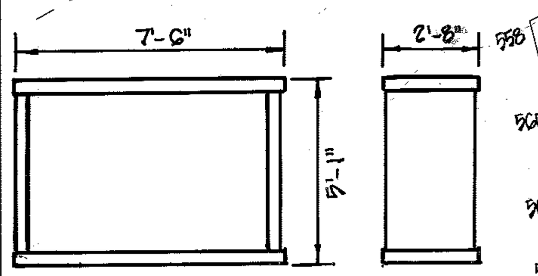
SHEET INDEX

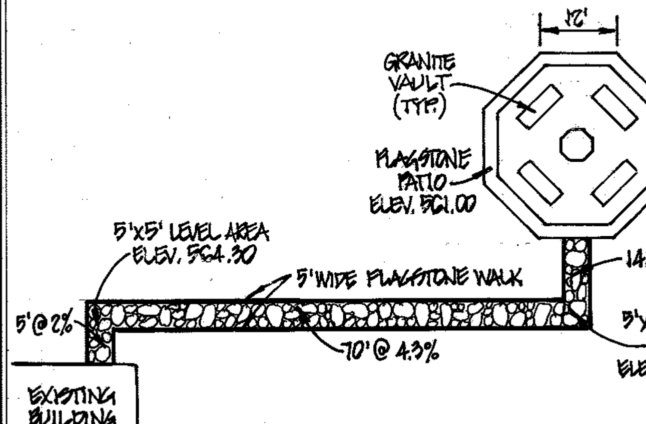
SHEET NO.	DESCRIPTION
1 OF 8	SITE DEVELOPMENT PLAN
2 OF 8	LANDSCAPE & SEDIMENT CONTROL PLAN
3 OF 8	STORMWATER MANAGEMENT PROFILES, STORMWATER MANAGEMENT DETAILS
4 OF 8	STORM DRAIN PROFILES & DETAILS
5 OF 8	NOTES & DETAILS
6 OF 8	FOREST CONSERVATION PLAN
7 OF 8	SOILS MAP & DRAINAGE AREA MAP PLAN
8 OF 8	TRAFFIC CONTROL PLAN



VAULT GRANITE DETAIL
NO SCALE

GENERAL NOTES: (CONT'N.)

25. THE PETITION UNDER THE CONDITIONAL USE CASE NUMBER (BA-15-04CC) WAS GRANTED BY THE BOARD OF APPEALS ON JUNE 3, 2016 PROVIDED, HOWEVER THAT:
    - A. THE CONDITIONAL USE SHALL BE CONDUCTED IN CONFORMANCE WITH AND SHALL APPLY ONLY TO THE CONDITIONAL USE AS DESCRIBED IN THE PETITION AND AS DEPICTED ON THE MAY 16, 2016 AMENDED CONDITIONAL USE (EXHIBIT 1) AND NOT TO ANY OTHER ACTIVITIES, USES OR STRUCTURE ON THE PROPERTY.
    - B. PETITIONER SHALL INSTALL EVERGREEN TREES SIMILAR TO THE EXISTING ONES ALONG THE NORTH PROPERTY LINE WHERE THE VIEW TO THE ADJACENT RESIDENCE ON LOT 2 TO THE NORTH REMAINS FAIRLY OPEN.
    - C. PETITIONER SHALL PROVIDE PRECISE INFORMATION ABOUT THE EXISTING AND ANY PROPOSED SHED ON THE RED-LINED SITE DEVELOPMENT PLAN.
    - D. PETITIONER SHALL OBTAIN ALL PERMITS.
    - E. PETITIONER SHALL COMPLY WITH ALL FEDERAL, STATE AND COUNTY LAWS AND REGULATIONS.
26. ANY EXPANSION OR REPLACEMENT OF EXISTING SHED WILL REQUIRE REVIEW BY THE APPROPRIATE COUNTY AGENCIES.

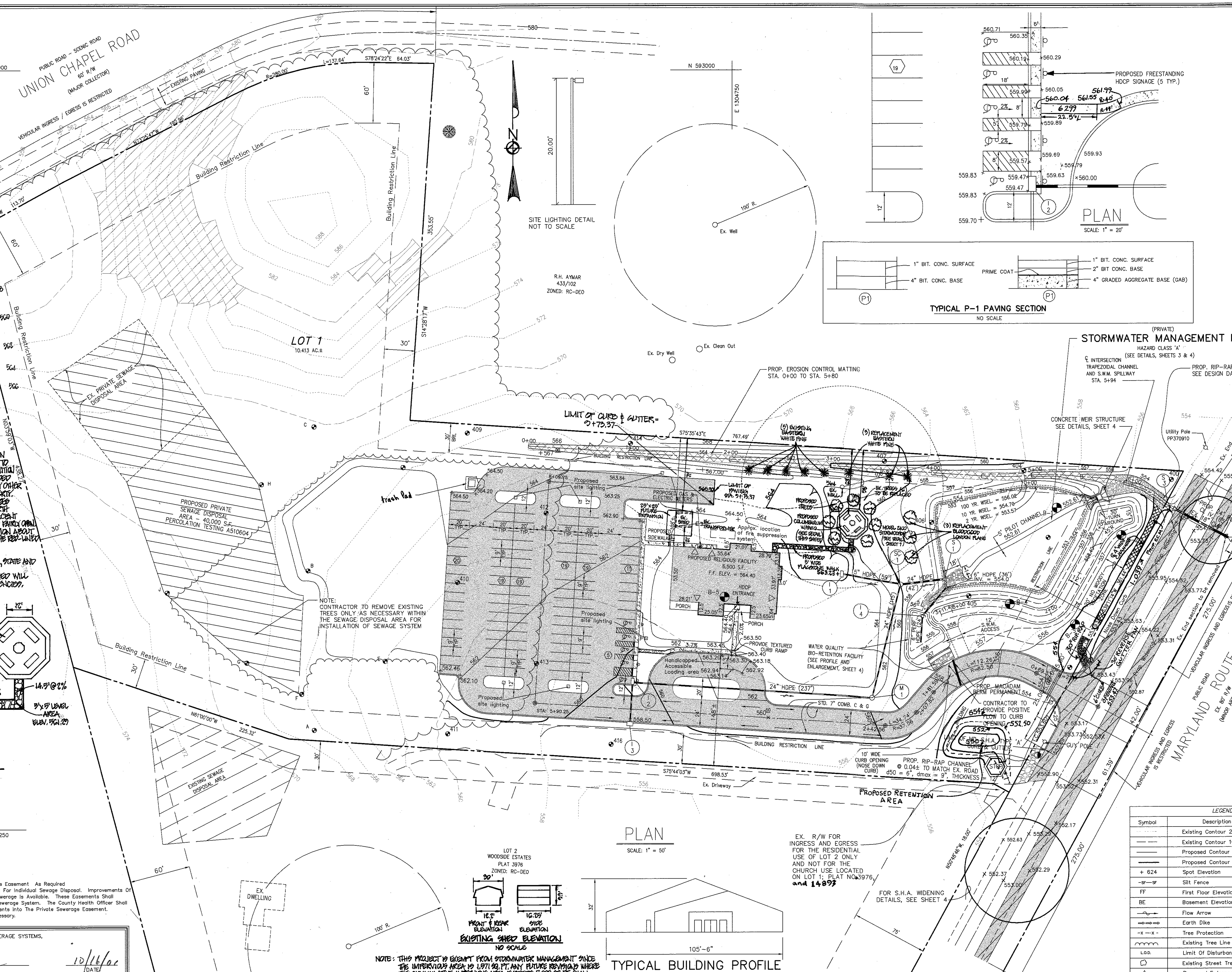


HANDICAP WALK DETAIL
NO SCALE

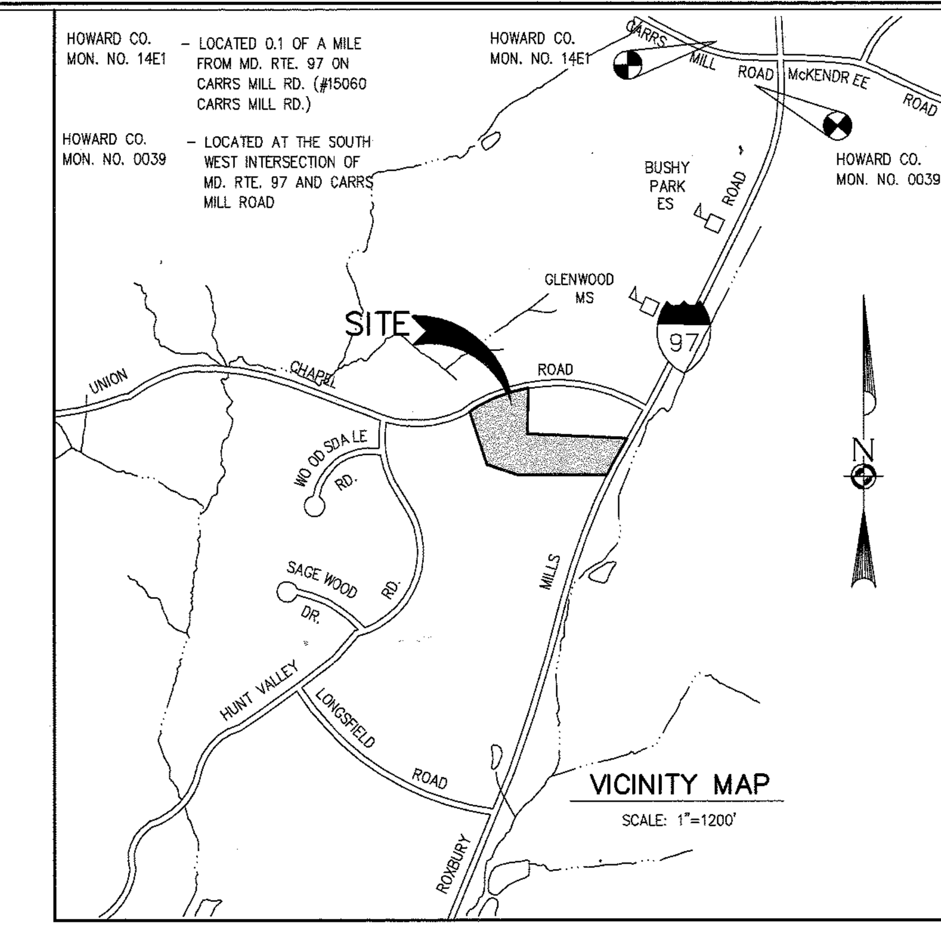
1. [hatch symbol] This Area Designates A Private Sewerage Easement As Required By The Maryland State Department Of The Environment For Individual Sewage Disposal. Improvements Of Any Nature In This Area Are Restricted Until Public Sewerage Is Available. These Easements Shall Become Null And Void Upon Connection To A Public Sewerage System. The County Health Officer Shall Have The Authority To Grant Variances For Encroachments Into The Private Sewerage Easement. Recordation Of A Modified Easement Shall Not Be Necessary.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

[signature] COUNTY HEALTH OFFICER — 10/16/01 DATE



NOTE: THIS PROJECT IS EXEMPT FROM STORMWATER MANAGEMENT SINCE THE IMPERVIOUS AREA IS 1,971 SQ.FT. ANY FUTURE REVISIONS WHERE THE CUMMULATIVE IMPERVIOUS AREA EXCEEDS 5,000 SQ.FT. SHALL REQUIRE THAT STORMWATER MANAGEMENT BE PROVIDED.



VICINITY MAP
SCALE: 1"=1200'

GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE THE CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEASE (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK.
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: F 78-111 (PLAT NO.3976), F 96-67, F 96-128, S.D.P. 96-22, BA 99-48 E, WP 01-81, F 01-210. (PLAT 14893) AND BA-15-04CC.
4. BOUNDARY AND TOPOGRAPHIC SURVEY PERFORMED BY: FISHER COLLINS AND CARTER INC. ON OR ABOUT APRIL, 1996
5. HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS:
   HOWARD COUNTY MONUMENT NO. 14E1 N 596,213.618 E 1,301,991.897 ELEV. = 590.86
   HOWARD COUNTY MONUMENT NO. 0039 N 595,722.834 E 1,306,481.672 ELEV. = 620.189
6. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
7. THIS SITE PLAN IS FOR THE REVIEW OF THE PROPOSED 6,500 SQ.FT. BUILDING FOR USE AS A RELIGIOUS FACILITY AND ASSOCIATED PARKING FOR THE COMPLETE PHASING OF ALL BUILDINGS. REVIEW OF THE FUTURE 4,900 SQ.FT. RELIGIOUS FACILITY EXPANSION AND THE 650 SQ.FT. SUNDAY SCHOOL ADDITION WILL REQUIRE THE SUBMISSION OF A NEW SITE DEVELOPMENT PLAN FOR REVIEW.
8. THIS SITE WILL UTILIZE PRIVATE WATER AND SEWER.
9. STORMWATER MANAGEMENT IS PRIVATELY OWNED AND MAINTAINED. THIS FACILITY WILL PROVIDE WATER QUANTITY MANAGEMENT. WATER QUALITY WILL BE PROVIDED BY A STORMCEPTOR.
10. SITE ANALYSIS DATA:
    - A. TOTAL PROJECT AREA: 10.413 AC.±
    - B. AREA OF PLAN SUBMISSION: 10.413 AC.±
    - C. LIMIT OF DISTURBED AREA: 6.28 AC.±
    - D. PRESENT ZONING: RC-DEO
    - E. PROPOSED USE FOR SITE AND STRUCTURES: CHURCH AND SUNDAY SCHOOL
    - F. NUMBER OF PARKING SPACES REQUIRED:

      NO. OF SEATS; 300 SEATS.
      NUMBER OF PARKING SPACES REQ.= 100 (1 SPACE PER 3 SEATS)
      NUMBER OF SPACES PROVIDED= 112
      107 STANDARD SPACES
      5 HANDICAPPED ACCESSIBLE
    - G. BLDG. COVERAGE; PROPOSED RELIGIOUS FACILITY (6,500 SQ.FT.) = 2% PERCENT
      TOTAL PHASED BLDG. COVERAGE; PROPOSED RELIGIOUS FACILITY AND FUTURE RELIGIOUS FACILITY / SUNDAY SCHOOL (6,500 + 5,550 SQ.FT.) = 4% PERCENT
11. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISION OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF TWENTY-FOUR THOUSAND NINE HUNDRED AND NINETY DOLLARS ($24,990.00).
12. ALL PROPOSED LIGHTING WILL BE WALL MOUNTED OR POLE MOUNTED IN THE PARKING AREAS AND DIRECTED DOWNWARD AND INWARD FROM ALL ADJACENT PROPERTIES, IN ACCORDANCE WITH SECTION 134 OF THE ZONING REGULATIONS.
13. THIS PLAN IS SUBJECT TO THE FIVE (5) CONDITIONS AS APPROVED BY BA 99-48E. THESE FIVE (5) CONDITIONS OF APPROVAL ARE AS FOLLOWS:
    1. THE SPECIAL EXCEPTION FOR THE RELIGIOUS FACILITY SHALL APPLY ONLY TO THE BUILDINGS AND TO THE ASSOCIATED PARKING AND OTHER IMPROVEMENTS AS DESCRIBED IN THE PETITION AND ON THE PLAN SUBMITTED JULY 21, 1999 AND NOT TO ANY OTHER STRUCTURES OR USES ON THE PROPERTY.
    2. THE ROAD IMPROVEMENTS SHALL BE CONSTRUCTED AS REQUIRED BY THE STATE HIGHWAY ADMINISTRATION.
    3. A TYPE 'A' LANDSCAPE EDGE SHALL BE INSTALLED ALONG THE NORTH AND SOUTH SIDE AND A TYPE 'E' LANDSCAPE BUFFER SHALL BE INSTALLED ALONG THE SOUTH SIDE OF THE PROPERTY AT ALL POINTS ADJACENT TO THE PARKING LOT.
    4. ANY EXTERIOR LIGHTING SHALL BE IN CONFORMANCE WITH SECTION 134 OF THE ZONING REGULATIONS.
    5. THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND COUNTY LAWS AND REGULATIONS.
14. THERE IS NO FLOODPLAIN ON-SITE.
15. THERE ARE NO WETLANDS LOCATED ON-SITE AS PER THE SITE VISIT AND LETTER BY ECO-SCIENCE, INC. DATED NOVEMBER 30, 1999.
16. THERE ARE NO CEMETERIES ON-SITE OR ON ANY ADJOINING PROPERTIES.
17. REFER TO THE MD. S.H.A. MANUAL ON UNIFORM TRAFFIC CONTROL (M.U.T.C.D.) FOR ROAD WIDENING WORK.
18. [symbol] - DENOTES AREAS OF 15 - 24.99% AND GREATER STEEP SLOPES LOCATED ON-SITE.
19. THERE ARE NO HISTORIC STRUCTURES LOCATED ON THIS SITE.
20. IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL, FOREST CONSERVATION OBLIGATIONS HAVE BEEN MET BY PLANTING 5.2 ACRES OF LAND OFF-SITE LOCATED WITHIN THE 'GAITHER HUNT' SUBDIVISION, SECTION 1, AREA 1, NON-BUILDABLE PRESERVATION PARCEL 'B' AND SHOWN IN THIS SET OF DRAWINGS AS SHEET NUMBER 6, Recorded as PLAT 14903 - 14907 on 8-17-01 (F02-11)
21. THIS PLAN IS SUBJECT TO WAIVER PETITION NUMBER WP 01-81 WHICH WAS TO WAIVE SECTION 16.119(f)(3) TO ALLOW A SECOND SEPARATE ENTRANCEWAY ONTO A MINOR ARTERIAL (MD. RT. 97) FOR RELIGIOUS FACILITY. THIS WAIVER PETITION WAS APPROVED ON FEBRUARY 28, 2001 AND WAS APPLIED FOR ON JANUARY 26, 2001.
22. GROUNDWATER APPROPRIATION PERMIT NUMBER IS HO99G014.
23. SEPTIC SYSTEM DESIGN PLANS MUST BE SUBMITTED FOR HEALTH DEPARTMENT REVIEW AND APPROVAL PRIOR TO BUILDING PERMIT APPROVAL.
24. THE APPROXIMATE DAILY DESIGN FLOW FOR THIS PROJECT IS 900 GPD. THE MAXIMUM DAILY DESIGN FLOW WHICH THE SEPTIC SYSTEM DESIGN CAN ACCOMMODATE IS 1,500 GPD. THE ACTUAL DESIGN CRITERIA WILL BE SUBMITTED WITH THE SEPTIC SYSTEM DESIGN PLANS PRIOR TO BUILDING PERMIT APPROVAL.

LEGEND

Symbol	Description
- - - - -	Existing Contour 2' Interval
— — —	Existing Contour 10' Interval
———	Proposed Contour 2' Interval
———	Proposed Contour 10' Interval
+ 624	Spot Elevation
-SF—SF	Silt Fence
FF	First Floor Elevation
BE	Basement Elevation
[symbol]	Flow Arrow
⇨⇨⇨	Earth Dike
-x —x -	Tree Protection
[symbol]	Existing Tree Line
L.O.D.	Limit Of Disturbance
[symbol]	Existing Street Tree
△	Proposed Entrance

STREET ADDRESS CHART

LOT NO.	STREET ADDRESS
1	2892 MD. RTE. 97 (ROXBURY MILLS ROAD)

REVISION

DATE	DESCRIPTION
7/5/02	REVISE PAVING LIMIT AND GRADING TO I-1
10/25/02	ADD PROPOSED RETENTION AREA & CURB OPENING W/ CHANNEL TO ALLEVIATE STANDING WATER ISSUE. REVISE HANDCAP ACCESS FROM PARKING AREA.
9/2/16	ADD 5' WIDE FLAGSTONE WALK, COLUMBARIUM W/PATIO, PROP. TREES, EX. SHED & FUTURE EXPANSION, REPLACEMENT TREES, HANDICAP WALK DETAIL, VAULT GRANITE DETAIL, EX. SHED ELEVATIONS, NOTES & REMOVED "FUTURE CHURCH" & "FUTURE SUNDAY SCHOOL EXPANSION.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

[signature] Signature of Engineer (print name below signature) — 8/9/01 Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

[signature] Signature of Developer (print name below signature) — 8/9/01 Date

Reviewed for HOWARD SCD and meets Technical Requirements.

[signature] U.S.D.A.-Natural Resources Conservation Service — 9/4/01 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

[signature] Howard SCD — 9/4/01 Date

DEVELOPER/OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] Director - Department of Planning and Zoning — 10/22/01 Date

[signature] Chief, Division of Land Development — 10/19/01 Date

[signature] Chief, Development Engineering Division MAJ — 9/7/01 Date

SUBDIVISION			SECTION/AREA		LOT NO.
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"			N/A		1
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040
WATER CODE: PRIVATE			SEWER CODE: PRIVATE		

SITE DEVELOPMENT PLAN

ST. ANDREWS EPISCOPAL CHURCH

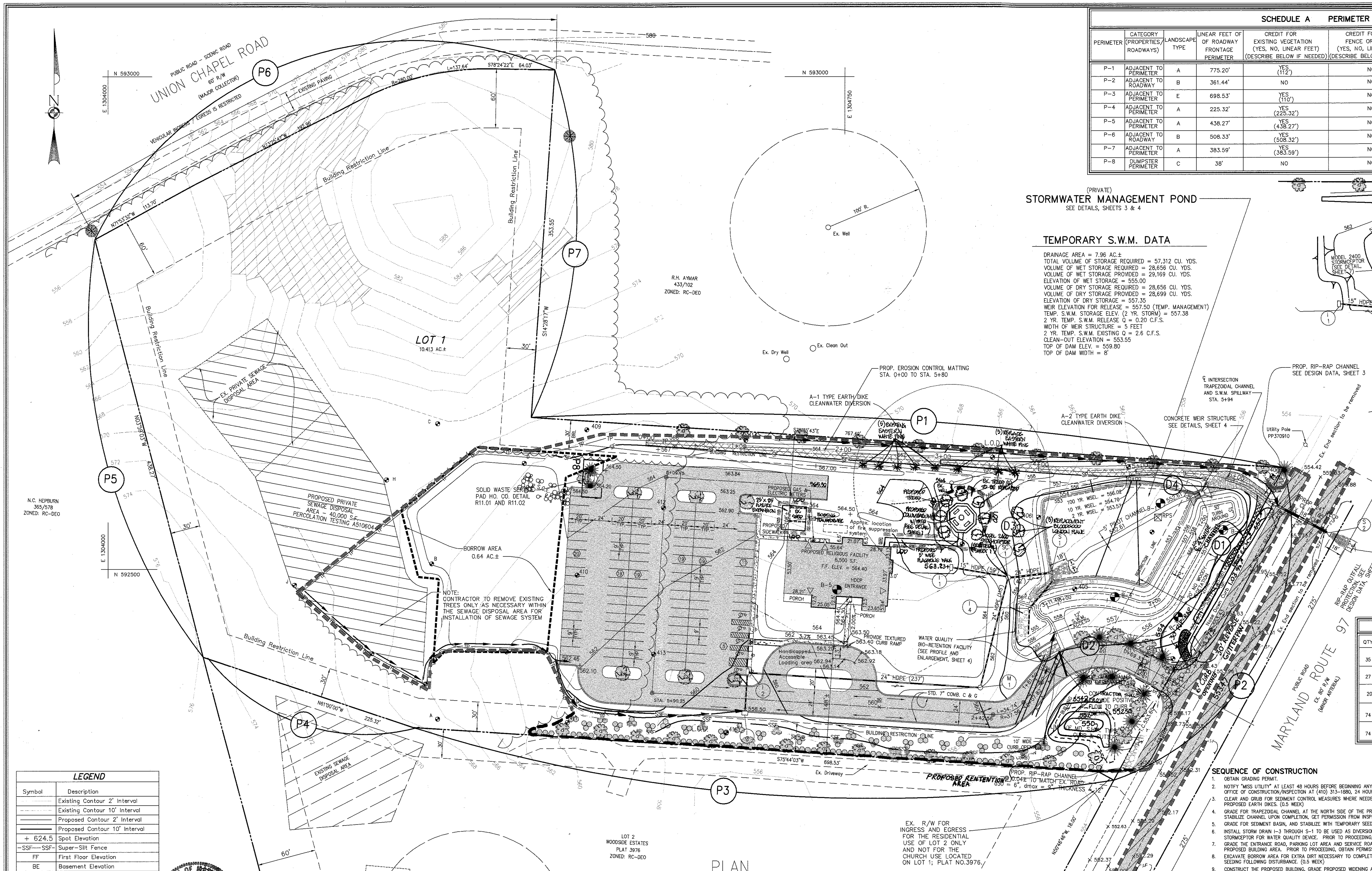
WOODSIDE ESTATES LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 1 OF 8

SDP 01-34

SCHEDULE A PERIMETER LANDSCAPE EDGE

PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED: SHADE TREES	NUMBER OF PLANTS REQUIRED: EVERGREEN TREES	NUMBER OF PLANTS REQUIRED: SHRUBS	NUMBER OF PLANTS PROVIDED: SHADE TREES	NUMBER OF PLANTS PROVIDED: EVERGREEN TREES	NUMBER OF PLANTS PROVIDED: OTHER TREES (2:1 SUBSTITUTION)	NUMBER OF PLANTS PROVIDED: SHRUBS (10:1 SUBSTITUTION)
									(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)			
P-1	ADJACENT TO PERIMETER	A	775.20'	YES (112')	NO	11	–	–	11	–	–	–
P-2	ADJACENT TO ROADWAY	B	361.44'	NO	NO	8	9	–	8	10	–	–
P-3	ADJACENT TO PERIMETER	E	698.53'	YES (110')	NO	15	–	148	15	–	–	148
P-4	ADJACENT TO PERIMETER	A	225.32'	YES (225.32')	NO	0	–	–	0	–	–	–
P-5	ADJACENT TO PERIMETER	A	438.27'	YES (438.27')	NO	0	–	–	0	–	–	–
P-6	ADJACENT TO ROADWAY	B	508.33'	YES (508.32')	NO	0	–	–	0	–	–	–
P-7	ADJACENT TO PERIMETER	A	383.59'	YES (383.59')	NO	0	–	–	0	–	–	–
P-8	DUMPSTER PERIMETER	C	38'	NO	NO	1	2	–	1	2	–	–

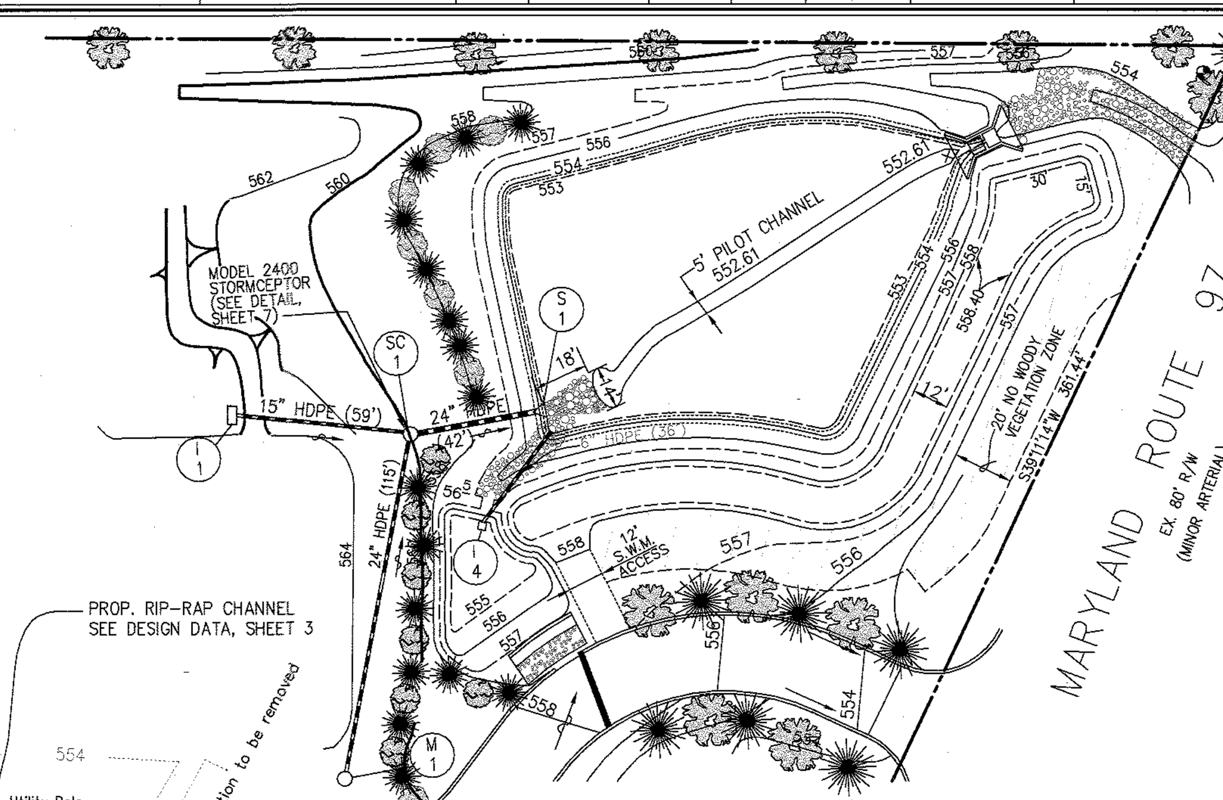


PLAN

SCALE: 1" = 50'

TEMPORARY S.W.M. DATA

DRAINAGE AREA = 7.96 AC.±
TOTAL VOLUME OF STORAGE REQUIRED = 57,312 CU. YDS.
VOLUME OF WET STORAGE REQUIRED = 28,656 CU. YDS.
VOLUME OF WET STORAGE PROVIDED = 29,169 CU. YDS.
ELEVATION OF WET STORAGE = 555.00
VOLUME OF DRY STORAGE REQUIRED = 28,656 CU. YDS.
VOLUME OF DRY STORAGE PROVIDED = 28,699 CU. YDS.
ELEVATION OF DRY STORAGE = 557.35
WEIR ELEVATION FOR RELEASE = 557.50 (TEMP. MANAGEMENT)
TEMP. S.W.M. STORAGE ELEV. (2 YR. STORM) = 557.38
2 YR. TEMP. S.W.M. RELEASE Q = 0.20 C.F.S.
WIDTH OF WEIR STRUCTURE = 5 FEET
2 YR. TEMP. S.W.M. EXISTING Q = 2.6 C.F.S.
CLEAN-OUT ELEVATION = 553.55
TOP OF DAM ELEV. = 559.80
TOP OF DAM WIDTH = 8'



S.W.M. LANDSCAPING PLAN

SCALE: 1" = 50'

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	D1: 258'	D2: 65'	D3: 190'	D4: 110'
NUMBER OF TREES REQUIRED: SHADE TREES / EVERGREEN TREES	5 / 6	2 / 2	4 / 5	3 / 3
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO	NO	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO	NO	NO
NUMBER OF TREES PROVIDED: SHADE TREES / EVERGREEN TREES / OTHER TREES (2:1 SUBSTITUTION)	5 / 6 / -----	2 / 2 / -----	4 / 5 / -----	3 / 3 / -----

LANDSCAPING PLANT LIST

QTY.		NAME	SIZE
35		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 – 2 1/2" CALIPER FULL CROWN, B&B
27		PINUS STROBUS EASTERN WHITE PINE	6'–8' HEIGHT
20		PLATANUS X ACERIFOLIA 'BLOODGOOD' BLOODGOOD LONDON PLANE	2 – 2 1/2" CALIPER FULL CROWN, B&B
74		AZALEA 'GUMPO WHITE' GUMPO WHITE AZALEA	18"–24" SP.
74		VIBURNUM DENTATUM ARROWWOOD VIBURNUM	2-1/2' – 3' HT

NOTE:
"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 DEVELOPER'S AGREEMENT IN THE AMOUNT OF $24,990. FOR 55 SHADE TREES, 27 EVERGREENS AND 148 SHRUBS. AT THE TIME OF INSTALLMENT, 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. ANY DEVIATION FROM THIS APPROVED LANDSCAPED 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 CERTIFICATES.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT (410) 313-1880, 24 HOURS BEFORE STARTING WORK.
3. CLEAR AND GRUB FOR SEDIMENT CONTROL MEASURES WHERE NEEDED. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND PROPOSED EARTH DIKES. (0.5 WEEK)
4. GRADE FOR TRAPEZOIDAL CHANNEL AT THE NORTH SIDE OF THE PROPERTY TO COLLECT BYPASS RUNOFF, AND PERMANENTLY STABILIZE CHANNEL UPON COMPLETION, GET PERMISSION FROM INSPECTOR PRIOR TO PROCEEDING. (1 WEEK)
5. GRADE FOR SEDIMENT BASIN, AND STABILIZE WITH TEMPORARY SEEDING. (0.5 WEEK)
6. INSTALL STORM DRAIN I-3 THROUGH S-1 TO BE USED AS DIVERSION FOR SEDIMENT CONTROL FOR ENTIRE SITE. INCLUDING STORMCEPTOR FOR WATER QUALITY DEVICE. PRIOR TO PROCEEDING, OBTAIN PERMISSION FROM INSPECTOR. (1 WEEK)
7. GRADE THE ENTRANCE ROAD, PARKING LOT AREA AND SERVICE ROAD AREA TO SUB-GRADE, EXCAVATE NECESSARY AREA FOR PROPOSED BUILDING AREA. PRIOR TO PROCEEDING, OBTAIN PERMISSION FROM INSPECTOR. (2.0 WEEKS)
8. EXCAVATE BORROW AREA FOR EXTRA DIRT NECESSARY TO COMPLETE FILL AREA, STABILIZE THE BORROW AREA WITH TEMPORARY SEEDING FOLLOWING DISTURBANCE. (0.5 WEEK)
9. CONSTRUCT THE PROPOSED BUILDING, GRADE PROPOSED WIDENING AND INSTALL STONE BASE COURSE FOR MD. RTE. 97. (10 WEEKS)
10. STABILIZE ALL REMAINING EXPOSED GROUND WITH TEMPORARY SEEDING. (0.5 WEEK)
11. INSTALL STONE BASE COURSE FOR PROPOSED NEW PAVED AREAS. STABILIZE ALL ARES AROUND THE BUILDING WITH PERMANENT SEEDING. (0.5 WEEK)
12. REMOVE EX. 18" CMP IN MD. RTE. 97 AND INSTALL NEW 24" RCCP.* (0.5 WEEKS) *TO OCCUR UPON A 3-DAY CLEAR WEATHER FORECAST BY THE NWS
13. INSTALL ALL PROPOSED CURB AND GUTTER FOR ENTIRE SITE, INCLUDING S.H.A. CURB ALONG MD. RTE. 97. (1.5 WEEKS)
14. UPON COMPLETION OF CURB AND GUTTER, STABILIZE ALL AREAS WITH PERMANENT SEEDING. (0.5 WEEK)
15. PAVE DRIVEWAY, PARKING AREA, SERVICE ROAD AND ROAD WIDENING AREA. (1.0 WEEK)
16. FLUSH STORM DRAIN SYSTEM TO REMOVE ANY TRAPPED SEDIMENTS FROM I-3 TO I-2 TO M-1 TO SC-1 TO S-1. REMOVE ALL CURB INLET PROTECTION DEVICES. (0.5 WEEK)
17. CONVERT SEDIMENT BASIN TO STORMWATER MANAGEMENT POND. PRIOR TO PROCEEDING, OBTAIN PERMISSION FROM INSPECTOR. (1 WEEK)
18. UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES. (0.5 WEEK)

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	113
NUMBER OF TREES REQUIRED	6
NUMBER OF TREES PROVIDED: SHADE TREES	6
OTHER TREES (2:1 SUBSTITUTION)	–

NOTE:
ALL PERIMETER LANDSCAPING WILL BE PLANTED AFTER GRADING OF THE SITE.

