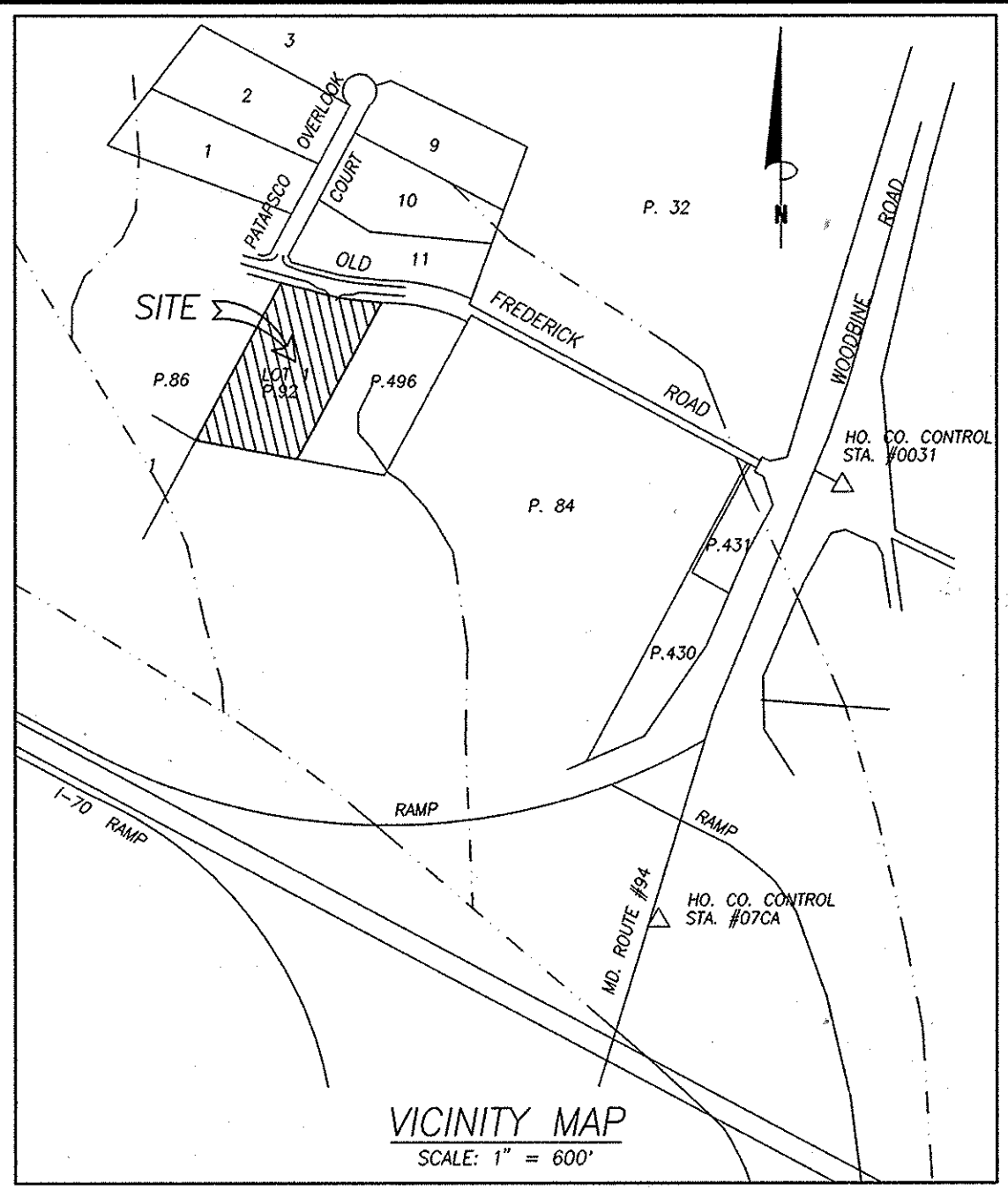


NOTE:
ACTION TAKEN IN BA CASE NO. 01-196 & V

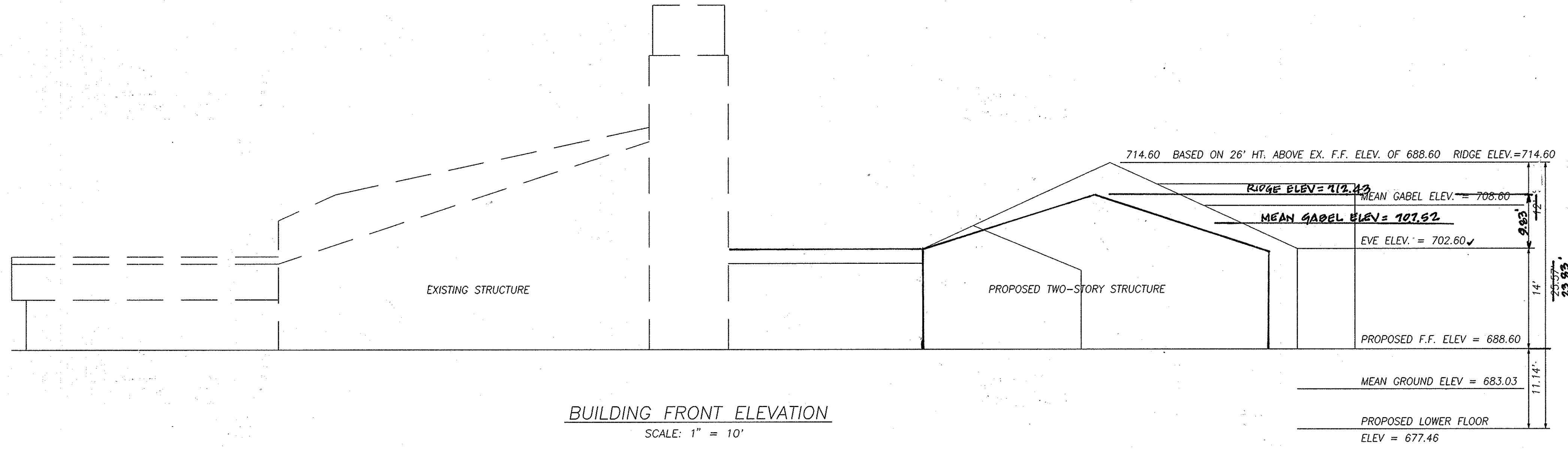
ORDER
BASED UPON THE FOREGOING, IT IS THIS 15TH DAY OF NOVEMBER, 2001, BY THE HOWARD COUNTY BOARD OF APPEALS, ORDERED:
THAT THE PETITION OF THE CALVARY LUTHERAN CHURCH, PETITIONER, FOR A CONDITIONAL USE FOR THE ENLARGEMENT OF AN EXISTING RELIGIOUS FACILITY AND FOR A NEW PRIVATE ACADEMIC SCHOOL; AND FOR VARIANCES TO REDUCE THE 30 FOOT SIDE SETBACK TO 15.2 FEET FOR AN ADDITION AND TO REDUCE THE USE SETBACKS TO 12 FEET AND 38 FEET FOR PARKING USES ON THE PROPERTY KNOWN AS 16151 OLD FREDERICK ROAD, WOODBINE, HOWARD COUNTY, MARYLAND BE, AND SAME HEREBY IS GRANTED, SUBJECT TO THE FOLLOWING CONDITIONS:

1. THE CONDITIONAL USE SHALL APPLY ONLY TO THE PROPOSED ENLARGED RELIGIOUS FACILITY AND NEW PRIVATE SCHOOL AS DESCRIBED IN PETITION, AND AS DEPICTED ON THE CONDITIONAL USE PLAN SUBMITTED ON MARCH 30, 2001, AND NOT TO ANY OTHER ACTIVITIES, USES, OR STRUCTURES ON THE PROPERTY.
2. THAT THE VARIANCES SHALL APPLY ONLY TO THE PROPOSED ADDITION AND PARKING LOT ENLARGEMENT BEING REQUESTED AND NOT TO ANY OTHER NEW STRUCTURES OR USES ON THE PROPERTY.
3. THE PETITIONER SHALL ENCLOSE THE OUTDOOR PLAY AREA WITH A FENCE.
4. THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND COUNTY LAWS AND REGULATIONS.



91. (CONT.) BY THE DEVELOPMENT ENGINEERING DIVISION FOR THIS REDLINE REVISION.

- GENERAL NOTES
1. SITE ANALYSIS:
 - A. AREA OF PROPERTY: 4.996 AC.
 - B. LIMIT OF DISTURBED AREA = 1.6 AC.
 - C. ZONING OF SUBJECT PROPERTY IS RC-DEO.
 - D. ZONING OF ADJOINING PROPERTY IS RC-DEO.
 2. EXISTING USE: CHURCH, PARKING & FOREST
 3. PROPOSED USE: TWO STORY FELLOWSHIP HALL/PRIVATE ACADEMIC SCHOOL, ADDITIONAL PARKING LOT EXPANSION, ADD UNDERGROUND PROPANE AND WATER TANKS, UPGRADE ON-SITE FACILITY, SHOW LANDSCAPING AND THE FUTURE DEVELOPMENT OF PASSIVE AND ACTIVE RECREATION
 4. FLOOR AREA OF EX. TWO-STORY STRUCTURE: 10,796 S.F.
 5. AREA OF EX. BUILDING FOOTPRINT: 4,920 S.F.
 6. FLOOR AREA OF PROPOSED TWO-STORY STRUCTURE: 10,796 S.F. **6,100 S.F.**
 7. AREA OF PROPOSED BUILDING FOOTPRINT: 4,920 S.F. **4,900 S.F.**
 8. PERCENT OF BUILDING FOOTPRINT TO LOT AREA: 45.5%
 9. BUILDING HEIGHT CALCULATION AS PER HICP 103A.12: 70.00' **70.00'**
 10. PROPOSED ROOF RISE ELEVATION: 702.00' **702.00'**
 11. PROPOSED MEAN GABLE ROOF ELEVATION: 707.62' **707.62'**
 12. PROPOSED MEAN CABLE ROOF ELEVATION: 707.62' **707.62'**
 13. PROPOSED MEAN EXTERIOR GRADE: 677.46'
 14. PROPOSED MEAN CABLE ROOF ELEVATION: 707.62' **707.62'**
 15. PROPOSED MEAN EXTERIOR GRADE: 677.46'
 16. HEIGHT OF BUILDING: 24.49'
 17. ROOF RISE OF ROOF = 24' FRONT AND 38' REAR
 18. TOTAL NUMBER OF UNITS ALLOWED: N/A
 19. TOTAL NUMBER OF UNITS PROPOSED: N/A
 20. MINIMUM NUMBER OF SQUARE FEET: N/A
 21. MAXIMUM NUMBER OF FAMILIES: N/A
 22. SEATING CAPACITY OF SANCTUARY: 188 PEOPLE
 23. PARKING PROVISIONS:
 - A. PARKING REQUIRED: 188 PEOPLE AT 1 SPACE/3 PEOPLE
 - B. PARKING PROVIDED: 101 SPACES PROVIDED (INCLUDES 4 HANDICAPPED SPACES)
 - C. CONFORMANCE: 53% CONFORMANCE WITH HICP 103A.12
 - D. OPEN SPACE ON SITE: APPROX. 3.0 AC.
 - E. AREA OF RECREATION OPEN SPACE: N/A
 - F. IMPROVED AREA PAVED PARKING LOT AREA ON SITE = 1.36 AC.
 - G. BUILDING AREA ON SITE = 0.54 AC.
 - H. IMPROVED AREA PAVED PARKING LOT AREA ON SITE = 1.30 AC.
 24. Adjoining uses include single family detached homes to the north and west, town club to the east, and woods to the south.
 25. This site is served by existing private well and septic systems.
 26. Principal Structure: front: 75' rear: 60'
 27. Accessory Structure: side: 30' rear: 10'
 28. Uses Right-of-way: rear: 30'
 29. Lot Lines: rear: 30'
2. ALL PROPOSED LIGHTING SHALL BE DIRECTED DOWNWARD AND INWARD ONTO THE SITE AND AWAY FROM ADJACENT PROPERTIES.
 3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
 4. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
 5. THE CONTRACTOR SHALL NOTIFY "M&S UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
 6. TRAFFIC CONTROL DEVICES, BARRIERS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF WETC.
 7. ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 8. LIGHT POLES AND FIXTURES FOR STREET LIGHTS SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME II, ROADS AND BRIDGES.
 9. ANY DAMAGE TO EXISTING PUBLIC RIGHT-OF-WAY, EXISTING PAVING, EXISTING CURB AND GUTTER, EXISTING UTILITIES, ETC. SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
 10. THE EXISTING UTILITIES SHOWN HEREON ARE LOCATED FROM FIELD SURVEYS AND CONSTRUCTION DRAWINGS OF RECORD. THE APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION AND CONFORMANCE. THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES TO HIS OWN SATISFACTION AND WELL IN ADVANCE OF ANY CONSTRUCTION ACTIVITIES. ADDITIONALLY, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE.
 11. THE TOPOGRAPHY SHOWN HEREON IS COMPILED FROM FIELD RUN DATA PREPARED BY M&S ASSOCIATES, INC. DATED MARCH, 2001.
 12. HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CTR. STNS. 6704 AND 6031. COURSES AND DISTANCES OF OUTLINE BOUNDARY LINES TAKEN FROM "Lot 1, Connecticut Aspen, Inc. Property" by Boender Associates, Inc. Howard County topography and datum.
 13. NO WETLANDS WERE OBSERVED TO EXIST WITHIN THE DEVELOPMENT AREA OF THIS SITE BY AN ON-SITE INVESTIGATION CONDUCTED ON MARCH, 2002 BY WMMAR ASSOC., INC.
 14. NO FOOD SERVICE FACILITIES ARE PROPOSED.
 15. THE SUBJECT PROPERTY IS LOCATED ON THE EAST SIDE OF OLD FREDERICK ROAD APPROXIMATELY 2000' WEST OF ITS INTERSECTION WITH WOODBINE ROAD.
 16. OLD FREDERICK ROAD IS A PUBLIC ROAD MAINTAINED BY HOWARD COUNTY.
 17. EXTERIOR BUILDING MATERIALS ARE PROPOSED TO BE MASONRY VENEER, WOOD TRIM, ASPHALT SHINGLE ROOF.
 18. ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB AND FACE OF FINISHED STRUCTURE UNLESS OTHERWISE NOTED.
 19. NO DEVELOPMENT, CLEARING OR GRADING IS PERMITTED WITHIN THE 100 YEAR FLOOD PLAIN, STREAM BUFFERS, WETLANDS, WETLAND BUFFERS AND FOREST CONSERVATION EASEMENT AS GOVERNED BY APPLICABLE LOCAL, STATE AND FEDERAL LAW.
 20. THIS PROPERTY WAS THE SUBJECT OF A SPECIAL EXCEPTION TO EXPAND A CHURCH USE IN THE RC-DEO ZONING AND SDP-83-99. SEE CASE NUMBERS 81-83, VP 81-20, F 03-130. (CONT.)
 21. PREVIOUS DEP FILES: F 81-83, VP 81-20, F 03-130. (CONT.)
 22. ALL OUTDOOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF ZONING SECTION 134.
 23. THIS SITE PLAN SHALL BE SUBJECT TO COMPLIANCE WITH THE FIFTH EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
 24. STORMWATER MANAGEMENT POND WAS BUILT UNDER SDP 83-99, CALVARY LUTHERAN CHURCH.
 25. STORMWATER MANAGEMENT REQUIREMENTS: USING 2000 MD SWM MANUAL, THIS EXISTING POND IS PROPOSED TO BE MODIFIED TO PROVIDE 12 HOURS OF EXTENDED DETENTION FOR THE NEW DEVELOPMENT. SURETY FOR CONSTRUCTION SHALL BE MET USING OPEN CHANNELS (DRY SWALE). 0.37 AC. RETENTION ON-SITE. 0.38 AC. AFFORESTATION ON-SITE.
 26. TOTAL OBLIGATION: 0.75 AC. ON-SITE.
 27. A MINIMUM OF 20% OF THE AREA WITHIN THE BUILDING ENVELOPE SHALL BE GREEN SPACE AS REQUIRED BY SECTION 131.144.4g OF THE ZONING REGULATIONS.
 28. LANDSCAPING SHALL BE PROVIDED ON THIS SITE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MAINTENANCE SURETY FOR THE REQUIRED LANDSCAPING SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT.
 29. MAXIMUM DAILY DESIGN FLOW: SANCTUARY: TOTAL EXISTING SEATS: 188 FLOWRATE: 188 X 3 GPD = 564 GPD DINING AREA EXISTING SEATS: 150 FLOWRATE: 150 X 10 GPD = 1,500 GPD TOTAL FLOWRATE: 564 + 1,500 = 2,064 GPD FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$10,200.00.
 30. THE FOREST CONSERVATION EASEMENTS ON THIS SITE HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL BY THE PLACEMENT OF .37 ACRES OF RETENTION AND .38 ACRES OF AFFORESTATION INTO EASEMENT AREAS WHICH IS SUPPORTED TO MEET REQUIRED FOREST CONSERVATION OBLIGATIONS. Surety in the amount of \$11,500.00 is posted w/Developer's Agreement.
 31. A GROUND WATER APPROPRIATION PERMIT NO. H0-2003-0002 (01 H00 066N 1990ED 01 JANUARY '03, 2003).
91. (CONT.) AN EXTENSION OF TIME BY WHICH TO OBTAIN A BUILDING PERMIT IS EXTENDED UNTIL 11/16/05 BY THE BOARD OF APPEALS.
91. (CONT.) THE DATE BY WHICH TO FILE FOR A BUILDING PERMIT WITHIN 1-YEAR FROM SIGNATURE APPROVAL OF THE SITE PLAN IS EXTENDED TO 1-YEAR FROM THE APPROVAL LETTER DATE ISSUED (CONT.)



