIMETER	714 LIN. FT.
BUFFER TYPE:	B
NUMBER OF TREES REQUIRED:	
SHADE TREES (1:50):	15
EVERGREEN TREE (1:40):	18
CREDIT FOR EXISTING VEGETATION: NONE	
CREDIT FOR OTHER LANDSCAPING: NONE	
NUMBER OF TREES PROPOSED:	
SHADE TREES (1:50):	15
EVERGREEN TREE (1:40):	18
OTHER TREES (2:1 SUBSTITUTION)	



APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: [Signature] Date: 11/5/06
 Chief, Division of Land Development: [Signature] Date: 12/15/06
 Director: [Signature] Date: 12/11/06

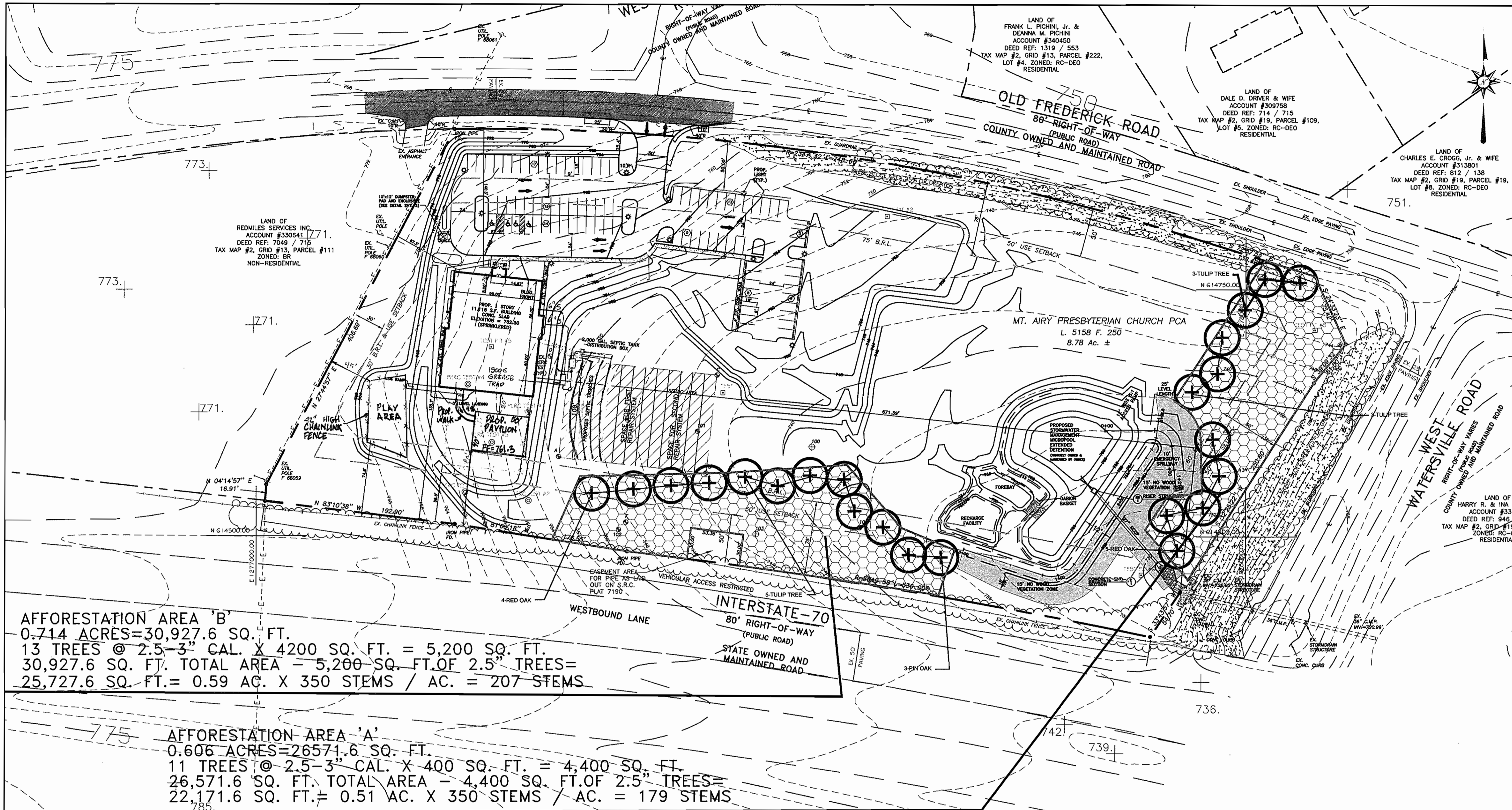
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS
 County Health Officer: [Signature] Date: 11/30/06
 Howard County Health Department