LEGEND

Symbol	Description
	Existing Contour 2' Interval
	Existing Contour 10' Interval
	Proposed Contour 2' Interval
	Proposed Contour 10' Interval
+ 624.5	Spot Elevation
-SSF—SSF-	Super-Silt Fence
FF	First Floor Elevation
BE	Basement Elevation
S.C.E.	Stabilizied Construction Entrance
	Earth Dike
	Existing Tree Line
C.I.P.	Curb Inlet Protection
L.O.D.	Limit Of Disturbance
—TP—TP—	Tree Protection Fence
	Erosion Control Matting

STATE OF MARYLAND — CHARLES I. CROVO — No. 13246 — REGISTERED PROFESSIONAL ENGINEER

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

Diane L. Matuszak M.D. / 88m RF — 10/18/01
COUNTY HEALTH OFFICER — DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

REVISION	
DATE	DESCRIPTION
7/5/02	REVISE PAVING LIMIT AND GRADING TO I-1
10/25/02	ADD PROPOSED RETENTION AREA & CURB OPENING W/CHANNEL TO ALLEVIATE STANDING WATER ISSUE. REVISE LIMITS OF DISTRUBANCE
	REVISE HANDICAP ACCESS FROM PARKING AREA.
9/2/16	ADDED 5' WIDE FLAGSTONE WALK, COLUMBARIUM W/PATIO, PROP. TREES, EX. SHED AND FUTURE EXPANSION, REPLACEMENT TREES, LIMIT OF DISTURBANCE AND REMOVED "FUTURE CHURCH" & "FUTURE SUNDAY SCHOOL EXPANSION.

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (Print name below signature) — Date 8/9/01

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Jim May
Signature of Developer (Print name below signature) — Date 8/9/01

Reviewed for HOWARD SCD and meets Technical Requirements.

Jim Myers / CS — 9/4/01
U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — 9/4/01 — Date

OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — BB — Date 10/19/01
Chief, Development Engineering Division — MAJ — Date 9/7/01
Director – Department of Planning and Zoning — Date 10/23/01

PROJECT		SECTION/AREA	LOT NO.
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"		N/A	1

PLAT REF.	BLOCK NO.	ZONE	TAX	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040

WATER CODE	SEWER CODE
PRIVATE	PRIVATE

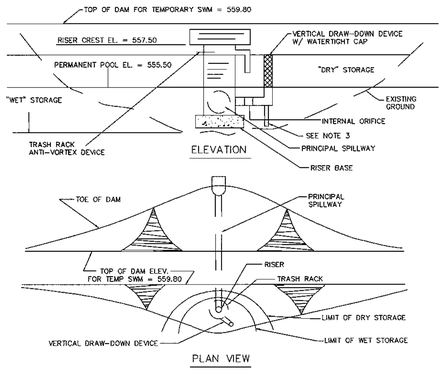
LANDSCAPE AND SEDIMENT CONTROL PLAN

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 2 OF 8

SDP 01-34



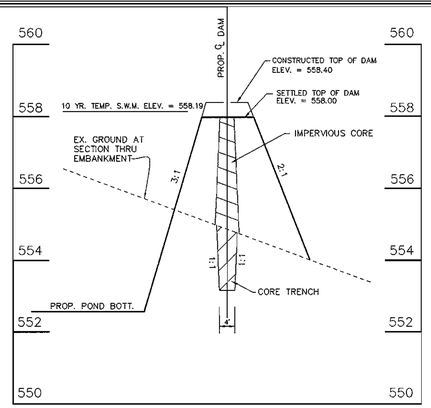
BASIN DRAWDOWN SCHEMATIC
VERTICAL DRAW-DOWN DEVICE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
2. THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 2 TIMES THE AREA OF THE INTERNAL ORIFICE.
3. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
4. PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATATION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 1" BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.

PIPE SCHEDULE		
SIZE	*MATERIAL*	*LENGTH*
6"	HDPE	36'
15"	HDPE	59'
18"	HDPE	41'
24"	HDPE	402'
18"	C.M.P.	14'
24"	RCCP	65'



SECTION THRU EARTH EMBANKMENT

SCALE: HORIZ. : 1" = 20'
VERT. : 1" = 2'

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	BASELINE STA.	OFFSET	TYPE	REMARKS
I-1	563.90	------	555.37	------	℄ STA. 11+38.5	36'L	A-5 INLET	S.D. = 4.40
I-2	560.23	555.51	555.01	------	℄ STA. 6+25.4	94'R	A-5 INLET	S.D. = 4.40
I-3	559.17	------	555.67	------	℄ STA. 5+02	12'L	A-5 INLET	S.D. = 4.40
I-4	557.00	553.43	553.18	------	℄ STA. 1+53	67'R	'D' INLET	S.D. = 4.11
M-1	562.00	554.35	554.10	------	℄ STA. 2+65	27'R	STD. MANHOLE	C. = 5.12
** SC-1	560.00	553.53, 554.03	553.45	------	N 592,491.69 E 1,304,916.11	-----	STORMCEPTOR	MODEL 2400
* S-1	555.05	553.05	553.00	------	N 592,489.70 E 1,304,968.54	-----	HDPE END SECTION	
S-2	550.35	548.35	548.25	------	N 592,534.43 E 1,305,245.54	-----	CONC. END SECTION	MD - 368.01
S-3	552.30	550.30	550.20	------	N 592,569.07 E 1,305,181.90	-----	CONC. END SECTION	MD - 368.01

* - CONTACT ADVANCED DRAINAGE SYSTEMS
3300 RIVERSIDE DRIVE
COLUMBUS, OHIO 43221
PHONE: 1-800-733-7473

** - CONTACT STORMCEPTOR AT 1-724-327-3400
MR. ANDREW VIROSTEK
CAMTEK CONSTRUCTION PRODUCTS

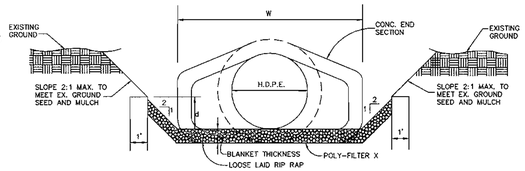
DESIGN SUMMARY (TR-20)								
DESIGN STORM	CONTROL STRUCTURE ELEVS.	ALLOWABLE RELEASE RATE	FACILITY INFLOW	FACILITY DISCHARGE	WATER SURFACE ELEVATION	STORAGE VOLUME (AC.FT.) (PROVIDED)	STORAGE VOLUME (AC.FT.) (REQUIRED)
2 YEAR	553.00	0.70 CFS	---	0.64 CFS	553.57	0.24	0.15
10 YEAR	553.50	10.1 CFS	---	5.00 CFS	554.70	0.54	0.28
100 YEAR	555.61	N/A	---	12.3 CFS	556.02	0.91	N/A

WATERSHED AREA TO FACILITY (ACRES): 7.96 AC. - DURING CONSTRUCTION
DRAINAGE AREA TO FACILITY = 0.0124 SQ MI. OR 7.96 AC±

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional shall hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.

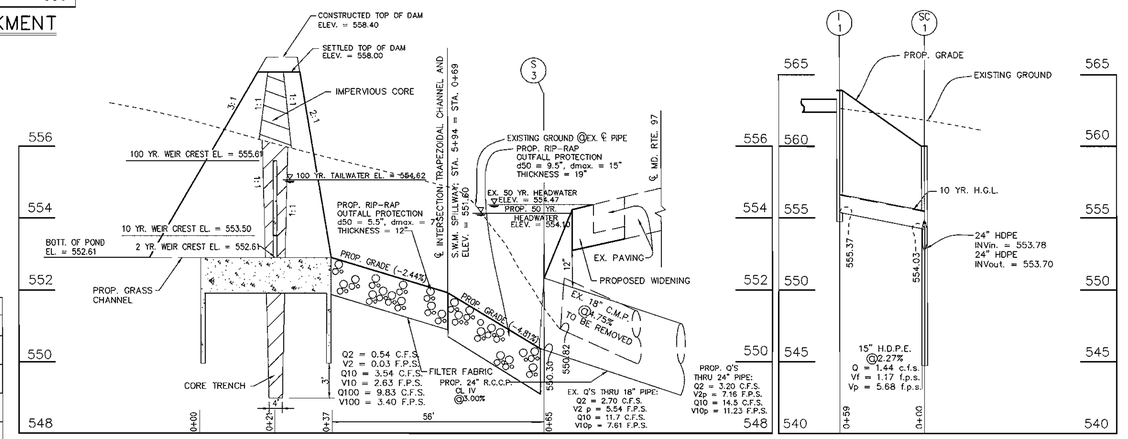
   Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
4. [illegible]



RIP RAP CHANNEL DETAIL

NO SCALE

RIP-RAP CHANNEL DESIGN DATA													
STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V10 (f.p.s.)	Q10 (c.f.s.)	RIP-RAP SIZE D_{50}	RIP-RAP SIZE D_{MAX}	BLANKET THICKNESS
S-1	6.4512	9.757	0.6612	0.7579	0.0050	0.0707	6.0'	0.84'	0.04	1.99	12.73	9.5"	15"	19"
S-2	6.4512	9.757	0.6612	0.7579	0.0244	0.1562	6.0'	0.54'	0.04	1.54	12.8	9.5"	15"	19"
S-3	6.4512	9.757	0.6612	0.7579	0.0244	0.1562	6.0'	0.54'	0.04	1.54	12.8	9.5"	15"	19"
WATER QUALITY SWALE	1.552	7.073	0.2199	0.3625	0.0050	0.2236	6.0'	0.24'	0.04	3.01	4.00	5.5"	7"	12"
OUTFALL CHANNEL OF POND	1.680	6.342	0.2649	0.4106	0.0244	0.1562	5.0'	0.30'	0.04	2.38	3.54	5.5"	7"	12"

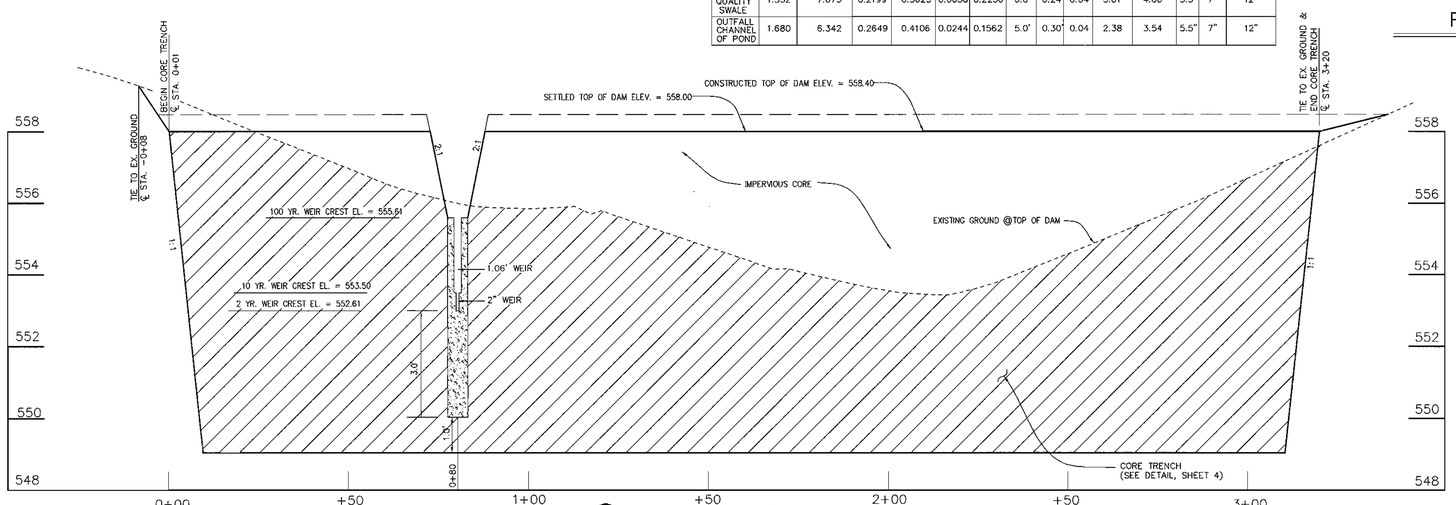


PROFILE THRU SPILLWAY (S.W.M. POND)

SCALE: HORIZ. : 1" = 20'
VERT. : 1" = 2'

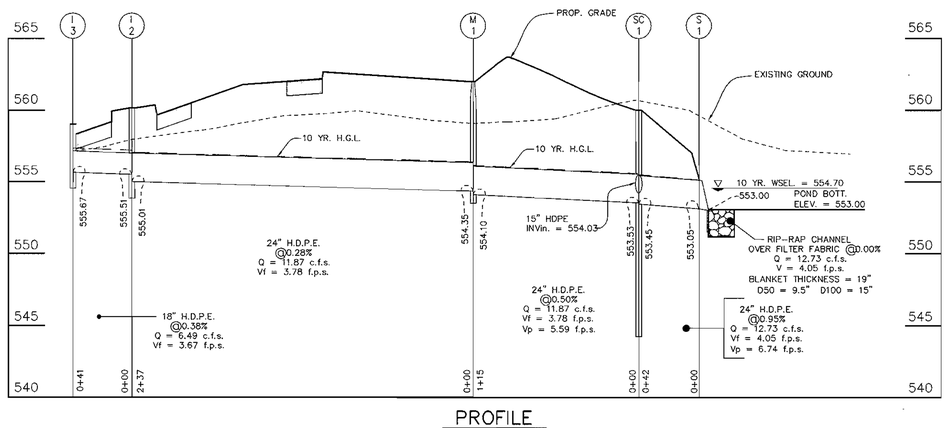
PROFILE

SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



PROFILE @TOP OF DAM (S.W.M. POND)

SCALE: HORIZ. : 1" = 20'
VERT. : 1" = 2'



PROFILE

SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

REVISION

DATE	DESCRIPTION

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (Print name below signature) — Date 8/9/01

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (Print name below signature) — Date 8/9/01

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A. Natural Resources Conservation Service — Date 9/4/01

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date 9/4/01

OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 10/19/01

Chief, Development Engineering Division — Date 9/7/01

Director, Department of Planning and Zoning — Date 10/23/01

PROJECT	SECTION/AREA	LOT NO.
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"	N/A	1

PLAT REF.	BLOCK NO.	ZONE	TAX	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040

WATER CODE	SEWER CODE
PRIVATE	PRIVATE

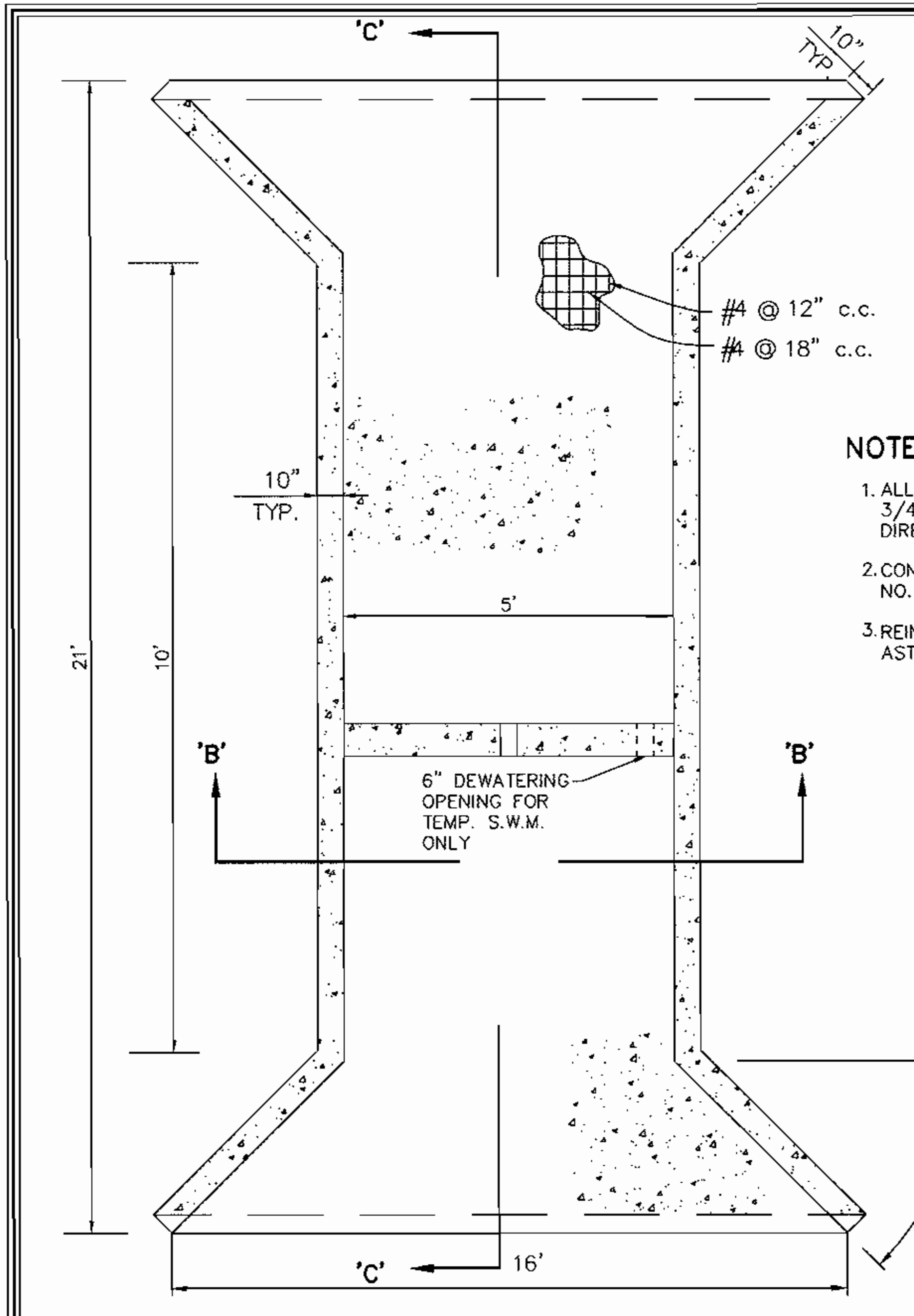
STORMWATER MANAGEMENT PROFILES, STORM DRAIN PROFILES AND DETAIL SHEET

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES
LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 3 OF 8

SDP 01-34

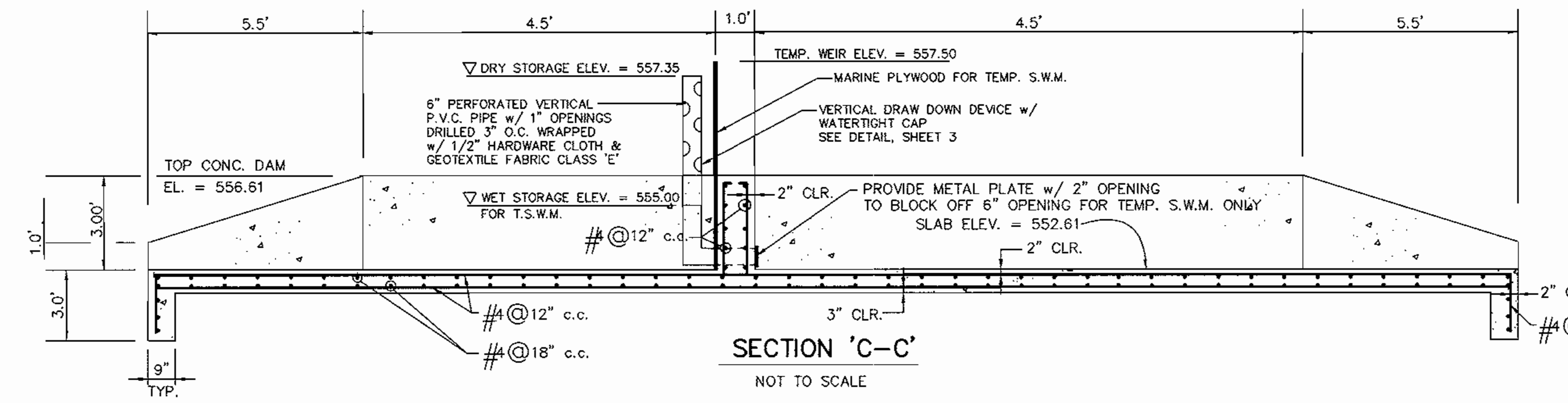


PLAN

NOT TO SCALE

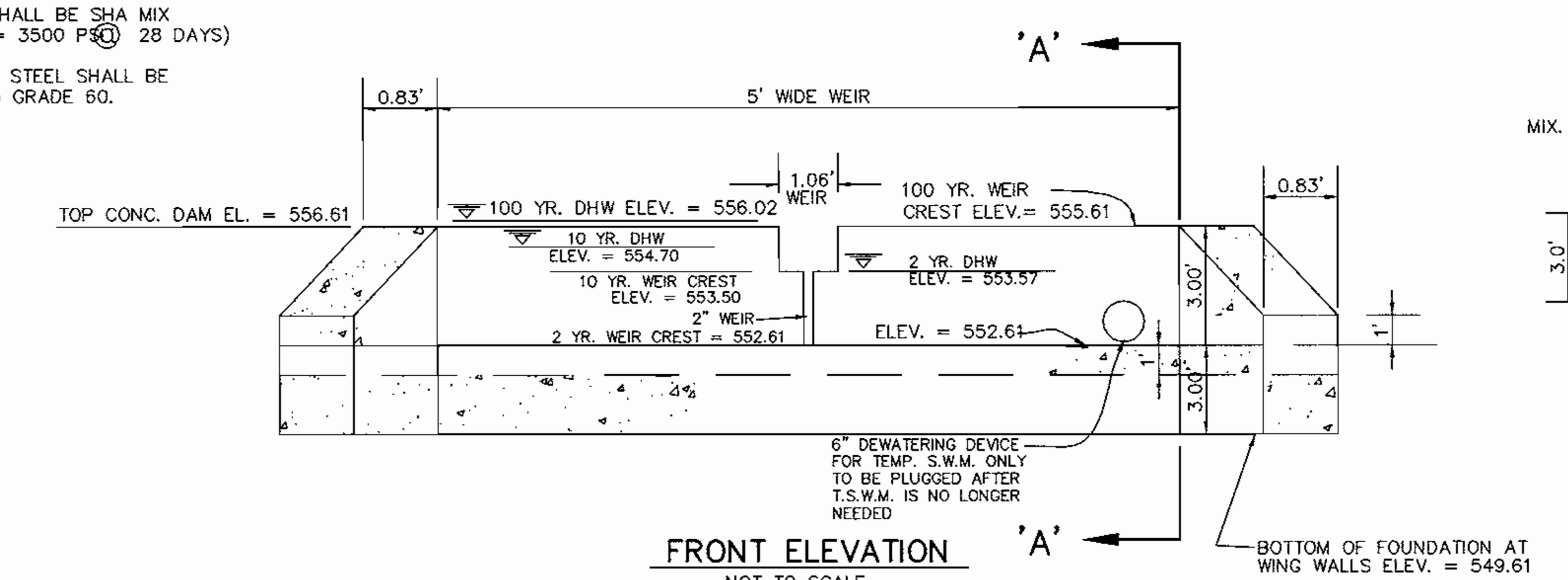
NOTES:

1. ALL EXPOSED EDGES TO HAVE 3/4" x 3/4" CHAMFER OR AS DIRECTED.
2. CONCRETE SHALL BE SHA MIX NO. 3 (Fc' = 3500 PSI @ 28 DAYS)
3. REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.