BENCH MARK DESCRIPTIONS
B.M. #1 TOP OF IRON PIPE
ELEV = 689.83
B.M. #2 FLOOR ELEVATION
ELEV = 688.60

BUILDING FRONT ELEVATION
SCALE: 1" = 10'

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

Denny Doran M.P. #1
HOWARD COUNTY HEALTH OFFICER - JAPS DATE 10-2-03

APPROVED:
DEPARTMENT OF PLANNING AND ZONING
[Signature] 9/25/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 11/8/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 11/9/03
DIRECTOR DATE

BURIAL GROUNDS CERTIFICATION:
I HEREBY CERTIFY THAT THERE ARE NO BURIAL GROUNDS ON THE PROPERTY BEING DEVELOPED ACCORDING TO THE CEMETERY INVENTORY LIST AND MAPS LOCATED AT THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Rev. Roger L. Rinker 9-5-03
DEVELOPER DATE
Rev. Roger L. Rinker

SITE DEVELOPMENT PLAN

CALVARY LUTHERAN CHURCH

CONNECTICUT ASPEN, INC. PROPERTY, LOT 1

PREPARED BY:
VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street P.O. box 328 Mount Airy, Maryland 21771
(301) 829 2890 (301)831 5015 (410) 549 2751

PREPARED FOR:
OWNER
CALVARY LUTHERAN CHURCH
16151 OLD FREDERICK ROAD
MOUNT AIRY, MARYLAND 21771

SHEET INDEX	
SHEET	TITLE
1	TITLE SHEET
2	EXISTING CONDITIONS PLAN & FOREST STAND DELINEATION
3	LIMIT OF DISTURBANCE AND SEDIMENT CONTROL PLAN
4	SEDIMENT CONTROL NOTES AND DETAILS
5	SITE DETAILS AND SPECIFICATIONS
6	SITE DETAILS AND SPECIFICATIONS
7	LAYOUT AND DIMENSIONING PLAN
8	GRADING AND STORMWATER MANAGEMENT PLAN & DETAILS
9	STORMWATER MANAGEMENT PROFILES
10	LANDSCAPE PLAN
11	FOREST CONSERVATION PLAN

DATE	REVISIONS
7/6/05	REV. BUILDING ELEVATIONS

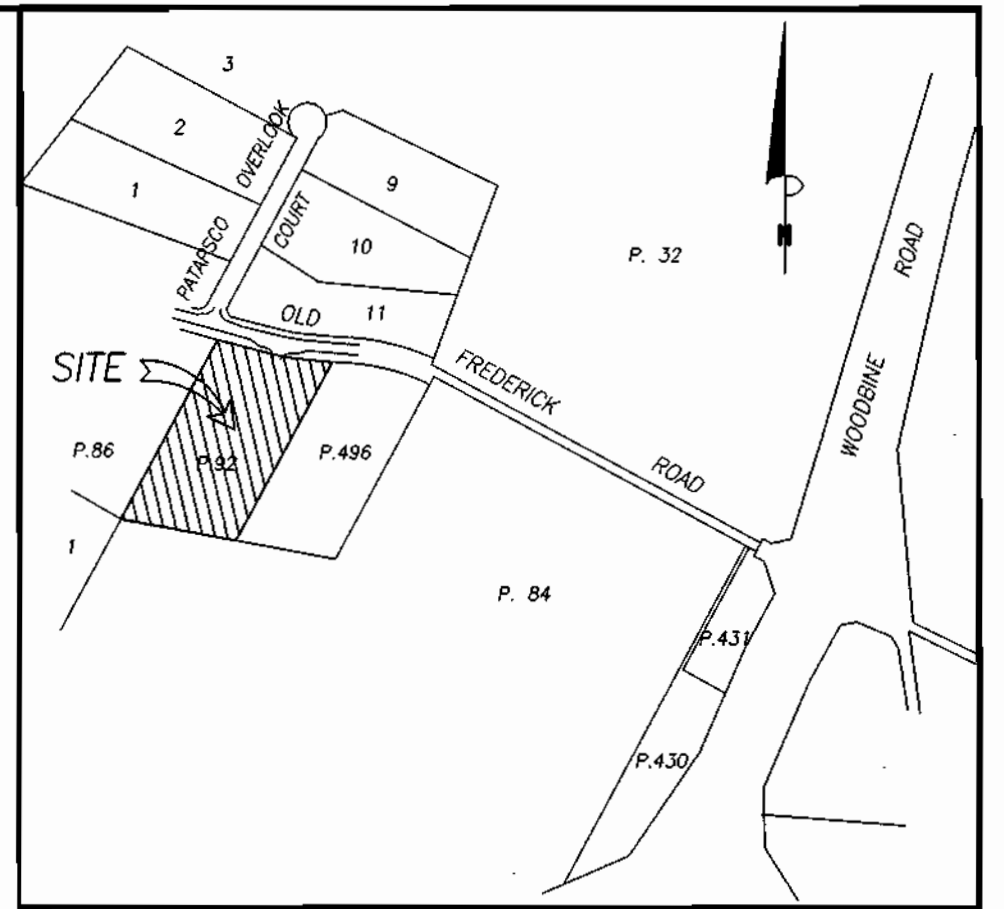
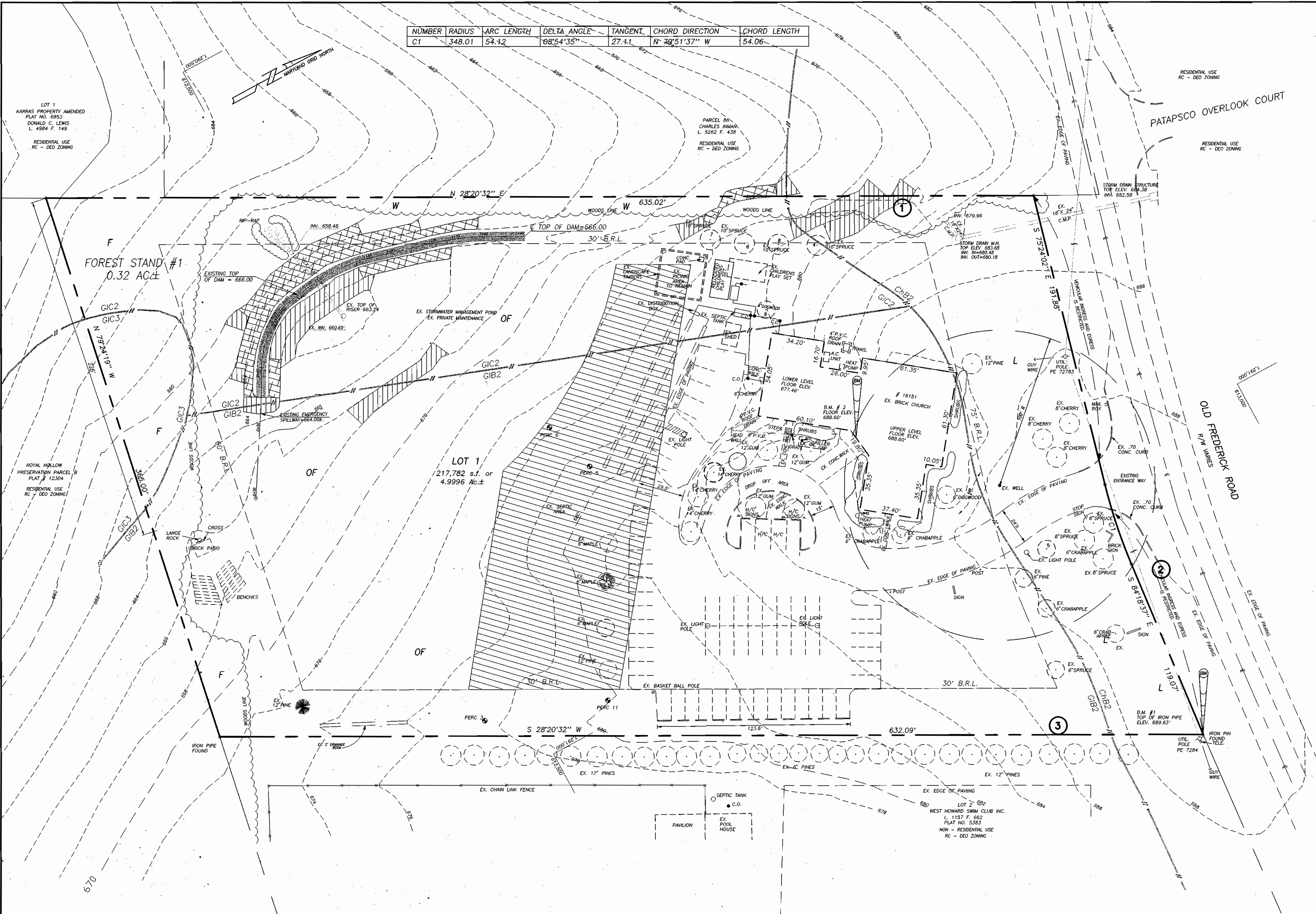


ADDRESS CHART	
LOT NO.	STREET ADDRESS
1	16151 OLD FREDERICK ROAD MT. AIRY, MARYLAND 21771

PERMIT INFO CHART			
SUBDIVISION NAME:	SECTION/AREA	LOT/PARCEL	
CONNECTICUT ASPEN, INC., PROPERTY	N/A	LOT 1	
PLAT	BLOCK NO.	ZONE	TAX MAP
4795	5	RC-DEO	7
			ELECT. DIST.
			4 TH
			CENSUS TRACT
			6040.01
WATER CODE		SEWER CODE	
W6		S6	

SITE DEVELOPMENT PLAN
CALVARY LUTHERAN CHURCH
CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
PLAT C.M.P. NO. 4795
TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
SITUATED ON OLD FREDERICK ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN FEBRUARY, 2002

NUMBER	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	348.01	54.42	98°54'35"	27.41	N 39°51'37" W	54.06



LEGEND

EXIST. ROAD		FOREST CONSERVATION EASEMENT	
EXIST. TREE LINE		25% SLOPES	
PROP. TREE LINE		15 TO 25% SLOPES	
SAN. SEWER MANHOLE		SOIL TEST LOCATION	
EXIST. F.M.		EXISTING TREES	
EXIST. FENCE		PROPOSED LIGHT TO MATCH EXISTING POLE HEIGHT	
EXIST. UTILITY POLE			
EXIST. SAN. SEWER			
EXIST. WATER			
SOIL BOUNDARY			
SOIL TYPE			
FOREST			
OPEN FIELD			
WOODS			
LAWN			
M.D.E. PRIVATE SEWERAGE ELEM.			

SOIL LEGEND

SYMBOL	NAME	HYDROLOGIC SOIL GROUP	HYDRIC SOIL
CHB2	CHESTER SILT LOAM	B	NO
GIB2	GLENELG LOAM - 3 TO 8%	B	NO
GIC2	GLENELG LOAM - 8 TO 15%	B	NO

LEGEND

SOIL BOUNDARY	
SOIL TYPE	ChB2
EXISTING TREES	

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

Howard County Health Officer
 HOWARD COUNTY HEALTH OFFICER DATE 10-2-03

APPROVED:
 DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 9/20/03

Director
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 10/8/03

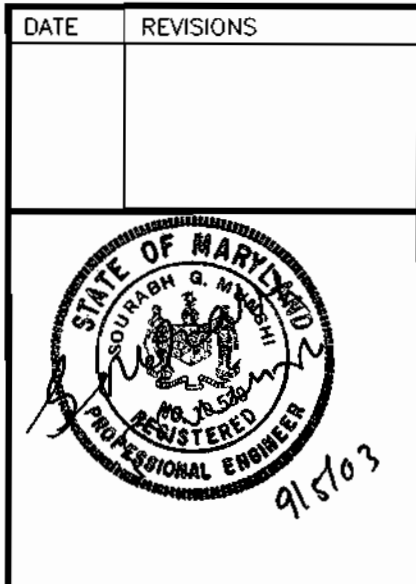
Director
 DIRECTOR DATE 10/5/03

EXHIBIT 3-2
 FOREST STAND ANALYSIS TABLE
 Applicant: Calvary Lutheran Church Project Name: Calvary Lutheran Church Submission No.

KEY	A. TYPE OF COMMUNITY	B. AREA (1/10 Acre)	C. SOIL INFORMATION			D. EXISTING VEGETATION (Dominant Species and Approx. %)			E. STAND CHARACTERISTICS			F. FOREST AREA IN SENSITIVE ENVIRONMENTS (Acres)	G. HABITAT VALUE
			1. Soil Types	2. Typical forest cover for soil type	3. Woodland Suitability Index	1. Size (Diam)	2. Age	3. General Conditions					
F	CHESTNUT OAK	0.38 AC±	Ch	HARDWOOD	30	OAK	16-18"	10-15 YR.	GOOD	NONE	GOOD		

GENERAL NOTES:
 1. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREAS AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
 2. THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENT INTO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE NECESSARY. (SEE LEGEND FOR EASEMENT CLARIFICATION). UNLESS OTHERWISE SHOWN, NO WELLS OR SEWERAGE EASEMENTS ARE LOCATED WITHIN 200 FEET OF ANY PROPERTY LINE.
 3. PERCOLATION TESTS PERFORMED BY HOWARD COUNTY HEALTH DEPARTMENT ON SEPTEMBER 23, 1994.
 4. A GROUND WATER APPROPRIATION PERMIT MUST BE ISSUED PRIOR TO APPROVAL OF THIS SITE PLAN.
 5. A WATER METER HAS BEEN INSTALLED.

OWNER/PETITIONER
 CALVARY LUTHERAN CHURCH
 16151 OLD FREDERICK ROAD
 MOUNT AIRY, MARYLAND 21771

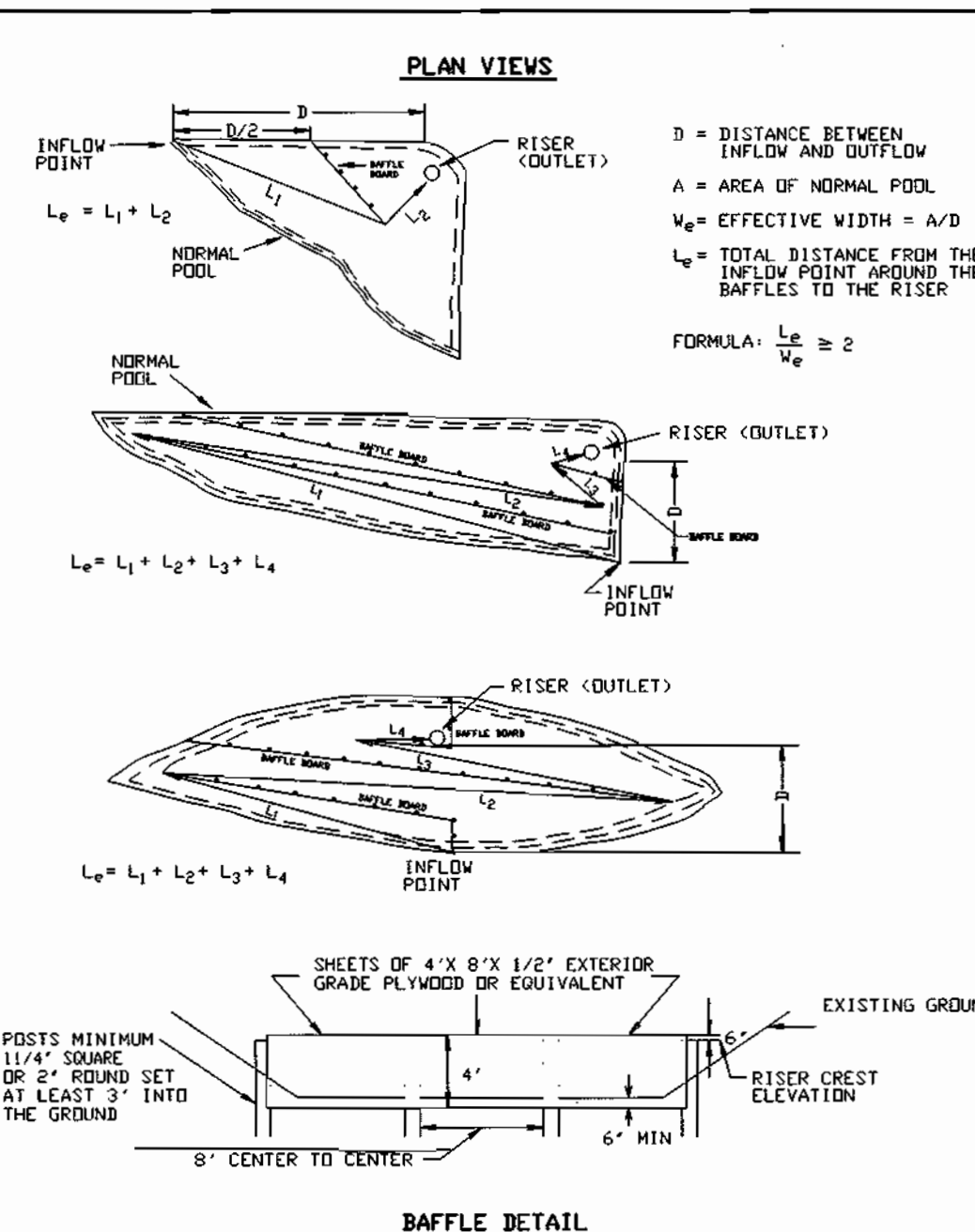


EXISTING CONDITIONS & FOREST STAND DELINEATION
CALVARY LUTHERAN CHURCH
 CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
 PLAT C.M.P. NO. 4795
 TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
 SITUATED ON OLD FREDERICK ROAD
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: 1"=30' FEBRUARY, 2002
VANMAR ASSOCIATES, INC.
 Engineers Surveyors Planners
 310 South West Street P.O. Box 328 Mount Airy, Maryland 21771
 (301) 829-2880 (301) 851-9015 (410) 549-2751