Richardson Engineering, LLC
 110 Old Padonia Road, Suite LC
 Cockeysville, Maryland 21030
 Phone: 410-560-1502 Fax: 410-560-0827



OWNERS/DEVELOPERS
 MOUNT AIRY PRESBYTERIAN CHURCH, PCA
 P.O. BOX 591
 MOUNT AIRY, MARYLAND 21771-0591
 ATTN: DAVE DETROY
 PHONE: 703-404-6549

MOUNT AIRY PRESBYTERIAN CHURCH 17455 OLD FREDERICK ROAD FINAL LANDSCAPE PLAN		DATE	REVISION	BY
DESIGNED BY:	J.P.D.	SCALE:	TAX MAP 2	A.D.C. MAP 2
DRAWN BY:	J.P.D.	AS SHOWN	GRID 19	GRID H-7
CHECKED BY:	J.P.D.	DEED REF. 5158/250	PARCEL 13	PLAT REF. N.A.
FOURTH ELECTION DISTRICT		HOWARD COUNTY, MARYLAND		DRAWING COMPLETED 10-10-06
FILES: P:\0085\200A\04009\	JOB # 04009	SHEET		
DRAWINGS\SDP\SHEET9.dwg	NO. 9	OF 10		



FOREST CONSERVATION WORKSHEET

NET TRACT AREA :

A. TOTAL TRACT AREA.....	= 8.78
B. AREA WITHIN 100 YEAR FLOODPLAIN.....	= 0.00
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION.....	= 0.00
D. NET TRACT AREA.....	= 8.78

LAND USE CATEGORY : (FROM TABLE 3.2.1, PAGE 40, MANUAL)

INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	1	0	0	0

E. AFFORESTATION THRESHOLD..... 15% x D = 1.32

F. CONSERVATION THRESHOLD..... 20% x D = 1.76

EXISTING FOREST COVER :

G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)..... = 0.00

H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD..... = 0.00

I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD..... = 0.00

BREAK EVEN POINT :

J. FOREST RETENTION ABOVE TRESHOLD WITH NO MITIGATION..... = 0.00

K. CLEARING PERMITTED WITHOUT MITIGATION..... = 0.00

PROPOSED FOREST CLEARING :

L. TOTAL AREA OF FOREST TO BE CLEARED..... = 0.00

M. TOTAL AREA OF FOREST TO BE RETAINED..... = 0.00

PLANTING REQUIREMENTS :

N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD..... = 0.00

P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD..... = 0.00

Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD..... = 0.00

R. TOTAL REFORESTATION REQUIRED..... = 0.00

S. TOTAL AFFORESTATION REQUIRED..... = 1.32

T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED..... = 1.32

NOTE: THE PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY PROVIDING 1.32 ACRES OF AFFORESTATION ON THE SITE. 9,600 S.F. IS DEDUCTED FROM THE FOREST CONSERVATION SURETY REQUIREMENT BECAUSE OF THE LANDSCAPE PLANTING WHICH IS OCCURRING WITHIN THE FOREST CONSERVATION BOUNDARIES. THE REQUIRED SURETY FOR THE FOREST CONSERVATION OBLIGATION IS \$23,950.

SITE PREPARATION

THE AFFORESTATION SITE IS PREVIOUSLY UNDISTURBED AND THE FOLLOWING STANDARDS APPLY TO THESE AREAS:

- NO TREATMENTS OR AMENDMENTS ARE NECESSARY.
- DISTURBANCE OF SOILS SHALL BE LIMITED TO THE LIMITS OF DISTURBANCE.
- GROUND COVER SHALL BE CUT PRIOR TO PLANTING

PLANTING SPECIFICATIONS

THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL THIS SHEET).