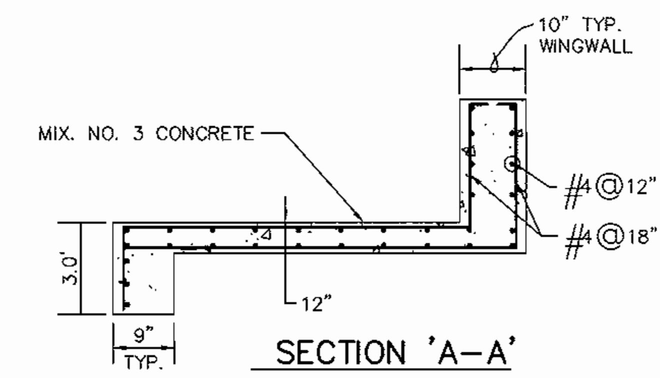
SECTION 'C-C'

NOT TO SCALE



FRONT ELEVATION

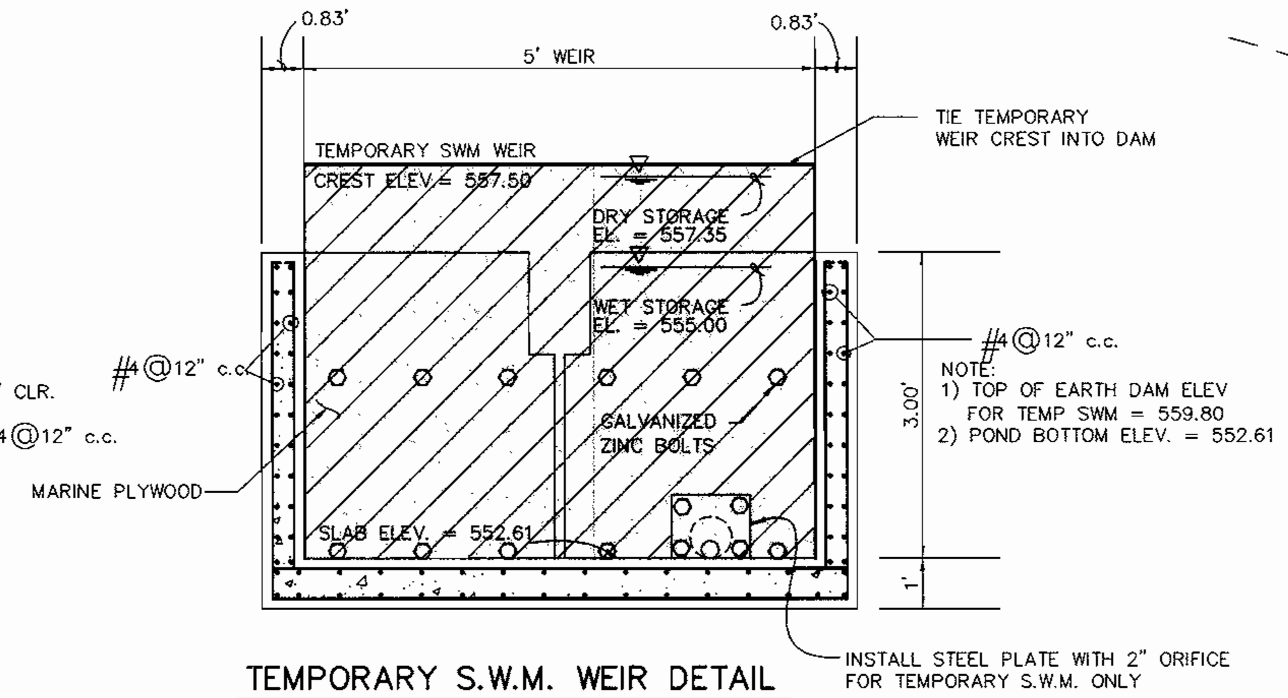
NOT TO SCALE



SECTION 'A-A'

NOT TO SCALE

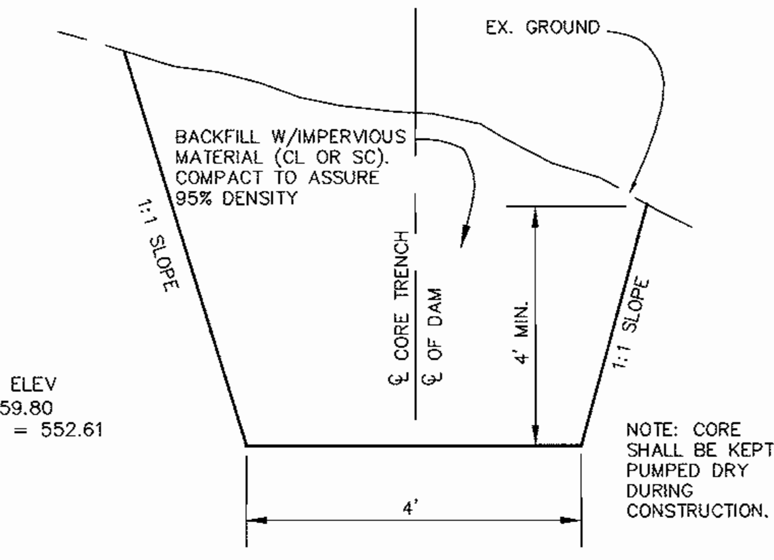
CONCRETE RELEASE DETAILS FOR PRIVATE S.W.M. FACILITY



TEMPORARY S.W.M. WEIR DETAIL

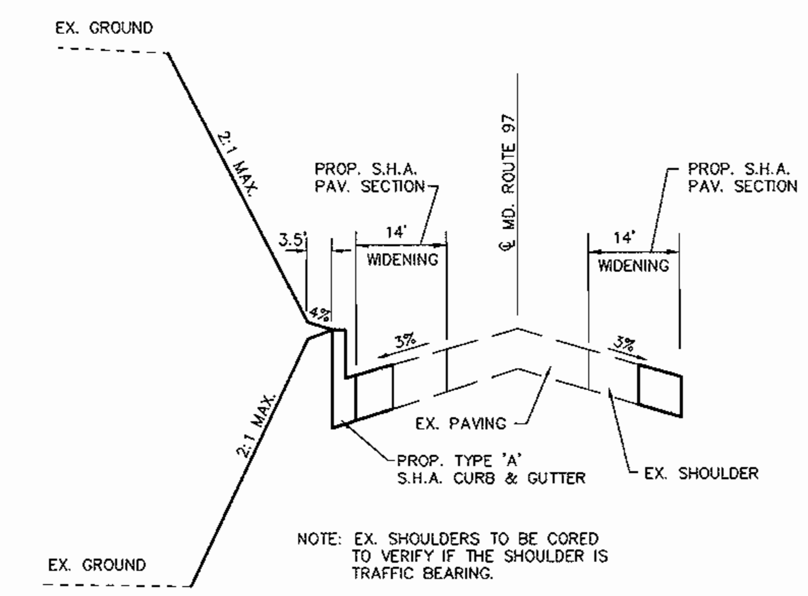
SCALE: 1" = 3'

DENOTES PROPOSED MARINE PLYWOOD TO BE BOLTED INTO CONCRETE WALL FOR TEMPORARY STORMWATER MANAGEMENT



CORE TRENCH DETAIL

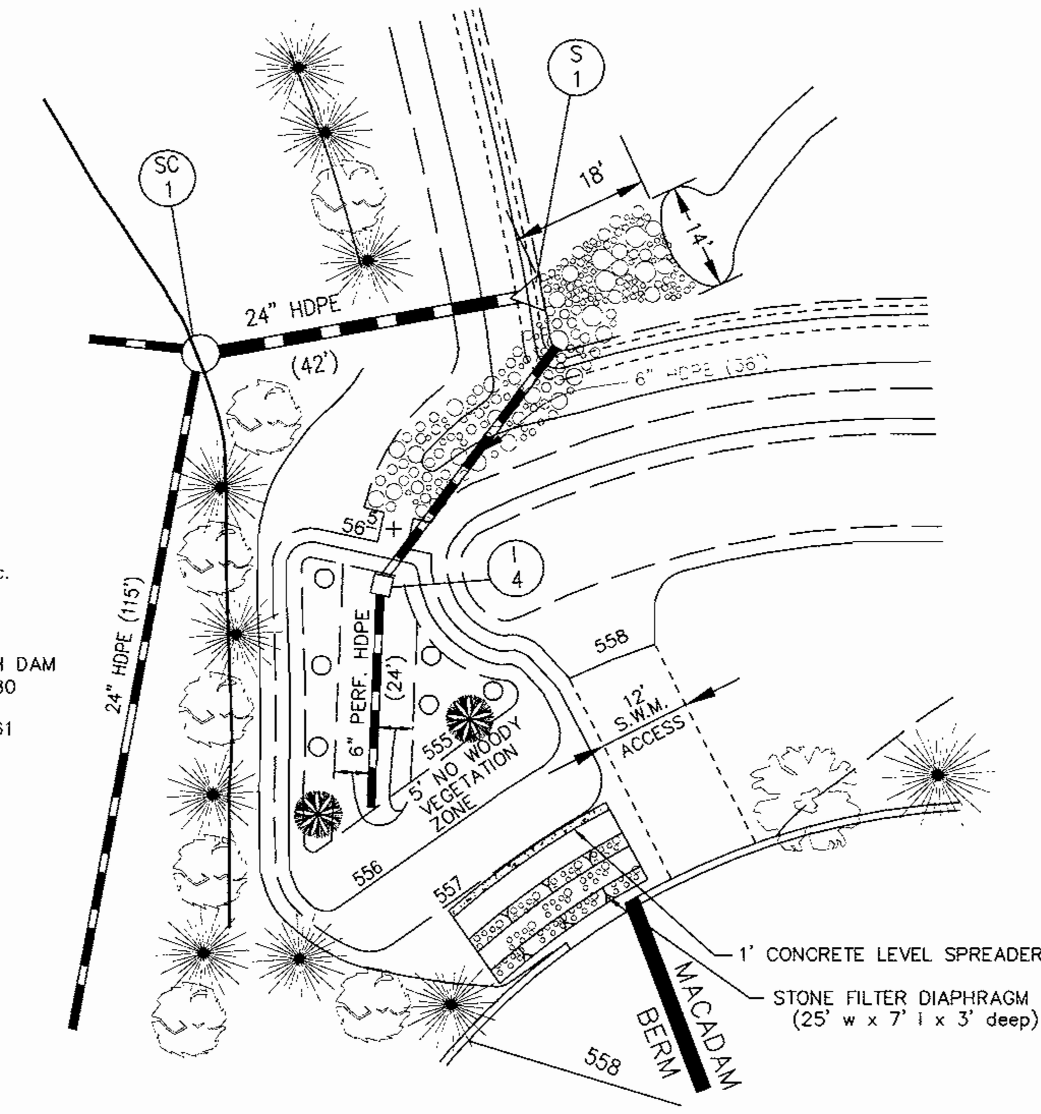
NOT TO SCALE



NOTE: EX. SHOULDERS TO BE CORED TO VERIFY IF THE SHOULDER IS TRAFFIC BEARING.

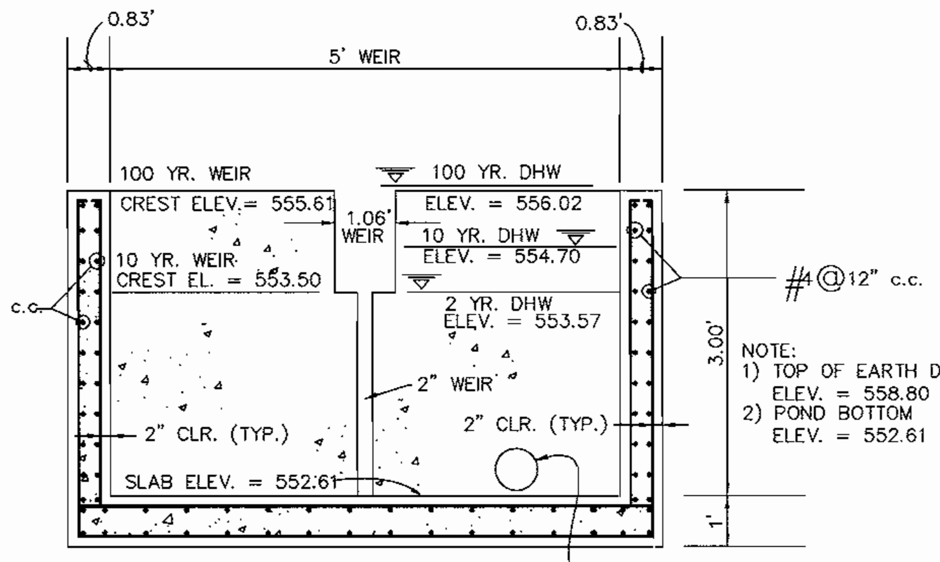
TYP. S.H.A. PAVING SECTION

NO SCALE



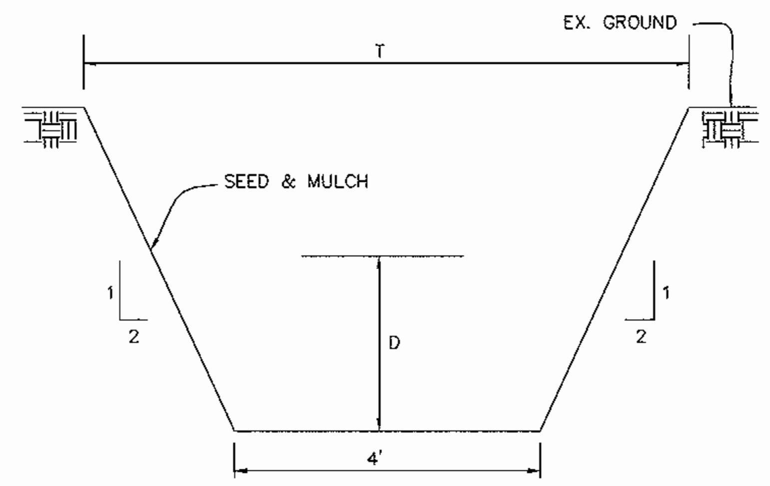
BIO-RETENTION AREA ENLARGEMENT

SCALE: 1" = 20'



SECTION 'B-B'

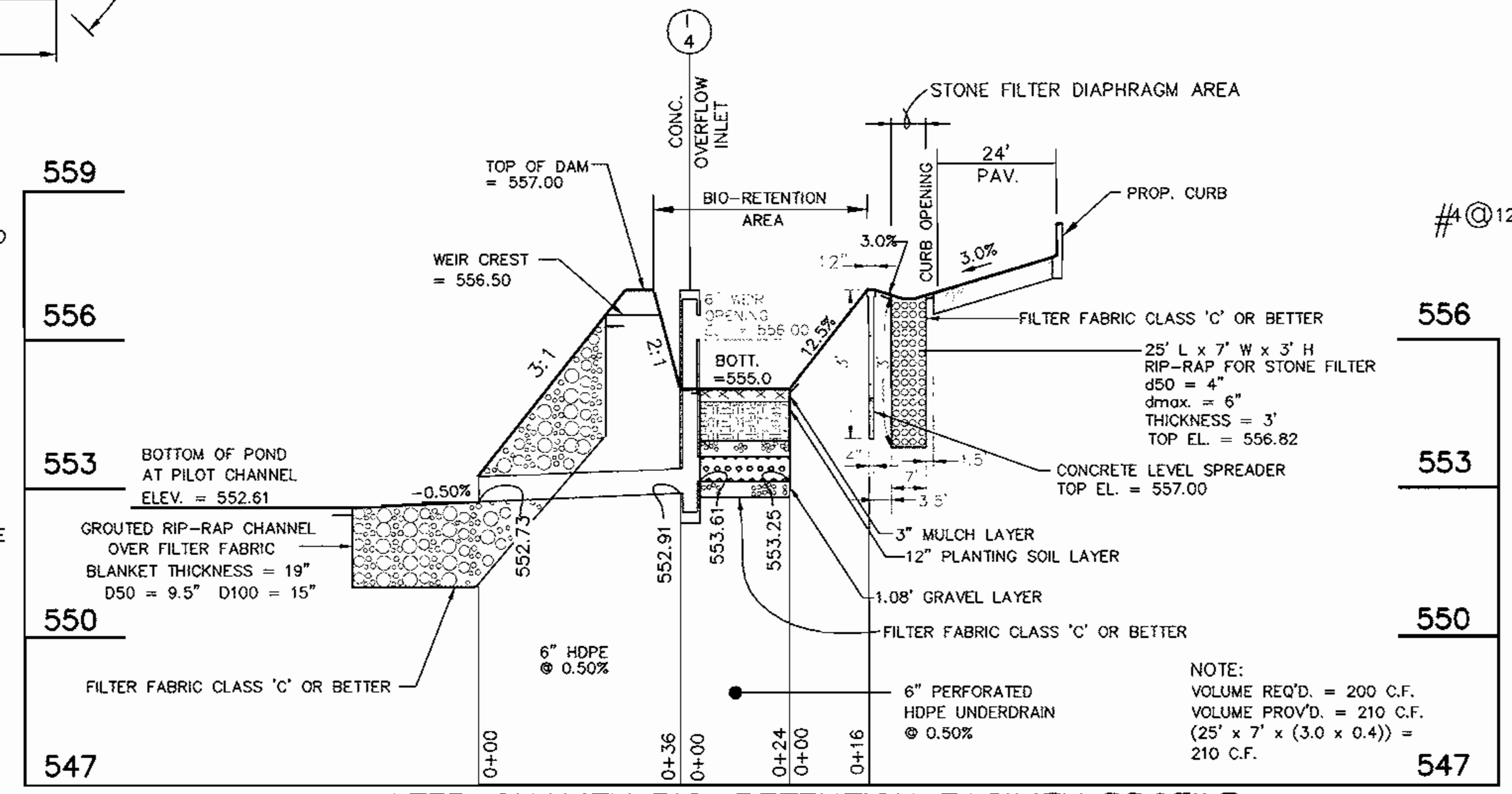
NOT TO SCALE



TRAPEZOIDAL CHANNEL DETAIL

NO SCALE

STATION	Q10 C.F.S.	n	DEPTH (D)	SLOPE	AREA (A)	WETTED PERIMETER (WP)	HYDRAULIC RADIUS (R)	TOP WIDTH (T)	V F.P.S.
2+00	2.20	0.04	0.28'	2.0%	1.2768	5.2522	0.2431	5.12'	2.04
4+18.20	7.80	0.04	0.44'	2.0%	2.4172	5.9677	0.4050	5.76'	2.86
4+45@ EX. 18" PIPE	7.80	0.04	0.44'	2.0%	2.4172	5.9677	0.4050	5.76'	2.86



WATER QUALITY BIO-RETENTION FACILITY PROFILE

SCALE: HORIZ. : 1" = 30'
VERT. : 1" = 3'

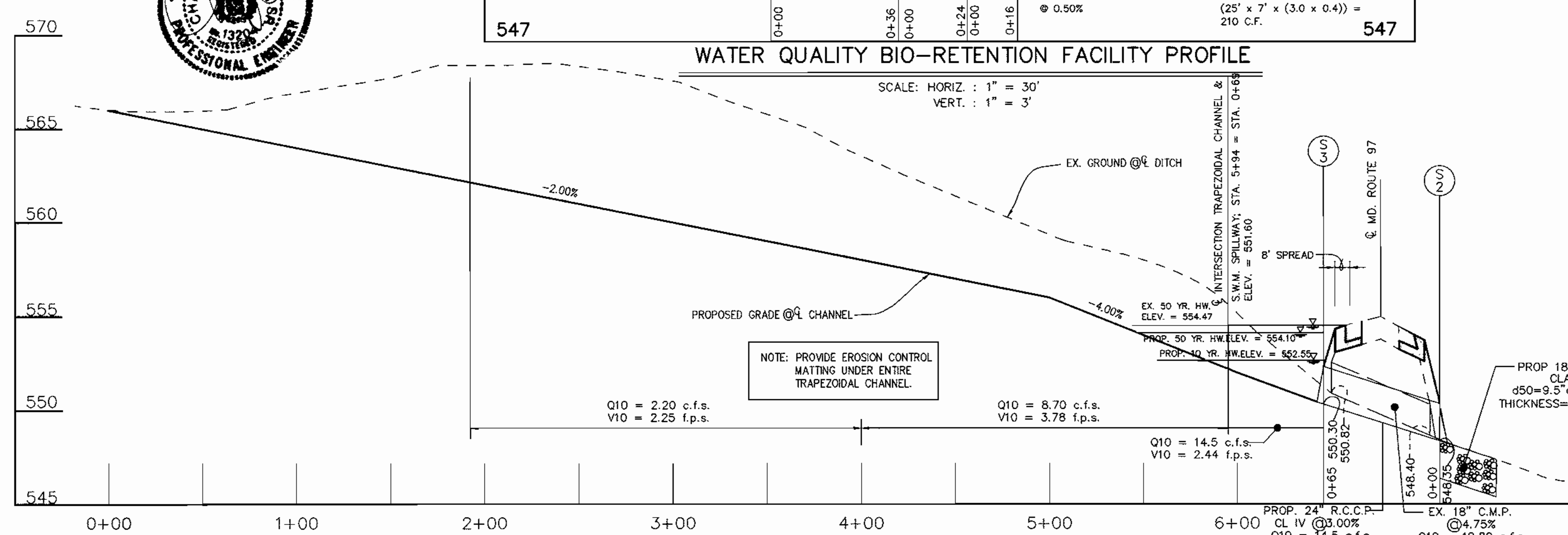
AS-BUILT CERTIFICATION

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

SIGNATURE　　PE NO.　　DATE

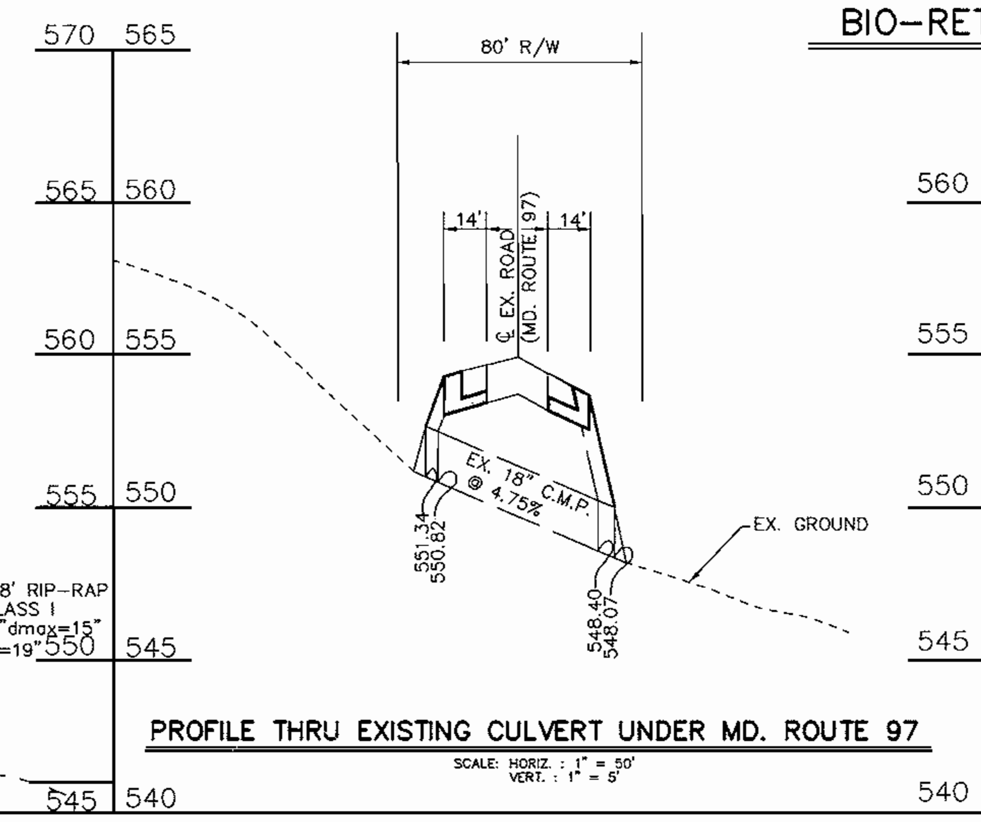
CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY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

STATE OF MARYLAND — CHARLES J. CROVO — No. 13201 — PROFESSIONAL ENGINEER



TRAPEZOIDAL CHANNEL PROFILE

SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



PROFILE THRU EXISTING CULVERT UNDER MD. ROUTE 97

SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'

BIO-RETENTION PLANT LIST

QTY.	KEY	DESCRIPTION	NAME
2	(tree symbol)	TREE	RED MAPLE ACER RUBRUM
6	○	SHRUB	BUTTONBUSH, COMMON CEPHALANTHUS OCCIDENTALIS

PLANTING AREA = 6a
HYDROLOGIC ZONE = ZONE 1

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREA (F-6)

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNNING.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

OPERATION AND MAINTENANCE SPECIFICATIONS

I HEREBY CERTIFY THAT I WILL OPERATE AND MAINTAIN THE COMPLETED POND IN ACCORDANCE WITH THE FOLLOWING:

1. PERIODIC INSPECTIONS OF THE FACILITY WILL BE MADE TO IDENTIFY POTENTIAL PROBLEMS THAT MAY AFFECT ITS SAFETY. THESE INSPECTIONS WILL BE MADE AFTER PERIODS OF HEAVY RAINFALL AND AT LEAST TWICE ANNUALLY. INSPECTION REPORTS SHALL BE KEPT UNTIL THE NEXT SUBSEQUENT INSPECTION. INSPECTION ITEMS TO BE LOOKED AT INCLUDE:
   - A.) SPILLWAY AND OUTLET WORKS;
   - B.) RIP-RAP;
   - C.) VEGETATIVE COVER;
   - D.) CRACKS IN THE FILL;
   - E.) SLOPE FAILURES; AND
   - F.) SEEPAGE AND OTHER SIGNS OF DISTRESS.
2. PROBLEMS IDENTIFIED DURING INSPECTIONS WILL BE PROMPTLY CORRECTED. MAJOR PROBLEMS WILL BE BROUGHT TO THE ATTENTION OF THE SOIL CONSERVATION DISTRICT AND THE DAM SAFETY DIVISION OF THE MARYLAND WATER RESOURCES ADMINISTRATION. AS A VERY MINIMUM, GRASSY VEGETATION WILL BE MAINTAINED IN A DENSE AND HEALTHY STATE, AND WOODY VEGETATION WILL NOT BE PERMITTED TO GROW ON THE EMBANKMENT.

OPERATION MAINTENANCE AND INSPECTION

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

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

REVISION	
DATE	DESCRIPTION

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (Print name below signature)　　8/9/01 Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (Print name below signature)　　8/9/01 Date

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service　　9/4/01 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD　　9/4/01 Date

OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development　　10/19/01 Date

Chief, Development Engineering Division　MAJ　　9/7/01 Date

Director, Department of Planning and Zoning　　10/23/01 Date

PROJECT			SECTION/AREA		LOT NO.
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"			N/A		1
PLAT REF.	BLOCK NO.	ZONE	TAX	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040
WATER CODE	PRIVATE		SEWER CODE	PRIVATE	

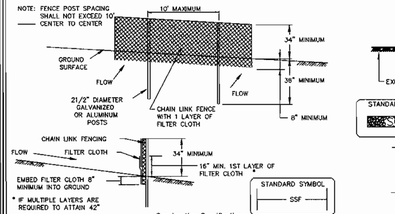
STORMWATER MANAGEMENT DETAIL SHEET

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES LOT 1

TAX MAP No: 14　PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN　DATE: AUGUST 8, 2001
SHEET 4 OF 8

SUPER SILT FENCE

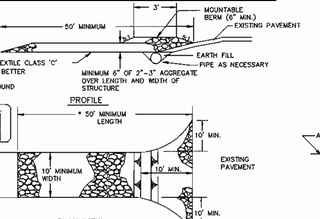


Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest *Maryland State Highway Details for Chain Link Fencing*. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

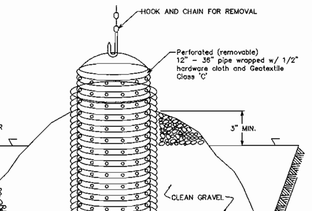
STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length – minimum of 50' (*50' for single residence lot).
2. Width – 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (Filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

REMOVABLE PUMPING STATION



ELEVATION

Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The intake stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

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 salt problems.

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 adequate plant 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 growth.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purposes of locating topsoil supplies by establishing 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.

III. 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 it otherwise be detrimental to proper grading and seedbed preparation.

IV. Alternative for Permanent Seeding – Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements.

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

ii. Composted sludge shall be amended with a petroleum fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

i. Place topsoil (if required) and apply soil amendments as specified in 10.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.

V. Topsoil Application

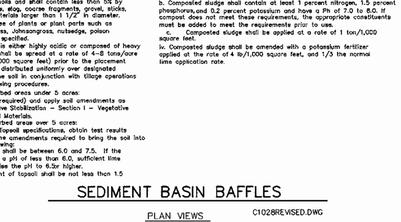
i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Stn Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained a smooth 4" – 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" – 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that 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.

SEDIMENT BASIN BAFFLES



BAFFLE DETAIL

D = DISTANCE BETWEEN INFLOW AND OUTFLOW

A = AREA OF NORMAL POOL

W_e = EFFECTIVE WIDTH = A/D

L_m = TOTAL DISTANCE FROM THE INFLOW POINT AROUND THE BAFFLES TO THE RISER

FORMULA: $\frac{L_m}{W_e} \geq 2$

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (4½ to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dikes, cut and fill slopes and other areas at final grade, farmed steeplyte and playing areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter accumulation, which increases the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help control pollutants by removing nutrients and other substances present within the root zone.

Sediment control devices must remain in place during seeding, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment, associated chemicals and nutrients from entering into surface waters.

SECTION I – VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation

i. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.

ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually required for temporary seeding.

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

B. Soil Amendments (Fertilizer and Lime Specifications)

i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer 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.

ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure 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 trademark and warranties of the producer.

iii. Lime shall be ground limestone (hydrated or burnt lime may be substituted) which contains a total neutralizing power (TNP) of not less than 50 and shall be ground to such fineness that not less than 50% will pass through a #100 mesh sieve and 98–100% will pass through a #20 mesh sieve.

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

C. Seedbed Preparation

i. Temporary Seeding

a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of harrowing, tracking, contouring or subsoiling equipment, such as disc harrows or rubber plows or rippers mounted on construction equipment. After the soil is loosened it should not be pulled or dragged smooth, but left in the roughened condition. Slopes steeper than 3:1) should be tracked leaving the surface in an irregular seeding depths in soils not previously loosened, such as topsoil, or fills, soiling topsoil is required to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.

b. Apply fertilizer and lime as prescribed on the plans.

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

ii. Permanent Seeding

a. Under ideal conditions required for permanent vegetative establishment:

1. Soil pH shall be between 6.0 and 7.0.
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 (7-30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lowgrass or sereals lespedeza is to be planted, then a sandy soil (<30% silt plus clay) is 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 drainage 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 down a slope.

c. Apply soil amendments as called for in soil test or as included on the plans.

d. Incorporate amendments into the top 3–5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and 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 tracked 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 sandy disturbed areas.

D. Seed Specifications

i. All seed shall 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 mixture on the site.

Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.

ii. Inoculate all legumes (Trifolium, Lespedeza, Medicago, Melilotus, Lotus, Coronilla, and Vicia) with a commercial preparation of the proper strain of nitrogen fixing bacteria. Inoculate seed within 24 hours before planting and in accordance with the manufacturer's recommendations. Store inoculants in a cool, dry place and use the inoculant within 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 inoculants cool and moist until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding

i. Hydroseeding – Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or cover seed by a cultipacker seeder.

a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen: maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous): 200 lbs/ac; K20 (potassium): 200 lbs/ac.

b. Lime – use only ground agricultural limestone (Up to 3 tons per acre may be applied by hydroseeding methods). Add lime to the tank first and mix to a uniform slurry before adding any seed or fertilizer. Do not use lime when applying straw mulch.

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 shall be incorporated into the topsoil to the specified depth prescribed on the plans. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

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

a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 50% of the seed with soil cover. Seed depth shall be as prescribed.

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 (Listed in order of preference)

i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be excessively weathered, brittle, decayed or extremely dusty and shall be free from noxious weed seeds and coarse materials.

ii. Wood Cellulose Fiber Mulch (WCFM).

a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physique state.

b. WCFM shall be free from stones or contain a green dye in the package that will provide identification of the material and indicate visual application on the completed area.

c. WCFM, including dye, shall contain no germination or growth inhibiting factors.

d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter–like ground cover, on application, having moisture absorption and percolation properties and shall permit the seed to germinate and grow through the mat. It shall not adversely affect germination of seed.

e. WCFM shall contain no substance that may be toxic to plant growth.

f. WCFM shall conform to the following physical requirements: fiber length by weight 10 mm minimum, water holding capacity 90% minimum, pH range 4.5 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas – Mulch shall be applied to all seeded areas immediately after seeding.

i. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and mulching until the seeding season returns and seeding can be performed in accordance with the following section.

ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.

iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard.

i. Apply asphalt binder at 400 gal/ac. Use caution when designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This procedure is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.

ii. Wood cellulose fiber may be used for mulching straw. The fiber binder shall be applied at a rate of 750 lbs/ac. Use caution when designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This procedure is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.

iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as on crests, and areas in valleys. The remainder of area should be applied uniformly after binder application. Synthetic binders – such as Acrylic DLR (Agro–Tack), DCA–70 Petroset, Terra Tax, Terra Tack II, or other approved equal should be applied at a rate of 11 lbs/ac or according to manufacturer to anchor mulch.

iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

I. Incremental Stabilization – Cut Slopes

i. All cuts slopes shall be seeded, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.

ii. Construction sequence (refer to Figure 4 below):

a. Excavate and stabilize all temporary swales, side ditches, or berms that will be diverted by the construction of the embankment.

b. Perform Phase 1 embankment, areas and stabilize.

c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.

d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once construction has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil, seed and mulch. Any interruptions in the operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.

J. Incremental Stabilization of Embankments – Fill Slopes

i. Embankments shall be constructed in lifts as prescribed on the plans.

ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 10', or when grading operation ceases as prescribed in the plans.

iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to prevent runoff from overtopping and cutting down the slope in a non–controlled manner to a sediment trapping device or surface runoff and slowly down the slope.

iv. Construction sequence (refer to Figure 4 (below).

a. Excavate and stabilize all temporary swales, side ditches, or berms that will be to divert runoff around the fill. Construct slope silt fence on low side of fill as shown on the plans. Construct temporary slope drains as needed.

b. Perform Phase 1 embankment, areas and stabilize.

c. Place Phase 2 embankment, areas and stabilize.

d. Perform final embankment, areas and stabilize. Overseed previously seeded areas as necessary.

Note: Once construction of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil, seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 – TEMPORARY SEEDING

Vegetation – annual grass or grain used to provide cover for disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures – Temporary Seeding

i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (found in Figure 5) and enter them in the Temporary Seeding Summary below, along with application rates, seeding dates and seeding depths. In cut or fill slopes steeper than 3:1, where the plans and conditions, then Table 26 must be put on the plans.

ii. For areas having soil tests performed, the rates shown on this table will be deleted and the rates recommended by the testing agency shall be inserted in their report for Temporary Seeding.