SEQUENCE OF CONSTRUCTION

- 1 DAY 1. OBTAIN GRADING PERMIT
2. NOTIFY SEDIMENT CONTROL INSPECTOR 24 HOURS PRIOR TO START OF WORK.
- 1 DAY 3. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
- 2 DAYS 4. INSTALL SILT FENCE.
- 1 DAY 5. INSTALL VERTICAL DRAW DOWN DEVICE.
- 2 WEEKS 6. ONCE SEDIMENT CONTROL MEASURES HAVE BEEN APPROVED, BEGIN SITE CONSTRUCTION:
 - a. CLEAR AND GRUB SITE.
 - b. ROUGH GRADE SITE (WITH THE EXCEPTION OF DRY SWALE).
- 6 MONTHS 7. CONSTRUCT UTILITIES, PAVING, BUILDING, CURBS AND GUTTER, SIDEWALKS AND ALL SITE IMPROVEMENTS.
- 1 WEEK 8. FINE GRADE SITE AND STABILIZE ALL DISTURBED AREAS AS PER PERMANENT SEEDING NOTES.
- 1 WEEK 8. AFTER ALL THE AREAS ARE STABILIZED AND UPON APPROVAL FROM SEDIMENT CONTROL INSPECTOR, CONSTRUCT DRY SWALES AND UNDERDRAINS. BACKFILL BOTTOM OF DRY SWALE WITH GRAVEL. INSTALL UNDERDRAIN AND CLEANOUT AND SOIL MIXTURE ACCORDING TO DRY SWALE DETAIL ON SHEET 5 OF 10.
- 1 WEEK 9. UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR, CONVERT TEMPORARY SEDIMENT BASIN TO PERMANENT STORMWATER MANAGEMENT FACILITY.
 - a. PUMP OUT WATER AND REMOVE SEDIMENT AS DIRECTED BY INSPECTOR.
 - b. FINE GRADE BOTTOM OF POND AS PER ELEVATION SHOWN ON GRADING PLAN.
 - c. REMOVE VERTICAL DRAW DOWN DEVICE AND INSTALL INTERNAL ORIFICE ASSEMBLY AS PER DETAIL.
 - d. REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL DISTURBED AREAS AS PER PERMANENT SEEDING NOTES.

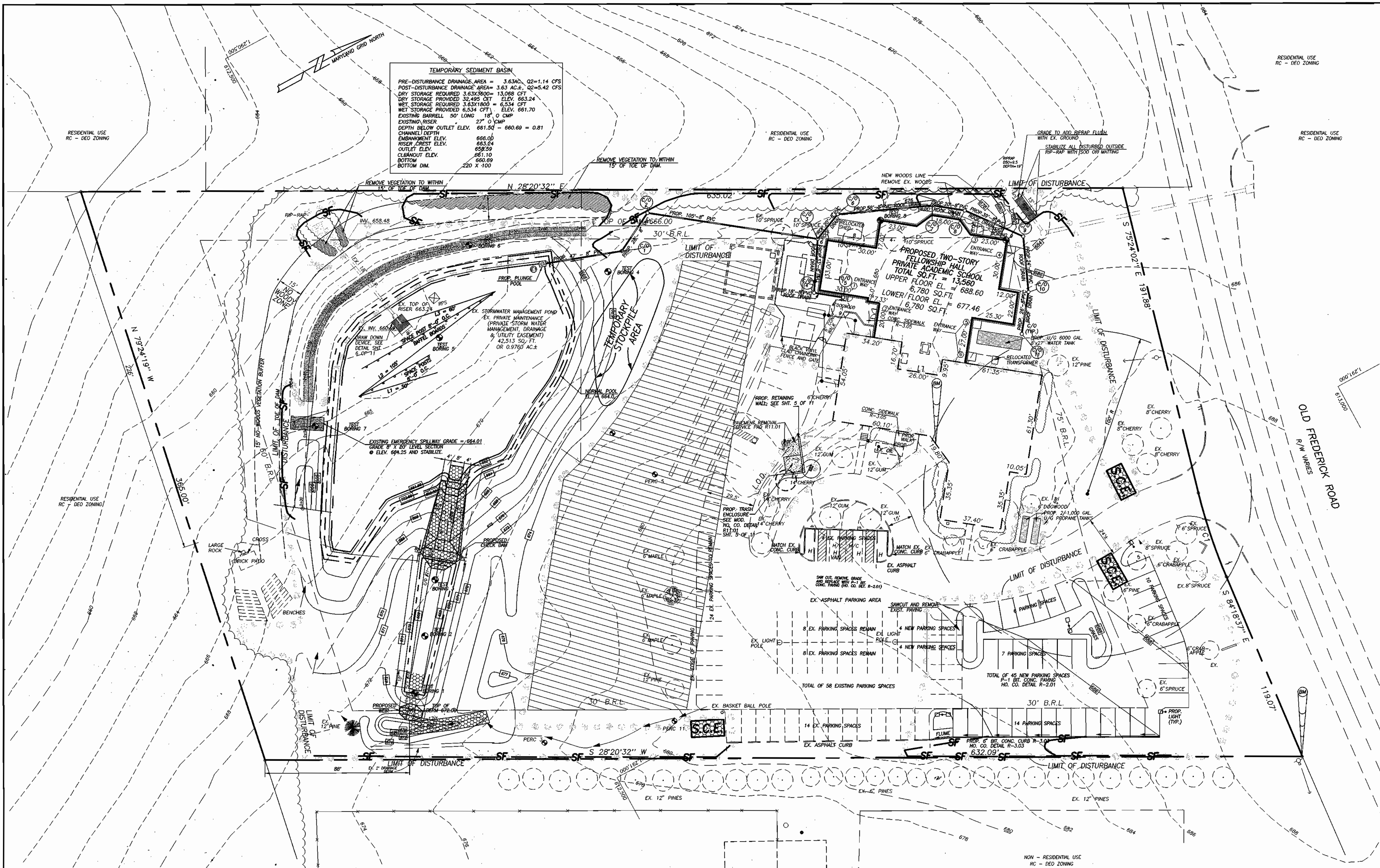
DETAIL 18 - SEDIMENT BASIN BAFFLES



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-30-28 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- FLOW ARROWS
- SOIL TEST LOCATION
- LIMIT OF DISTURBANCE
- RIP-RAP INFLOW PROTECTION
- REMOVABLE PUMPING STATION



TEMPORARY SEDIMENT BASIN

PRE-DISTURBANCE DRAINAGE AREA = 3.6340 AC± @ 1.14 CFS
 POST-DISTURBANCE DRAINAGE AREA = 3.63 AC± @ 1.02 @ 42 CFS
 DRY STORAGE REQUIRED 3.633(3600) = 13,088 CFT
 DRY STORAGE PROVIDED 32,495 CFT ELEV. 683.24
 WET STORAGE REQUIRED 3.633(1800) = 6,534 CFT
 WET STORAGE PROVIDED 6,534 CFT ELEV. 681.70
 EXISTING BARRELS: 90' LONG 14" O CAMP
 EXISTING RISER: 27" O CAMP
 DEPTH BELOW OUTLET ELEV. 681.50 - 680.69 = 0.81
 CHANNEL DEPTH: 686.00
 EMBANKMENT ELEV. 683.54
 RISER CREST ELEV. 683.54
 OUTLET ELEV. 682.59
 CLEANOUT ELEV. 681.10
 BOTTOM DIM. 220 X 100

REPAIR PROCEDURE FOR THE DAM INSPECTION CHECKLIST DATED APRIL 30, 2002

ITEM NO.	REPAIR
6.2.3	Remove all obstructions/debris in the riser and pipe.
6.2.3	Supply a new section with corrugated metal welded or leak tight slip joint connection.
6.2.2	Patch any additional opening or loose joint with like material and a 1/4E40 fillet weld.
6.2.3	See response 6.2.3 and 6.2.2
7.2.1	See response 6.2.3 and 6.2.2
7.2.2	See response 6.2.3 and 6.2.2
7.2.3	See response 6.2.3 and 6.2.2

Contractor to provide shop drawing of proposal repair for engineering approval.

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

Denny Boventen 10-2-03
 HOWARD COUNTY HEALTH OFFICER JAB DATE

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

Jim Nunez 9/14/03
 USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Keith Selig 9/16/03
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 9/16/03
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 10/16/03
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 10/19/03
 DIRECTOR DATE

DEVELOPER'S CERTIFICATE:

By the Developer:

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 day of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

Rev. Roger L. Rinker 9-5-03
 Signature of the Developer Date
 Print name below signature

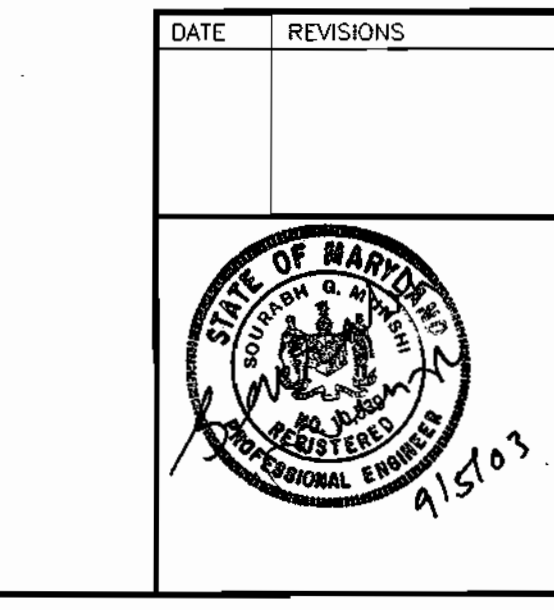
Rev. Roger L. Rinker 9-5-03

ENGINEER'S CERTIFICATE

By the Engineer:

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Sourabh G. Munshi 9/15/03
 Signature of the Engineer Date
 Print name below signature



OWNER/PETITIONER
 CALVARY LUTHERAN CHURCH
 16151 OLD FREDERICK ROAD
 MOUNT AIRY, MARYLAND 21771

LIMIT OF DISTURBANCE AND SEDIMENT CONTROL PLAN
 CALVARY LUTHERAN CHURCH
 CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
 PLAT C.M.P. NO. 4795
 TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
 SITUATED ON OLD FREDERICK ROAD
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: 1"=30' FEBRUARY, 2002

VANMAR ASSOCIATES, INC.
 Registered Professional Engineers and Planners
 310 South Main Street P.O. Box 338 Mount Airy, Maryland 21771
 (301) 829-2890 (301)831-5015 (410) 549-2751

**HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES**

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed. Seeded preparation for a permanent vegetative cover shall be by raking, disking or other acceptable means before seeding, if not previously loosened. Soil Amendments - In lieu of soil test recommendations, use one of the following schedules:

1. Preferred - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 500 lbs/acre (1/2 ton) urea (4 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre (300 lbs/acre) urea. Form fertilizer (3 lbs/1000 sq. ft.)
2. Acceptable - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre (10-10-10 fertilizer (25 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding - For the periods March 1 - April 30, and August 1 - October 15, seed with 60 lbs/acre (14 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 - July 31, seed with 60 lbs/acre (14 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs/acre (.05 lbs/1000 sq. ft.) of seeding love grass. During the period of October 16 - February 28, protect site by Option 1 - Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 - Used soil Option 3 - Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw. Mulching - Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8% or higher, use 348 gal/acre (8 gal/1000 sq. ft.) for anchoring. Maintenance - Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed. Seeded preparation - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened. Soil Amendments - Apply 600 lbs/acre (10-10-10 fertilizer (14 lbs/1000 sq. ft.)) Seeding - For periods March 1 - April 30 and from August 15 - October 15, seed with 2 1/2 bushel per acre of annual rye (32 lbs/1000 sq. ft.). For the period May 1 - August 14, seed with 3 lbs/acre of seeding love grass (.07 lbs/1000 sq. ft.). For the period November 15 - February 28, protect site by applying 2 tons/acre of well-anchored straw mulch and seed as soon as possible in the spring or use soil. Mulching - Apply 1 1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal/acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8% or higher, use 348 gal/acre (8 gal/1000 sq. ft.) for anchoring. Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

**HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES**

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and 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 greater than 30:1 or 20:1 days for all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around perimeter in accordance with Vol. I, 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), soil (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 operating condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis:
Total Area of Site: 49996 Acres
Area Disturbed: 160 Acres
Area to be roofed or paved: 617 Acres
Area to be vegetatively stabilized: 143 Acres
Total Cut: 500 Cu. Yds.
Total Fill: 500 Cu. Yds.
Off-site waste/borrow area location: N/A
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 control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of 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 by the end of each workday, whichever is shorter.

**21.0 STANDARD AND SPECIFICATIONS
FOR TOPSOIL**

DEFINITION
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

PURPOSE
To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil structure.

CONDITIONS WHERE PRACTICE APPLIES

1. This practice is limited to areas having 2:1 or flatter slopes where:
 - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - c. The original soil to be replaced contains materials toxic to plant growth.
 - d. The soil is so acidic that treatment with limestone is not feasible.
2. 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

1. Topsoil salvaged from the existing site may be used provided that it meets the standards 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.

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS	PAVEMENT MATERIALS
		FULL DEPTH BIT. CONC. ALTERNATE	GRANULAR BASE ALTERNATES
P-1	PARKING BAYS, APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH NO HEAVY TRUCKS	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE 6" GRADED AGGREGATE BASE (GAB)

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

- a. Topsoil shall be a loam, sandy loam, clay loam, sandy clay loam, loam sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of gravel, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
- b. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
- c. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (1000-4000 pounds per 1000 square feet) prior to the placement of topsoil. Limestone shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures:

1. For sites having disturbed areas over 5 acres:
 - a. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section - Vegetative Stabilization Methods and Materials.
2. For sites having disturbed areas over 5 acres:
 - a. On soil meeting topsoil specifications, obtain test results depicting fertilizer and lime amendments required to bring the soil into compliance with the following:
 - i. 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 6.5 or higher.
 - ii. Organic content of topsoil shall be not less than 15 percent by weight.
 - iii. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - iv. No soil 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 phytotoxic materials.
 - b. 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.
 - c. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section - Vegetative Stabilization Methods and Materials.