- THE DEPTH OF THE PLANTING HOLE SHALL BE EQUAL TO 1" LESS THAN THE HEIGHT OF THE ROOT BALL.
- THE WIDTH OF THE PLANTING FIELD SHALL BE 5 TIMES THE DIAMETER OF THE ROOT BALL EXCEPT IN AREAS OF STEEP SLOPES OR ERODIBLE SOILS. IN THESE AREAS THE PLANTING FIELD SHOULD ONLY BE 2.5 TIMES THE DIAMETER OF THE ROOT BALL.
- ONLY NATIVE SOILS SHALL BE USED FOR BACK FILL.
- SOILS SHALL BE RACKED EVENLY OVER THE PLANTING FIELD.
- A LAYER OF MULCH 4" DEEP SHALL BE LAYED OVER THE PLANTING FIELD.
- IN ORDER TO REDUCE MORTALITY RATES, PLANTING SHALL BE CONDUCTED DURING THE MONTHS OF JANUARY THRU MAY.

SPACING AND SPECIES SELECTION

THE PLANTING PATTERN SHALL BE RANDOM AS INDICATED (SEE DETAIL, THIS SHEET).

- EACH PLANTING REQUIRES AN OVERALL MINIMUM SPACING (OMS) OF 10' FROM ADJACENT PLANTINGS.
- PLACEMENT OF EACH TREE WITHIN THE AFFORESTATION AREA SHALL ONLY CONSIDER THE OMS STANDARD.
- SPECIES FOR EACH PLANTING FIELD SHALL BE SELECTED RANDOMLY FROM THOSE LISTED IN THE PLANT SCHEDULE.

MONITORING SPECIFICATIONS

REGULAR INSPECTIONS SHOULD BE MADE TO MONITOR THE NEWLY PLANTED TREES FOR SIGNS OF STRESS, DROUGHT, INSECT AND DISEASE DAMAGE, MECHANICAL INJURY, OR OTHER TREE HEALTH ISSUES. THESE INSPECTIONS ARE RECOMMENDED AS FOLLOWS:

FIRST AND SECOND YEARS AFTER PLANTING

- MONTHLY INSPECTIONS SHOULD BE MADE FROM MARCH --- SEPTEMBER. SUBSEQUENT YEARS
- BI-ANNUAL INSPECTIONS SHOULD BE CONDUCTED.

MAINTENANCE SPECIFICATIONS

FIRST-YEAR AFTER PLANTING

- WATER FROM MARCH - SEPTEMBER, ADDING 1" PER WEEK OVER THE ENTIRE AREA OF THE CRITICAL ROOT ZONE
- PRUNE DISEASED, DYING, AND BROKEN LIMBS ONLY
- RAKE MULCH TO BREAK UP MATTING AND ADD NEW MULCH TO MAINTAIN 3" DEPTH.

SECOND-YEAR AFTER PLANTING

- WATER ONCE A MONTH AT A VOLUME OF 1" OVER THE CRITICAL ROOT ZONE
- APPLY ORGANIC OR OTHER SLOW RELEASE TYPE FERTILIZER AT RATE RECOMMENDED BY THE INSPECTING MARYLAND LICENSED TREE EXPERT.
- PRUNE DISEASED, DYING, AND BROKEN LIMBS ONLY.
- RAKE MULCH TO BREAK UP MATTING AND ADD NEW MULCH TO MAINTAIN 3" DEPTH.

THIRD-YEAR AFTER PLANTING

- WATER ONCE A MONTH AT A VOLUME OF 1" OVER THE CRITICAL ROOT ZONE
- APPLY SLOW RELEASE NITROGEN FERTILIZER PER RECOMMENDATION OF MARYLAND LICENSED TREE EXPERT
- PRUNE MULCH TO BREAK UP MATTING AND ADD NEW MULCH TO MAINTAIN 3" DEPTH.
- MANUALLY CONTROL COMPETING VEGETATION.