Seed Mixture (Hardiness Zone 6a) From Table 26					Fertilizer Rate (10–10–10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	RYE	140	3/15 – 5/15 9/1 – 2/1	1" – 2"	600 lb/ac (15 lb/1000sf)	2 tons/ac (100 lb/1000sf)
2	BARLEY OR RYE PLUS FORTAL MILLOT	150	8/1 – 2/15	1"		

SECTION 3 – PERMANENT SEEDING

Seeding grass and legumes to establish growing cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures – Permanent Seeding

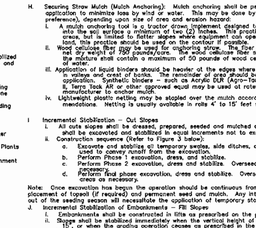
i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 25. If this summary is not put on the sediment/erosion plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA–SCS Technical Field Office Guide, Section 342 – Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.

ii. For sites having disturbed areas over 5 acres, the rates shown on this table will be deleted and the rates recommended by the soil testing agency shall be written in.

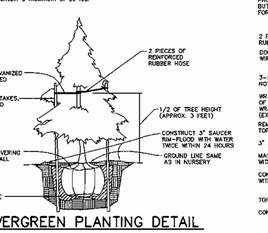
iii. For areas reaching low maintenance, apply ureaform fertilizer (46–0–0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Seed Mixture (Hardiness Zone 6a) From Table 25					Fertilizer Rate (10–20–20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
3	TALL FESCUE (65%) KENTUCKY BLUEGRASS (15%) PERENNIAL RYEGRASS (10%)	100 10 10	8/15 – 9/1 8/1 – 10/1	1" – 2"	90 lb/ac (2.0 lb/1000sf)	175 lb/ac (4 lb/1000sf)	175 lb/ac (4 lb/1000sf)	2 tons/ac (100 lb/1000sf)
10	TALL FESCUE (80%) WILD FESCUE (20%)	30 30	8/15 – 9/1 8/1 – 10/1	1" – 2"				

SHRUB PLANTING DETAIL



EVERGREEN PLANTING DETAIL



PLANTING SPECIFICATIONS

NOT TO SCALE

Plants, related material, 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, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations 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 with forked leaders will not be accepted. All plants shall be freshly dug; no heeled–in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification 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 Architect, latest edition, including all agenda.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying all municipal utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications

Plant quantities are provided for the convenience of the bidders shown on the plant list, the quantities on the plan take precedence

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Positive drainage shall be maintained in planting beds (2 percent slope).

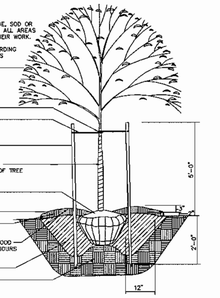
Planting mix shall be as follows: Deciduous Plants – Two parts topsoil, one part well–rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants – two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

Weed Control: Incorporate a pre–emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to ensure its adaptability to the specific ground cover to be treated.

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc.

TREE PLANTING DETAIL



NOT TO SCALE

SEDIMENT CONTROL NOTES

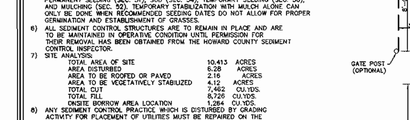
1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313–1855).
2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE–DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) SEVEN (7) CALENDAR DAYS AS TO THE EXTERNAL PERIMETER OF STRUCTURES; (B) FOURTEEN (14) DAYS AS TO ALL DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	10.413	ACRES
AREA DISTURBED	6.28	ACRES
AREA TO BE ROOFED OR PAVED	2.16	ACRES
AREA TO BE VEGETATIVELY STABILIZED	4.12	ACRES
TOTAL CUT	7,462	CU.YDS.
TOTAL FILL	8,725	CU.YDS.
ONSITE BORROW AREA LOCATION	1,284	CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED BY THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF 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.
11) 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.

EARTH DIKE

NOT TO SCALE



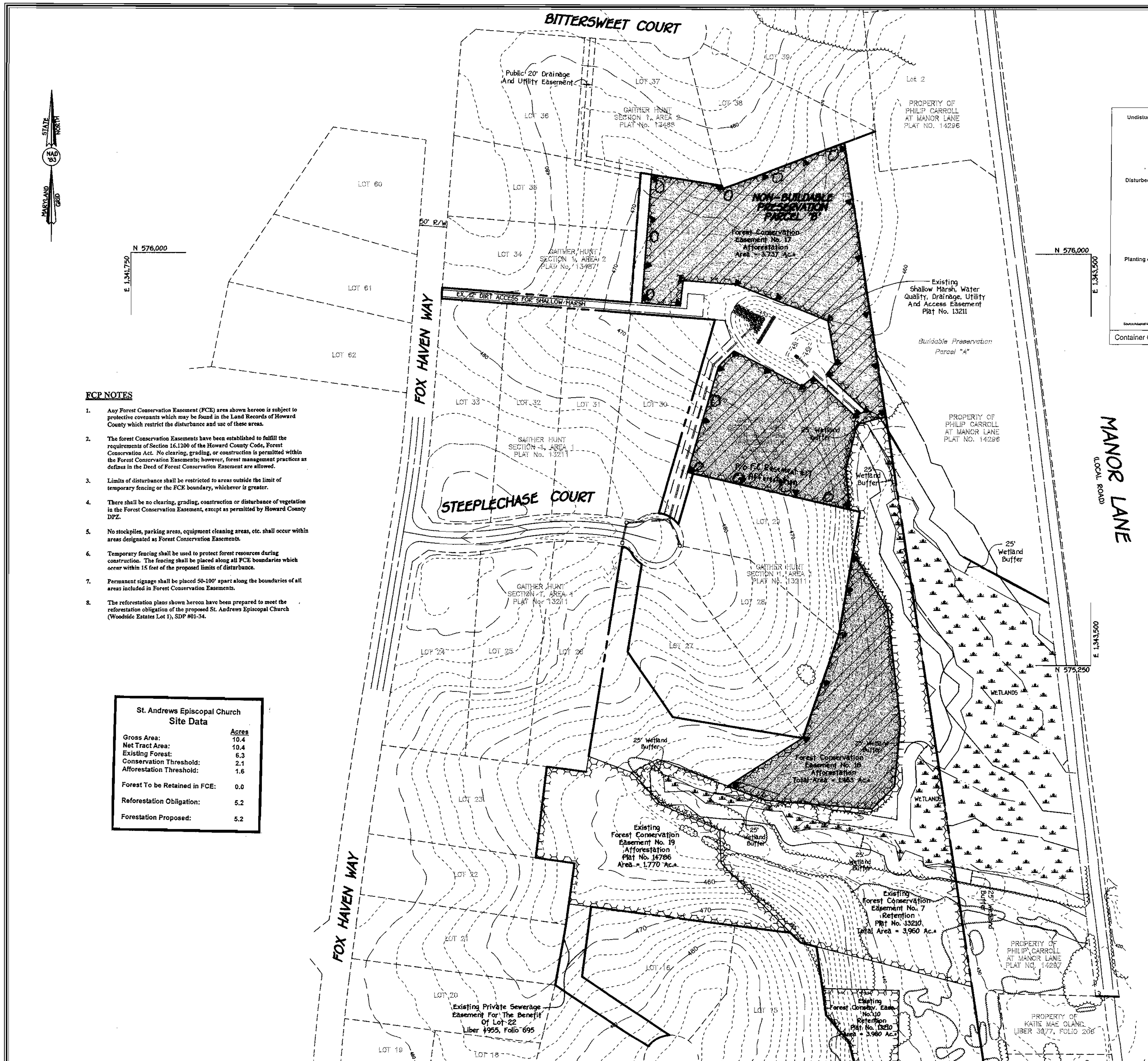
CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH–MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A STABILIZED SAFE OUTLET. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAP OR BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARDS OR SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF WITHIN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5–3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1–5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1–8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP–RAP 4"–8"
4	8.1–20%	LINED RIP–RAP 4"–8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR R

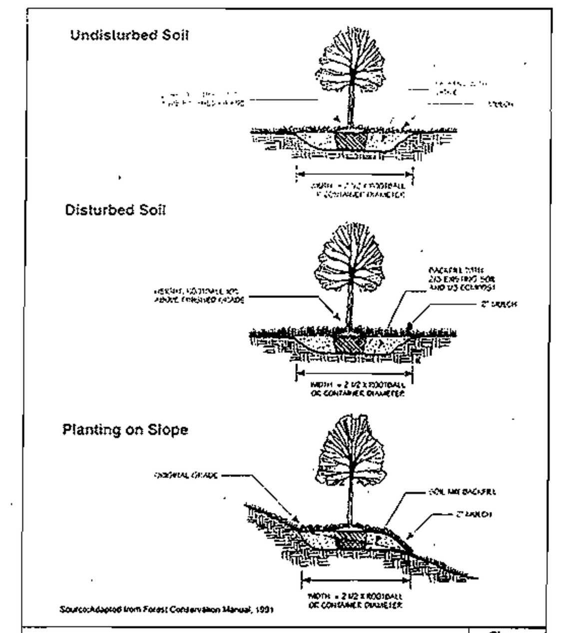


FCP NOTES

1. Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
2. The forest Conservation Easements have been established to fulfill the requirements of Section 16.1200 of the Howard County Code, Forest Conservation Act. No clearing, grading, or construction is permitted within the Forest Conservation Easements; however, forest management practices as defines in the Deed of Forest Conservation Easement are allowed.
3. Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.
4. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
5. No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
6. Temporary fencing shall be used to protect forest resources during construction. The fencing shall be placed along all FCE boundaries which occur within 15 feet of the proposed limits of disturbance.
7. Permanent signage shall be placed 50-100' apart along the boundaries of all areas included in Forest Conservation Easements.
8. The reforestation plans shown hereon have been prepared to meet the reforestation obligation of the proposed St. Andrews Episcopal Church (Woodside Estates Lot 1), SDP #01-34.

St. Andrews Episcopal Church
Site Data

	Acres
Gross Area:	10.4
Net Tract Area:	10.4
Existing Forest:	6.3
Conservation Threshold:	2.1
Afforestation Threshold:	1.6
Forest To be Retained in FCE:	0.0
Reforestation Obligation:	5.2
Forestation Proposed:	5.2



Container Grown and B&B Planting Techniques — Figure C-16

Planting Schedule

FCE Planting Area 17 (3.7 acres)

Qty.	Species	Size	Spacing
4	Acer rubrum - Red maple	1" cal.	**
7	Fraxinus americana - White ash	1" cal.	**
160	Acer rubrum - Red maple	2-3 whip	**
70	Cercis canadensis - Red bud	2-3 whip	**
250	Fraxinus americana - White ash	2-3' whip	**
250	Liriodendron tulipifera - Poplar	2-3' whip	**
90	Nyssa sylvatica - Black gum	2-3' whip	**
150	Prunus serotina - Black cherry	2-3' whip	**
150	Quercus rubra - Red oak	2-3' whip	**
80	Viburnum dentatum - Arrowwood	2-3' b.t.	**
80	Viburnum prunifolium - Blackhaw	2-3' b.t.	**

FCE Planting Area 2 (0.2 acres)

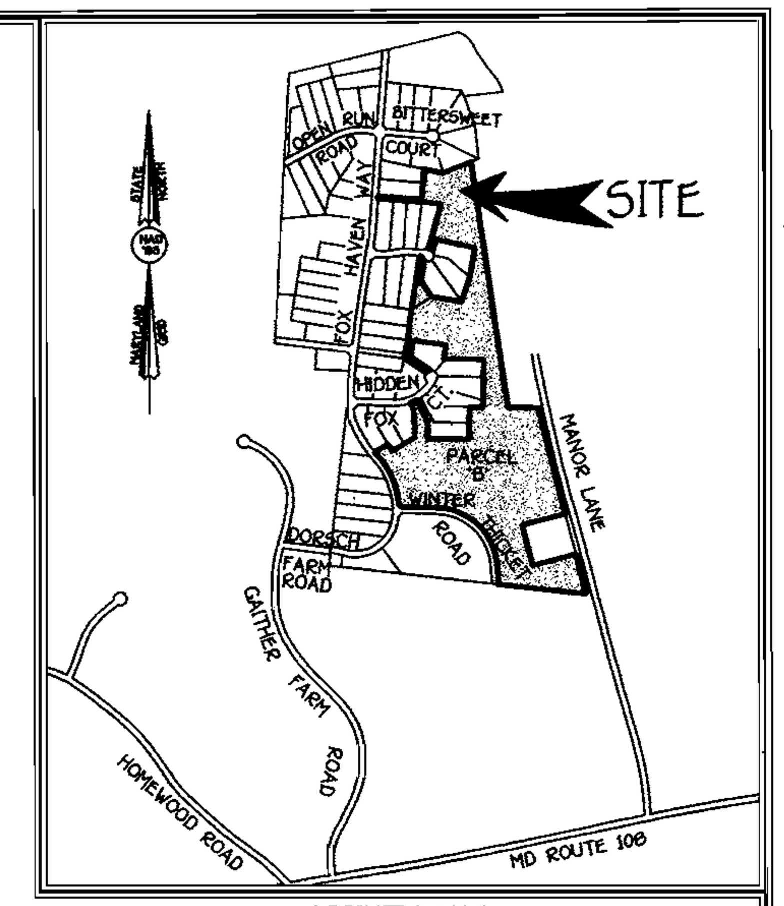
Qty.	Species	Size	Spacing
4	Acer rubrum - Red maple	1" cal.	**
60	Acer rubrum - Red maple	2-3 whip	**
30	Cercis canadensis - Red bud	2-3 whip	**
90	Fraxinus americana - White ash	2-3' whip	**
90	Liriodendron tulipifera - Poplar	2-3' whip	**
50	Nyssa sylvatica - Black gum	2-3' whip	**
65	Prunus serotina - Black cherry	2-3' whip	**
65	Quercus rubra - Red oak	2-3' whip	**
35	Viburnum dentatum - Arrowwood	2-3' b.t.	**
35	Viburnum prunifolium - Blackhaw	2-3' b.t.	**

Key:

** Plantings to be spaced on 11 foot centers, no shelters required - plantings should be installed in rows to facilitate future maintenance. Where possible rows should be made along contour.

One caliper plants shall be planted in locations shown by -

b.t. - branched transplant



VICINITY MAP
SCALE: 1" = 1200'

Planting Notes:

1. Multiflora rose control must be performed as part of this planting plan.

2. Bareroot plant material may be used to offset the cost of multiflora rose removal and maintenance. If bareroot material is used it must be planted in March-April and an anti-desiccant gel should be utilized to protect root systems. Container grown stock is recommended.

3. Plants should be flagged to aid on location during maintenance. Plantings should also be planted in grid pattern to facilitate maintenance and removal of invasive and exotic species.

Multiflora Rose Control Note

Multiflora rose is prevalent in certain areas to be afforested. Prior to planting all multiflora rose shall be removed. Removal of the rose may be performed with mowing and herbicide treatments. Physical removal of all top growth following by a periodic herbicide treatment of stump sprouts is recommended. Native tree and shrub species occurring within the rose thickets should be retained wherever possible. Herbicides treatments shall occur on 2 month intervals during the first growing season and once each in the spring and fall for subsequent years. Herbicide used shall be made specifically to address woody plant material and shall be applied as per manufacturers specifications. Care should be taken not to spray planted trees or naturally occurring native tree/shrub seedlings. It is recommended that initiation of rose removal begin at least six months prior to planting.

Planting/Soil Specifications

1. Planting of nursery stock shall take place between March 15th and April 30th. Container stock may be planted September 1-October 30.
2. A twelve (12) inch layer of topsoil shall be spread over all afforestation areas impacted by site grading to assure a suitable planting area. Disturbed areas shall be seeded and stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
3. All bareroot planting stock shall have their root systems dipped into an anti-desiccant gel prior to planting.
4. Plants shall be installed so that the top of root mass is level with the top of existing grade. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
5. Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications.
6. A two (2) inch layer of hardwood mulch shall be placed over the root area of all plantings.
7. Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
8. All non-organic debris associated with the planting operation shall be removed from the site by the contractor.

Sequence of Construction

1. Plants shall be installed as per Plant Schedule and the Planting/Soil Specifications for the project.
2. Upon completion of the planting, signage shall be installed as per the Forest Retention Area Protection Devices shown on Sheet 2 of the Forest Conservation Plan.
3. Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.

Maintenance of Plantings

1. Maintenance of plantings shall last for a period of 24 months.
2. All plant material shall be watered twice a month during the 1st growing season. Watering may be more or less frequent depending on weather conditions. During second growing season, once a month during May-September, if needed.
3. Invasive exotics and noxious weeds will be removed from reforestation areas. Old field successional species will be retained.
4. Plants will be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
5. Dead branches will be pruned from plantings.

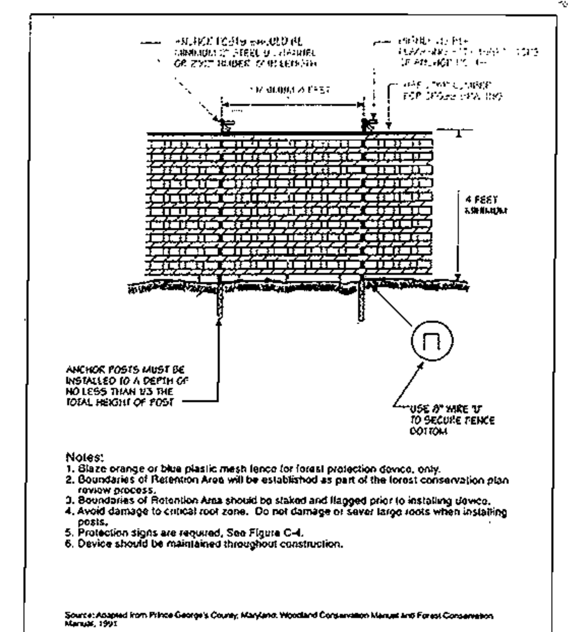
Guarantee Requirements

1. After one growing season, plant material shall be maintained at 90% survival threshold. A 75 percent survival rate of forestation plantings will be required at the end of the 24 month maintenance period. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season.
2. The contractor will not be liable for plant loss due to theft or vandalism.

Surety for Reforestation

1. The developer shall post a surety (bond, letter of credit) to ensure that reforestation plantings are completed. Upon acceptance of the plantings by the County, the bond shall be released.

NOTE: FOR EASEMENT BERING DISTANCES SEE RECORDED PLAT 14903 - 14907 (F02-11)



Plastic Mesh Tree Protection Fence — Figure C-5

11"
15"

Forest Conservation Easement

Unauthorized disturbances of vegetation is prohibited. Violators are subject to fines as imposed by the Howard County Forest Conservation Act of 1992

Trees for Your Future

▼ DENOTES SIGN LOCATION

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification WDCP93MD0610044B
JOHN P. CANOLES 4/5/01

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

REVISION	
DATE	DESCRIPTION

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (print name below signature) Date

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD Date

DEVELOPER/OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/23/01
Chief, Division of Land Development BB — Date 10/19/01
Chief, Development Engineering Division MAJ — Date 9/7/01

SUBDIVISION ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES" #14903-14907		SECTION/AREA N/A	LOT NO. 1	
PLAT NO. 3976 DEED REF. 4491\903	BLOCK NO. 16	ZONE RC-DEO	TAX/ZONE 14	ELEC. DIST. 4TH	CENSUS TR. 5040
WATER CODE PRIVATE		SEWER CODE PRIVATE			

OFF-SITE FOREST CONSERVATION PLAN

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: 1" = 100' DATE: MAY 23, 2001
SHEET 6 OF 7

SDP 01-34

K:\Drawings 4\40315 Union Chapel Church\SDP\40315 OFF-SITE FOREST CONSERVATION PLAN.dwg

SOILS LEGEND

SOIL	NAME	CLASS
ChA	Chester silt loam, 0 to 3 percent slopes	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
ChC2	Chester silt loam, 8 to 15 percent slopes, moderately eroded	B

NOTES:
- * Hydric soils and/or contains hydric inclusions
- ** May contain hydric inclusions
- † Generally only within 100-year floodplain areas

MAINTENANCE NOTES WATER QUALITY STRUCTURE WASTE

1. Water quality structures will require periodic cleaning. Owners of these facilities will have to maintain them as needed.
2. Maintenance of these facilities will consist of cleaning out the stormceptor and disposal of the waste and repair of the facility as needed. Periodic inspections of these facilities will be made by the owner.
3. The disposal of the liquid and solid matter shall be as follows:
   A. Liquid material in the stormceptor shall be pumped into a vacuum tank truck and disposed of at an approved sanitary district discharge manhole or be taken to an approved sewage treatment plant for discharge.
   B. The solid material shall be landfilled in an approved sanitary landfill.
4. The inlet pipes and structural parts shall be repaired as needed.
5. Stormceptor inlet and outlet assembly shall be periodically inspected. Blockages shall be removed and disposed of as required in 3B above.

OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE

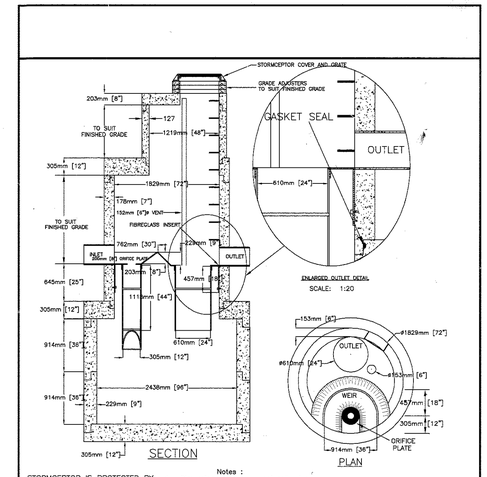
1. Stormceptor water quality structures will require periodic cleaning. Owners of these facilities will have to maintain them as needed. Owners will have the Stormceptor unit inspected yearly or as required by Howard County, utilizing the Stormceptor Inspection/Monitoring Form. Inspections can be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed the specified level (Table 9 of Technical Manual) then cleaning of the unit is required.
2. Stormceptor water quality structures must be checked and cleaned immediately after petroleum spills, contact appropriate notification agencies.
3. Maintenance of Stormceptor units should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in unit. The proper cleaning and disposal of the removed materials and liquid must be followed.
4. The inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the Stormceptor will be repaired as needed.
5. Owner shall retain and make Stormceptor Inspection/Monitoring Forms available to Howard County officials upon their request.

DRAINAGE AREA DATA

AREA = 0.49 AC.±	A	C = 0.37
T/C = 10.00 MIN. (MIN.)		% IMP. = 42.9%
AREA = 0.30 AC.±	B	C = 0.66
T/C = 11.12 MIN.		% IMP. = 68%
AREA = 2.86 AC.±	C	C = 0.30
T/C = 15.00 MIN. (MAX.)		% IMP. = 18%
AREA = 3.67 AC.±	D	C = 0.28
T/C = 15.00 MIN. (MAX.)		% IMP. = 20%
AREA = 0.88 AC +/-	E	RCN = 67
T/C = 19.80 MIN		% IMP. = 19.3%
AREA = 0.39 AC +/-	F	C = 0.65
		% IMP. = 50%

(PRIVATE)
STORMWATER MANAGEMENT POND
HAZARD CLASS "A"
(SEE DETAILS, SHEETS 3 & 4)

T/C = 11.12 MIN



STORMCEPTOR IS PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENTS:
Canadian Patent No. 2,009,208
Canadian Patent No. 2,137,942
U.S. Patent No. 4,985,148
U.S. Patent No. 5,498,331
U.S. Patent No. 5,725,760
U.S. Patent No. 5,753,115

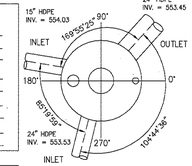
Notes :
1. Dimensions may vary regionally due to different manufacturer's.
2. Access way is offset to allow access to the fibreglass bypass slab and to allow inspection and maintenance from the surface.
3. Pipe installation by grouting or flexible boots.
4. Flexible boots may not be suitable for all installations. Please contact your sales representative for further information.
5. 610 mm [24"] outlet to be used for cleanout access to the treatment chamber.
6. Safety grates for the 610 mm [24"] outlet are available.

DATE REQ'D:	# REQ'D:	SCALE:	STC 2400 PRECAST CONCRETE STORMCEPTOR
DATE: 10/28/98	DR: A.M.C.	UNITS:	FIBREGLASS DISC DESIGN – 2400 U.S. GALLON CAPACITY

CONCRETE STORMCEPTOR ORDER REQUEST FORM

CONTRACTOR INFORMATION
NAME
ADDRESS
CITY
STATE
ZIP CODE
CONTACT
PHONE
FAX

OFFICE USE ONLY
ORDER #
DATE
INTERNAL SCALE



OWNER INFORMATION
NAME
PHONE
FAX

PLEASE DRAW ORIENTATION (ANGLE) OF INLET PIPES (MAX. 2) AND OUTLET PIPE (1) ON DIAGRAM ALONG WITH PIPE INSIDE DIAMETER (IN.) AND INVERT ELEVATION (FT). CLEARLY MARK INLET PIPES WITH AN 'I' AND OUTLET PIPES WITH AN 'O' AND PROVIDE THE INLET/OUTLET PIPE ANGLE IN DEGREES.

STORMCEPTOR MODEL
900 ☐ 3600 ☐
1200 ☐ 4800 ☐
1800 ☐ 6000 ☐
2400 ☒ 7200 ☐
IMPERV. D. AREA = _____ AC.

INSERT SIZE
DISC ☐
22" ☐
32" ☐
44" ☐
CUSTOM ___

MANHOLE NUMBER	SC-1
FINISH TOP ELEVATION (FT)	560.00
TOP SLAB ELEVATION (FT)	544.53
INLET PIPE INVERT (FT)	554.03/553.53
OUTLET PIPE INVERT (FT)	553.45
PIPE TYPE:	HDPE
PIPE INSIDE DIAM. (IN) [ID]	15" AND 24"
PIPE OUTSIDE DIAM. (IN) [OD]	19.6" AND 29.8"

PROJECT NAME ST. ANDREWS EPISCOPAL CHURCH
APPROXIMATE TIME FRAME UNTIL REQUIRED DELIVERY (WEEKS) _____
DELIVERY ADDRESS: STREET 2892 MARYLAND ROUTE 97 (ROXBURY MILLS ROAD)
CITY GLENWOOD STATE MARYLAND ZIP CODE 21738
DESIGNER COMPANY FISHER, COLLINS & CARTER, INC.
DESIGNER CONTACT RICKY ISAACS PHONE (410) 461-2855 FAX (410) 750-3784

PLEASE FAX THIS ORDER TO HYDRO CONDUIT C/O CAMTEK (412) 327-9556
ATTENTION: ANDREW VIROSTEK PHONE : (412) 327-3400
FOR TECHNICAL ASSISTANCE PLEASE CALL STORMCEPTOR CORPORATION AT
(301) 762-8361 OR TOLL FREE AT 1 (800) 762-4703

ALL LIFTING APPARATUS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

REVISION	
DATE	DESCRIPTION
7/5/02	REVISE PAVING LIMIT AND GRADING TO I-1
10/25/02	ADD PROPOSED RETENTION AREA & CURB OPENING W/CHANNEL TO ALLEVIATE STANDING WATER ISSUE. ADD ADDITIONAL (2) DRAINAGE AREAS FOR NEW FACILITIES TO ALLEVIATE STANDING WATER ISSUE. REVISE HANDICAP ACCESS FROM PARKING AREA.
9/2/16	ADD 5' WIDE FLAGSTONE WALK, COLUMBARIUM W/BENCH, PROP. TREES, EX. SHED AND FUTURES EXPANSION, REPLACEMENT TREES AND REMOVED "FUTURE CHURCH" & "FUTURES NURSERY SCHOOL EXPANSION".

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (Print name below signature) — Date 8/9/01

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (Print name below signature) — Date 8/9/01

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.–Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date

OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 10/4/11

Chief, Development Engineering Division — Date 9/7/01

Director, Department of Planning and Zoning — Date 10/23/01

PROJECT	SECTION/AREA	LOT NO.
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"	N/A	1

PLAT REF.	BLOCK NO.	ZONE	TAX	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040

WATER CODE	SEWER CODE
PRIVATE	PRIVATE

SOILS MAP AND DRAINAGE AREA MAP

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES
LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 7 OF 8

SDP 01-34

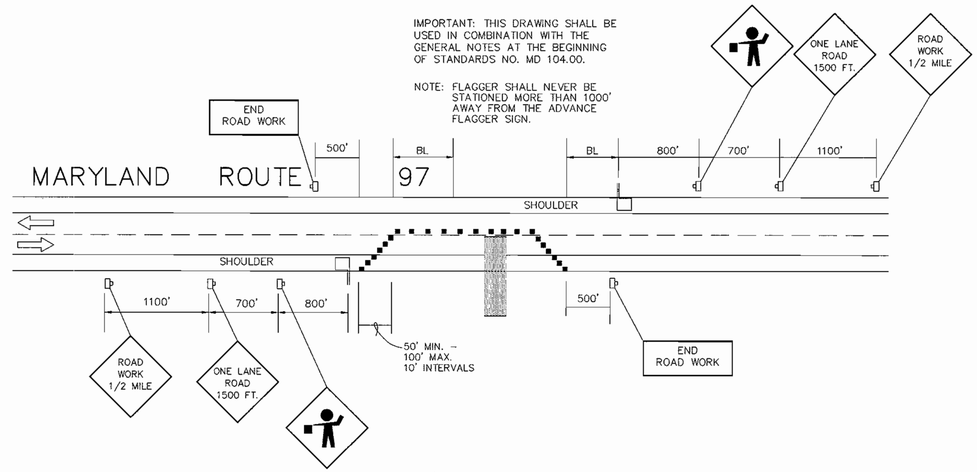
MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS

GENERAL

1. THE PURPOSE OF THIS PORTION OF THE SPECIAL PROVISION IS TO SET FOR THE TRAFFIC CONTROL REQUIREMENTS NECESSARY FOR THE SAFE AND EFFICIENT MAINTENANCE TO TRAFFIC WITHIN WORK AREAS, AND TO MINIMIZE ANY INCONVENIENCES TO THE TRAVELING PUBLIC AND THE CONTRACTOR AND/OR PERMITTEE.
2. PROPERTY TRAFFIC CONTROL THROUGH WORK AREAS IS ESSENTIAL FOR INSURING THE SAFETY AND THAT OF HIGHWAY WORKERS HAS THE HIGHEST PRIORITY OF ALL TASKS WITHIN THIS PROJECT. THE PROPERTY APPLICATION OF THE APPROVED TRAFFIC CONTROL PLAN (TCP) WILL PROVIDE THE DESIRED LEVEL OF SAFETY.
3. THROUGHOUT THESE SPECIAL PROVISIONS, ANY MENTION OF THE TCP SHALL BE IMPLIED TO INCLUDE ANY COMBINATION OF TYPICAL TRAFFIC CONTROL STANDARDS WHICH FORM THE OVERALL TCP FOR THIS PROJECT WHICH HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER.
4. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE PROVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 1988 EDITION, ESPECIALLY PART VI, AND TO SECTION 814 OF THE MARYLAND DOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JANUARY, 1982; INCLUDING ALL REVISIONS AND SUPPLEMENTS TO EACH.
5. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE REQUIREMENTS SET FOR IN THE TCP AND THESE SPECIAL PROVISIONS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY REQUESTS TO MAKE MINOR CHANGES TO THE TCP OR THE SPECIAL PROVISIONS WITH REGARD TO THE TRAFFIC CONTROL ITEMS SHALL BE MADE IN WRITING TO THE ENGINEER A MINIMUM OF THREE(3) WORKING DAYS PRIOR TO THE PROPOSED SCHEDULING CHANGE. THE CONTRACTOR AND/OR PERMITTEE SHALL HAVE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO THE IMPLEMENTATION OF ANY CHANGE.
6. NO WORK SHALL BEGIN ON ANY WORK ACTIVITY OR WORK PHASE UNTIL ALL REQUIRED TRAFFIC CONTROL PATTERNS AND DEVICES INDICATED ON THE TCP FOR THAT ACTIVITY OR PHASE ARE COMPLETELY AND CORRECTLY IN PLACE TO HAVE BEEN CHECKED FOR APPROVED USAGE.
7. GENERAL AND SPECIFIC WARNING SIGNS SHALL ONLY BE IN PLACE WHEN SPECIFIC WORK TASKS AND ACTIVITIES ARE ACTUALLY UNDERWAY OR CONDITIONS EXIST THAT POSE A POTENTIAL HAZARD TO THE PUBLIC, AND ANY ADDITIONAL SIGNING HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER. NOTE: THE PRACTICE OF PLACING SIGNING AND OTHER TRAFFIC CONTROL DEVICES IN ADDITION TO THOSE INDICATED ON THE APPROVED TCP IS NOT PERMITTED.
8. THE CONTRACTOR AND/OR PERMITTEE SHALL PROVIDE, MAINTAIN IN NEW CONDITION, AND MOVE WHEN NECESSARY, OR AS DIRECTED BY THE ENGINEER, ALL TRAFFIC CONTROL DEVICES USED FOR THE GUIDANCE AND PROTECTION OF MOTORISTS, PEDESTRIANS, AND WORKERS.
9. ALL TRAFFIC CONTROL DEVICES REQUIRED BY THE TCP SHALL BE KEPT IN GOOD CONDITION, FULLY PERFORMING AS SET FORTH IN THE TCP, THE MUTCD, AND/OR SECTION 814 OF THE SPECIFICATIONS. FOR REFLECTIVE DEVICES, A PARTICULAR DEVICE IS ASSUMED TO HAVE FAILED TO MEET MINIMUM OPERATIONAL STANDARDS WHEN THE DEVICE NO LONGER HAS RETRO-REFLECTANCE CAPABILITY OF AT LEAST 60% OF THE SPECIFIED MINIMUM VALUE OVER AT LEAST 90% OF THE VISIBLE REFLECTIVE SURFACE.
10. ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC, OR OTHERWISE TAKEN OUT OF SERVICE. IT IS INTENDED THAT NO TRAFFIC CONTROL DEVICE IS TO BE IN SERVICE WHEN THERE IS NO CLEAR CUT REASON FOR THE DEVICE.
11. THROUGHOUT THE PERIOD(S) OF WORK ACTIVITIES, TRAFFIC SHALL BE MAINTAINED BY IMPLEMENTING THE APPROVED TCP. IN LIEU OF THE TCP PREPARED FOR THIS PROJECT, AND/OR INDIVIDUAL TYPICAL TRAFFIC CONTROL STANDARDS, THE CONTRACTOR AND/OR PERMITTEE HAS THE OPTION OR PREPARING AND SUBMITTING A TCP, WHOLLY OR IN PART, OF HIS OWN DESIGN, FOLLOWING GUIDELINES SET FORTH IN THE MUTCD AND PRESCRIBED BY THE ADMINISTRATION. A TCP DEVELOPED BY THE CONTRACTOR AND/OR PERMITTEE SHALL NOT BE IMPLEMENTED UNTIL ADVANCE WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. TCP'S MAY BE IMPLEMENTED WITHIN A SINGLE PROJECT OR JOINTLY BETWEEN TWO OR MORE PROJECTS. IN SITUATIONS WHERE TCP'S JOINTLY IMPLEMENTED, CARE SHALL BE EXERCISED TO PRESENT CORRECT AND NON-CONFLICTING GUIDANCE TO THE TRAVELING PUBLIC.
12. THROUGHOUT THESE SPECIAL PROVISIONS, WHERE SPEED OF TRAFFIC IS NOTED, THIS MEANS THE POSTED SPEED OR PREVAILING TRAVEL SPEED, WHICHEVER IS HIGHER, UNLESS OTHERWISE NOTED.
13. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT, UNLESS OTHERWISE NOTED. NO TRAVEL LANE(S) OTHER THAN THOSE DESIGNATED FOR POSSIBLE CLOSURE IN THE TCP SHALL BE CLOSED WITHOUT OBTAINING PRIOR APPROVAL FORM THE ENGINEER. ALL INGRESS AND EGRESS TO THE WORK AREA BY THE CONTRACTOR AND/OR PERMITTEE SHALL BE PERFORMED WITH THE FLOW OF TRAFFIC.

IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES AT THE BEGINNING OF STANDARDS NO. MD 104.00.

NOTE: FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN.



(STANDARD NO. MD 104.31-01)

TEMPORARY TRAFFIC CONTROL PLAN

NO SCALE

KEY

- FLAGGER
- DIRECTION OF TRAFFIC
- SIGN SUPPORT
- FACE OF SIGN
- CHANNELIZING DEVICES
- WORK SITE

STATE OF MARYLAND — JAMES L. CROWL — No. 21603 — PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

REVISION

DATE	DESCRIPTION

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (print name below signature) — Date 8/9/01

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (print name below signature) — Date 8/9/01

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date

DEVELOPER/OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/23/01

Chief, Division of Land Development — Date 10/19/01

Chief, Development Engineering Division — Date 9/7/01

SUBDIVISION	SECTION/AREA	LOT NO.
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"	N/A	1

PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040

WATER CODE	SEWER CODE
PRIVATE	PRIVATE

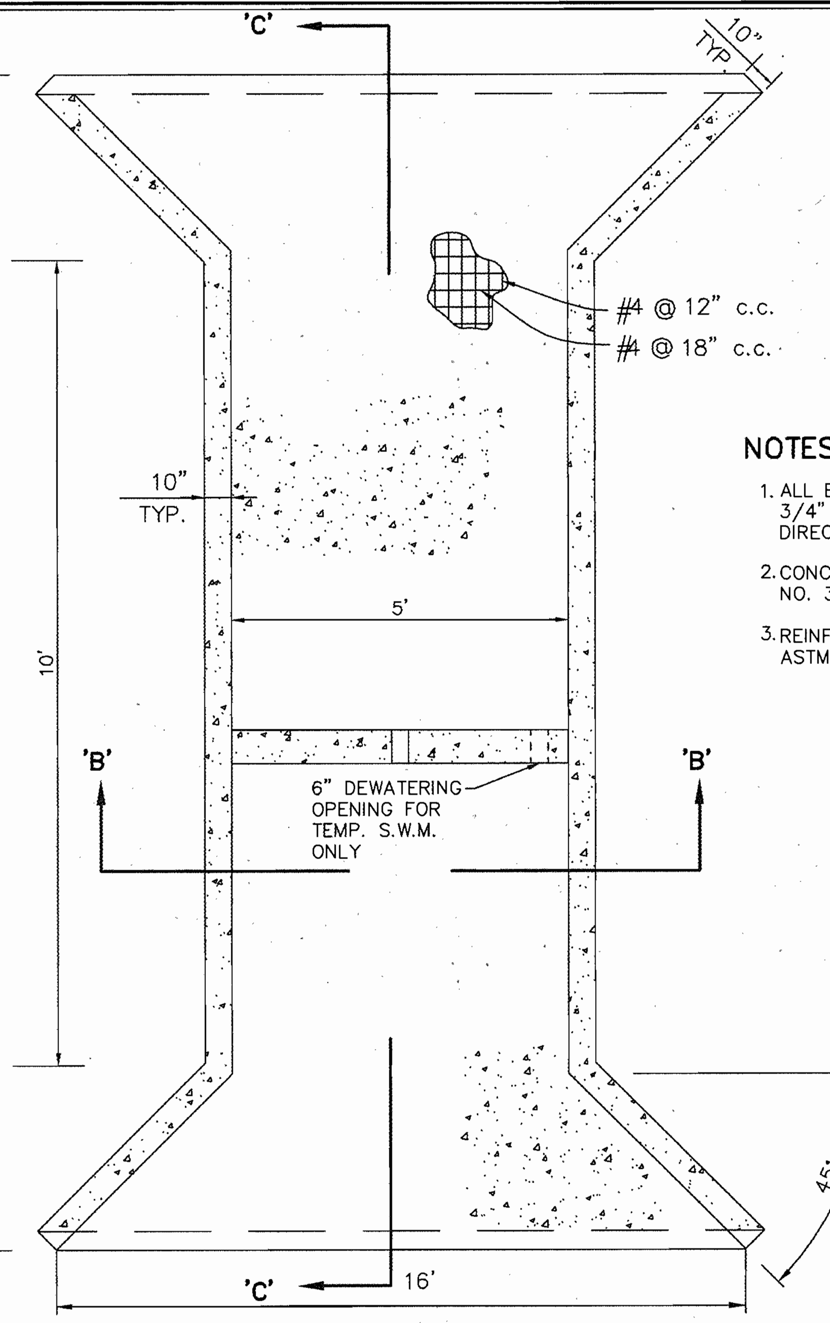
TRAFFIC CONTROL PLAN

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES
LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 8 OF 8

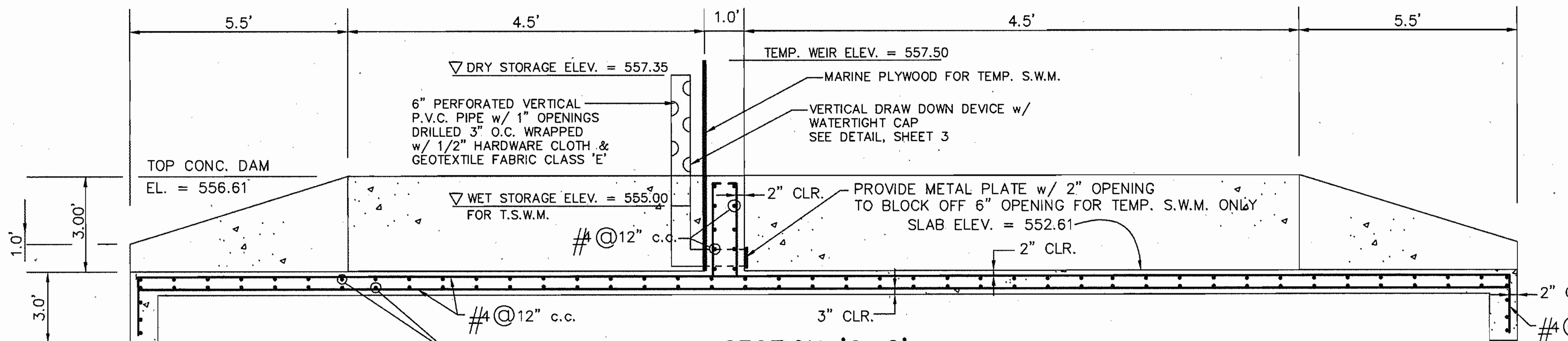
SDP 01-34



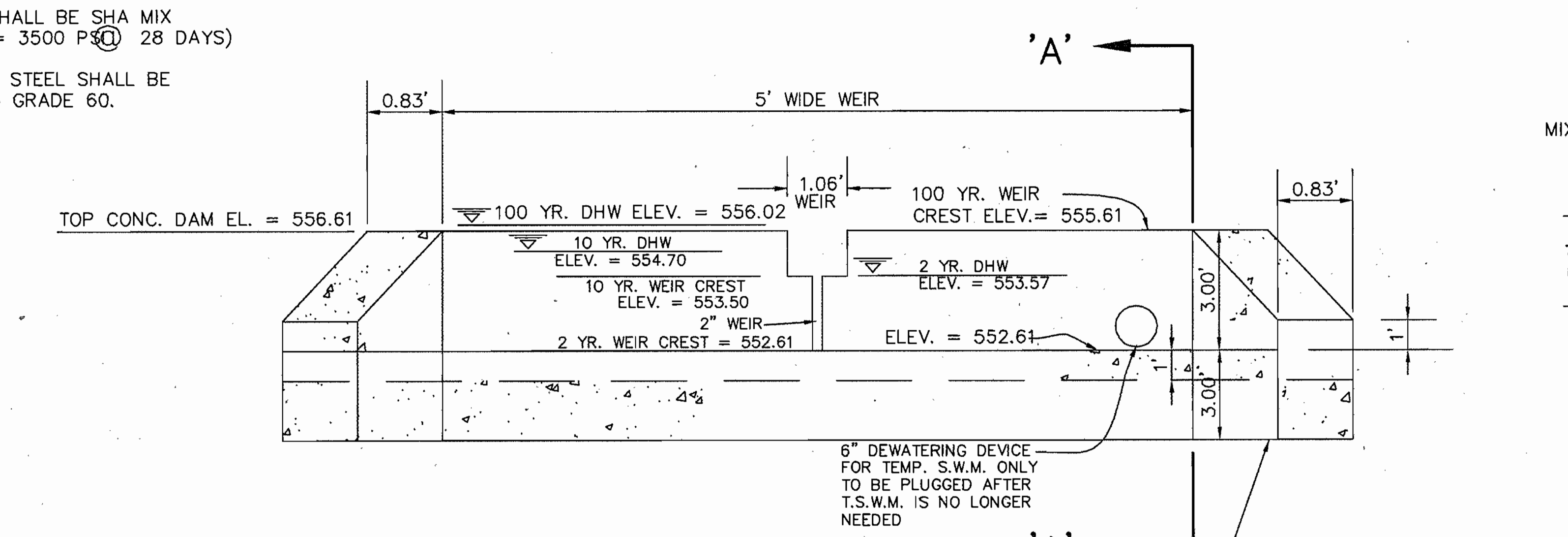
PLAN
NOT TO SCALE

NOTES:

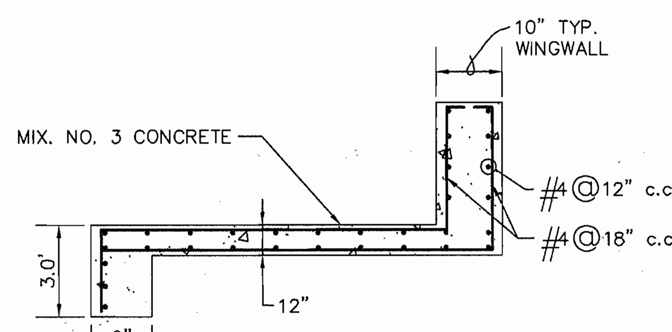
1. ALL EXPOSED EDGES TO HAVE 3/4" x 3/4" CHAMFER OR AS DIRECTED.
2. CONCRETE SHALL BE SHA MIX NO. 3 (Fc' = 3500 PSI @ 28 DAYS)
3. REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.



SECTION 'C-C'
NOT TO SCALE

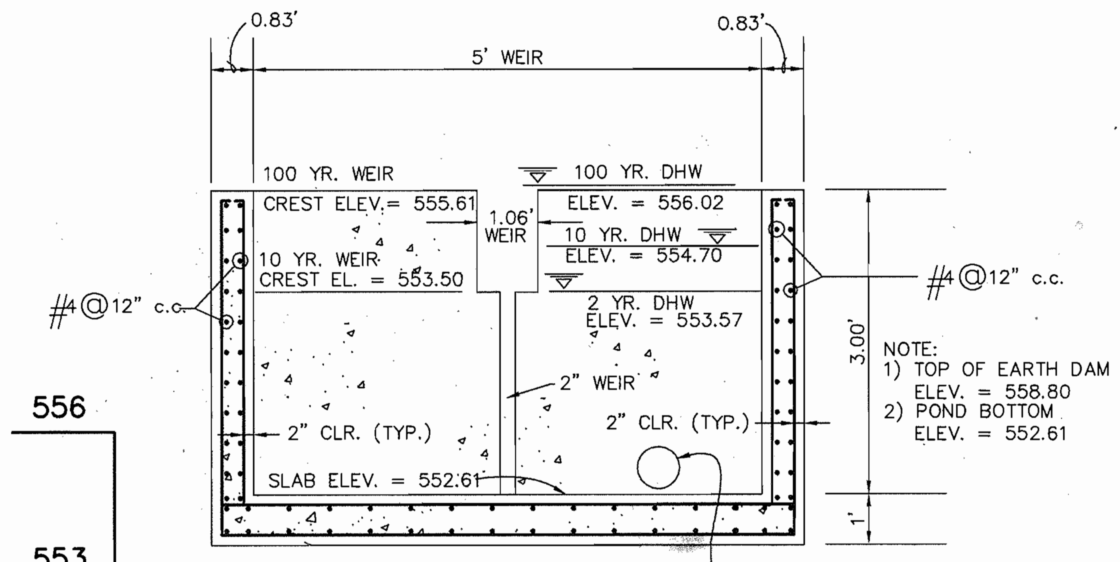


FRONT ELEVATION
NOT TO SCALE



SECTION 'A-A'
NOT TO SCALE

CONCRETE RELEASE DETAILS FOR PRIVATE S.W.M. FACILITY



SECTION 'B-B'
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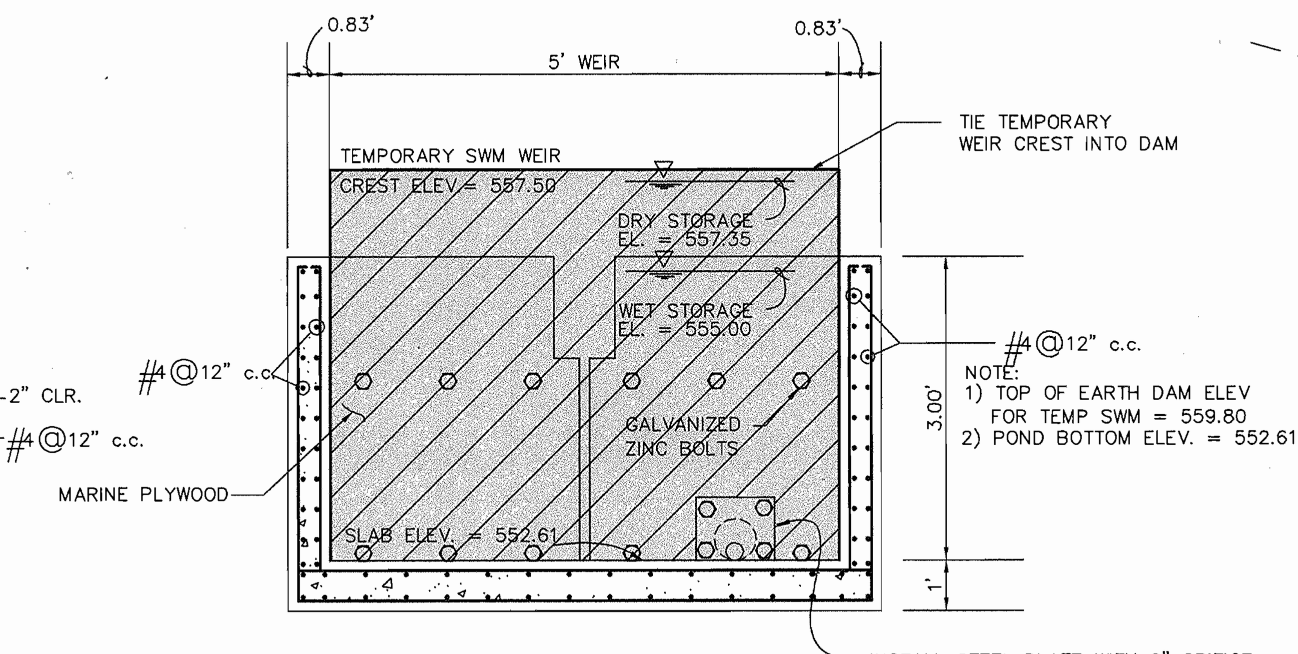
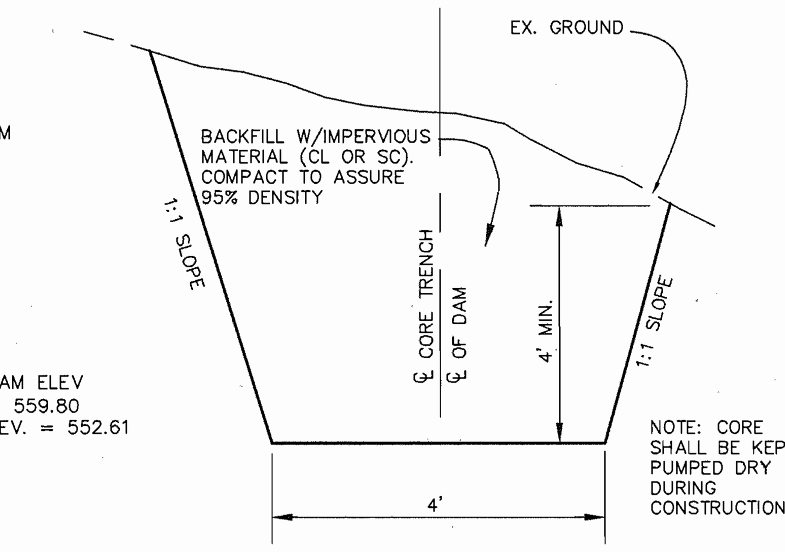
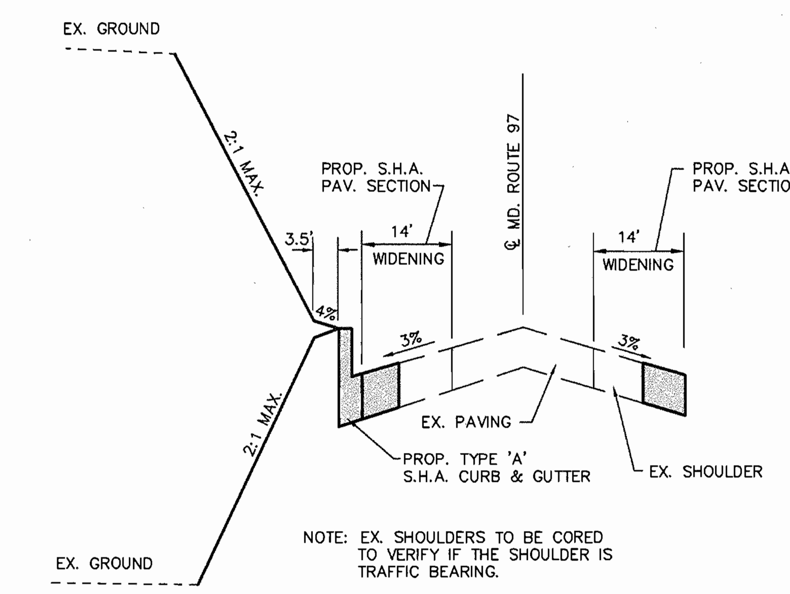


TEMPORARY S.W.M. WEIR DETAIL
SCALE: 1" = 3'

DENOTES PROPOSED MARINE PLYWOOD TO BE BOLTED INTO CONCRETE WALL FOR TEMPORARY STORMWATER MANAGEMENT



CORE TRENCH DETAIL
NOT TO SCALE



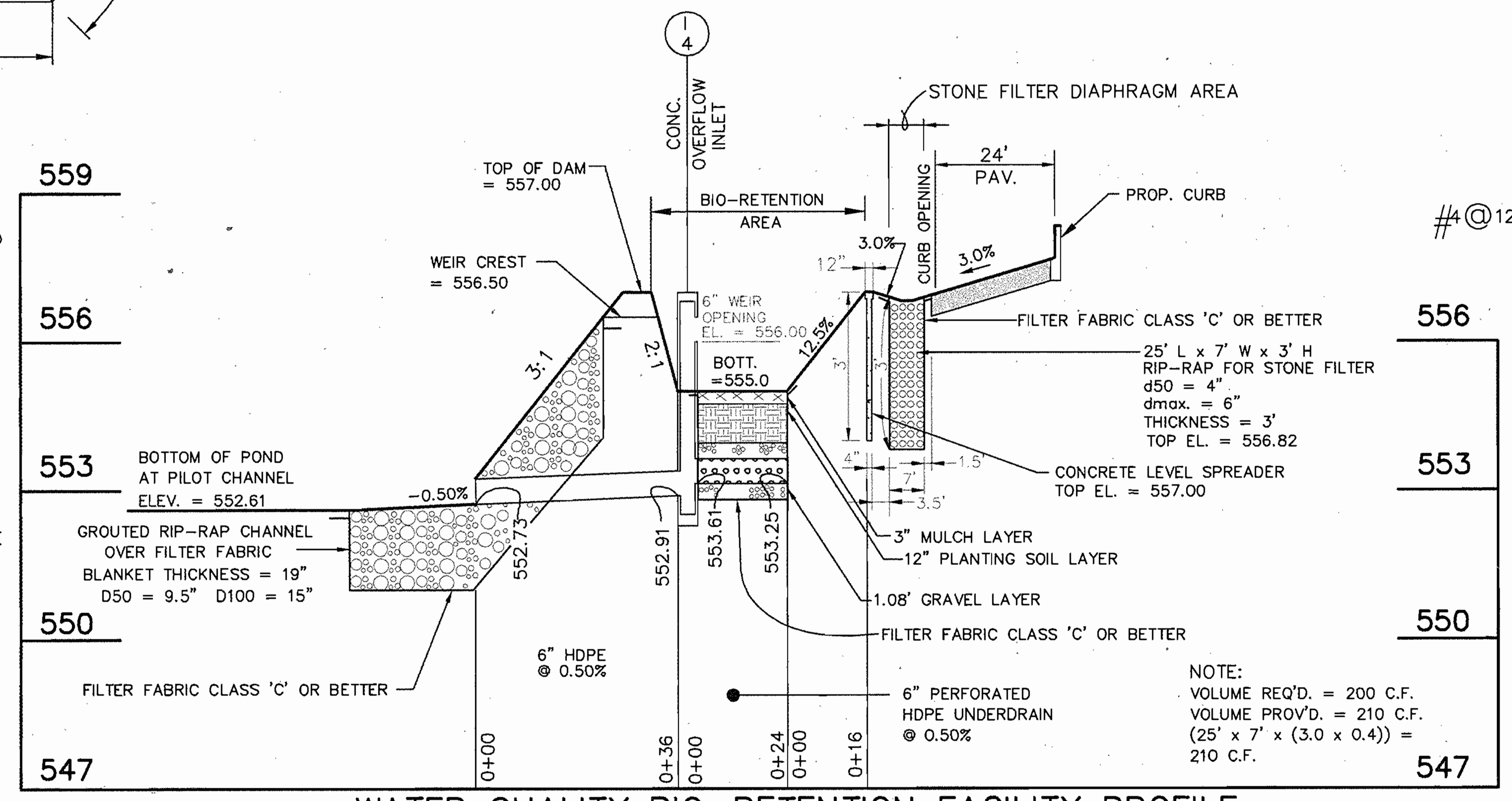
TYP. S.H.A. PAVING SECTION
NO SCALE

AS-BUILT CERTIFICATION

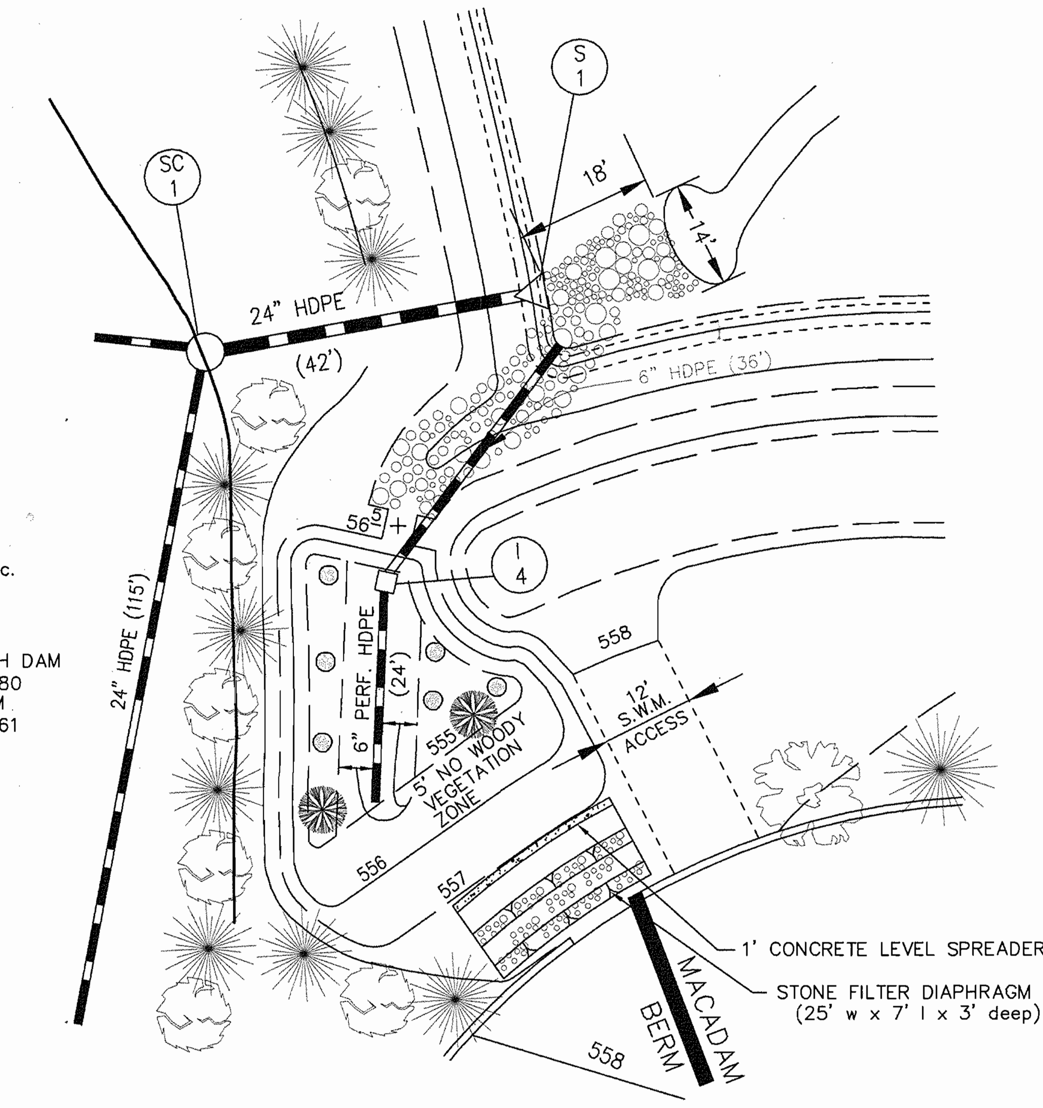
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE　　　PE NO.　　　DATE

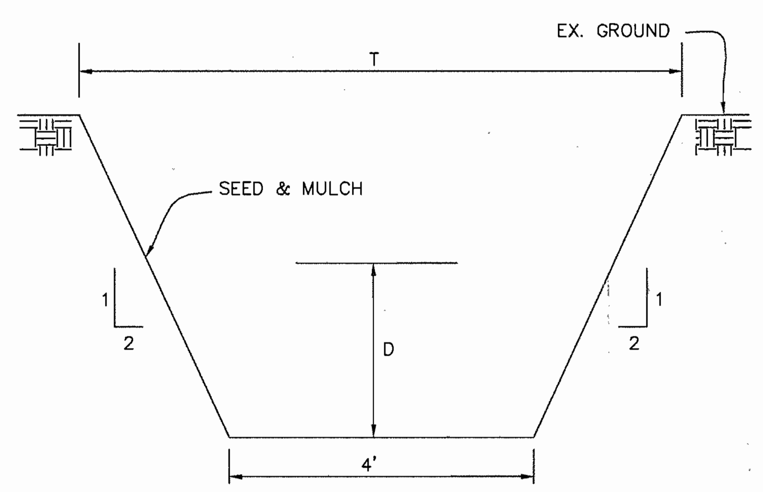
CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY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



WATER QUALITY BIO-RETENTION FACILITY PROFILE
SCALE: HORIZ. : 1" = 30'
VERT. : 1" = 3'