III. Topsoil Application

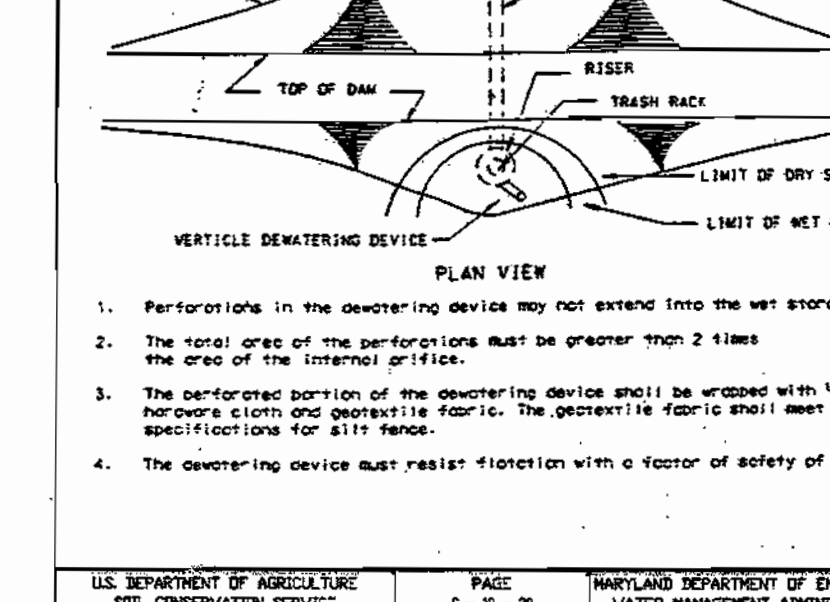
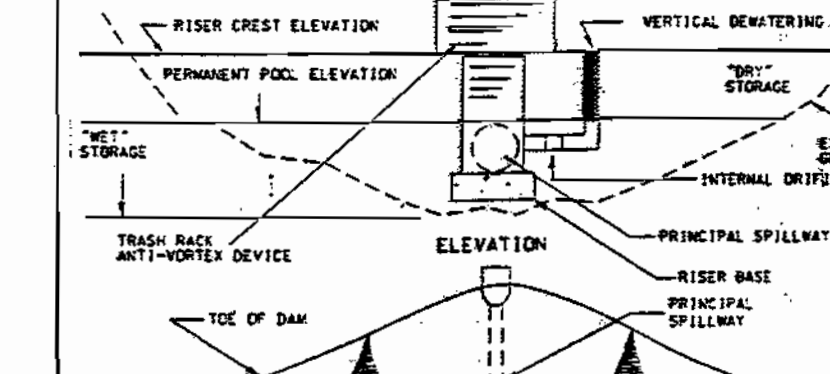
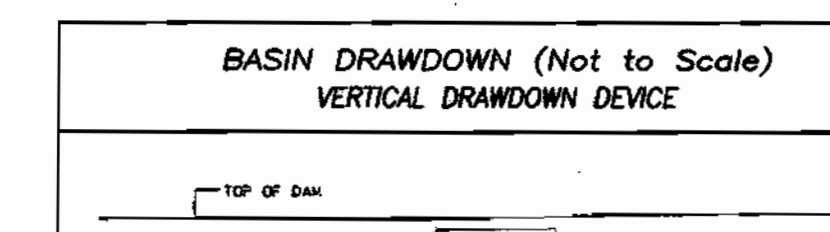
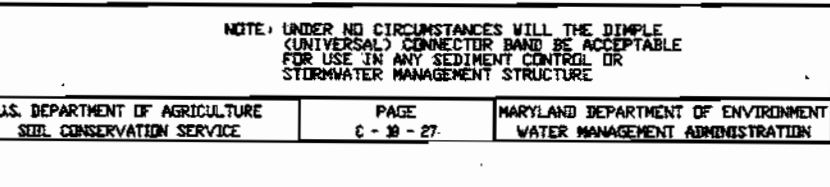
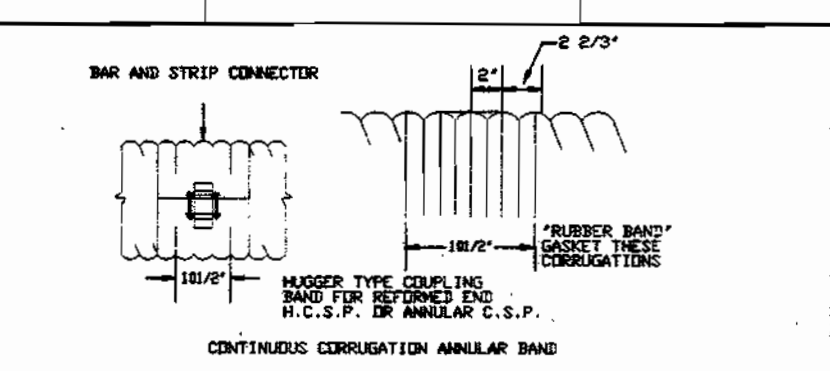
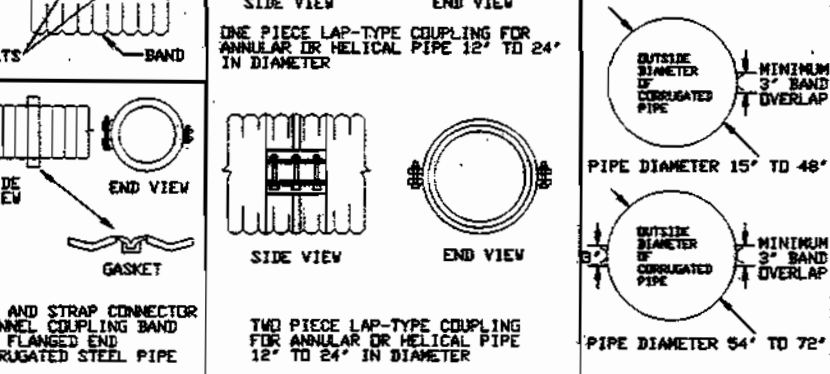
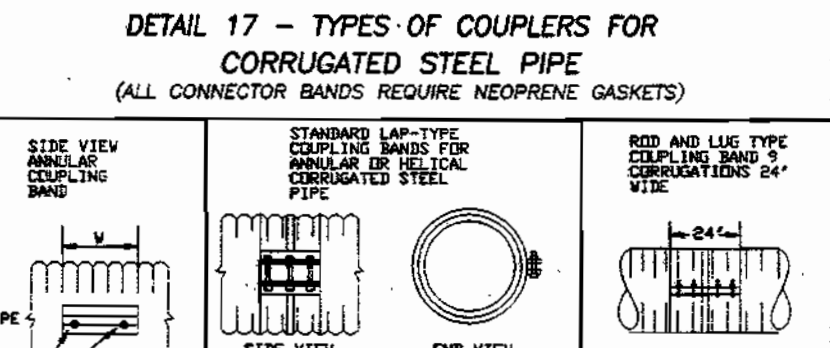
1. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
2. Grades on the areas to be topsoiled which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
3. 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 soiling or denuding 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.
4. Topsoil shall not be placed where 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 seeding 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:

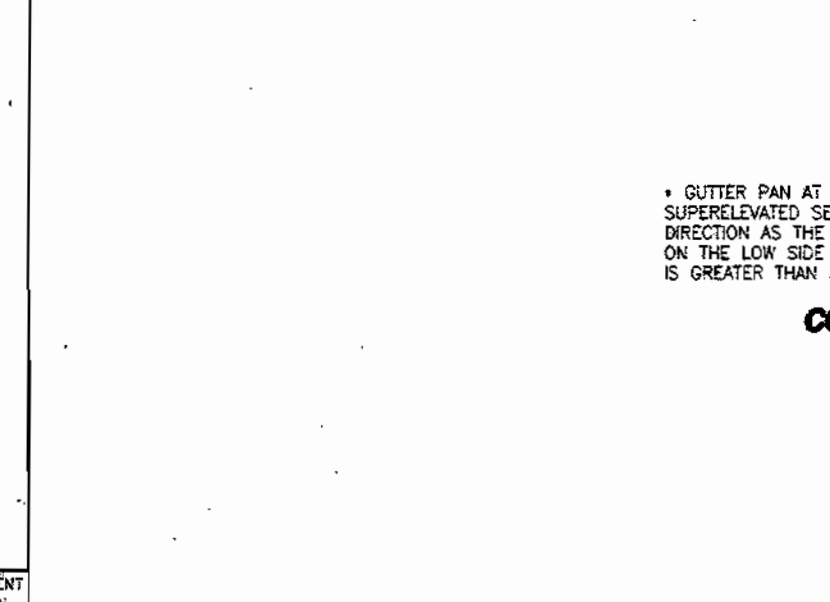
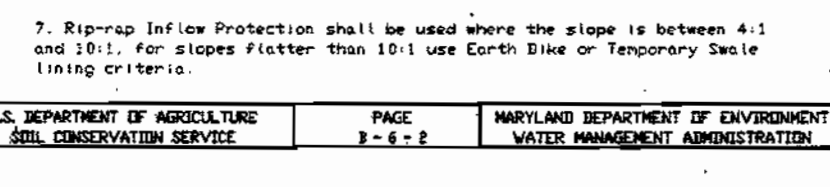
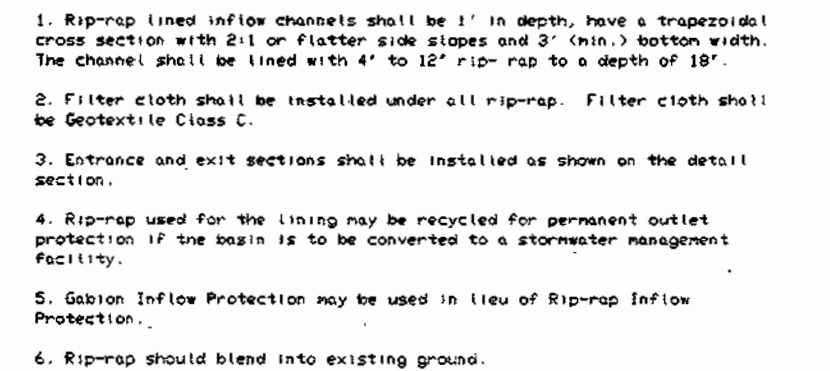
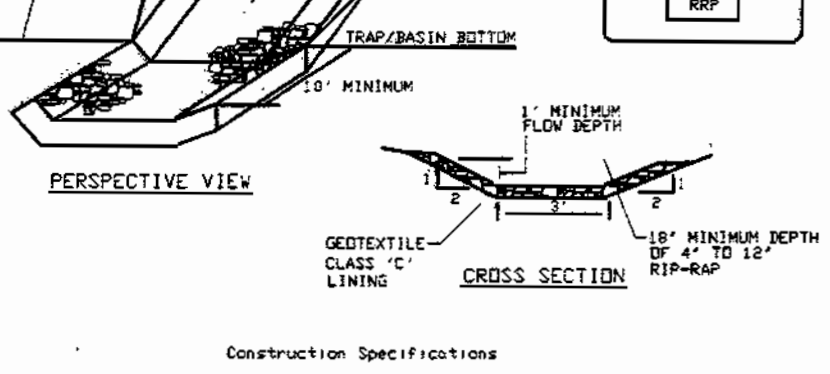
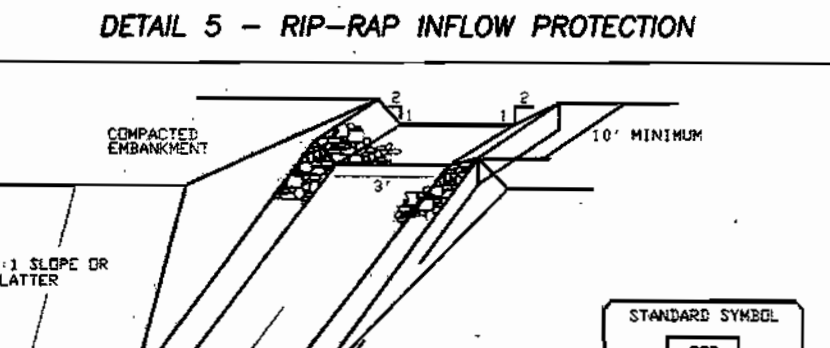
1. Composted sludge material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of application of the compost) by the Maryland Department of the Environment under CDMAR 26.04.06.
 - b. Composted sludge shall contain at least 2 percent nitrogen, 15 percent phosphorus, and 02 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/1000 square feet.
 - d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sowing, MD-VA, Pub. #, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973

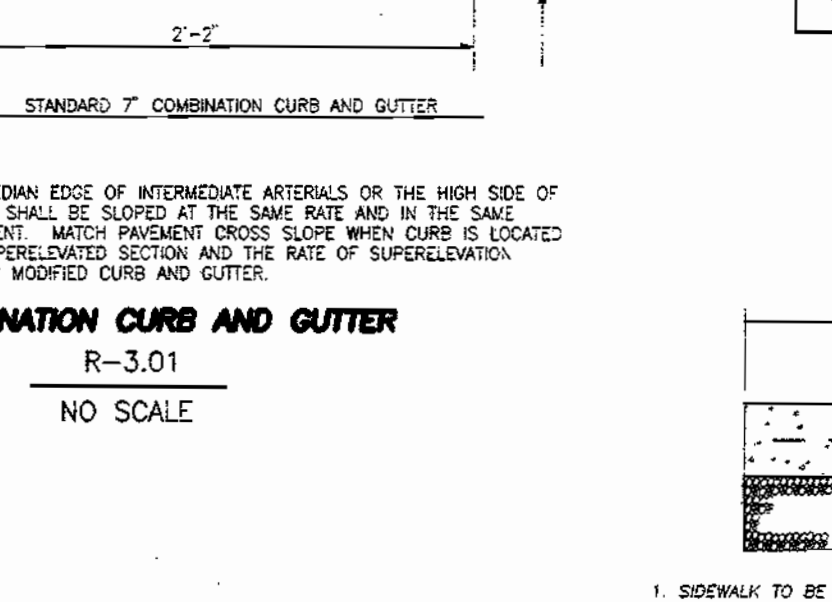
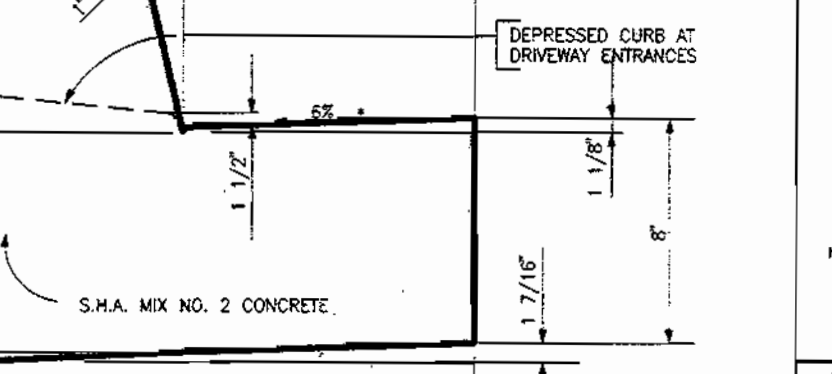
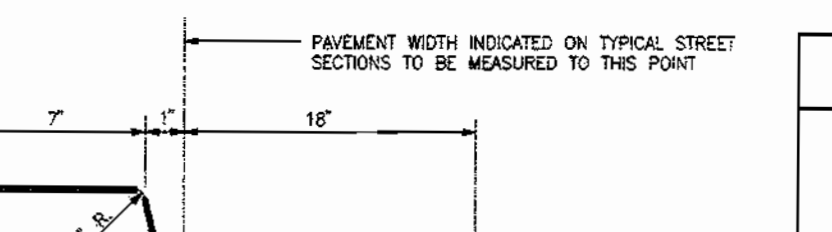
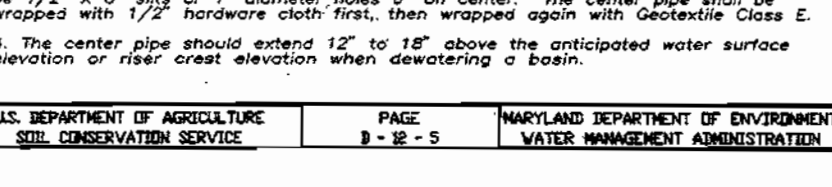
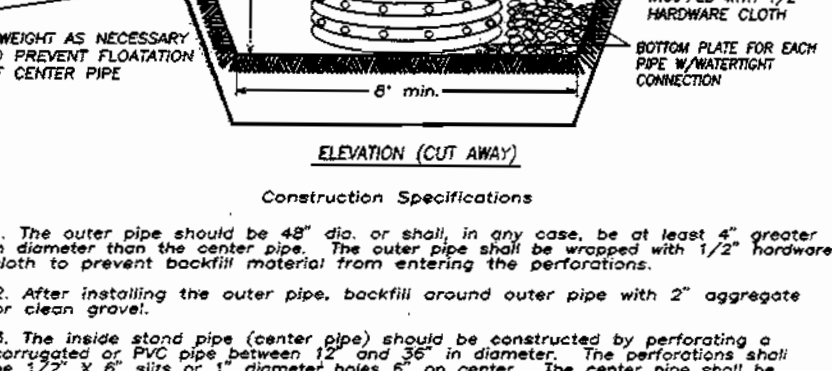
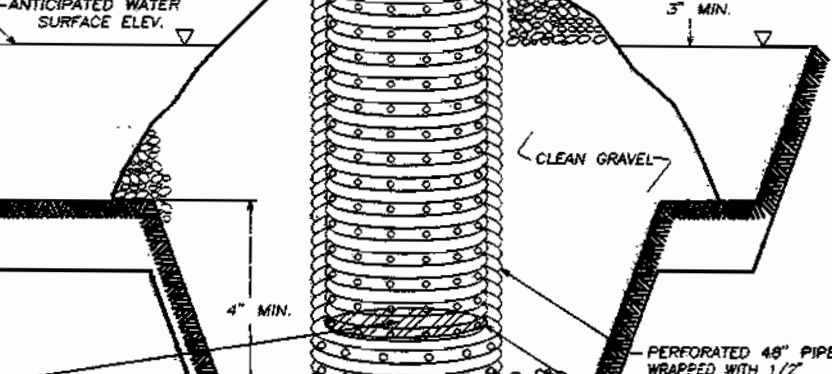
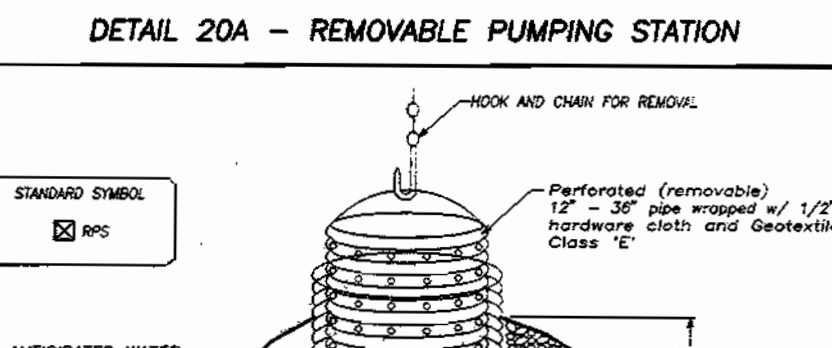
STORM WATER MANAGEMENT MATERIALS SCHEDULE	SIZE	SPECIFICATIONS	NOTES
PLANTINGS	SEE APPENDIX A, TABLE A.4	N/A	PLANTINGS ARE SITE-SPECIFIC
PLANTING SOIL	2.5' TO 4' DEEP	PLANTING SOIL SAND 35-50% SILT 40-55% CLAY 10-25%	N/A
MULCH		SHREDDED HARDWOOD	AGED 6 MONTHS, MINIMUM
PEA GRAVEL, DAMPHRAGM AND CURTAIN DRAIN	PEA GRAVEL: ASTM-D-448 ORNAMENTAL STONE, WASHED COBBLES	PEA GRAVEL: NO. 6 STONE, 2" TO 4"	
GEOTEXTILE		CLASS "C" - APPARENT OPENING SIZE (ASTM-D-4751), GRAB TENSILE (ASTM-D-4832), PUNCTURE RESISTANCE (ASTM-D-4833)	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY
UNDERDRAIN GRAVEL	ASTM# 2043	7.5" DIA. PS 28 OR 40 PVC OR SDR33	3/8" PERF. @ 6" ON CENTER, 4 HOLES PER ROW; MIN. OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERHATCH PIPES
UNDERDRAIN PIPING	ASTM# 2043	7.5" DIA. PS 28 OR 40 PVC OR SDR33	ON-SITE TESTING OF FLOW-IN-PLACE CONCRETE REQUIRED; 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND - DESIGN TO INCLUDE MEETING ACT CODE 1501/80, VERTICAL LOADING (10-10 OR 10-20), ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES), AND ANALYSIS OF POTENTIAL CRACKING
POURED IN PLACE CONCRETE (IF REQUIRED)		MSHA MIX NO. 3, FC=3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED, REINFORCING TO MEET ASTM-610-6C	
SAND (1" DEEP)	ASTM# M-6 OR ASTM-C-33	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SANDS. SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.