AFFORESTATION AREA 'B'

0.714 ACRES = 30,927.6 SQ. FT.

13 TREES @ 2.5-3" CAL. X 4200 SQ. FT. = 5,200 SQ. FT.

30,927.6 SQ. FT. TOTAL AREA = 5,200 SQ. FT. OF 2.5" TREES = 25,727.6 SQ. FT. = 0.59 AC. X 350 STEMS / AC. = 207 STEMS

AFFORESTATION AREA 'A'

0.606 ACRES = 26,571.6 SQ. FT.

11 TREES @ 2.5-3" CAL. X 400 SQ. FT. = 4,400 SQ. FT.

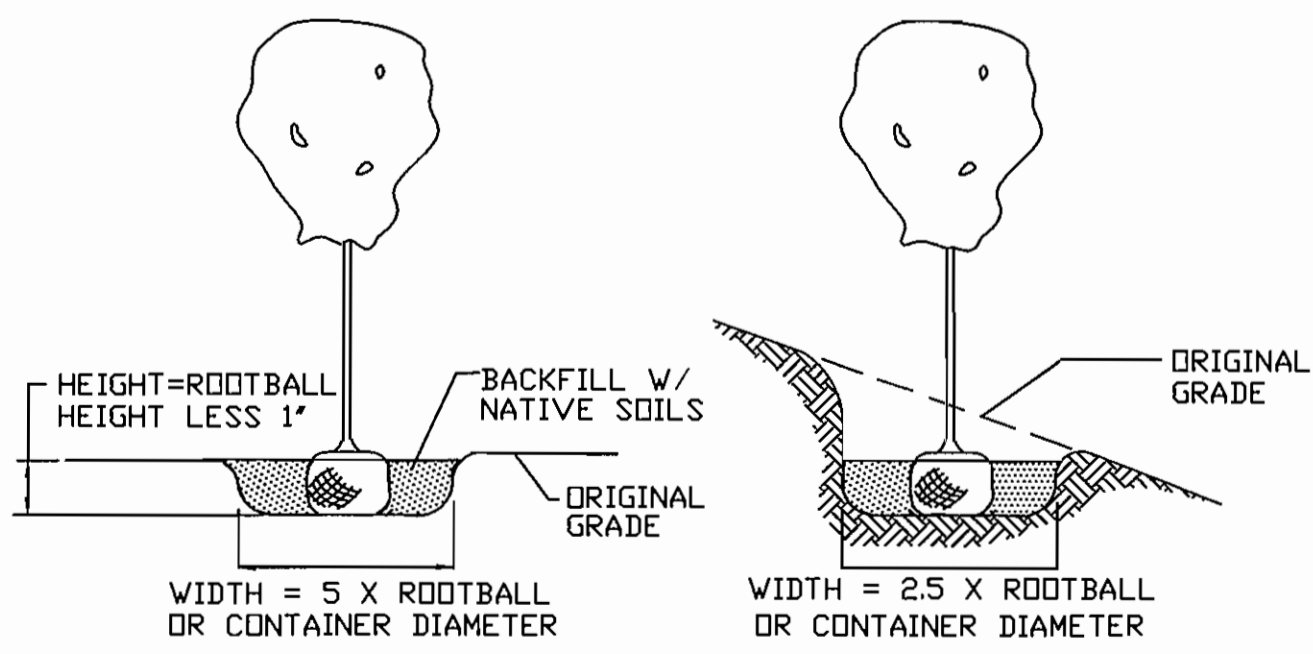
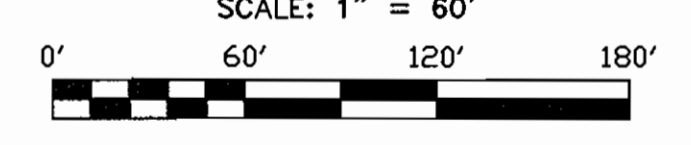
26,571.6 SQ. FT. TOTAL AREA = 4,400 SQ. FT. OF 2.5" TREES = 22,171.6 SQ. FT. = 0.51 AC. X 350 STEMS / AC. = 179 STEMS