BIO-RETENTION AREA ENLARGEMENT
SCALE: 1" = 20'



TRAPEZOIDAL CHANNEL DETAIL
NO SCALE

STATION	Q10 C.F.S.	n	DEPTH (D)	SLOPE	AREA (A)	WETTED PERIMETER (WP)	HYDRAULIC RADIUS (R)	TOP WIDTH (T)	V F.P.S.
2+00	2.20	0.04	0.28'	2.0%	1.2768	5.2522	0.2431	5.12'	2.04
4+18.20	7.80	0.04	0.44'	2.0%	2.4172	5.9677	0.4050	5.76'	2.86
4+45@ EX. 18" PIPE	7.80	0.04	0.44'	2.0%	2.4172	5.9677	0.4050	5.76'	2.86

QTY.	KEY	DESCRIPTION	NAME
BIO-RETENTION PLANT LIST			
2		TREE	RED MAPLE ACER RUBRUM
6		SHRUB	BUTTONBUSH, COMMON CEPHALANTHUS OCCIDENTALIS

PLANTING AREA = 6a
HYDROLOGIC ZONE = ZONE 1

OPERATION AND MAINTENANCE SCHEDULE
FOR BIO-RETENTION AREA (F-6)

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNNING.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

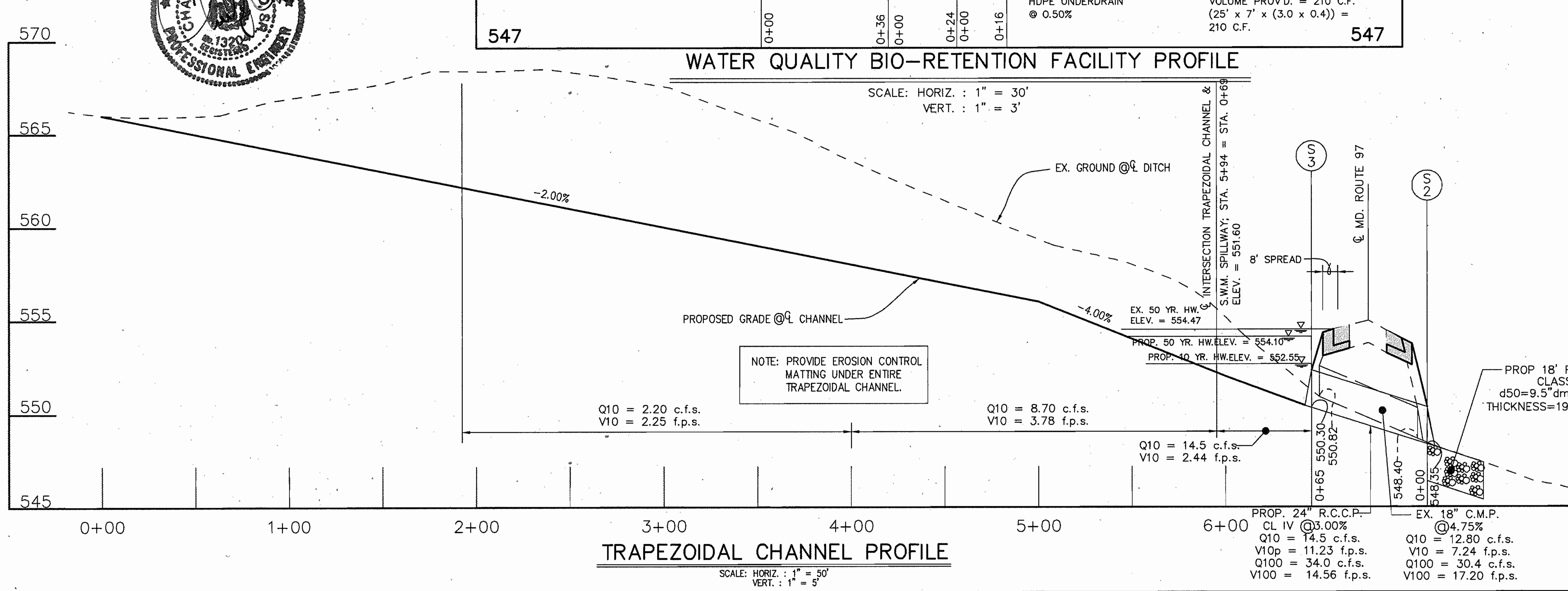
OPERATION AND MAINTENANCE SPECIFICATIONS

I HEREBY CERTIFY THAT I WILL OPERATE AND MAINTAIN THE COMPLETED POND IN ACCORDANCE WITH THE FOLLOWING:

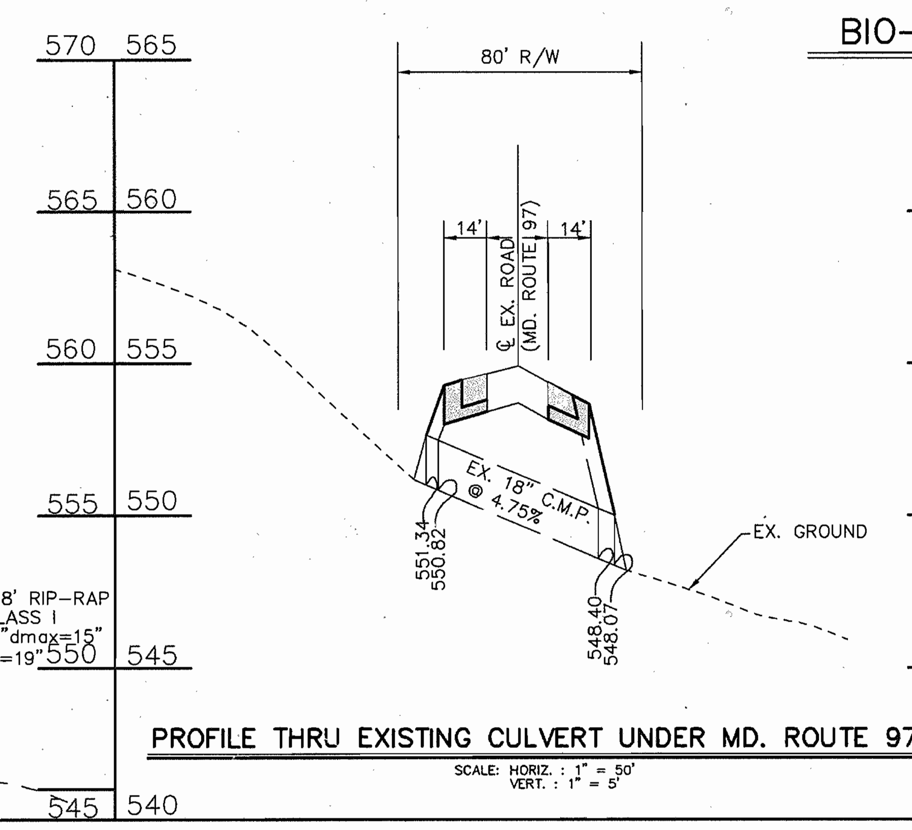
1. PERIODIC INSPECTIONS OF THE FACILITY WILL BE MADE TO IDENTIFY POTENTIAL PROBLEMS THAT MAY AFFECT ITS SAFETY. THESE INSPECTIONS WILL BE MADE AFTER PERIODS OF HEAVY RAINFALL AND AT LEAST TWICE ANNUALLY. INSPECTION REPORTS SHALL BE KEPT UNTIL THE NEXT SUBSEQUENT INSPECTION. INSPECTION ITEMS TO BE LOOKED AT INCLUDE:
   - A.) SPILLWAY AND OUTLET WORKS;
   - B.) RIP-RAP;
   - C.) VEGETATIVE COVER;
   - D.) CRACKS IN THE FILL;
   - E.) SLOPE FAILURES; AND
   - F.) SEEPAGE AND OTHER SIGNS OF DISTRESS.
2. PROBLEMS IDENTIFIED DURING INSPECTIONS WILL BE PROMPTLY CORRECTED. MAJOR PROBLEMS WILL BE BROUGHT TO THE ATTENTION OF THE SOIL CONSERVATION DISTRICT AND THE DAM SAFETY DIVISION OF THE MARYLAND WATER RESOURCES ADMINISTRATION. AS A VERY MINIMUM, GRASSY VEGETATION WILL BE MAINTAINED IN A DENSE AND HEALTHY STATE, AND WOODY VEGETATION WILL NOT BE PERMITTED TO GROW ON THE EMBANKMENT.

OPERATION MAINTENANCE AND INSPECTION

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



TRAPEZOIDAL CHANNEL PROFILE
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



PROFILE THRU EXISTING CULVERT UNDER MD. ROUTE 97
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

REVISION	
DATE	DESCRIPTION

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (Print name below signature)　　8/9/01 Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (Print name below signature)　　8/9/01 Date

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service　　9/4/01 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD　　9/4/01 Date

OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development　GB　10/19/01 Date

Chief, Development Engineering Division　MAJ　9/7/01 Date

Director - Department of Planning and Zoning　10/23/01 Date

PROJECT			SECTION/AREA		LOT NO.
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"			N/A		1
PLAT REF.	BLOCK NO.	ZONE	TAX	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040
WATER CODE			SEWER CODE		
PRIVATE			PRIVATE		

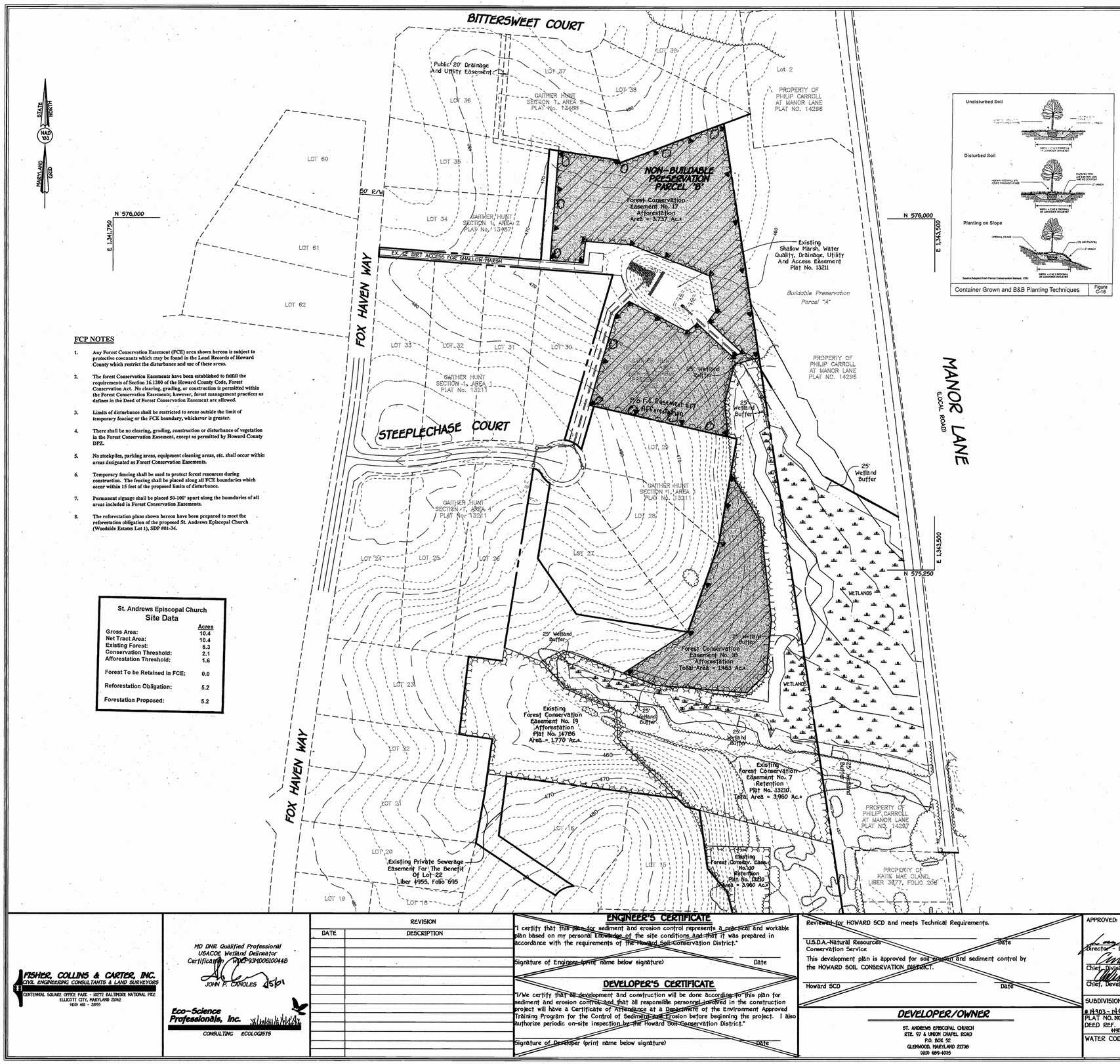
STORMWATER MANAGEMENT DETAIL SHEET

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES
LOT 1

TAX MAP No: 14　PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN　DATE: AUGUST 8, 2001
SHEET 4 OF 8

SDP 01-34



Container Grown and B&B Planting Techniques — Figure C-16

FCP NOTES

1. Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
2. The forest Conservation Easements have been established to fulfill the requirements of Section 16.1200 of the Howard County Code, Forest Conservation Act. No clearing, grading, or construction is permitted within the Forest Conservation Easements; however, forest management practices as defines in the Deed of Forest Conservation Easement are allowed.
3. Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.
4. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
5. No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
6. Temporary fencing shall be used to protect forest resources during construction. The fencing shall be placed along all FCE boundaries which occur within 15 feet of the proposed limits of disturbance.
7. Permanent signage shall be placed 50-100' apart along the boundaries of all areas included in Forest Conservation Easements.
8. The reforestation plans shown hereon have been prepared to meet the reforestation obligation of the proposed St. Andrews Episcopal Church (Woodside Estates Lot 1), SDP #01-34.

St. Andrews Episcopal Church Site Data

	Acres
Gross Area:	10.4
Net Tract Area:	10.4
Existing Forest:	6.3
Conservation Threshold:	2.1
Afforestation Threshold:	1.6
Forest To be Retained in FCE:	0.0
Reforestation Obligation:	5.2
Forestation Proposed:	5.2

Planting Schedule

FCE Planting Area 17 (3.7 acres)

Qty.	Species	Size	Spacing
4	Acer rubrum - Red maple	1" cal.	**
7	Fraxinus americana - White ash	1" cal.	**
160	Acer rubrum - Red maple	2-3 whip	**
70	Cercis canadensis - Red bud	2-3 whip	**
250	Fraxinus americana - White ash	2-3' whip	**
250	Liriodendron tulipifera - Poplar	2-3' whip	**
90	Nyssa sylvatica - Black gum	2-3' whip	**
150	Prunus serotina - Black cherry	2-3' whip	**
150	Quercus rubra - Red oak	2-3' whip	**
80	Viburnum dentatum - Arrowwood	2-3' b.t.	**
80	Viburnum prunifolium - Blackhaw	2-3' b.t.	**

FCE Planting Area 2 (0.2 acres)

Qty.	Species	Size	Spacing
4	Acer rubrum - Red maple	1" cal.	**
60	Acer rubrum - Red maple	2-3 whip	**
30	Cercis canadensis - Red bud	2-3 whip	**
90	Fraxinus americana - White ash	2-3' whip	**
90	Liriodendron tulipifera - Poplar	2-3' whip	**
50	Nyssa sylvatica - Black gum	2-3' whip	**
65	Prunus serotina - Black cherry	2-3' whip	**
65	Quercus rubra - Red oak	2-3' whip	**
35	Viburnum dentatum - Arrowwood	2-3' b.t.	**
35	Viburnum prunifolium - Blackhaw	2-3' b.t.	**

Key:

** Plantings to be spaced on 11 foot centers, no shelters required - plantings should be installed in rows to facilitate future maintenance. Where possible rows should be made along contour.

One caliper plants shall be planted in locations shown by - ⊗

b.t. - branched transplant

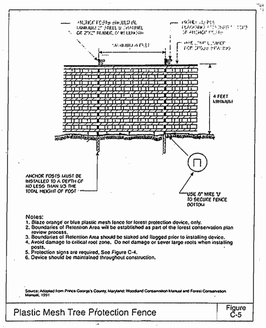
Planting Notes:

1. Multiflora rose control must be performed as part of this planting plan.
2. Bareroot plant material may be used to offset the cost of multiflora rose removal and maintenance. If bareroot material is used it must be planted in March-April and an anti-desiccant gel should be utilized to protect root systems. Container grown stock is recommended.
3. Plants should be flagged to aid on location during maintenance. Plantings should also be planted in grid pattern to facilitate maintenance and removal of invasive and exotic species.

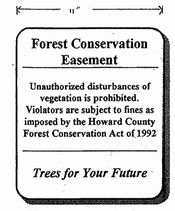
Multiflora Rose Control Note

Multiflora rose is prevalent in certain areas to be afforested. Prior to planting all multiflora rose shall be removed. Removal of the rose may be performed with mowing and herbicide treatments. Physical removal of all top growth following by a periodic herbicide treatment of stump sprouts is recommended. Native tree and shrub species occurring within the rose thickets should be retained wherever possible. Herbicides treatments shall occur on 2 month intervals during the first growing season and once each in the spring and fall for subsequent years. Herbicide used shall be made specifically to address woody plant material and shall be applied as per manufacturers specifications. Care should be taken not to spray planted trees or naturally occurring native tree/shrub seedlings. It is recommended that initiation of rose removal begin at least six months prior to planting.

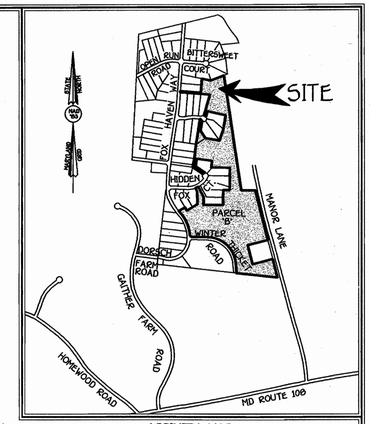
NOTE: FOR EASEMENT BEARING & DISTANCES SEE RECORDED PLAT 14903 - 14907 (F02-11)



Plastic Mesh Tree Protection Fence — Figure C-5



▼ DENOTES SIGN LOCATION



VICINITY MAP
SCALE: 1" = 1200'

Planting/Soil Specifications

1. Planting of nursery stock shall take place between March 15th and April 30th. Container stock may be planted September 1-October 30.
2. A twelve (12) inch layer of topsoil shall be spread over all afforestation areas impacted by site grading to assure a suitable planting area. Disturbed areas shall be seeded and stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
3. All bareroot planting stock shall have their root systems dipped into an anti-desiccant gel prior to planting.
4. Plants shall be installed so that the top of root mass is level with the top of existing grade. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
5. Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications.
6. A two (2) inch layer of hardwood mulch shall be placed over the root area of all plantings.
7. Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
8. All non-organic debris associated with the planting operation shall be removed from the site by the contractor.

Sequence of Construction

1. Plants shall be installed as per Plant Schedule and the Planting/Soil Specifications for the project.
2. Upon completion of the planting, signage shall be installed as per the Forest Retention Area Protection Devices shown on Sheet 2 of the Forest Conservation Plan.
3. Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.

Maintenance of Plantings

1. Maintenance of plantings shall last for a period of 24 months.
2. All plant material shall be watered twice a month during the 1st growing season. Watering may be more or less frequent depending on weather conditions. During second growing season, once a month during May-September, if needed.
3. Invasive exotics and noxious weeds will be removed from reforestation areas. Old field successional species will be retained.
4. Plants will be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
5. Dead branches will be pruned from plantings.

Guarantee Requirements

1. After one growing season, plant material shall be maintained at 90% survival threshold. A 75 percent survival rate of forestation plantings will be required at the end of the 24 month maintenance period. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season.
2. The contractor will not be liable for plant loss due to theft or vandalism.

Surety for Reforestation

1. The developer shall post a surety (bond, letter of credit) to ensure that reforestation plantings are completed. Upon acceptance of the plantings by the County, the bond shall be released.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification #WDP93MD0610044B
JOHN P. CANOLES 4/5/01

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

REVISION	
DATE	DESCRIPTION

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (print name below signature) — Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (print name below signature) — Date

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date

DEVELOPER/OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 62
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/23/01

Chief, Division of Land Development — Date 11/19/01

Chief, Development Engineering Division — Date 9/7/01

SUBDIVISION ST. ANDREWS EPISCOPAL CHURCH		SECTION/AREA		LOT NO.	
# 14903 - 14907	"WOODSIDE ESTATES"		N/A		1
PLAT NO. 3976	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
DEED REF. 4490/303	16	RC-DEO	14	4TH	6040
WATER CODE	PRIVATE	SEWER CODE	PRIVATE		

OFF-SITE FOREST CONSERVATION PLAN

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES

LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: 1" = 100' DATE: MAY 23, 2001
SHEET 6 OF 7

SDP 01-34

K:\Drawings 4\40315 Union Chapel Church\SDP\40315 OFF-SITE FOREST CONSERVATION PLAN1.dwg

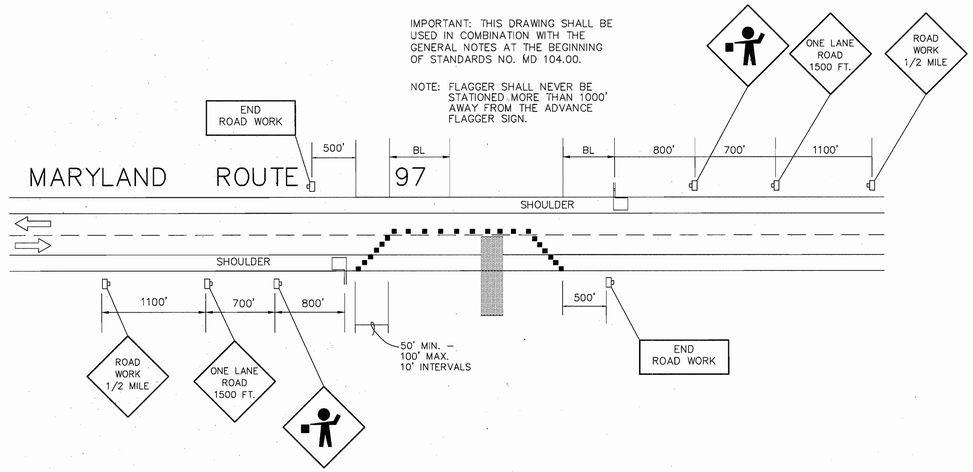
MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS

GENERAL

1. THE PURPOSE OF THIS PORTION OF THE SPECIAL PROVISION IS TO SET FOR THE TRAFFIC CONTROL REQUIREMENTS NECESSARY FOR THE SAFE AND EFFICIENT MAINTENANCE TO TRAFFIC WITHIN WORK AREAS, AND TO MINIMIZE ANY INCONVENIENCES TO THE TRAVELING PUBLIC AND THE CONTRACTOR AND/OR PERMITTEE.
2. PROPERTY TRAFFIC CONTROL THROUGH WORK AREAS IS ESSENTIAL FOR INSURING THE SAFETY AND THAT OF HIGHWAY WORKERS HAS THE HIGHEST PRIORITY OF ALL TASKS WITHIN THIS PROJECT. THE PROPERTY APPLICATION OF THE APPROVED TRAFFIC CONTROL PLAN (TCP) WILL PROVIDE THE DESIRED LEVEL OF SAFETY.
3. THROUGHOUT THESE SPECIAL PROVISIONS, ANY MENTION OF THE TCP SHALL BE IMPLIED TO INCLUDE ANY COMBINATION OF TYPICAL TRAFFIC CONTROL STANDARDS WHICH FORM THE OVERALL TCP FOR THIS PROJECT WHICH HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER.
4. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE PROVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 1988 EDITION, ESPECIALLY PART VI, AND TO SECTION 814 OF THE MARYLAND DOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JANUARY, 1982; INCLUDING ALL REVISIONS AND SUPPLEMENTS TO EACH.
5. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE REQUIREMENTS SET FOR IN THE TCP AND THESE SPECIAL PROVISIONS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY REQUESTS TO MAKE MINOR CHANGES TO THE TCP OR THE SPECIAL PROVISIONS WITH REGARD TO THE TRAFFIC CONTROL ITEMS SHALL BE MADE IN WRITING TO THE ENGINEER A MINIMUM OF THREE(3) WORKING DAYS PRIOR TO THE PROPOSED SCHEDULING CHANGE. THE CONTRACTOR AND/OR PERMITTEE SHALL HAVE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO THE IMPLEMENTATION OF ANY CHANGE.
6. NO WORK SHALL BEGIN ON ANY WORK ACTIVITY OR WORK PHASE UNTIL ALL REQUIRED TRAFFIC CONTROL PATTERNS AND DEVICES INDICATED ON THE TCP FOR THAT ACTIVITY OR PHASE ARE COMPLETELY AND CORRECTLY IN PLACE TO HAVE BEEN CHECKED FOR APPROVED USAGE.
7. GENERAL AND SPECIFIC WARNING SIGNS SHALL ONLY BE IN PLACE WHEN SPECIFIC WORK TASKS AND ACTIVITIES ARE ACTUALLY UNDERWAY OR CONDITIONS EXIST THAT POSE A POTENTIAL HAZARD TO THE PUBLIC, AND ANY ADDITIONAL SIGNING HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER. NOTE: THE PRACTICE OF PLACING SIGNING AND OTHER TRAFFIC CONTROL DEVICES IN ADDITION TO THOSE INDICATED ON THE APPROVED TCP IS NOT PERMITTED.
8. THE CONTRACTOR AND/OR PERMITTEE SHALL PROVIDE, MAINTAIN IN NEW CONDITION, AND MOVE WHEN NECESSARY, OR AS DIRECTED BY THE ENGINEER, ALL TRAFFIC CONTROL DEVICES USED FOR THE GUIDANCE AND PROTECTION OF MOTORISTS, PEDESTRIANS, AND WORKERS.
9. ALL TRAFFIC CONTROL DEVICES REQUIRED BY THE TCP SHALL BE KEPT IN GOOD CONDITION, FULLY PERFORMING AS SET FORTH IN THE TCP, THE MUTCD, AND/OR SECTION 814 OF THE SPECIFICATIONS. FOR REFLECTIVE DEVICES, A PARTICULAR DEVICE IS ASSUMED TO HAVE FAILED TO MEET MINIMUM OPERATIONAL STANDARDS WHEN THE DEVICE NO LONGER HAS RETRO-REFLECTANCE CAPABILITY OF AT LEAST 60% OF THE SPECIFIED MINIMUM VALUE OVER AT LEAST 90% OF THE VISIBLE REFLECTIVE SURFACE.
10. ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC, OR OTHERWISE TAKEN OUT OF SERVICE. IT IS INTENDED THAT NO TRAFFIC CONTROL DEVICE IS TO BE IN SERVICE WHEN THERE IS NO CLEAR CUT REASON FOR THE DEVICE.
11. THROUGHOUT THE PERIOD(S) OF WORK ACTIVITIES, TRAFFIC SHALL BE MAINTAINED BY IMPLEMENTING THE APPROVED TCP. IN LIEU OF THE TCP PREPARED FOR THIS PROJECT, AND/OR INDIVIDUAL TYPICAL TRAFFIC CONTROL STANDARDS, THE CONTRACTOR AND/OR PERMITTEE HAS THE OPTION OR PREPARING AND SUBMITTING A TCP, WHOLLY OR IN PART, OF HIS OWN DESIGN, FOLLOWING GUIDELINES SET FORTH IN THE MUTCD AND PRESCRIBED BY THE ADMINISTRATION. A TCP DEVELOPED BY THE CONTRACTOR AND/OR PERMITTEE SHALL NOT BE IMPLEMENTED UNTIL ADVANCE WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. TCP'S MAY BE IMPLEMENTED WITHIN A SINGLE PROJECT OR JOINTLY BETWEEN TWO OR MORE PROJECTS. IN SITUATIONS WHERE TCP'S JOINTLY IMPLEMENTED, CARE SHALL BE EXERCISED TO PRESENT CORRECT AND NON-CONFLICTING GUIDANCE TO THE TRAVELING PUBLIC.
12. THROUGHOUT THESE SPECIAL PROVISIONS, WHERE SPEED OF TRAFFIC IS NOTED, THIS MEANS THE POSTED SPEED OR PREVAILING TRAVEL SPEED, WHICHEVER IS HIGHER, UNLESS OTHERWISE NOTED.
13. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT, UNLESS OTHERWISE NOTED. NO TRAVEL LANE(S) OTHER THAN THOSE DESIGNATED FOR POSSIBLE CLOSURE IN THE TCP SHALL BE CLOSED WITHOUT OBTAINING PRIOR APPROVAL FORM THE ENGINEER. ALL INGRESS AND EGRESS TO THE WORK AREA BY THE CONTRACTOR AND/OR PERMITTEE SHALL BE PERFORMED WITH THE FLOW OF TRAFFIC.

IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES AT THE BEGINNING OF STANDARDS NO. MD 104.00.

NOTE: FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN.



(STANDARD NO. MD 104.31-01)

TEMPORARY TRAFFIC CONTROL PLAN

NO SCALE

KEY

- FLAGGER
- DIRECTION OF TRAFFIC
- SIGN SUPPORT
- FACE OF SIGN
- CHANNELIZING DEVICES
- WORK SITE

STATE OF MARYLAND — CHARLES E. CROSS, SR. — 21360 — REGISTERED PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

REVISION	
DATE	DESCRIPTION

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (print name below signature) — Date 8/9/01

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (print name below signature) — Date 8/9/01

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date

DEVELOPER/OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/23/01

Chief, Division of Land Development — Date 10/9/01

Chief, Development Engineering Division — Date 9/7/01

SUBDIVISION		SECTION/AREA	LOT NO.
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"		N/A	1
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040
WATER CODE		SEWER CODE	
PRIVATE		PRIVATE	

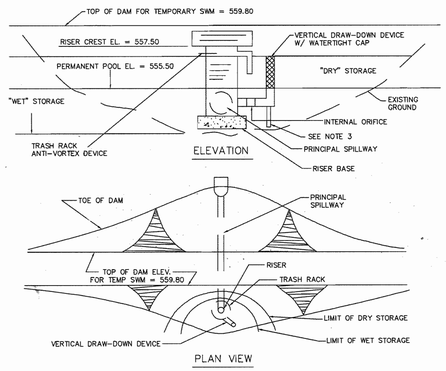
TRAFFIC CONTROL PLAN

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES
LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 8 OF 8

SDP 01-34



BASIN DRAWDOWN SCHEMATIC
VERTICAL DRAW-DOWN DEVICE

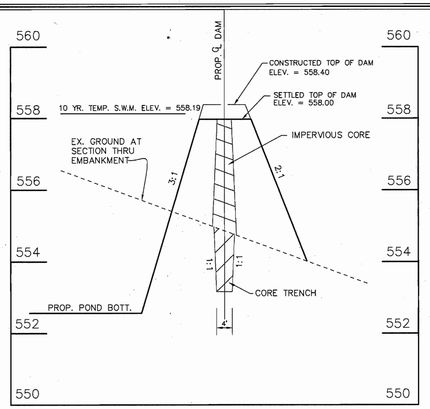
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
2. THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 2 TIMES THE AREA OF THE INTERNAL ORIFICE.
3. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
4. PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATATION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 1' BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.