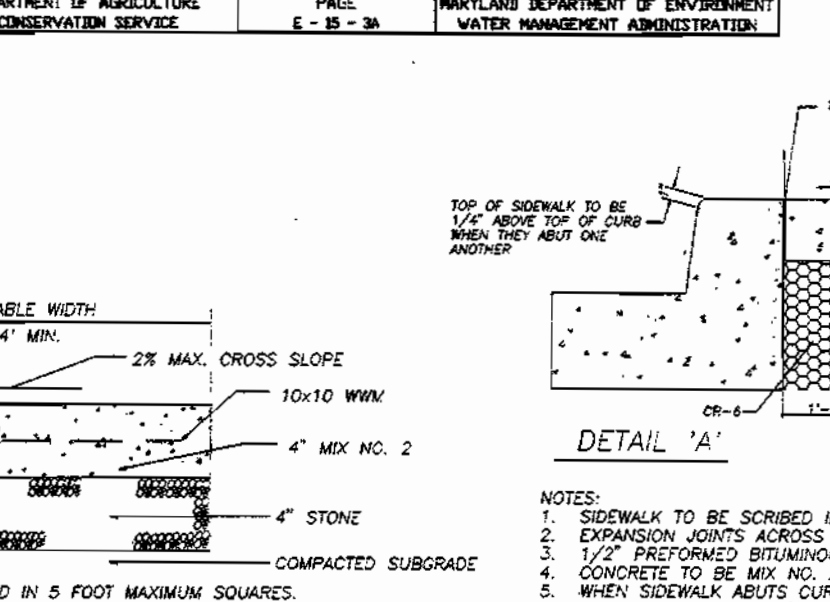
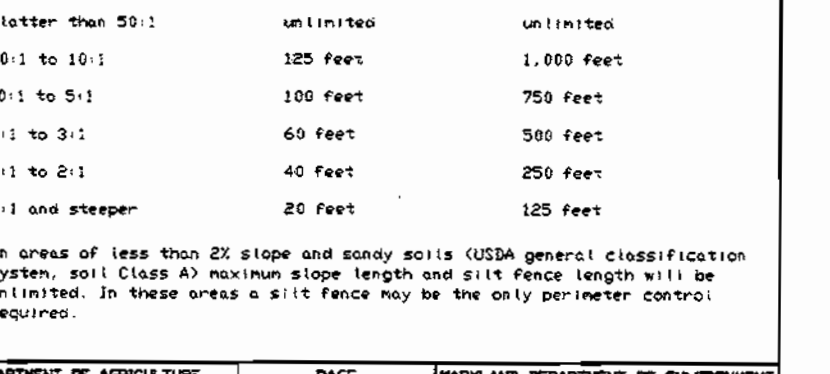
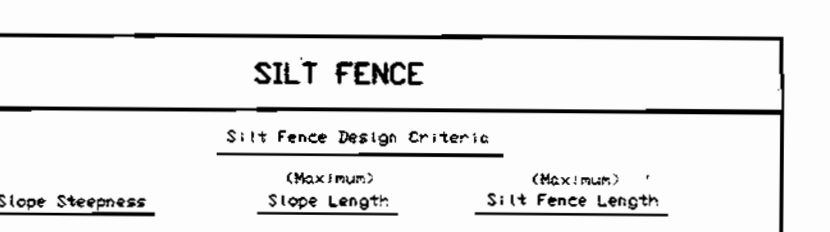
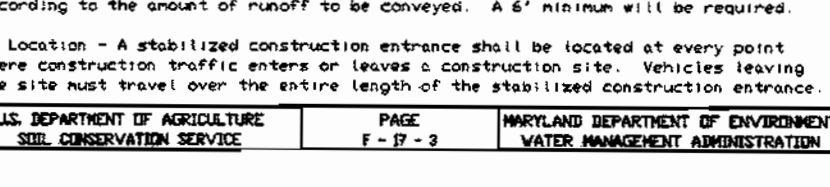
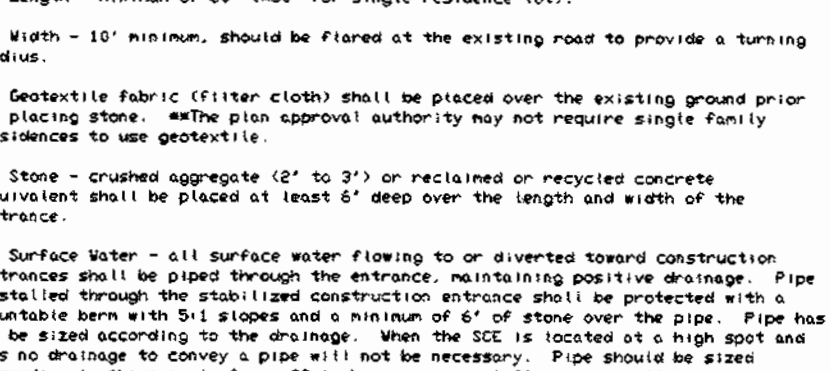
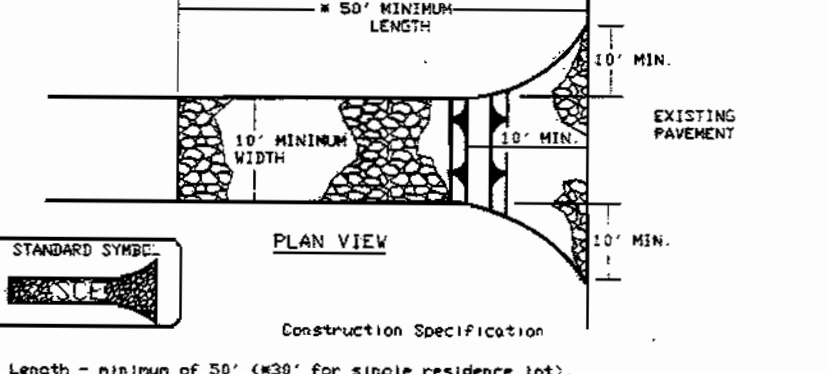
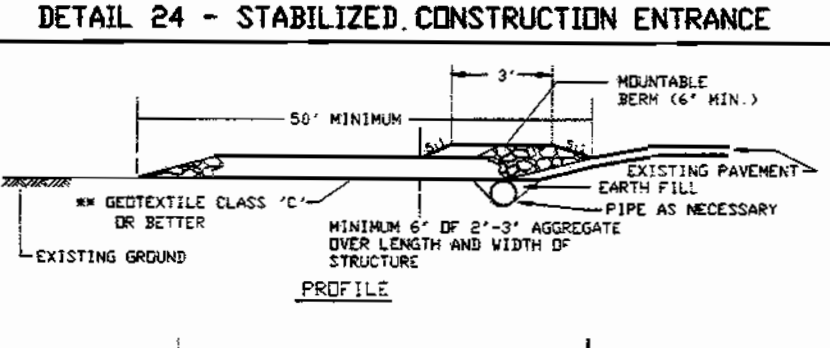
US DEPARTMENT OF AGRICULTURE	PAGE	MARYLAND DEPARTMENT OF ENVIRONMENT
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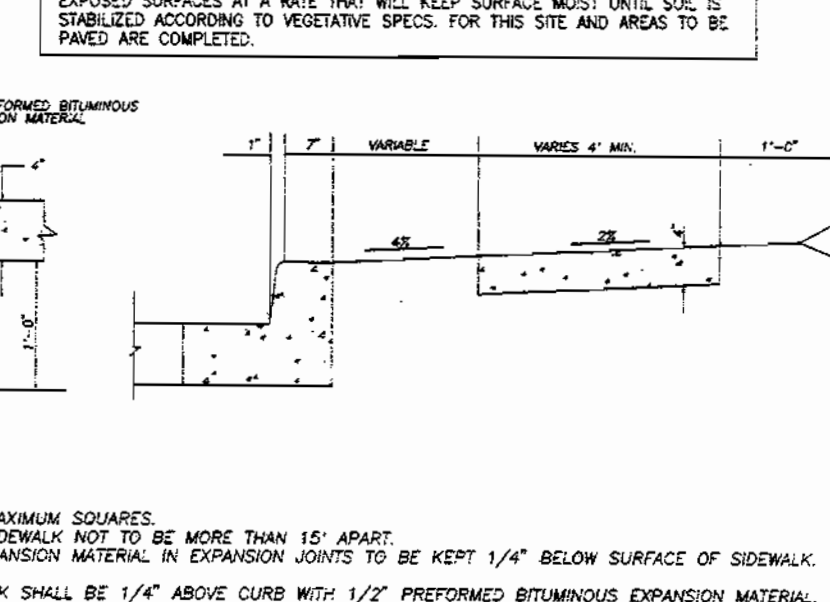
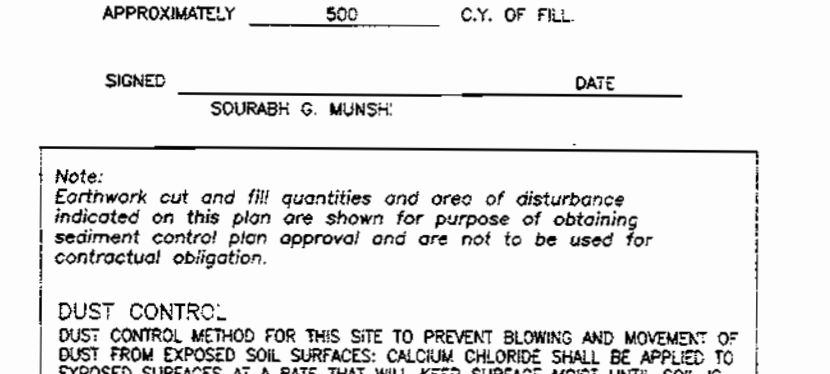
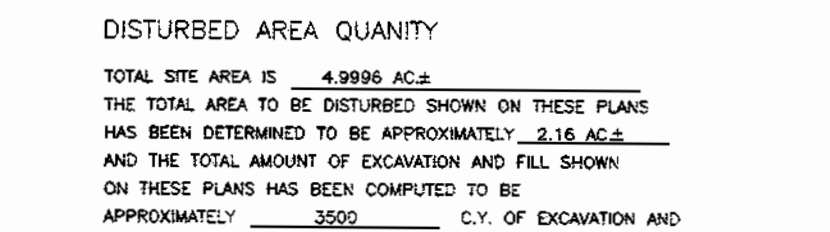
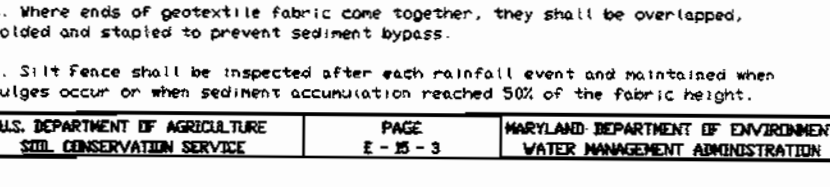
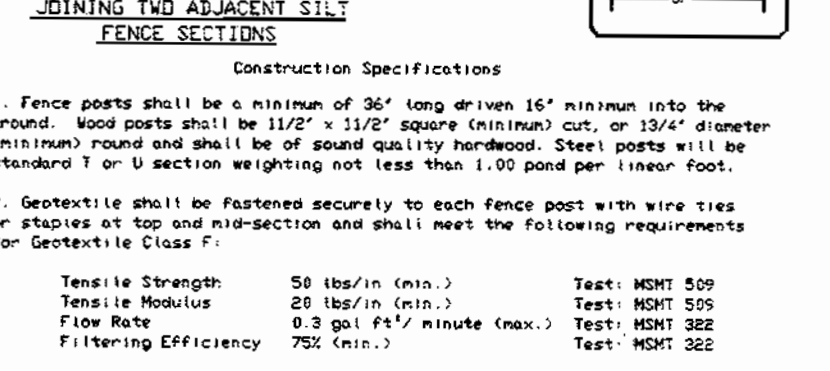
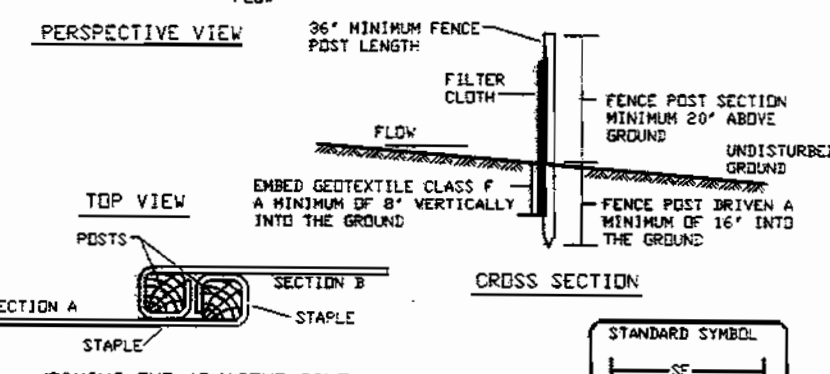
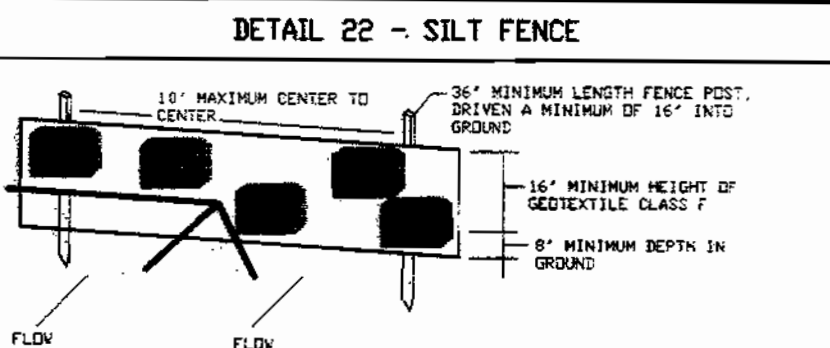
US DEPARTMENT OF AGRICULTURE	PAGE	MARYLAND DEPARTMENT OF ENVIRONMENT
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SILT FENCE	
Silt Fence Design Criteria	
Slope Steepness	Silt Fence Length
Flatter than 5:1	unlimited
5:1 to 10:1	125 feet
10:1 to 20:1	100 feet
20:1 to 30:1	75 feet
30:1 to 40:1	50 feet
40:1 to 50:1	25 feet
50:1 or steeper	125 feet

Disturbed Area Quantity
TOTAL SITE AREA IS 49996 ACRES
THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 218 ACRES
AND THE TOTAL AMOUNT OF EXCAVATION AND FILL SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROXIMATELY 500 C.Y. OF EXCAVATION AND APPROXIMATELY 500 C.Y. OF FILL