PLANT LIST

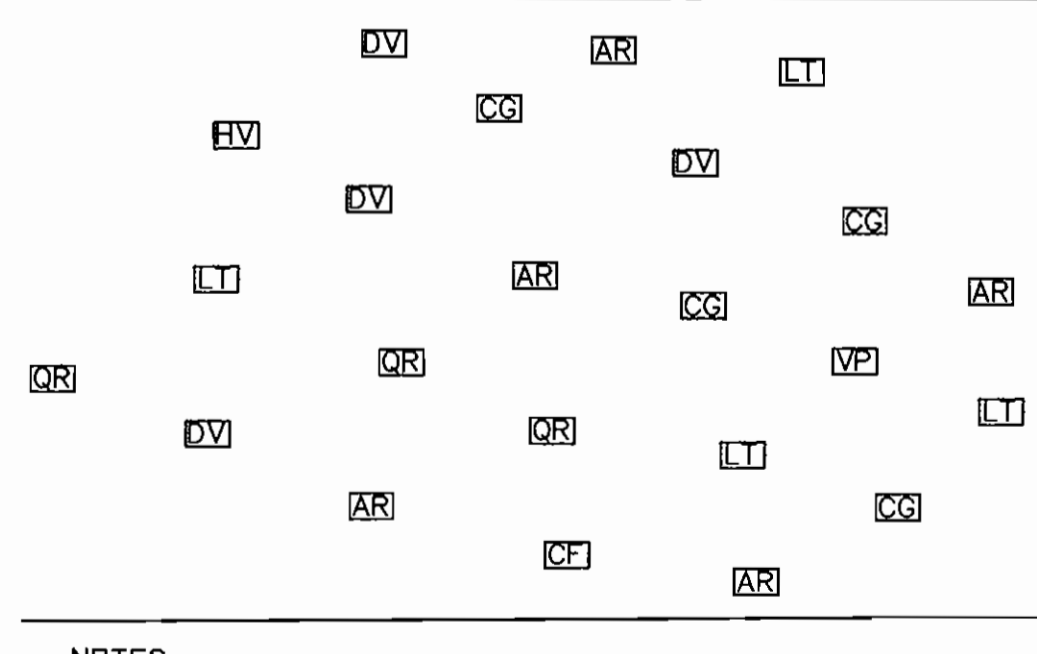
KEY	AREA 'A' QUANTITY	AREA 'B' QUANTITY	TOTAL QUANTITY	BOTANICAL NAME/COMMON NAME	MINIMUM SIZE	CONTAINER MIN. SIZE	REMARKS
WHIP SIZE PLANTS							
AR	30	38	68	ACER RUBRUM / RED MAPLE	3-4' HGT.	1 GAL. CONT.	FOR LOCATION SEE DETAIL
CC	27	27	54	CARYA GLABRA / PIGNUT HICKORY	3-4' HGT.	1 GAL. CONT.	FOR LOCATION SEE DETAIL
DI	27	27	54	DIOSPYROS VIRGINIANA / PERSIMMON	3-4' HGT.	1 GAL. CONT.	FOR LOCATION SEE DETAIL
LI	32	37	69	LIRIODENDRON TULIPIFERA / TULIP TREE	3-4' HGT.	1 GAL. CONT.	FOR LOCATION SEE DETAIL
QR	27	27	54	QUERCUS RUBRA / RED OAK	3-4' HGT.	1 GAL. CONT.	FOR LOCATION SEE DETAIL
CF	12	17	29	CORNUS FLORIDA / FLOWERING DOGWOOD	3-4' HGT.	1 GAL. CONT.	FOR LOCATION SEE DETAIL
VI	12	17	29	HAMAMELIS VIRGINIANA / WITCHHAZEL	3-4' HGT.	1 GAL. CONT.	FOR LOCATION SEE DETAIL
VP	12	17	29	VBURNUM PRUNIFOLIUM / BLACKHAW VBURNUM	3-4' HGT.	1 GAL. CONT.	FOR LOCATION SEE DETAIL
TOTALS:	179	207	386				
2.5" CAL. TREES (INDICATED ON THE LANDSCAPE PLAN)							
	6	6	12	LIRIODENDRON TULIPIFERA / TULIP POPLAR	2.5-3" CAL.		LOCATION INDICATED ON PLAN
	5	3	8	QUERCUS PALUSTRIS / PIN OAK	2.5-3" CAL.		LOCATION INDICATED ON PLAN
	5	4	9	QUERCUS RUBRA / RED OAK	2.5-3" CAL.		LOCATION INDICATED ON PLAN
TOTALS:	11	13	24				