PIPE SCHEDULE

SIZE	MATERIAL	LENGTH
6"	HDPE	36'
15"	HDPE	59'
18"	HDPE	41'
24"	HDPE	402'
18"	C.M.P.	14'
24"	RCCP	65'



SECTION THRU EARTH EMBANKMENT

SCALE: HORIZ. : 1" = 20'
VERT. : 1" = 2'

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	BASELINE STA.	OFFSET	TYPE	REMARKS
I-1	563.90	-----	555.37	-----	℄ STA. 11+38.5	36'L	A-5 INLET	S.D. - 4.40
I-2	560.23	555.51	555.01	-----	℄ STA. 6+25.4	94'R	A-5 INLET	S.D. - 4.40
I-3	559.17	-----	555.67	-----	℄ STA. 5+02	12'L	A-5 INLET	S.D. - 4.40
I-4	557.00	553.43	553.18	-----	℄ STA. 1+53	67'R	'D' INLET	S.D. - 4.11
M-1	562.00	554.35	554.10	-----	℄ STA. 2+65	27'R	STD. MANHOLE	G. - 5.12
** SC-1	560.00	553.53, 554.03	553.45	-----	N 592,491.69 E 1,304,916.11	-----	STORMCEPTOR	MODEL 2400
* S-1	555.05	553.05	553.00	-----	N 592,489.70 E 1,304,968.54	-----	HDPE END SECTION	
S-2	550.35	548.35	548.25	-----	N 592,534.43 E 1,305,245.54	-----	CONC. END SECTION	MD - 368.01
S-3	552.30	550.30	550.20	-----	N 592,569.07 E 1,305,181.90	-----	CONC. END SECTION	MD - 368.01

* - CONTACT ADVANCED DRAINAGE SYSTEMS
3300 RIVERSIDE DRIVE
COLUMBUS, OHIO 43221
PHONE: 1-800-733-7473

** - CONTACT STORMCEPTOR AT 1-724-327-3400
MR. ANDREW VROSTEK
CAMTEK CONSTRUCTION PRODUCTS

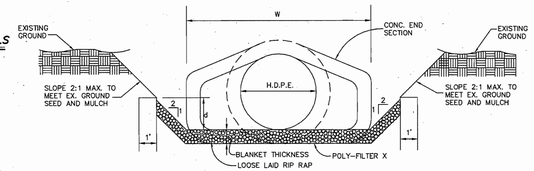
DESIGN SUMMARY (TR-20)

DESIGN STORM	CONTROL STRUCTURE ELEVS.	ALLOWABLE RELEASE RATE	FACILITY INFLOW	FACILITY DISCHARGE	WATER SURFACE ELEVATION	STORAGE VOLUME (AC.FT.) (PROVIDED)	STORAGE VOLUME (AC.FT.) (REQUIRED)
2 YEAR	553.00	0.70 CFS	---	0.64 CFS	553.57,	0.24	0.15
10 YEAR	553.50	10.1 CFS	---	5.00 CFS	554.70	0.54	0.28
100 YEAR	555.61	N/A	---	12.3 CFS	556.02	0.91	N/A

WATERSHED AREA TO FACILITY (ACRES): 7.96 AC. - DURING CONSTRUCTION
DRAINAGE AREA TO FACILITY = 0.0124 SQ. MI. OR 7.95 AC±

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional shall hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

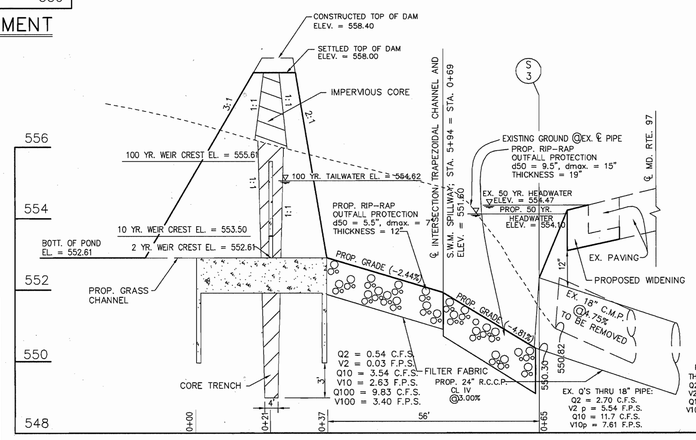


RIP RAP CHANNEL DETAIL

NO SCALE

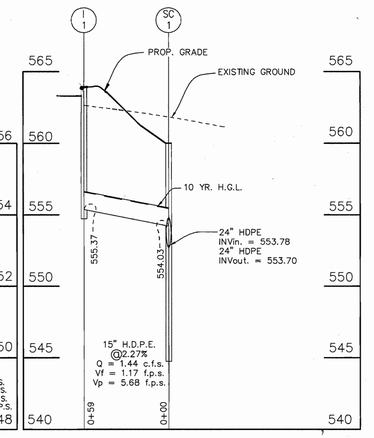
RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V10 (f.p.s.)	Q10 (c.f.s.)	RIP-RAP SIZE D50	RIP-RAP SIZE DMAX	BLANKET THICKNESS
S-1	6.4512	9.757	0.6612	0.7579	0.0050	0.0707	6.0'	0.84'	0.04	1.99	12.73	9.5"	15"	19"
S-2	6.4512	9.757	0.6612	0.7579	0.0244	0.1562	6.0'	0.54'	0.04	1.54	12.8	9.5"	15"	19"
S-3	6.4512	9.757	0.6612	0.7579	0.0244	0.1562	6.0'	0.54'	0.04	1.54	12.8	9.5"	15"	19"
WATER QUALITY SWALE	1.552	7.073	0.2199	0.3625	0.0050	0.2236	6.0'	0.24'	0.04	3.01	4.00	5.5"	7"	12"
OUTFALL CHANNEL OF POND	1.680	6.342	0.2649	0.4106	0.0244	0.1562	5.0'	0.30'	0.04	2.38	3.54	5.5"	7"	12"



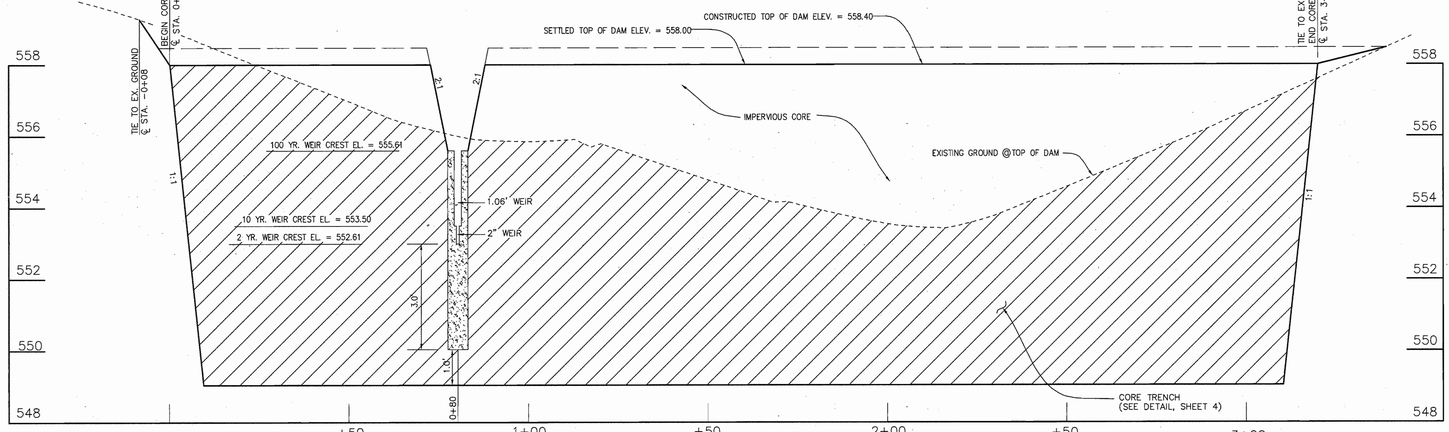
PROFILE THRU SPILLWAY (S.W.M. POND)

SCALE: HORIZ. : 1" = 20'
VERT. : 1" = 2'



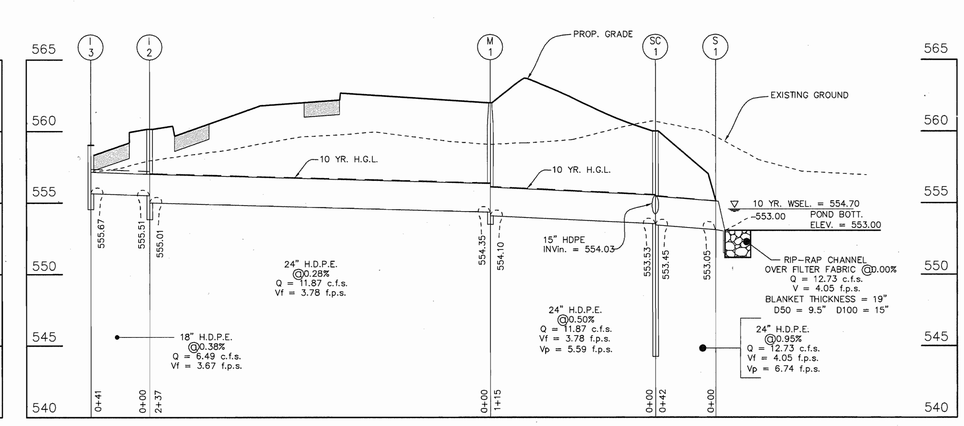
PROFILE

SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



PROFILE @TOP OF DAM (S.W.M. POND)

SCALE: HORIZ. : 1" = 20'
VERT. : 1" = 2'



PROFILE

SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'

REVISION	
DATE	DESCRIPTION
7/5/02	REVISE GRADE OVER I-1 TO SC-1 TO REFLECT GRADE CHANGE

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (Print name below signature) — Date 8/9/01

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (Print name below signature) — Date 8/9/01

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A. Natural Resources Conservation Service — Date 9/4/01

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date 9/4/01

OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — Date 10/19/01

Chief, Development Engineering Division — Date 9/7/01

Director, Department of Planning and Zoning — Date 10/23/01

PROJECT	SECTION/AREA	LOT NO.
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"	N/A	1

PLAT REF.	BLOCK NO.	ZONE	TAX	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040

WATER CODE	SEWER CODE
PRIVATE	PRIVATE

STORMWATER MANAGEMENT PROFILES, STORM DRAIN PROFILES AND DETAIL SHEET

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES
LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 3 OF 8

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
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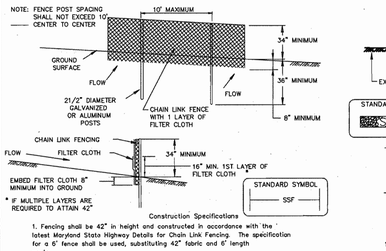
SDP 01-34

SUPER SILT FENCE

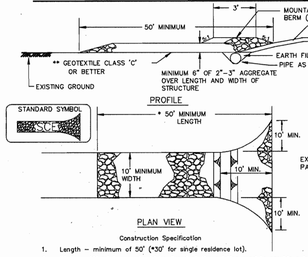


Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

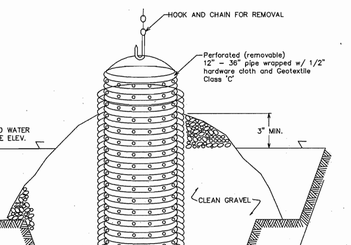
STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length – minimum of 50' (*30' for single residence lot).
2. Width – 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

REMOVABLE PUMPING STATION



Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 8" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

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 growth,

c. The original soil to be vegetated contains material toxic to plant growth,

d. The soil is so acidic 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:

i. Topsoil shall be a mixture of sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Otherwise may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval agency. Topsoil containing stones or clods or other objects that are contrasting textured, or toxic in any way to seed germination will not be allowed. Limits of clinders, stones, slag, coarse fragments gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.

ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at a rate of 4–8 tons/acre (200–400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as detailed in the following requirements.

III. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 10.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dicating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5or higher.

b. Organic content of topsoil shall not be less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permitdesignation of phyto–toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

II. Place topsoil (if required) and apply soil amendments as specified in 10.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.

V. Topsoil Application

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions,Grade Stabilization Structures, Earth Dikes, Slope Slit Fences, Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall beestablished, about 4" – 8" higher in elevation,

iii. Topsoil shall be uniformly distributed in a 4" – 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that 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.

VI. Alternative for Permanent Seeding – Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be required to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements.

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) bt the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 0.5 percent phosphorus,and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If a compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/2 the normal lime application rate.

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run–off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas on which the plans and may be used on highly erodable or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (Xup to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are: temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help pollutants removed from the environment by assimilating these substances present within the root zone.

Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from entering and moving into surface waters.

SECTION 1 – VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
   i. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
   ii. Perform all grading operations at right angles to the slope. *Final grading and shaping is not usually necessary for temporary seeding.*
   III. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
B. Soil Amendments (Fertilizer and Lime Specifications)
   i. Soil tests shall be used to determine the exact ratios and application rates for both lime and fertilizer 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.
   II. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer on an equivalent nitrogen basis upon approval of the appropriate 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 trademark and warrantee of the producer.
   III. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains 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% will pass through a #20 mesh sieve.
   IV. Incorporate lime and fertilizer into the top 3–5" of soil by disking or other suitable means.
C. Seedbed Preparation
   I. 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 disc harrows or chisel plows or rippers mounted on construction equipment. Areas that are loosened in advance shall not be rolled or dragged smooth, but left in the roughened condition. Stone shall be removed or crushed to such extent that it will not hinder normal root penetration.
      b. If these conditions cannot be met by one pass, additional passes is required in accordance with Section 21 Standard and Specification for Topsoil.
      c. Areas previously graded in conformance with the provisos 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 and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
      c. Apply soil amendments as per soil test or as included on the plans.
      d. Work all soil amendments into the top 3–5" of soil by disking or other suitable means. Lawn and seedbed shall be compacted to the degree that will provide adequate support for seedlings, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other implement to roughen the surface. Steep slopes (steeper than 3:1) should be tracked 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
   i. Lawn 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 mixtures shall be a pure culture of nitrogen–fixing bacteria prepared specifically for the species to be inoculated. The inoculant shall be delivered to the site in the original, unopened container bearing a label indicating the date of packaging. Use four times the recommended rate when sowing by hydroseeder. 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. Methods of Seeding
   i. Hydroseeding – Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast over smooth, firm and raked seedbed.
      a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous); 200 lbs/ac. K20 (potassium); 200 lbs/ac.
      b. Lime – use only ground agricultural limestone, (up to 3 tons per acre may be applied by hydroseeder). Normally, not more than 2 applications of lime should be made, unless specified.
      c. Seed and fertilizer may be mixed 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 soil at the rates prescribed on the Temporary or Permanent Seeding Summaries on Tables 355 or 356. The selected area shall be lightly disked, harrowed, or raked to cover seed to the prescribed depth.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
   III. Drill or Cultipacker Seeding: Mechanical seeders that apply and cover seed with soil.
      a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4" to 1/2" of soil cover over the majority of the seed.
      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, reasonable bright in color, and shall not be shredded, musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds and materials harmful to animals or crops.
   II. Wood Cellulose Fiber Mulch (WCFM)
      a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
      b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to aid in inspection of the uniformity of application in the slurry.
      c. WCFM materials shall not contain no germination or growth inhibiting factors.
      d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter–like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      e. WCFM materials shall contain no elements or compounds at concentration levels that will be phyto–toxic.
      f. WCFM must conform to the following physical requirements: fiber length by approximately 10 mm., diameter approximately 1 mm., range of pH 4.5 to 8.5, ash content of 1.6% maximum and water holding capacity of 900% minimum.

   Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
   III. Mulching Seeded Areas – Mulch shall be applied to all seeded areas immediately after seeding.
      i. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in section 3.0 and the maintained until the seeding season returns and seeding can be performed in accordance with the seeding season.
      ii. When straw mulch is used, it shall be spread over all seeded areas of the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
      III. Wood cellulose fiber used on a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
   H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
      i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas (flat to 3:1 slopes) where use of mulch anchoring tools will not operate safely. If used on sloping land, this practice should be used on the contour if possible.
      II. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be sprayed at a rate of 750 lbs. per acre. Binder may be applied before or during mulching operations. The binder mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
      III. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be applied uniform other binder.
      IV. Synthetic Binders – May be used at rates as low as 100 lbs. per acre. Follow manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

I. Incremental Stabilization – Cut Slopes
   i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
   II. Construction sequence (Refer to Figure 3 below):
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be disturbed by construction of Phase 1 excavation.
      b. Perform Phase 1 excavation, dress, and stabilize.
      c. Perform Phase 2 excavation, dress, and stabilize. Overseed Phase 1 areas as necessary.
      d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.

   Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.
J. Incremental Stabilization of Embankments – Fill Slopes
   i. Embankments shall be constructed in lifts as prescribed on the plans.
   II. Fill slopes shall be stabilized in increments not to exceed 15' in multiple lifts reaches
   III. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non–erosive manner to a sediment trapping device.
   Iv. Construction sequence (Refer to Figure 4 (below).
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope slit fence on low side of fill as shown in Figure 4, unless other methods shown on the plans obtain approval.
      b. Place Phase 1 embankment, dress and stabilize.
      c. Place Phase 2 embankment, dress and stabilize.
      d. Place final embankment, dress and stabilize. Overseed previously seeded areas as necessary.

   Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 – TEMPORARY SEEDING

Vegetation – annual grass or grain crop used to provide disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures – Temporary Seeding
   i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary seeding summary below, along with application rates, seeding dates and seeding depths. Seed shall be labeled in accordance with the state laws and all germination requirements shall be met.

Seed Mixture (Hardiness Zone 6a) From Table 28					Fertilizer Rate (10–20–10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	RYE	140	3/15 – 5/31 8/1 – 10/31	1" – 2"	600 lb/ac (15 lb/1000sf)	2 tons/ac (100 lb/1000sf)
2	BARLEY OR RYE PLUS FOXTAIL MILLOT	150	6/1 – 7/31	1"		

SECTION 3 – PERMANENT SEEDING

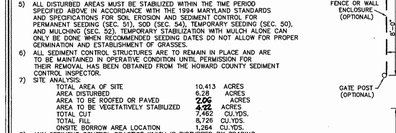
Seeding grass and legumes to establish groung cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures – Permanent Seeding
   i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zones (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates, seeding dates and seeding depths. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional seeding specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA–SCS Technical Field Office Guide Section 342 – Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.
   ii. For sites having disturbed area over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
   III. For areas receiving low maintenance, apply urea–form fertilizer (46–0–0) at 3 lb/2 feet (100 lbs./ac). (100 lbs/ac). in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Seed Mixture (Hardiness Zone 6a) From Table 25					Fertilizer Rate (10–20–20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
3	TALL FESCUE (86%) KENTUCKY BLUEGRASS (5%) PERENNIAL RYEGRASS (10%)	100 10 10	3/15 – 5/1 8/1 – 10/1	1" – 2"	90 lb/ac (2.0 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	2 tons/ac (100 lb/1000sf)
10	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/15 – 5/1 8/1 – 10/1	1" – 2"				

EARTH DIKE

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

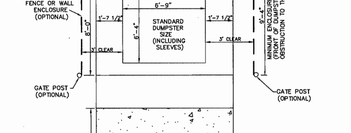
1. ALL DIKES SHALL BE COMPACTED BY EARTH–MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5–3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1–5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1–8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP–RAP 4"–8"
4	8.1–20%	LINED RIP–RAP 4"–8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP–RAP TO BE 4–8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

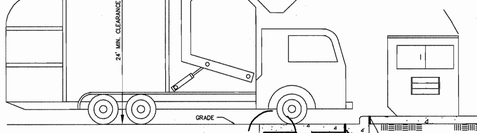
CURB INLET PROTECTION



Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Secure the 2" x 4" weir to a 6" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4"s to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4 " x 1 1/2 " stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

EROSION CONTROL MATTING

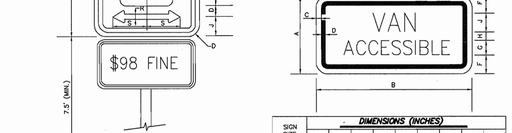


Construction Specifications

1. Key–in the matting for a distance of 6" at the ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross–section. Secure with a row of staples about 4" apart in the trench. Depth of trench for larger sizes is 6".
2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed–in.

SEDIMENT BASIN BAFFLES

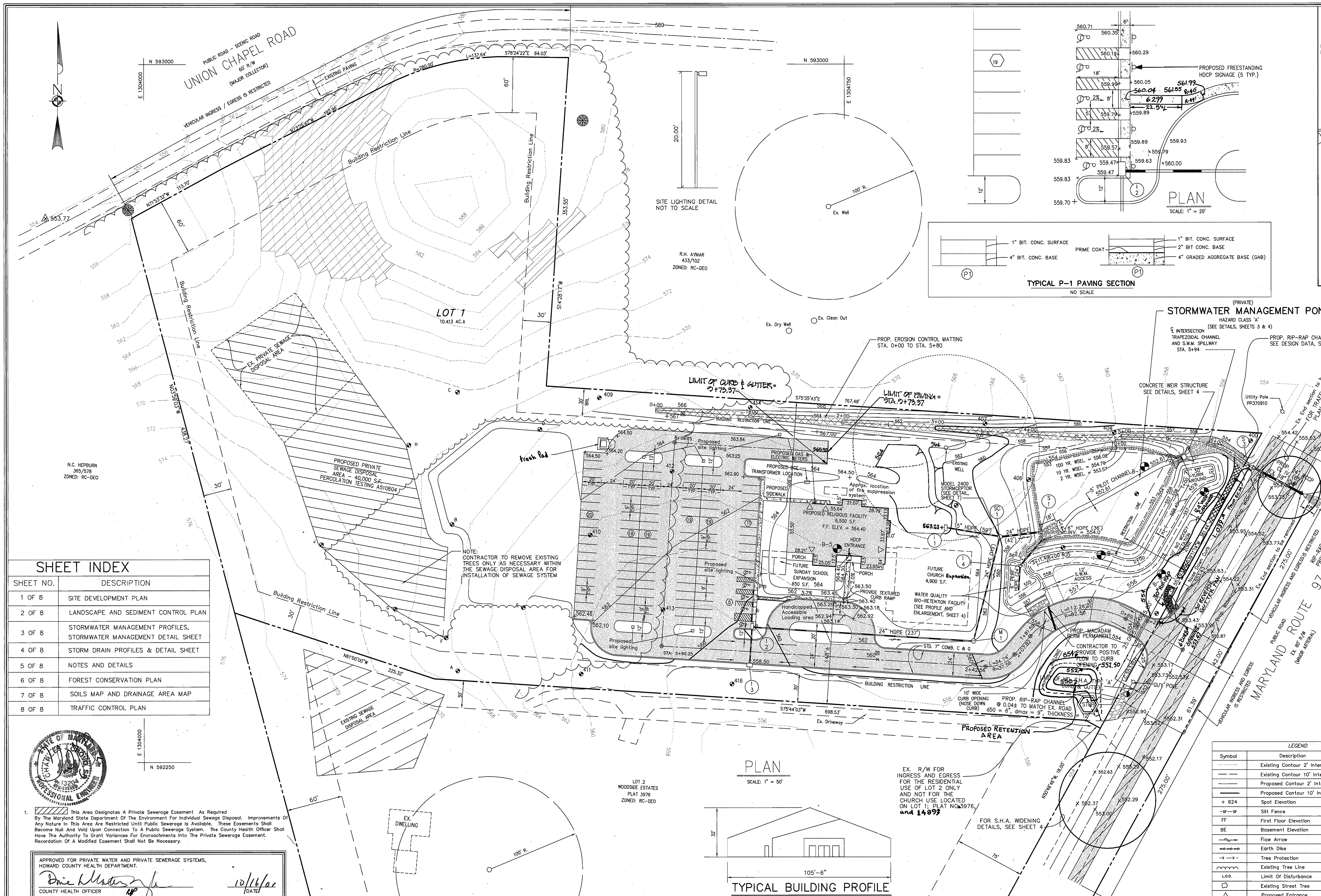


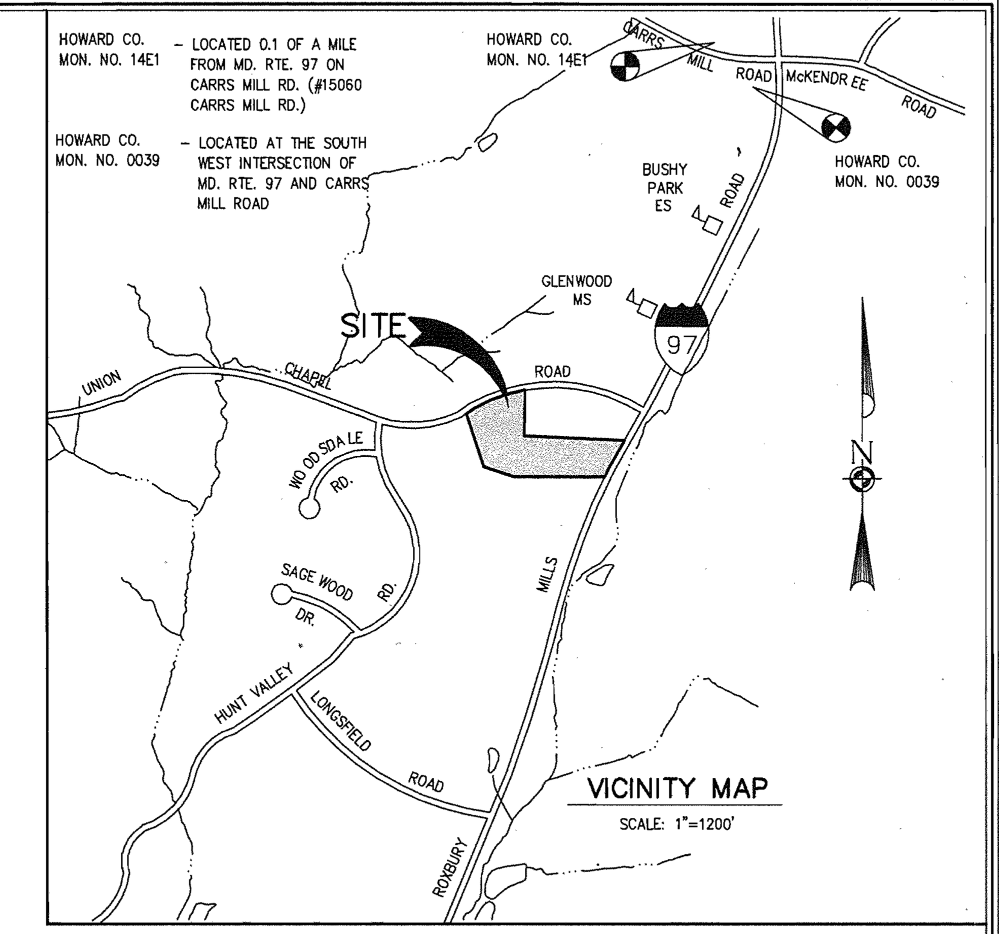
SEDIMENT CONTROL NOTES

1) 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 (313–1855).
2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE–DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WITH SUPPLEMENTAL SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 2, OF THE MARYLAND STORMWATER MANAGEMENT MANUAL FORM DRAINAGE.
5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	10.413	ACRES
AREA DISTURBED	5.28	ACRES
AREA TO BE ROOFED OR PAVED	2.06	ACRES
AREA TO BE VEGETATIVELY STABILIZED	4.22	ACRES
TOTAL CUT	7,462	CU.YDS.
TOTAL FILL	6,726	CU.YDS.
ONSITE BORROW AREA LOCATION	1,264	CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INITIAL SEDIMENT CONTROL IS 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 3 NTL THIS INITIAL APPROVAL BY THE IN





SHEET INDEX

SHEET NO.	DESCRIPTION
1 OF 8	SITE DEVELOPMENT PLAN
2 OF 8	LANDSCAPE AND SEDIMENT CONTROL PLAN
3 OF 8	STORMWATER MANAGEMENT PROFILES, STORMWATER MANAGEMENT DETAIL SHEET
4 OF 8	STORM DRAIN PROFILES & DETAIL SHEET
5 OF 8	NOTES AND DETAILS
6 OF 8	FOREST CONSERVATION PLAN
7 OF 8	SOILS MAP AND DRAINAGE AREA MAP
8 OF 8	TRAFFIC CONTROL PLAN

1. [hatch] This Area Designates A Private Sewerage Easement As Required By The Maryland State Department Of The Environment For Individual Sewage Disposal. Improvements Of Any Nature In This Area Are Restricted Until Public Sewerage Is Available. These Easements Shall Become Null And Void Upon Connection To A Public Sewerage System. The County Health Officer Shall Have The Authority To Grant Variances For Encroachments Into The Private Sewerage Easement. Recordation Of A Modified Easement Shall Not Be Necessary.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
[signature] 10/16/01
COUNTY HEALTH OFFICER — DATE

GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE THE CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEASE (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK.
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: F 78-111 (PLAT NO.3976), F 96-67, F 96-128, S.D.P. 96-22, BA 99-48 E, WP 01-81, F 01-210. (PLAT 14893) and F02-11.
4. BOUNDARY AND TOPOGRAPHIC SURVEY PERFORMED BY: FISHER COLLINS AND CARTER INC. ON OR ABOUT APRIL, 1996
5. HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS:
   HOWARD COUNTY MONUMENT NO. 14E1 N 596,213.618 E 1,301,991.897 ELEV. = 590.86
   HOWARD COUNTY MONUMENT NO. 0039 N 595,722.834 E 1,306,481.672 ELEV. = 620.189
6. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
7. THIS SITE PLAN IS FOR THE REVIEW OF THE PROPOSED 6,500 SQ.FT. BUILDING FOR USE AS A RELIGIOUS FACILITY AND ASSOCIATED PARKING FOR THE COMPLETE PHASING OF ALL BUILDINGS. REVIEW OF THE FUTURE 4,900 SQ.FT. RELIGIOUS FACILITY EXPANSION AND THE 650 SQ.FT. SUNDAY SCHOOL ADDITION WILL REQUIRE THE SUBMISSION OF A NEW SITE DEVELOPMENT PLAN FOR REVIEW.
8. THIS SITE WILL UTILIZE PRIVATE WATER AND SEWER.
9. STORMWATER MANAGEMENT IS PRIVATELY OWNED AND MAINTAINED. THIS FACILITY WILL PROVIDE WATER QUANTITY MANAGEMENT. WATER QUALITY WILL BE PROVIDED BY A STORMCEPTOR.
10. SITE ANALYSIS DATA:
    A. TOTAL PROJECT AREA: 10.413 AC.±
    B. AREA OF PLAN SUBMISSION: 10.413 AC.±
    C. LIMIT OF DISTURBED AREA: 6.28 AC.±
    D. PRESENT ZONING: RC-DEO
    E. PROPOSED USE FOR SITE AND STRUCTURES: CHURCH AND SUNDAY SCHOOL
    F. NUMBER OF PARKING SPACES REQUIRED:

    NO. OF SEATS; 300 SEATS.
    NUMBER OF PARKING SPACES REQ.= 100 (1 SPACE PER 3 SEATS)
    NUMBER OF SPACES PROVIDED= 112
    107 STANDARD SPACES
    5 HANDICAPPED ACCESSIBLE

    G. BLDG. COVERAGE; PROPOSED RELIGIOUS FACILITY (6,500 SQ.FT.) = 2% PERCENT
    TOTAL PHASED BLDG. COVERAGE; PROPOSED RELIGIOUS FACILITY AND FUTURE RELIGIOUS FACILITY / SUNDAY SCHOOL (6,500 + 5,550 SQ.FT.) = 4% PERCENT
11. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISION OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF TWENTY-FOUR THOUSAND NINE HUNDRED AND NINETY DOLLARS ($24,990.00).
12. ALL PROPOSED LIGHTING WILL BE WALL MOUNTED OR POLE MOUNTED IN THE PARKING AREAS AND DIRECTED DOWNWARD AND INWARD FROM ALL ADJACENT PROPERTIES, IN ACCORDANCE WITH SECTION 134 OF THE ZONING REGULATIONS.
13. THIS PLAN IS SUBJECT TO THE FIVE (5) CONDITIONS AS APPROVED BY BA 99-48E. THESE FIVE (5) CONDITIONS OF APPROVAL ARE AS FOLLOWS:
    1. THE SPECIAL EXCEPTION FOR THE RELIGIOUS FACILITY SHALL APPLY ONLY TO THE BUILDINGS AND TO THE ASSOCIATED PARKING AND OTHER IMPROVEMENTS AS DESCRIBED IN THE PETITION AND ON THE PLAN SUBMITTED JULY 21, 1999 AND NOT TO ANY OTHER STRUCTURES OR USES ON THE PROPERTY.
    2. THE ROAD IMPROVEMENTS SHALL BE CONSTRUCTED AS REQUIRED BY THE STATE HIGHWAY ADMINISTRATION.
    3. A TYPE 'A' LANDSCAPE EDGE SHALL BE INSTALLED ALONG THE NORTH AND SOUTH SIDE AND A TYPE 'E' LANDSCAPE BUFFER SHALL BE INSTALLED ALONG THE SOUTH SIDE OF THE PROPERTY AT ALL POINTS ADJACENT TO THE PARKING LOT.
    4. ANY EXTERIOR LIGHTING SHALL BE IN CONFORMANCE WITH SECTION 134 OF THE ZONING REGULATIONS.
    5. THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND COUNTY LAWS AND REGULATIONS.
14. THERE IS NO FLOODPLAIN ON-SITE.
15. THERE ARE NO WETLANDS LOCATED ON-SITE AS PER THE SITE VISIT AND LETTER BY ECO-SCIENCE, INC. DATED NOVEMBER 30, 1999.
16. THERE ARE NO CEMETRIES ON-SITE OR ON ANY ADJOINING PROPERTIES.
17. REFER TO THE MD. S.H.A. MANUAL ON UNIFORM TRAFFIC CONTROL (M.U.T.C.D.) FOR ROAD WIDENING WORK.
18. [hatch] - DENOTES AREAS OF 15 - 24.99% AND GREATER STEEP SLOPES LOCATED ON-SITE.
19. THERE ARE NO HISTORIC STRUCTURES LOCATED ON THIS SITE.
20. IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL, FOREST CONSERVATION OBLIGATIONS HAVE BEEN MET BY PLANTING 5.2 ACRES OF LAND OFF-SITE LOCATED WITHIN THE 'GAITHER HUNT' SUBDIVISION, SECTION 1, AREA 1, NON-BUILDABLE PRESERVATION PARCEL 'B' AND SHOWN IN THIS SET OF DRAWINGS AS SHEET NUMBER 6, Recorded as PLAT 14903 - 14907 on 8-17-01 (F02-11)
21. THIS PLAN IS SUBJECT TO WAIVER PETITION NUMBER WP 01-81 WHICH WAS TO WAIVE SECTION 16.119(f)(3) TO ALLOW A SECOND SEPARATE ENTRANCEWAY ONTO A MINOR ARTERIAL (MD. RT. 97) FOR RELIGIOUS FACILITY. THIS WAIVER PETITION WAS APPROVED ON FEBRUARY 28, 2001 AND WAS APPLIED FOR ON JANUARY 26, 2001.
22. GROUNDWATER APPROPRIATION PERMIT NUMBER IS HO99G014.
23. SEPTIC SYSTEM DESIGN PLANS MUST BE SUBMITTED FOR HEALTH DEPARTMENT REVIEW AND APPROVAL PRIOR TO BUILDING PERMIT APPROVAL.
24. THE APPROXIMATE DAILY DESIGN FLOW FOR THIS PROJECT IS 900 GPD. THE MAXIMUM DAILY DESIGN FLOW WHICH THE SEPTIC SYSTEM DESIGN CAN ACCOMMODATE IS 1,500 GPD. THE ACTUAL DESIGN CRITERIA WILL BE SUBMITTED WITH THE SEPTIC SYSTEM DESIGN PLANS PRIOR TO BUILDING PERMIT APPROVAL.