SIGNED: SOUBRAH G. MUNSHI DATE

DEVELOPER'S CERTIFICATE
By the Developer:
I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

Signature of the Developer: *Rev. Roger L. Rinker* Date: 9-5-03
Print name below signature: **Rev. Roger L. Rinker**

ENGINEER'S CERTIFICATE
By the Engineer:
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Signature of the Engineer: *Soubrabh Munshi* Date: 9/5/03
Print name below signature: **Soubrabh Munshi, Professional Engineer**

APPROVED:
DEPARTMENT OF PLANNING AND ZONING

Signature: *Jim Munn* Date: 9/16/03
Title: CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature: *Paul d'Angelo* Date: 10/6/03
Title: CHIEF, DIVISION OF LAND DEVELOPMENT

SEDIMENT CONTROL NOTES AND DETAILS
CALVARY LUTHERAN CHURCH
CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
PLAT C.M.P. NO. 4795
TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
SITUATED ON OLD FREDERICK ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN FEBRUARY, 2002

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

Signature: *Perry Brantley* Date: 10-2-03
Title: HOWARD COUNTY HEALTH OFFICER JAB

PREPARED FOR:
OWNER
CALVARY LUTHERAN CHURCH
16151 OLD FREDERICK ROAD
MOUNT AIRY, MARYLAND 21771

Signature: *Paul d'Angelo* Date: 9/15/03
Title: DIRECTOR

STATE OF MARYLAND
PROFESSIONAL ENGINEER

DATE REVISIONS

APPROVED:
DEPARTMENT OF PLANNING AND ZONING

Signature: *Jim Munn* Date: 9/16/03
Title: CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature: *Paul d'Angelo* Date: 10/6/03
Title: CHIEF, DIVISION OF LAND DEVELOPMENT

SEDIMENT CONTROL NOTES AND DETAILS
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FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN FEBRUARY, 2002

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

Signature: *Perry Brantley* Date: 10-2-03
Title: HOWARD COUNTY HEALTH OFFICER JAB

PREPARED FOR:
OWNER
CALVARY LUTHERAN CHURCH
16151 OLD FREDERICK ROAD
MOUNT AIRY, MARYLAND 21771

Signature: *Paul d'Angelo* Date: 9/15/03
Title: DIRECTOR

STATE OF MARYLAND
PROFESSIONAL ENGINEER

DATE REVISIONS

SEDIMENT CONTROL NOTES AND DETAILS
CALVARY LUTHERAN CHURCH
CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
PLAT C.M.P. NO. 4795
TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
SITUATED ON OLD FREDERICK ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN FEBRUARY, 2002

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

Signature: *Perry Brantley* Date: 10-2-03
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POND SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and ASHOTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural work shall be cleared, grubbed and stripped of topsoil. All trees, brush, logs, stumps, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, stumps, roots and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry slowwater management ponds, a minimum of a 25 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and away from the limits of the dam and reservoir or directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material- The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6" frozen or other objectionable materials. Fill material for the center of the embankment and cut off trench shall conform to Unified Soil Classification CC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials- Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation D-361.

Bedding- Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe to at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Grovel bedding is not permitted.

Laying pipes- Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Core shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

Materials- PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

Joints and connections to anti-seep collars shall be completely watertight.

Bedding- The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soil, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Flowable Fill

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi, 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to ensure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be galvanized coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

Materials- (Polymer Coated Steel Pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and appurtenances shall conform to the requirements of AASHTO Specifications M-245 & m-246 with watertight coupling bands or flanges.

Materials- (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill fill or when soil and/or water conditions warrant the need for increased durability, shall be fully galvanized coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied aluminum coating compound. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer or two coats of asphalt.

Materials- (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully galvanized coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The Ph of the surrounding soils shall be between 4 and 9.

Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of a labor or plastic insulating material of at least 24 mils in thickness.

Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be rimmed on adequate number of corrugations to accommodate the bandwidth. The following pipe connections are acceptable for pipes less than 24" in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent pipes; a 1/2" wide standard top lap band with 1/2" wide 3/8" thick closed cell circular neoprene gasket; and a 1/2" wide hugger type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 24" in diameter and larger shall be connected by a 24" long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24" wide by 3/8" thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8" inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

Bedding- The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soil, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

Materials- Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation D-361.

Bedding- Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe to at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Grovel bedding is not permitted.

Laying pipes- Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Core shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

Materials- PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

Joints and connections to anti-seep collars shall be completely watertight.

Bedding- The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soil, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms
When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete
Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414. Mix

Rock Riprap
Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Core of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the location being retified shall be maintained below the bottom of the excavation of such locations which may require draining the water to pumps from which the water shall be pumped.

Stabilization
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resource Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

TEST PIT LOG RYAN & ASSOCIATES. PROJECT NAME: Calvary Lutheran Church, Mt. Airy, MD. TEST PIT NO. B-1 SHEET 1 OF 1. DATE: 9/17/2002. SURFACE ELEVATION: ±662. GROUNDWATER OBSERVATION: AT DRY FT. AFTER HOURS. DESCRIPTION OF MATERIALS: RED CLAYEY SILT, LITTLE TO SOME MICA AND DECOMPOSED ROCK FRAGMENTS, TRACE FINE SAND, MOST RED BROWN SILT (M), TRACE FINE SAND AND DECOMPOSED ROCK FRAGMENTS, MOST. REMARKS: SAMPLE WAS TAKEN FROM 2 FT. TO 4 FT. BGS.

TEST PIT LOG RYAN & ASSOCIATES. PROJECT NAME: Calvary Lutheran Church, Mt. Airy, MD. TEST PIT NO. B-2 SHEET 1 OF 1. DATE: 9/17/2002. SURFACE ELEVATION: ±662. GROUNDWATER OBSERVATION: AT DRY FT. AFTER HOURS. DESCRIPTION OF MATERIALS: 9" TOPSOIL. FILL - SAMPLED AS RED CLAYEY SILT TO SILTY CLAY (M-L) TRACE FINE SAND, MOST. RED SILTY CLAY, TRACE FINE SAND, MOST. GRAY BROWN DECOMPOSED ROCK, SAMPLED AS SILT, LITTLE TO SOME SAND AND DECOMPOSED ROCK FRAGMENTS. BOTTOM OF TEST PIT AT 10' BELOW GROUND SURFACE. REMARKS: SAMPLE WAS TAKEN FROM 6 FT. TO 7.5 FT. BGS. *BACKFILL AFTER COMPLETION.

TEST PIT LOG RYAN & ASSOCIATES. PROJECT NAME: Calvary Lutheran Church, Mt. Airy, MD. TEST PIT NO. B-3 SHEET 1 OF 1. DATE: 4/30/2002. SURFACE ELEVATION: ±663. GROUNDWATER OBSERVATION: AT DRY FT. AFTER HOURS. DESCRIPTION OF MATERIALS: PALE BROWN TO RED BROWN SILT TO CLAYEY SILT, TRACE FINE SAND, MICA AND DECOMPOSED ROCK FRAGMENTS, MOST. REMARKS: SAMPLE WAS TAKEN FROM 2 FT. TO 5.5 FT. BGS. *BACKFILL AFTER COMPLETION.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

Materials- Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation D-361.

Bedding- Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe to at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Grovel bedding is not permitted.

Laying pipes- Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Core shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

Materials- PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

Joints and connections to anti-seep collars shall be completely watertight.

Bedding- The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soil, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

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Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

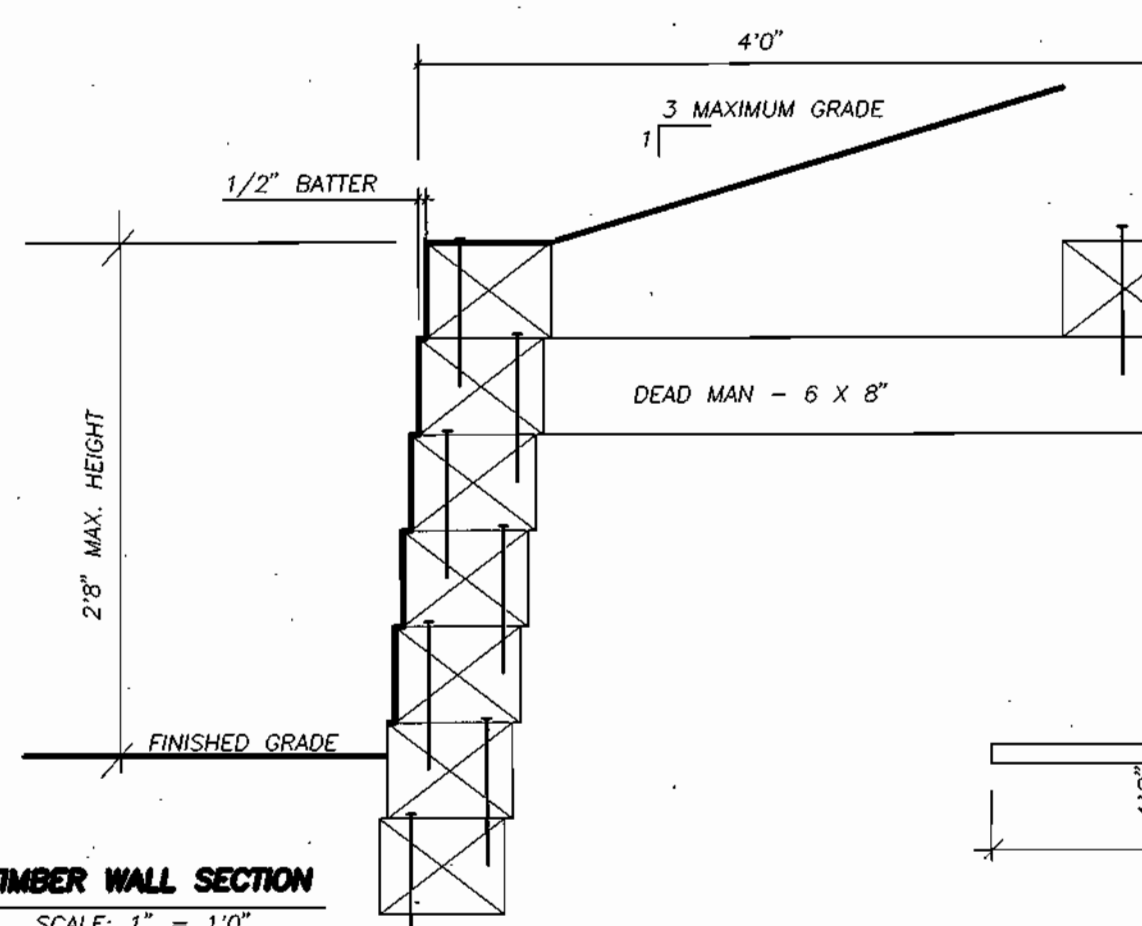
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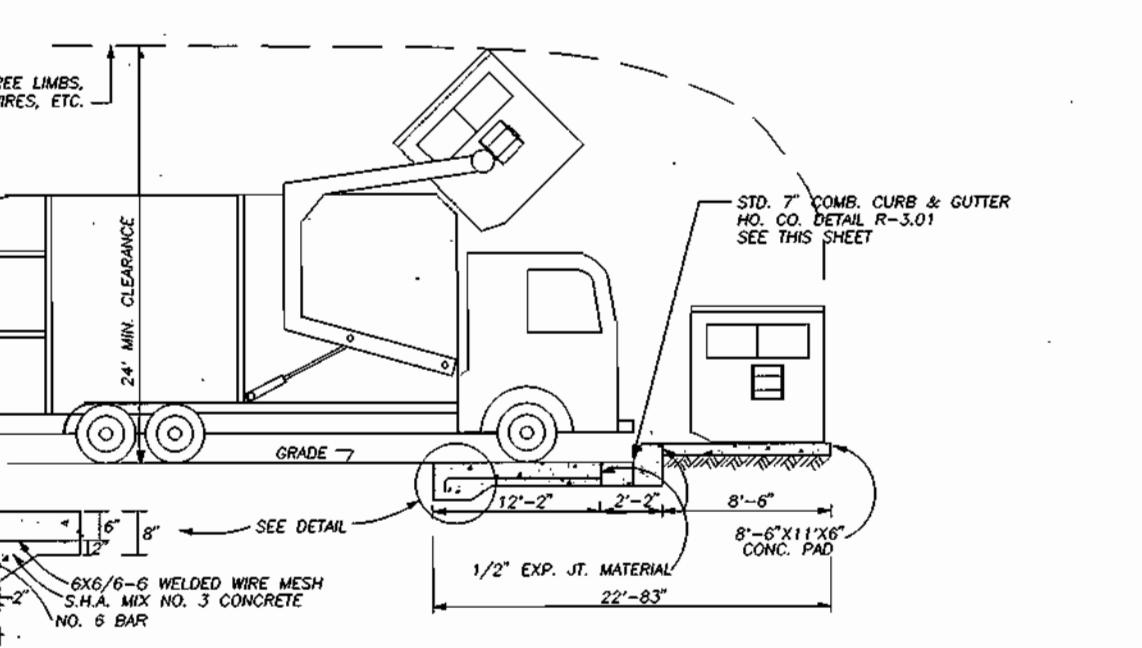
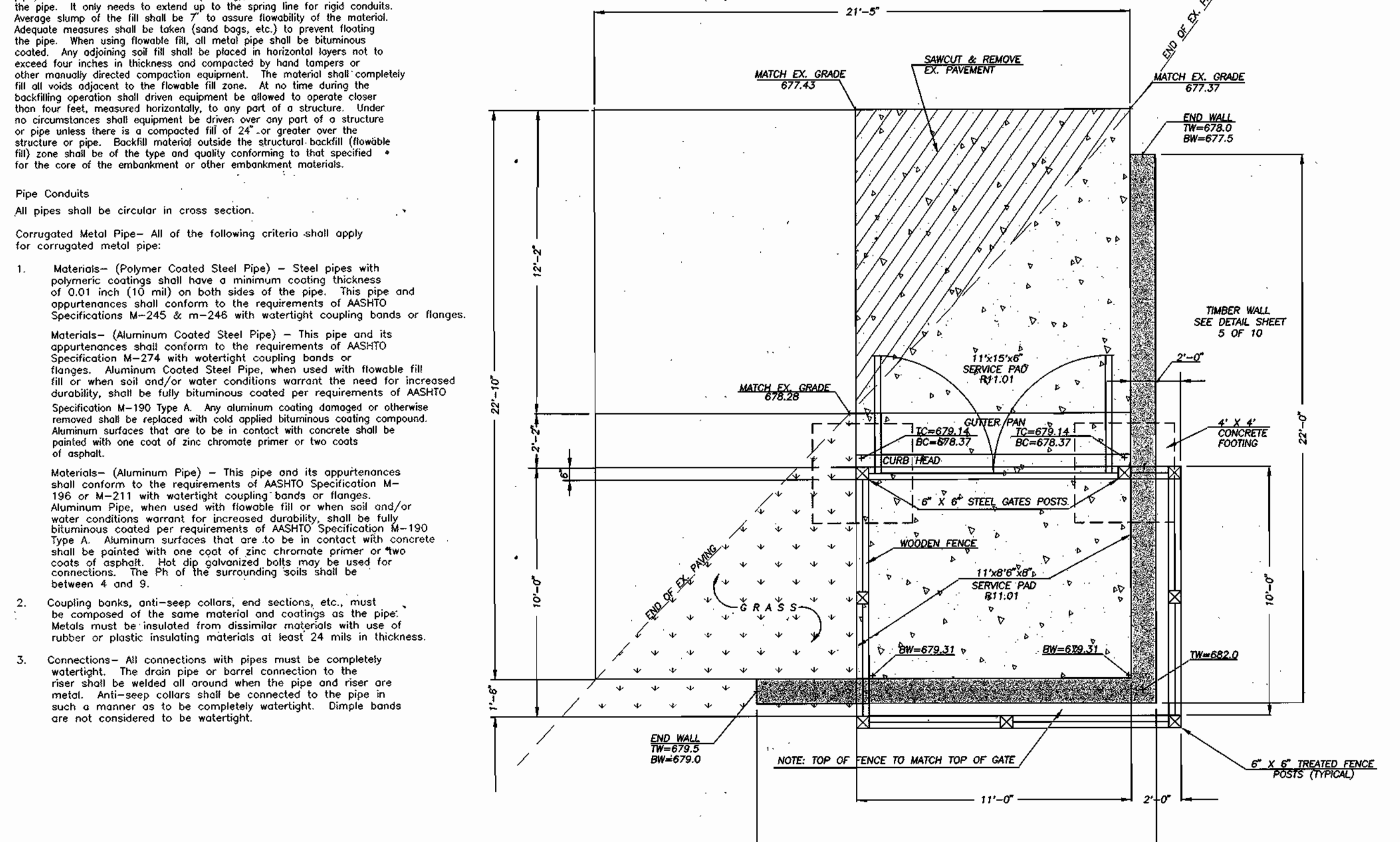
Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.