NOTE: A TOTAL OF 24 TREES AT 2.5-3" CAL. (12 LIRIODENDRON TULIPIFERA, 9 QUERCUS RUBRA AND 3 QUERCUS PALUSTRIS) ARE PROPOSED WITHIN THE FOREST CONSERVATION PLANTING AND ARE A PART OF THE REQUIRED LANDSCAPE MANUAL REQUIREMENTS. THE 24 TREES X 400 SQ. FT. OF FOREST CONSERVATION AREA X 400 SQ. FT. = 9,600 SQ. FT. OF LANDSCAPE PLANTING THAT COUNTS TOWARDS THE FOREST CONSERVATION PLANTING. THESE TREES ARE INCLUDED IN THE BOND FOR THE LANDSCAPING AND SHALL NOT BE INCLUDED IN THE BOND FOR FOREST CONSERVATION SURETY.

FOREST CONSERVATION PLAN



PLANTING / SITE PREPARATION
NOT TO SCALE



RANDOM PLANT SPACING DETAIL
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

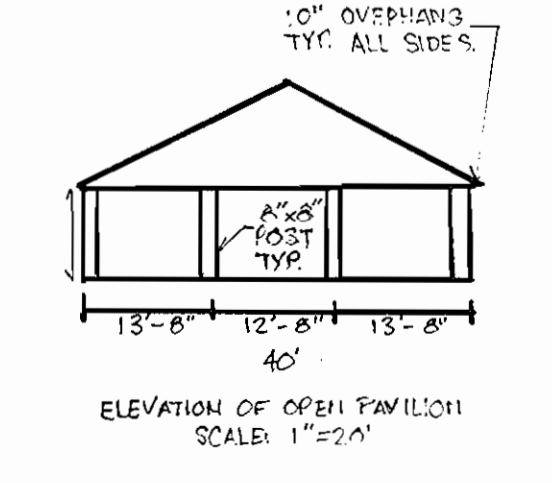
Chief, Development Engineering Division: *[Signature]* Date: 11/5/06

Chief, Division of Land Development: *[Signature]* Date: 12/1/06

Director: *[Signature]* Date: 12/1/06

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWER SYSTEMS

County Health Officer: *[Signature]* Date: 11/30/06



Richardson Engineering, LLC

110 Old Padonia Road, Suite LC
Cockeysville, Maryland 21030
Phone: 410-560-1502 Fax: 410-560-0827

OWNERS/DEVELOPERS

MOUNT AIRY PRESBYTERIAN CHURCH, PCA
P.O. BOX 591
MOUNT AIRY, MARYLAND 21771-0591
ATTN: DAVE DETROY
PHONE: 703-404-6549

MOUNT AIRY PRESBYTERIAN CHURCH
17455 OLD FREDERICK ROAD
FOREST CONSERVATION PLAN

6/16/08
9/18/07
DATE
DATE

PROP. PAVILION & PLAY AREA
REVISE SEPTIC SYSTEM
REVISION

CND
PKR
BY

FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DESIGNED BY: J.P.D.
DRAWN BY: J.P.D.
CHECKED BY: J.P.D.

SCALE
AS SHOWN
DEED REF.
5158/250

TAX MAP
2
GRID
19
PARCEL
13

A.D.C. MAP 2
GRID H-7
PLAT REF.
N.A.

JOB # 04009
FILES BA\JOBS\2004\04009\DRAWINGS\SDP\SHEET10.dwg

DRAWING COMPLETED: 10-10-06

SHEET NO. 10
OF 10