LEGEND

Symbol	Description
--------	Existing Contour 2' Interval
— —	Existing Contour 10' Interval
———	Proposed Contour 2' Interval
━━━	Proposed Contour 10' Interval
+ 624	Spot Elevation
-SF—SF	Silt Fence
FF	First Floor Elevation
BE	Basement Elevation
—~→	Flow Arrow
⇒⇒⇒	Earth Dike
-x —x -	Tree Protection
⌒⌒⌒	Existing Tree Line
L.O.D.	Limit Of Disturbance
⬠	Existing Street Tree
△	Proposed Entrance

STREET ADDRESS CHART

LOT NO.	STREET ADDRESS
1	2892 MD. RTE. 97 (ROXBURY MILLS ROAD)

REVISION

DATE	DESCRIPTION
7/5/02	REVISE PAVING LIMIT AND GRADING TO I-1
10/25/02	ADD PROPOSED RETENTION AREA & CURB OPENING W/ CHANNEL TO ALLEVIATE STANDING WATER ISSUE. REVISE HANDCAP ACCESS FROM PARKING AREA.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

[signature] 8/9/01
Signature of Engineer (print name below signature) — Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Jim May 8/9/01
Signature of Developer (print name below signature) — Date

Reviewed for HOWARD SCD and meets Technical Requirements.
Jim Myers/65 9/4/01
U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
[signature] 9/4/01
Howard SCD — Date

DEVELOPER/OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 10/27/01
Director - Department of Planning and Zoning — Date

Cindy Hamilton BB 10/19/01
Chief, Division of Land Development — Date

[signature] 9/7/01
Chief, Development Engineering Division MAJ — Date

SUBDIVISION	SECTION/AREA	LOT NO.			
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"	N/A	1			
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040
WATER CODE			SEWER CODE		
PRIVATE			PRIVATE		

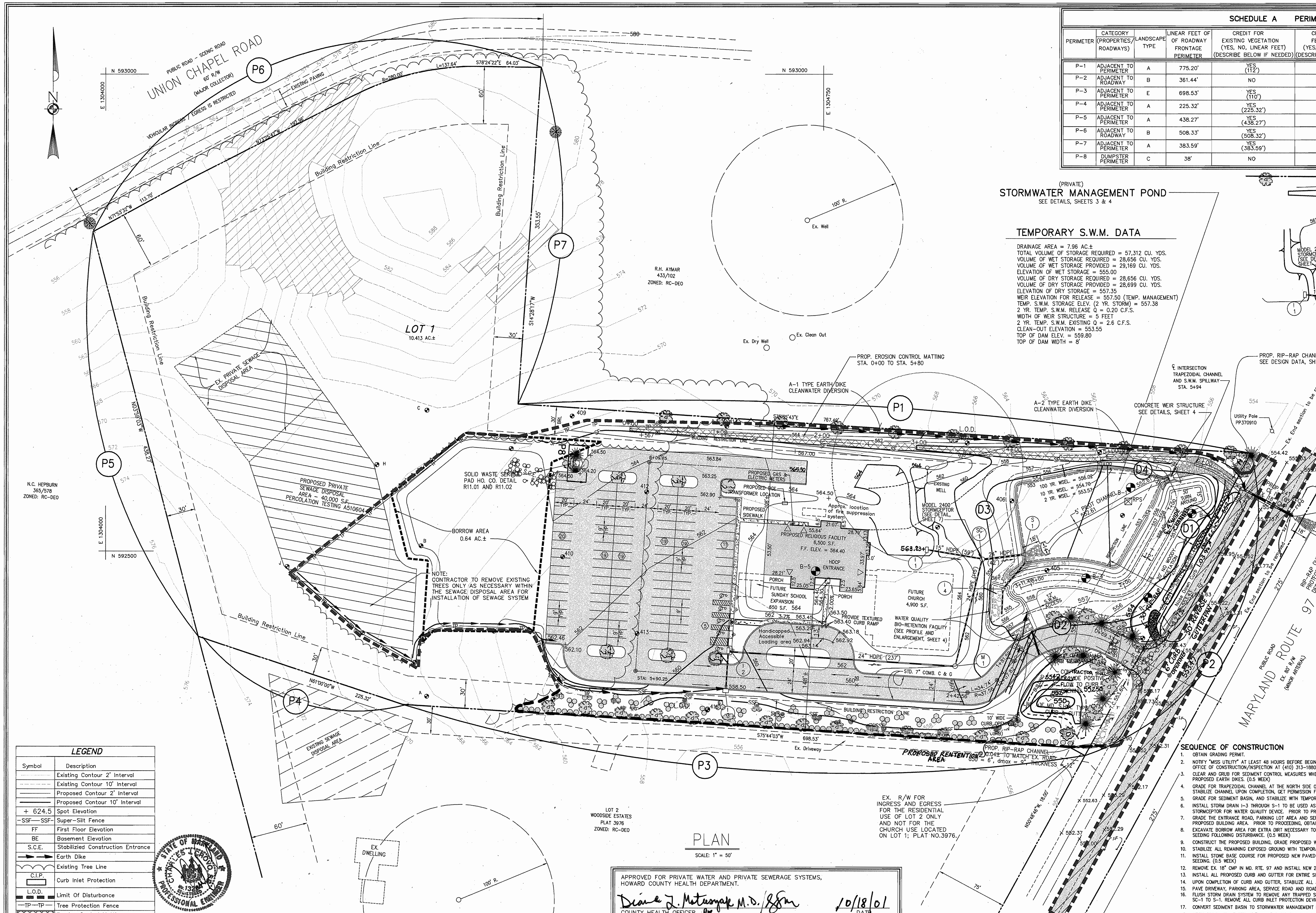
SITE DEVELOPMENT PLAN

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 1 OF 8

SDP 01-34



PLAN

SCALE: 1" = 50'

SCHEDULE A PERIMETER LANDSCAPE EDGE

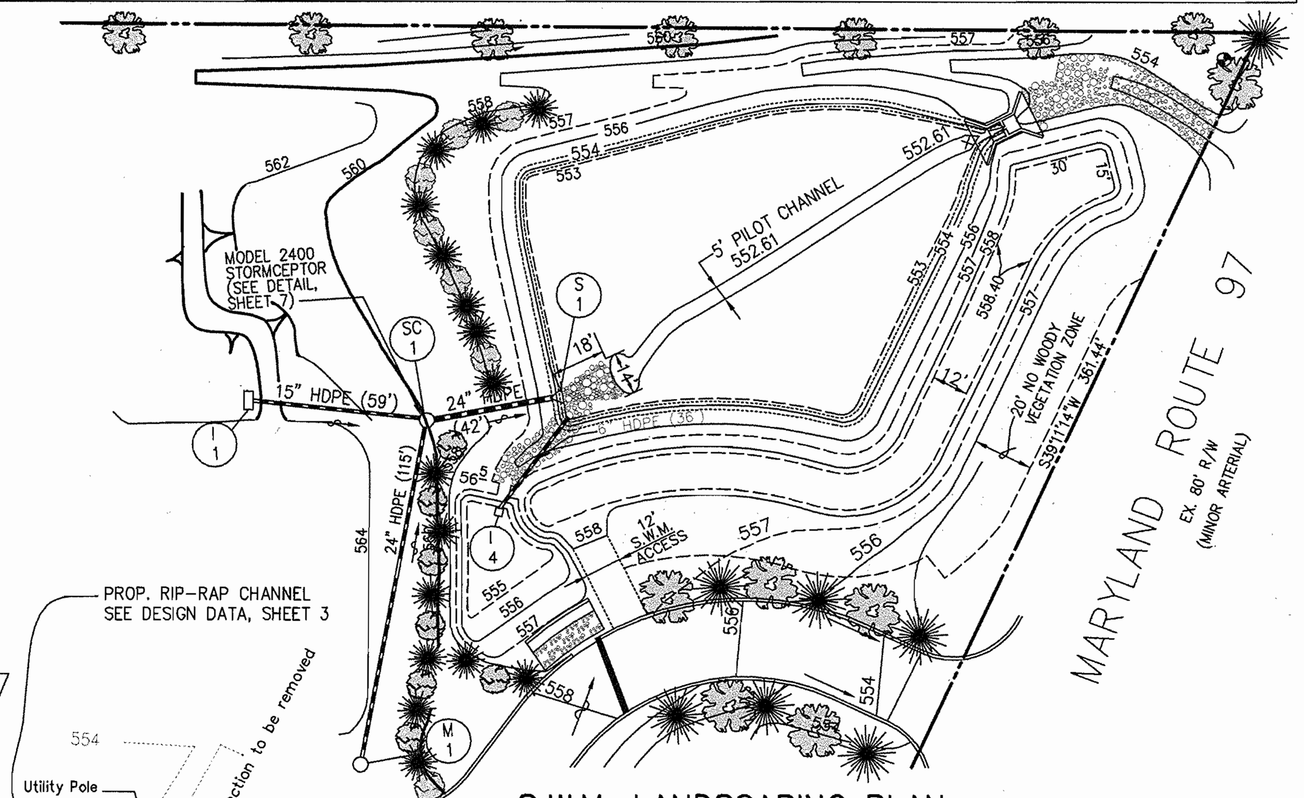
PERIMETER	CATEGORY (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED: SHADE TREES	EVERGREEN TREES	SHRUBS	NUMBER OF PLANTS PROVIDED: SHADE TREES	EVERGREEN TREES	OTHER TREES (2:1 SUBSTITUTION)	SHRUBS (10:1 SUBSTITUTION)
P-1	ADJACENT TO PERIMETER	A	775.20'	YES (112')	NO	11	–	–	11	–	–	–
P-2	ADJACENT TO ROADWAY	B	361.44'	NO	NO	8	9	–	8	10	–	–
P-3	ADJACENT TO PERIMETER	E	698.53'	YES (110')	NO	15	–	148	15	–	–	148
P-4	ADJACENT TO PERIMETER	A	225.32'	YES (225.32')	NO	0	–	–	0	–	–	–
P-5	ADJACENT TO PERIMETER	A	438.27'	YES (438.27')	NO	0	–	–	0	–	–	–
P-6	ADJACENT TO ROADWAY	B	508.33'	YES (508.32')	NO	0	–	–	0	–	–	–
P-7	ADJACENT TO PERIMETER	A	383.59'	YES (383.59')	NO	0	–	–	0	–	–	–
P-8	DUMPSTER PERIMETER	C	38'	NO	NO	1	2	–	1	2	–	–

(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)

(PRIVATE)
STORMWATER MANAGEMENT POND
SEE DETAILS, SHEETS 3 & 4

TEMPORARY S.W.M. DATA

DRAINAGE AREA = 7.96 AC.±
TOTAL VOLUME OF STORAGE REQUIRED = 57,312 CU. YDS.
VOLUME OF WET STORAGE REQUIRED = 28,656 CU. YDS.
VOLUME OF WET STORAGE PROVIDED = 29,169 CU. YDS.
ELEVATION OF WET STORAGE = 555.00
VOLUME OF DRY STORAGE REQUIRED = 28,656 CU. YDS.
VOLUME OF DRY STORAGE PROVIDED = 28,699 CU. YDS.
ELEVATION OF DRY STORAGE = 557.35
WEIR ELEVATION FOR RELEASE = 557.50 (TEMP. MANAGEMENT)
TEMP. S.W.M. STORAGE ELEV. (2 YR. STORM) = 557.38
2 YR. TEMP. S.W.M. RELEASE Q = 0.20 C.F.S.
WIDTH OF WEIR STRUCTURE = 5 FEET
2 YR. TEMP. S.W.M. EXISTING Q = 2.6 C.F.S.
CLEAN-OUT ELEVATION = 553.55
TOP OF DAM ELEV. = 559.80
TOP OF DAM WIDTH = 8'



S.W.M. LANDSCAPING PLAN

SCALE: 1" = 50'

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	D1: 258'	D2: 65'	D3: 190'	D4: 110'
NUMBER OF TREES REQUIRED: SHADE TREES / EVERGREEN TREES	5 / 6	2 / 2	4 / 5	3 / 3
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO	NO	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO	NO	NO
NUMBER OF TREES PROVIDED: SHADE TREES / EVERGREEN TREES / OTHER TREES (2:1 SUBSTITUTION)	5 / 6 / -----	2 / 2 / -----	4 / 5 / -----	3 / 3 / -----

LANDSCAPING PLANT LIST

QTY.		NAME	SIZE
35		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 - 2 1/2" CALIPER FULL CROWN, B&B
27		PINUS STROBUS EASTERN WHITE PINE	6'-8' HEIGHT
20		PLATANUS X ACERIFOLIA 'BLOODGOOD' BLOODGOOD LONDON PLANE	2 - 2 1/2" CALIPER FULL CROWN, B&B
74		AZALEA 'GUMPO WHITE' GUMPO WHITE AZALEA	18"-24" SP.
74		VIBURNUM DENTATUM ARROWWOOD VIBURNUM	2-1/2' - 3' HT

NOTE:
"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 DEVELOPER'S AGREEMENT IN THE AMOUNT OF $24,990. FOR 55 SHADE TREES, 27 EVERGREENS AND 148 SHRUBS. AT THE TIME OF INSTALLMENT, 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. ANY DEVIATION FROM THIS APPROVED LANDSCAPED 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 CERTIFICATES.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT (410) 313-1880, 24 HOURS BEFORE STARTING WORK.
3. CLEAR AND GRUB FOR SEDIMENT CONTROL MEASURES WHERE NEEDED. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND PROPOSED EARTH DIKES. (0.5 WEEK)
4. GRADE FOR TRAPEZOIDAL CHANNEL AT THE NORTH SIDE OF THE PROPERTY TO COLLECT BYPASS RUNOFF, AND PERMANENTLY STABILIZE CHANNEL UPON COMPLETION, GET PERMISSION FROM INSPECTOR PRIOR TO PROCEEDING. (1 WEEK)
5. GRADE FOR SEDIMENT BASIN, AND STABILIZE WITH TEMPORARY SEEDING. (0.5 WEEK)
6. INSTALL STORM DRAIN I-3 THROUGH S-1 TO BE USED AS DIVERSION FOR SEDIMENT CONTROL FOR ENTIRE SITE. INCLUDING STORMCEPTOR FOR WATER QUALITY DEVICE. PRIOR TO PROCEEDING, OBTAIN PERMISSION FROM INSPECTOR. (1 WEEK)
7. GRADE THE ENTRANCE ROAD, PARKING LOT AREA AND SERVICE ROAD AREA TO SUB-GRADE, EXCAVATE NECESSARY AREA FOR PROPOSED BUILDING AREA. PRIOR TO PROCEEDING, OBTAIN PERMISSION FROM INSPECTOR. (2.0 WEEKS)
8. EXCAVATE BORROW AREA FOR EXTRA DIRT NECESSARY TO COMPLETE FILL AREA, STABILIZE THE BORROW AREA WITH TEMPORARY SEEDING FOLLOWING DISTURBANCE. (0.5 WEEK)
9. CONSTRUCT THE PROPOSED BUILDING, GRADE PROPOSED WIDENING AND INSTALL STONE BASE COURSE FOR MD. RTE. 97. (10 WEEKS)
10. STABILIZE ALL REMAINING EXPOSED GROUND WITH TEMPORARY SEEDING. (0.5 WEEK)
11. INSTALL STONE BASE COURSE FOR PROPOSED NEW PAVED AREAS. STABILIZE ALL ARES AROUND THE BUILDING WITH PERMANENT SEEDING. (0.5 WEEK)
12. REMOVE EX. 18" CMP IN MD. RTE. 97 AND INSTALL NEW 24" RCCP.* (0.5 WEEKS) *TO OCCUR UPON A 3-DAY CLEAR WEATHER FORECAST BY THE NWS
13. INSTALL ALL PROPOSED CURB AND GUTTER FOR ENTIRE SITE, INCLUDING S.H.A. CURB ALONG MD. RTE. 97. (1.5 WEEKS)
14. UPON COMPLETION OF CURB AND GUTTER, STABILIZE ALL AREAS WITH PERMANENT SEEDING. (0.5 WEEK)
15. PAVE DRIVEWAY, PARKING AREA, SERVICE ROAD AND ROAD WIDENING AREA. (1.0 WEEK)
16. FLUSH STORM DRAIN SYSTEM TO REMOVE ANY TRAPPED SEDIMENTS FROM I-3 TO I-2 TO M-1 TO SC-1 TO S-1. REMOVE ALL CURB INLET PROTECTION DEVICES. (0.5 WEEK)
17. CONVERT SEDIMENT BASIN TO STORMWATER MANAGEMENT POND. PRIOR TO PROCEEDING, OBTAIN PERMISSION FROM INSPECTOR. (1 WEEK)
18. UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES. (0.5 WEEK)

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	113
NUMBER OF TREES REQUIRED	6
NUMBER OF TREES PROVIDED: SHADE TREES / OTHER TREES (2:1 SUBSTITUTION)	6 / –

NOTE:
ALL PERIMETER LANDSCAPING WILL BE PLANTED AFTER GRADING OF THE SITE.

LEGEND

Symbol	Description
	Existing Contour 2' Interval
	Existing Contour 10' Interval
	Proposed Contour 2' Interval
	Proposed Contour 10' Interval
+ 624.5	Spot Elevation
-SSF—SSF-	Super-Silt Fence
FF	First Floor Elevation
BE	Basement Elevation
S.C.E.	Stabilizied Construction Entrance
	Earth Dike
	Existing Tree Line
C.I.P.	Curb Inlet Protection
L.O.D.	Limit Of Disturbance
—TP—TP—	Tree Protection Fence
	Erosion Control Matting

STATE OF MARYLAND CHARLES T. CROVO No. 13... REGISTERED PROFESSIONAL ENGINEER

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
Diane L. Matuszak M.D. /SSm 10/18/01
COUNTY HEALTH OFFICER — DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

REVISION

DATE	DESCRIPTION
7/5/02	REVISE PAVING LIMIT AND GRADING TO I-1
10/25/02	ADD PROPOSED RETENTION AREA & CURB OPENING W/CHANNEL TO ALLEVIATE STANDING WATER ISSUE. REVISE LIMITS OF DISTRUBANCE REVISE HANDICAP ACCESS FROM PARKING AREA.

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (Print name below signature) — Date 8/9/01

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Jim May — 8/9/01
Signature of Developer (Print name below signature) — Date

Reviewed for HOWARD SCD and meets Technical Requirements.
Jim Myers /CS. — 9/4/01
U.S.D.A. Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
Howard SCD — 9/4/01 Date

OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton — 10/9/01
Chief, Division of Land Development BB — Date
9/7/01
Chief, Development Engineering Division MAJ — Date
10/23/01
Director - Department of Planning and Zoning — Date

PROJECT		SECTION/AREA		LOT NO.	
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"		N/A		1	
PLAT REF.	BLOCK NO.	ZONE	TAX	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040
WATER CODE: PRIVATE			SEWER CODE: PRIVATE		

LANDSCAPE AND SEDIMENT CONTROL PLAN

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 2 OF 8

SDP 01-34

SOILS LEGEND

SOIL	NAME	CLASS
ChA	Chester silt loam, 0 to 3 percent slopes	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
ChC2	Chester silt loam, 8 to 15 percent slopes, moderately eroded	B

NOTES:
* Hydric soils and/or contains hydric inclusions
** May contain hydric inclusions
† Generally only within 100-year floodplain areas

MAINTENANCE NOTES
WATER QUALITY STRUCTURE WASTE

1. Water quality structures will require periodic cleaning. Owners of these facilities will have to clean them as needed.
2. Maintenance of these facilities will consist of cleaning out the stormceptor and disposal of the waste and repair of the facility as needed. Periodic inspections of these facilities will be made by the owner.
3. The disposal of the liquid and solid matter shall be as follows:
   A. All liquid material in the stormceptor shall be pumped into a suitable tank truck and disposed of at an approved sanitary district discharge manhole or be taken to an approved sewage treatment plant for discharge.
   B. The solid material shall be landfilled in an approved sanitary landfill.
4. Inlet pipes and structural parts shall be repaired as needed.
5. Stormceptor inlet and outlet assembly shall be periodically inspected. Blockages shall be removed and disposed of as required in 3B above.

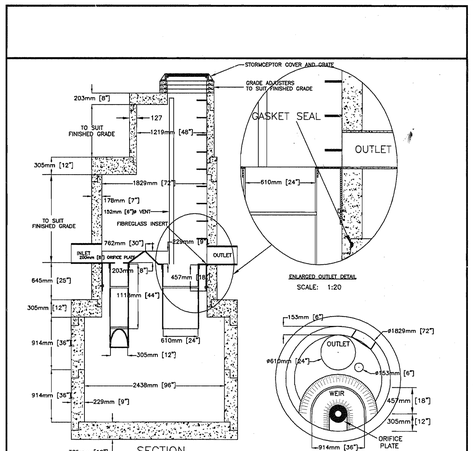
DRAINAGE AREA DATA

AREA = 0.49 AC.± T/C = 10.00 MIN. (MIN.)	A	C = 0.37 % IMP. = 42.9%
AREA = 0.30 AC.± T/C = 11.12 MIN.	B	C = 0.66 % IMP. = 68%
AREA = 2.86 AC.± T/C = 15.00 MIN. (MAX.)	C	C = 0.30 % IMP. = 18%
AREA = 3.67 AC.± T/C = 15.00 MIN. (MAX.)	D	C = 0.28 % IMP. = 20%
AREA=0.88 AC +/- T/C=19.80 MIN	E	RCN=67 % IMP=19.3%
AREA=0.39 AC +/-	F	C=0.65 % IMP=50%

OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE

1. Stormceptor water quality structures will require periodic inspection and cleaning to maintain operation and function. Owners will have the Stormceptor unit inspected yearly or as required by Howard County, utilizing the Stormceptor Inspection/Monitoring Form. Inspections can be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed the specified level (Table 9 of Technical Manual) then cleaning of the unit is required.
2. Stormceptor water quality structures must be checked and cleaned immediately after petroleum spills, contact appropriate regulatory agencies.
3. Maintenance of Stormceptor units should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in unit. The proper disposal or recycling of the removed materials and liquid must be followed.
4. Inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the Stormceptor will be repaired as needed.
5. Owner shall retain and make Stormceptor Inspection/Monitoring Forms available to Howard County officials upon their request.

(PRIVATE)
STORMWATER MANAGEMENT POND
HAZARD CLASS 'A'
(SEE DETAILS, SHEETS 3 & 4)



STORMCEPTOR IS PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENTS:
Canadian Patent No. 2,009,208
Canadian Patent No. 2,137,942
U.S. Patent No. 4,985,148
U.S. Patent No. 5,498,331
U.S. Patent No. 5,725,760
U.S. Patent No. 5,753,115

Notes :
1. Dimensions may vary regionally due to different manufacturer's.
2. Access way is offset to allow access to the fibreglass bypass slab and to allow inspection and maintenance from the surface.
3. Pipe installation by grouting or flexible boots.
4. Flexible boots may not be suitable for all installations. Please contact your sales representative for further information.
5. 610 mm [24"] outlet to be used for cleanout access to the treatment chamber.
6. Safety grates for the 610 mm [24"] outlet are available.

DATE REQ'D:	F REQ'D: N/A	SCALE: 1:40	STC 2400 PRECAST CONCRETE STORMCEPTOR FIBREGLASS DISC DESIGN – 2400 U.S. GALLON CAPACITY
DATE: 10/28/98	DR.: A.M.G.	UNITS:	

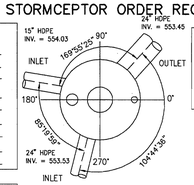
CONCRETE STORMCEPTOR ORDER REQUEST FORM

CONTRACTOR INFORMATION
NAME
ADDRESS
CITY
STATE
ZIP CODE
CONTACT
PHONE
FAX

OWNER INFORMATION
NAME
PHONE
FAX

STORMCEPTOR MODEL
900 ☐ 3600 ☐
1200 ☐ 4800 ☐
1800 ☐ 6000 ☐
2400 ☒ 7200 ☐
IMPERV. D. AREA = _____ AC.

INSERT SIZE
DISC ☐
22" ☐
32" ☐
44" ☐
CUSTOM ☐



OFFICE USE ONLY
ORDER #
DATE
INTERNAL SCALE

PLEASE DRAW ORIENTATION (ANGLE) OF INLET PIPES (MAX 2) AND OUTLET PIPE (1) ON DIAGRAM ALONG WITH PIPE INSIDE DIAMETER (IN.) AND INVERT ELEVATION (FT). CLEARLY MARK INLET PIPES WITH AN 'I' AND OUTLET PIPES WITH AN 'O' AND PROVIDE THE INLET/OUTLET PIPE ANGLE IN DEGREES.

MANHOLE NUMBER	SC-1
FINISH TOP ELEVATION (FT)	560.00
TOP SLAB ELEVATION (FT)	554.53
INLET PIPE INVERT (FT)	554.03/553.53
OUTLET PIPE INVERT (FT)	553.45
PIPE TYPE:	HDPE
PIPE INSIDE DIAM. (IN) [ID]	15" AND 24"
PIPE OUTSIDE DIAM. (IN) [OD]	19.6" AND 29.8"

PROJECT NAME ST. ANDREWS EPISCOPAL CHURCH
APPROXIMATE TIME FRAME UNTIL REQUIRED DELIVERY (WEEKS)
DELIVERY ADDRESS: STREET 2892 MARYLAND ROUTE 97 (ROXBURY MILLS ROAD)
CITY GLENWOOD STATE MARYLAND ZIP CODE 21738
DESIGNER COMPANY FISHER, COLLINS & CARTER, INC.
DESIGNER CONTACT RICKY ISAACS PHONE (410) 461-2855 FAX (410) 750-3784

PLEASE FAX THIS ORDER TO HYDRO CONDUIT C/O CAMTEK (412) 327-9556
ATTENTION: ANDREW VROSTEK PHONE : (412) 327-3400
FOR TECHNICAL ASSISTANCE PLEASE CALL STORMCEPTOR CORPORATION AT (301) 762-8361 OR TOLL FREE AT 1 (800) 762-4703

ALL LIFTING APPARATUS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

REVISION	
DATE	DESCRIPTION
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10/25/02	ADD PROPOSED RETENTION AREA & CURB OPENING W/CHANNEL TO ALLEVIATE STANDING WATER ISSUE. ADD ADDITIONAL (2) DRAINAGE AREAS FOR NEW FACILITIES TO ALLEVIATE STANDING WATER ISSUE. REVISE HANDICAP ACCESS FROM PARKING AREA.

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (Print name below signature) 8/9/01 Date

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Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.–Natural Resources Conservation Service Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD Date

OWNER

ST. ANDREWS EPISCOPAL CHURCH
RTE. 97 & UNION CHAPEL ROAD
P.O. BOX 52
GLENWOOD, MARYLAND 21738
(410) 489-4035

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development Date 10/9/01

Chief, Development Engineering Division Date 9/7/01

Director – Department of Planning and Zoning Date 10/23/01

PROJECT	SECTION/AREA	LOT NO.
ST. ANDREWS EPISCOPAL CHURCH "WOODSIDE ESTATES"	N/A	1

PLAT REF.	BLOCK NO.	ZONE	TAX	ELEC. DIST.	CENSUS TR.
14893	16	RC-DEO	14	4TH	6040

WATER CODE	SEWER CODE
PRIVATE	PRIVATE

SOILS MAP AND DRAINAGE AREA MAP

ST. ANDREWS EPISCOPAL CHURCH

WOODSIDE ESTATES
LOT 1

TAX MAP No: 14 PARCEL No: 216
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 8, 2001
SHEET 7 OF 8

SDP 01-34