TEST PIT LOG RYAN & ASSOCIATES. PROJECT NAME: Calvary Lutheran Church, Mt. Airy, MD. TEST PIT NO. B-4 SHEET 1 OF 1. DATE: 4/30/2002. SURFACE ELEVATION: ±662. GROUNDWATER OBSERVATION: AT DRY FT. AFTER HOURS. DESCRIPTION OF MATERIALS: 1/2" TOPSOIL. FINE BROWN SILTY (M), MICA AND DECOMPOSED ROCK FRAGMENTS, TRACE FINE SAND, MOST. FINE BROWN SILT (M), MICA AND DECOMPOSED ROCK FRAGMENTS, TRACE FINE SAND, MOST. FINE BROWN SILT (M) WITH SOME MICA AND DECOMPOSED ROCK FRAGMENTS, TRACE FINE SAND, MOST. DARK RED/BROWN DECOMPOSED ROCK, SAMPLED AS SILT, LITTLE TO SOME SAND AND DECOMPOSED ROCK FRAGMENTS, MOST. BOTTOM OF TEST PIT AT 10' BELOW GROUND SURFACE. REMARKS: SOIL SAMPLES COLLECTED AT 10' BELOW GROUND SURFACE.

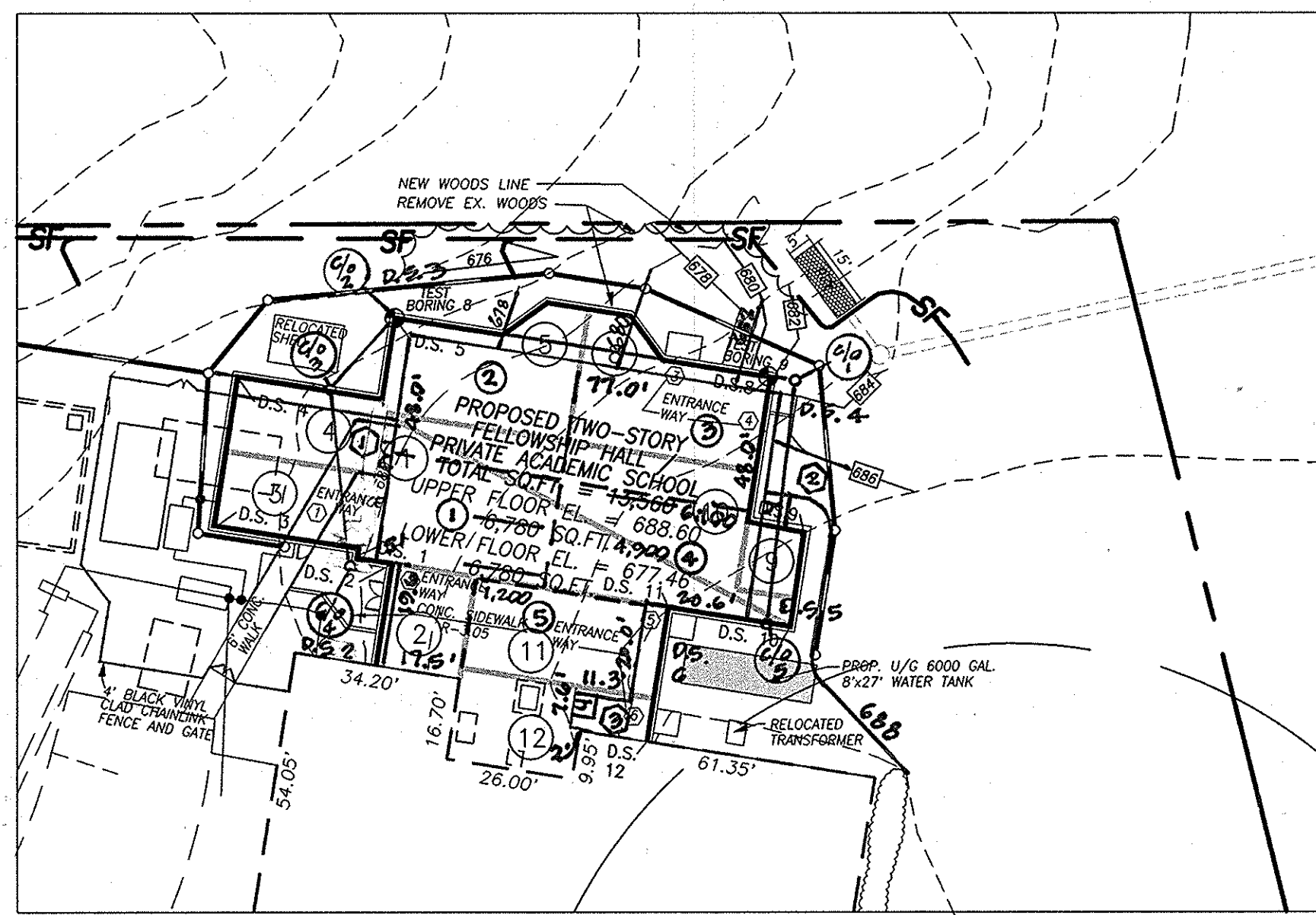
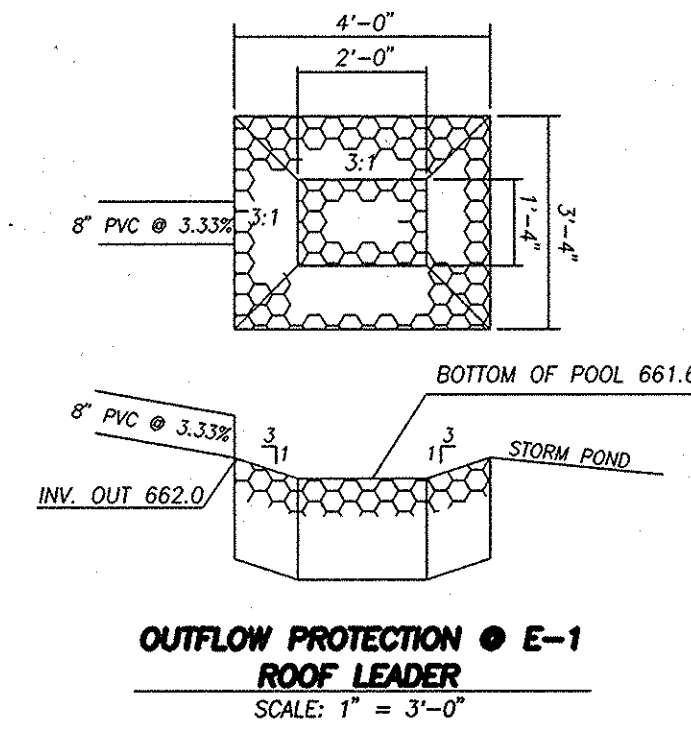
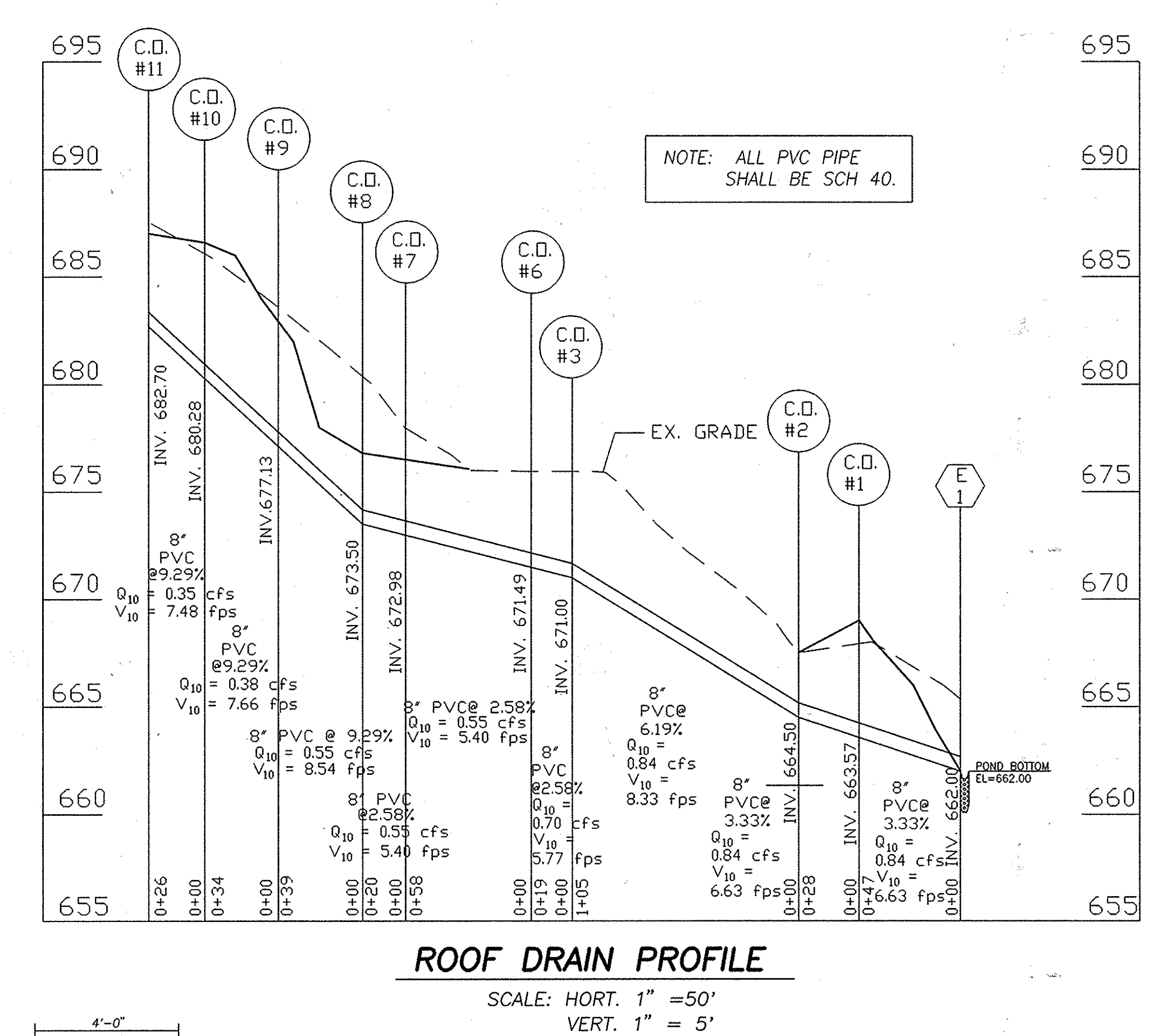
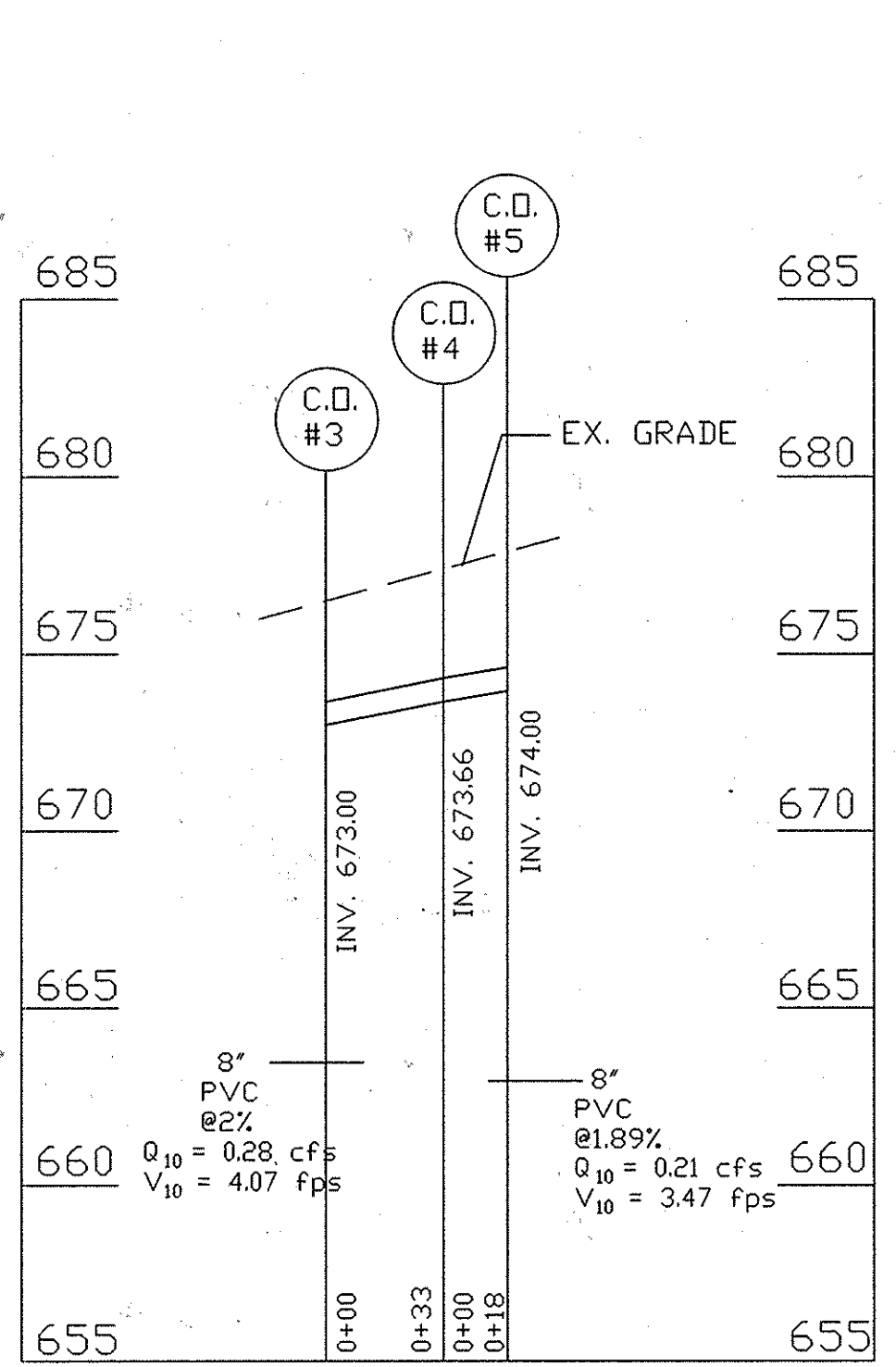
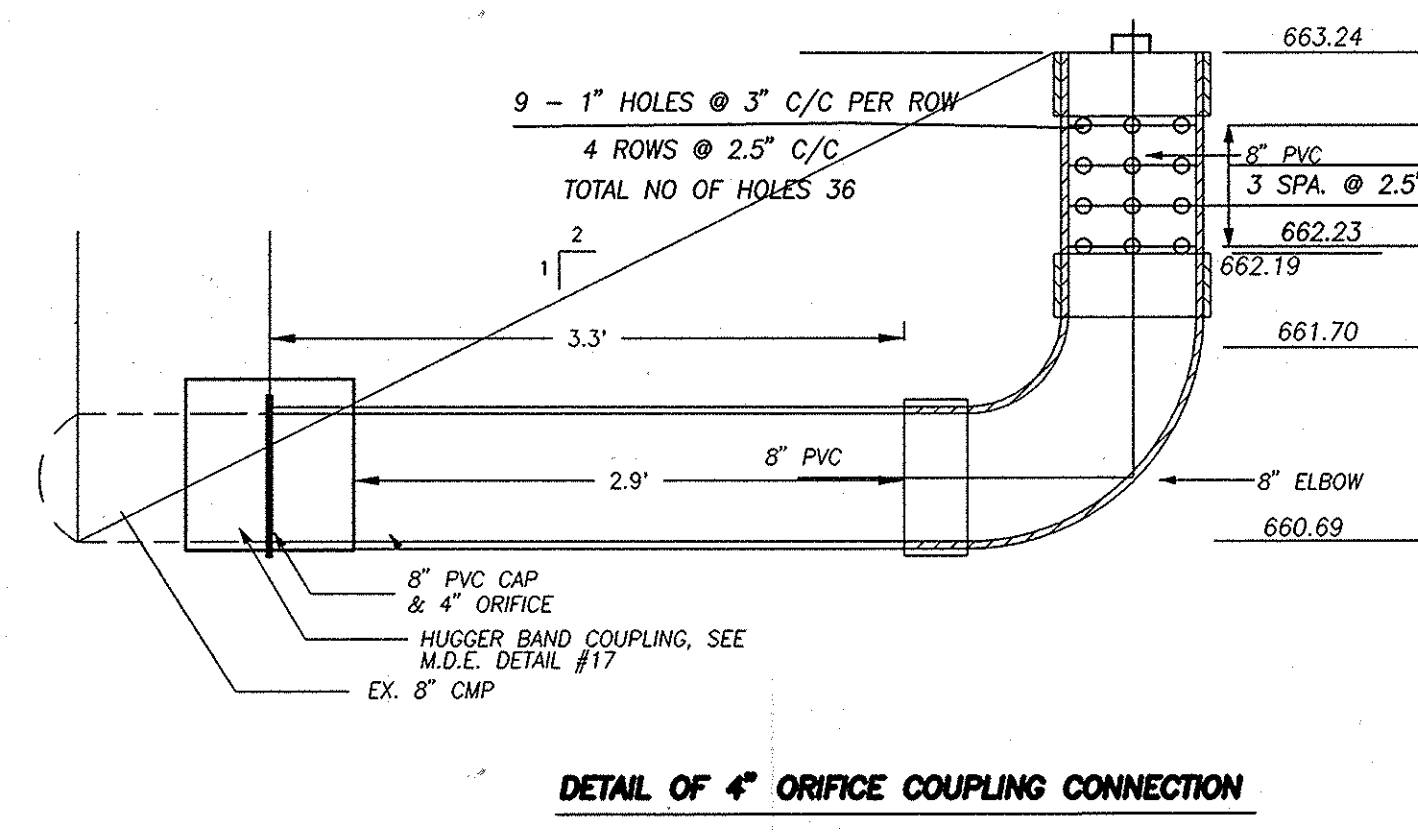
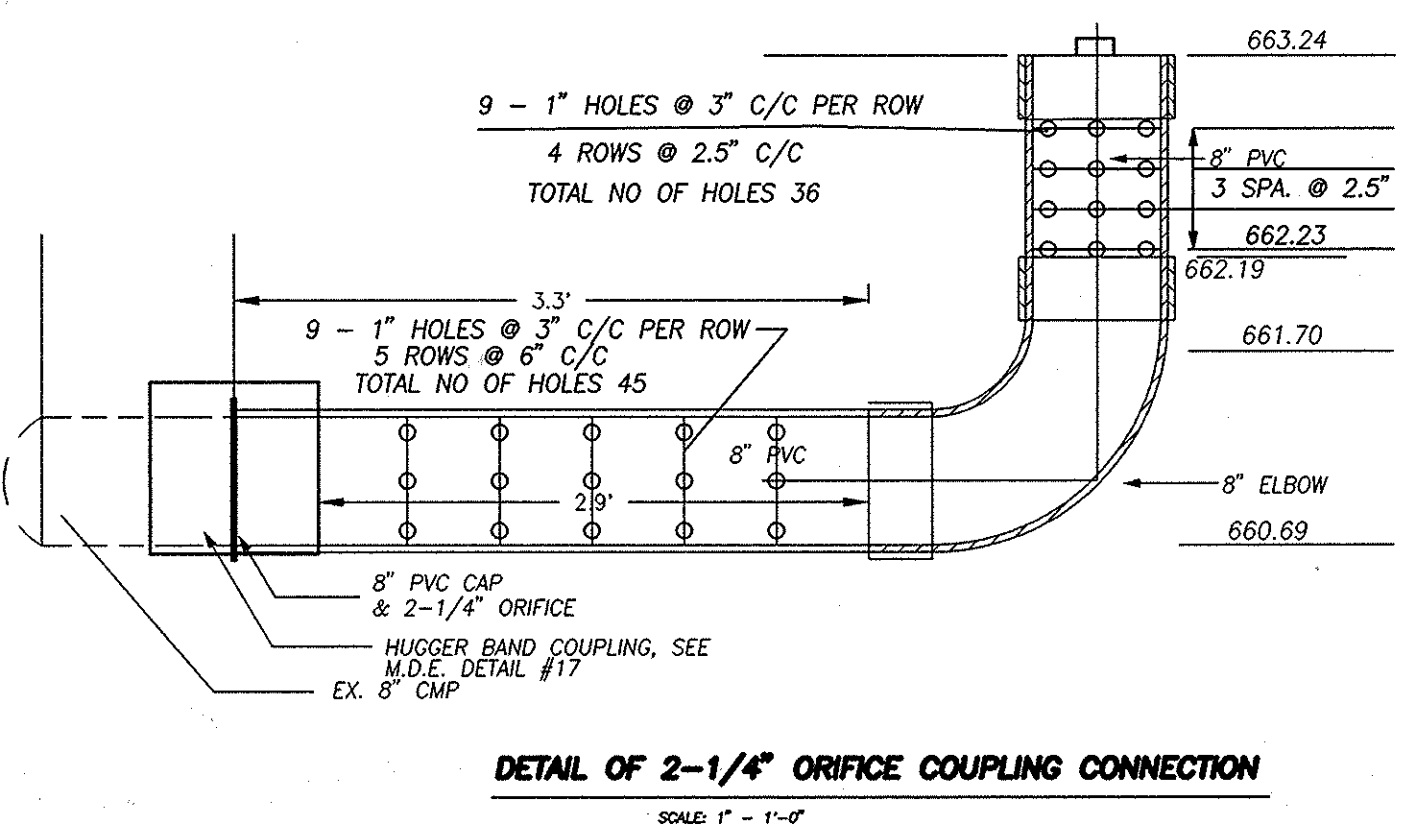
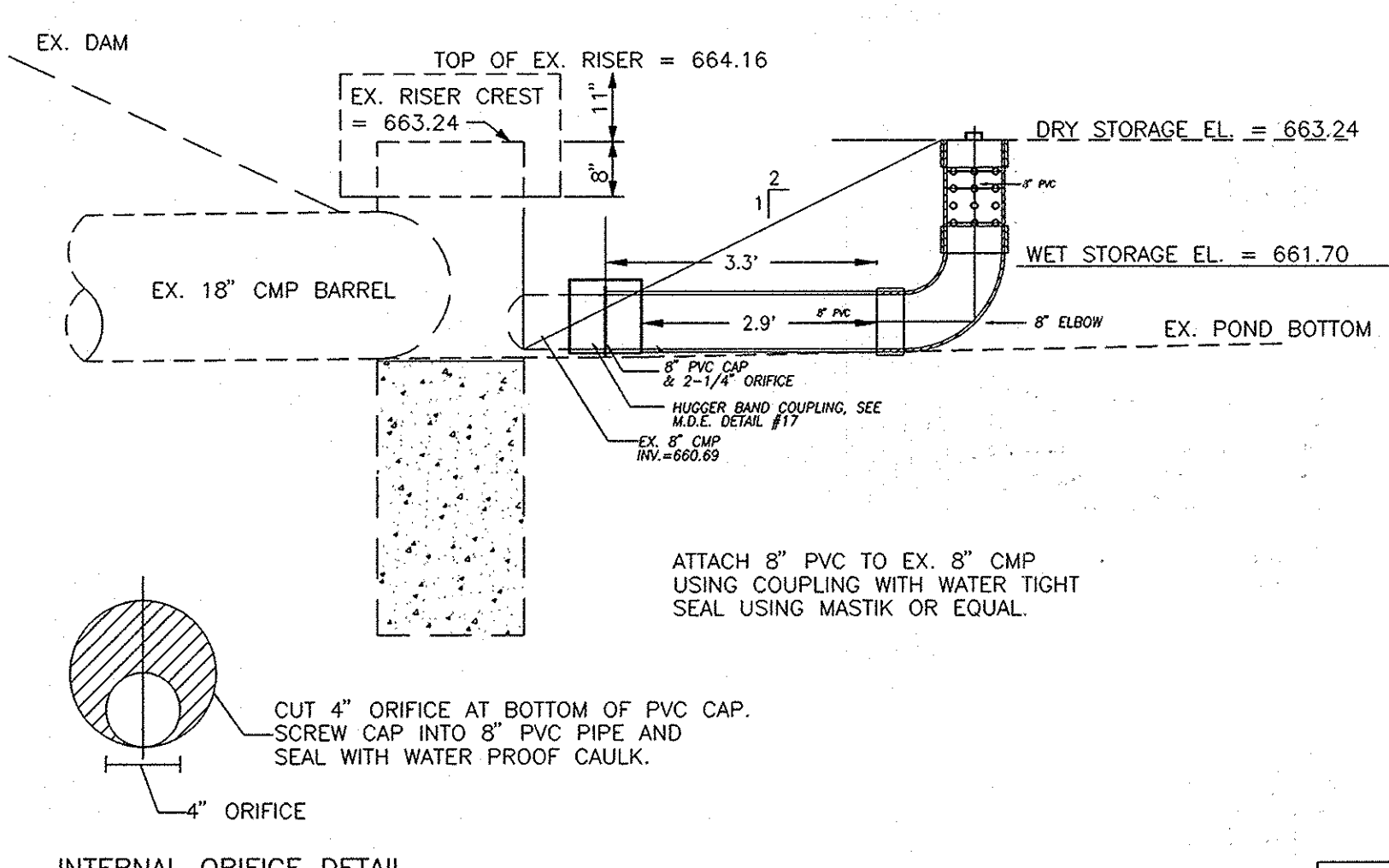
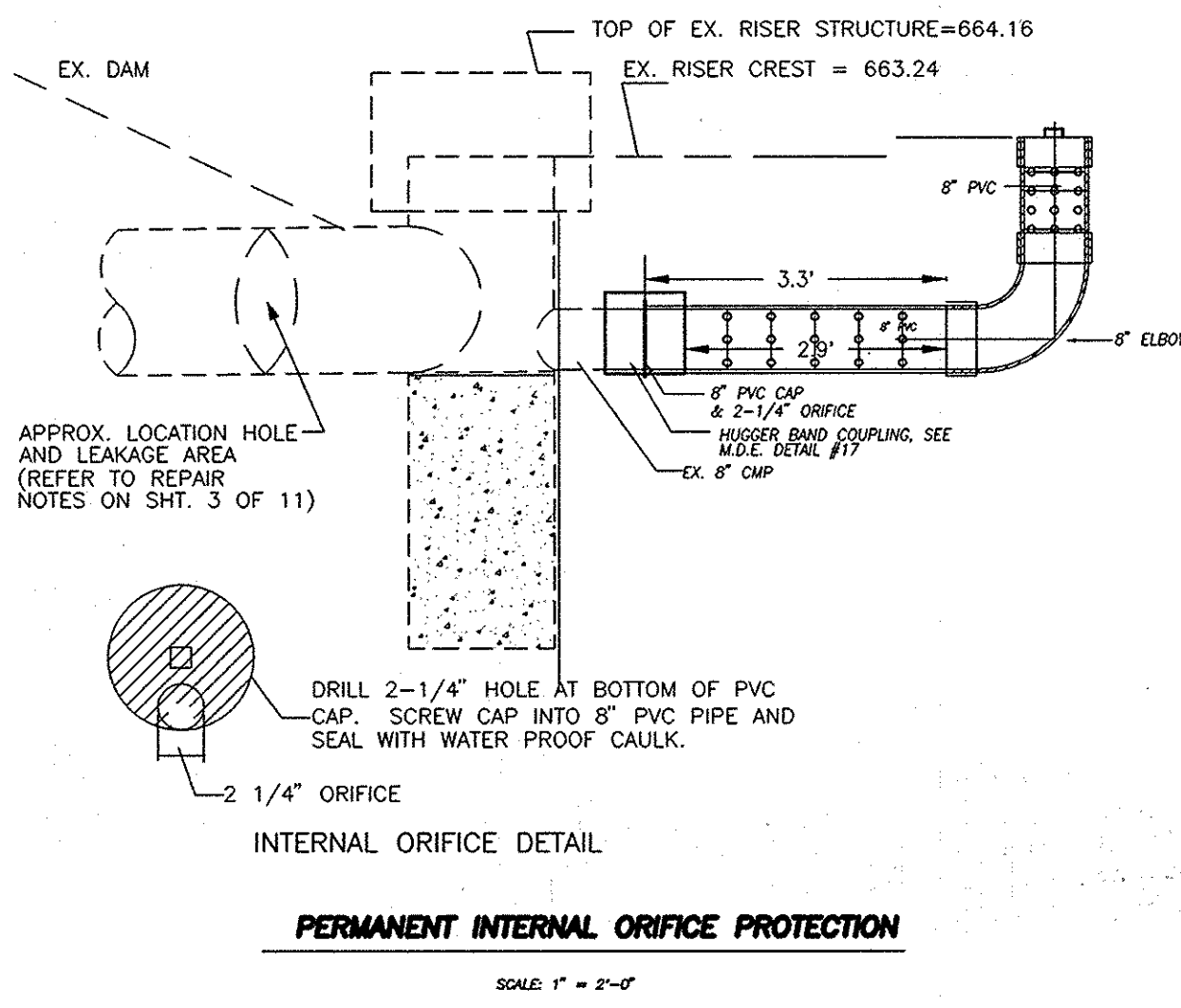
TEST PIT LOG RYAN & ASSOCIATES. PROJECT NAME: Calvary Lutheran Church, Mt. Airy, MD. TEST PIT NO. B-5 SHEET 1 OF 1. DATE: 4/30/2002. SURFACE ELEVATION: ±662. GROUNDWATER OBSERVATION: AT DRY FT. AFTER HOURS. DESCRIPTION OF MATERIALS: 1/2" TOPSOIL. FINE BROWN SILTY (M), MICA AND DECOMPOSED ROCK FRAGMENTS, TRACE FINE SAND, MOST. FINE BROWN SILT (M), MICA AND DECOMPOSED ROCK FRAGMENTS, TRACE FINE SAND, MOST. FINE BROWN SILT (M) WITH SOME MICA AND DECOMPOSED ROCK FRAGMENTS, TRACE FINE SAND, MOST. DARK RED/BROWN DECOMPOSED ROCK, SAMPLED AS SILT, LITTLE TO SOME SAND AND DECOMPOSED ROCK FRAGMENTS, MOST. BOTTOM OF TEST PIT AT 10' BELOW GROUND SURFACE. REMARKS: SOIL SAMPLES COLLECTED AT 10' BELOW GROUND SURFACE.



DEVELOPER'S CERTIFICATE: By the Developer: I/we certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District. Signature of the Developer: Rev. Roger L. Rinker, 9-5-03. THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL. USDA-NATURAL RESOURCES CONSERVATION SERVICE, 9/16/03. THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. HOWARD SOIL CONSERVATION DISTRICT, 9/16/03.

ENGINEER'S CERTIFICATE: By the Engineer: I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. Signature of the Engineer: Saurabh G. Munshi, 9/15/03. APPROVED: DEPARTMENT OF PLANNING AND ZONING. CHIEF, DEVELOPMENT ENGINEERING DIVISION, 9/16/03. CHIEF, DIVISION OF LAND DEVELOPMENT, 10/5/03. DIRECTOR, 11/9/03.

SITE DETAILS AND SPECIFICATIONS CALVARY LUTHERAN CHURCH CONNECTICUT ASPEN, INC. PROPERTY; LOT 1 PLAT C.M.P. NO. 4795 TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO SITUATED ON OLD FREDERICK ROAD FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN FEBRUARY, 2002 PREPARED FOR: OWNER CALVARY LUTHERAN CHURCH 16151 OLD FREDERICK ROAD MOUNT AIRY, MARYLAND 21771 STATE OF MARYLAND PROFESSIONAL ENGINEER 9/17/03



DRAINAGE AREA CHART

AREA	DRAINAGE AREA
1	1100 SQ. FT.
2	480 SQ. FT.
3	500 SQ. FT.
4	500 SQ. FT.
5	1160 SQ. FT.
8	1160 SQ. FT.
9	200 SQ. FT.
10	1100 SQ. FT.
11	765 SQ. FT.
12	765 SQ. FT.

NOTE: ALL AREAS ARE 100% IMPERVIOUS.
C = 0.98

STORM DRAIN COMPUTATIONS - OCT. 1, 2002

CONTRIBUTING DOWN SPOUT(S)	ROOF AREA DRAINED (SFT.)	AREA (AC)	C	CA	PREVIOUS CA	CUMULATIVE CA	i10 (IN/HR)	Q10
1 & 2	1560	0.036	0.87	0.03	N/A	0.03	7.00	0.21
4	500	0.011	0.87	0.01	0.03	0.04	7.00	0.28
11, 10, 11 & 12	2630	0.060	0.87	0.05	N/A	0.05	7.00	0.35
9	200	0.005	0.87	0.004	0.05	0.054	7.00	0.38
8	1160	0.027	0.87	0.024	0.054	0.078	7.00	0.55
7	---	---	---	---	0.078	0.078	7.00	0.55
6	5	1160	0.027	0.87	0.02	0.08	7.00	0.70
3	4	500	0.011	0.87	0.01	0.08+0.03=0.11	7.00	0.84

NOTE: ALL PVC PIPE SHALL BE SCH 40.

NOTE: ALL PVC PIPE SHALL BE SCH 40.

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

Randy Bonate 10-2-03
HOWARD COUNTY HEALTH OFFICER - JAS DATE

DEVELOPER'S CERTIFICATE:

By the Developer:
I/we certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

Rev. Roger L. Rinker 9-5-03
Signature of the Developer Date
Print name below signature *Rev. Roger L. Rinker*

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

Jim Hagen 9/16/03
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John Schick 9/16/03
HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE

By the Engineer:
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Sourabh Munshi 9/5/03
Sourabh G. Munshi, Professional Engineer Date

APPROVED:
DEPARTMENT OF PLANNING AND ZONING

Jim Hagen 9/16/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

John Schick 9/16/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John Schick 9/16/03
DIRECTOR DATE

DATE: 7/6/05
REVISIONS:
REV. 0104 DIM. 4 SQ. FOOTAGE

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
9/5/03

SITE DETAILS AND SPECIFICATIONS

CALVARY LUTHERAN CHURCH
CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
PLAT C.M.P. NO. 4795
TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
SITUATED ON OLD FREDERICK ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN FEBRUARY, 2002

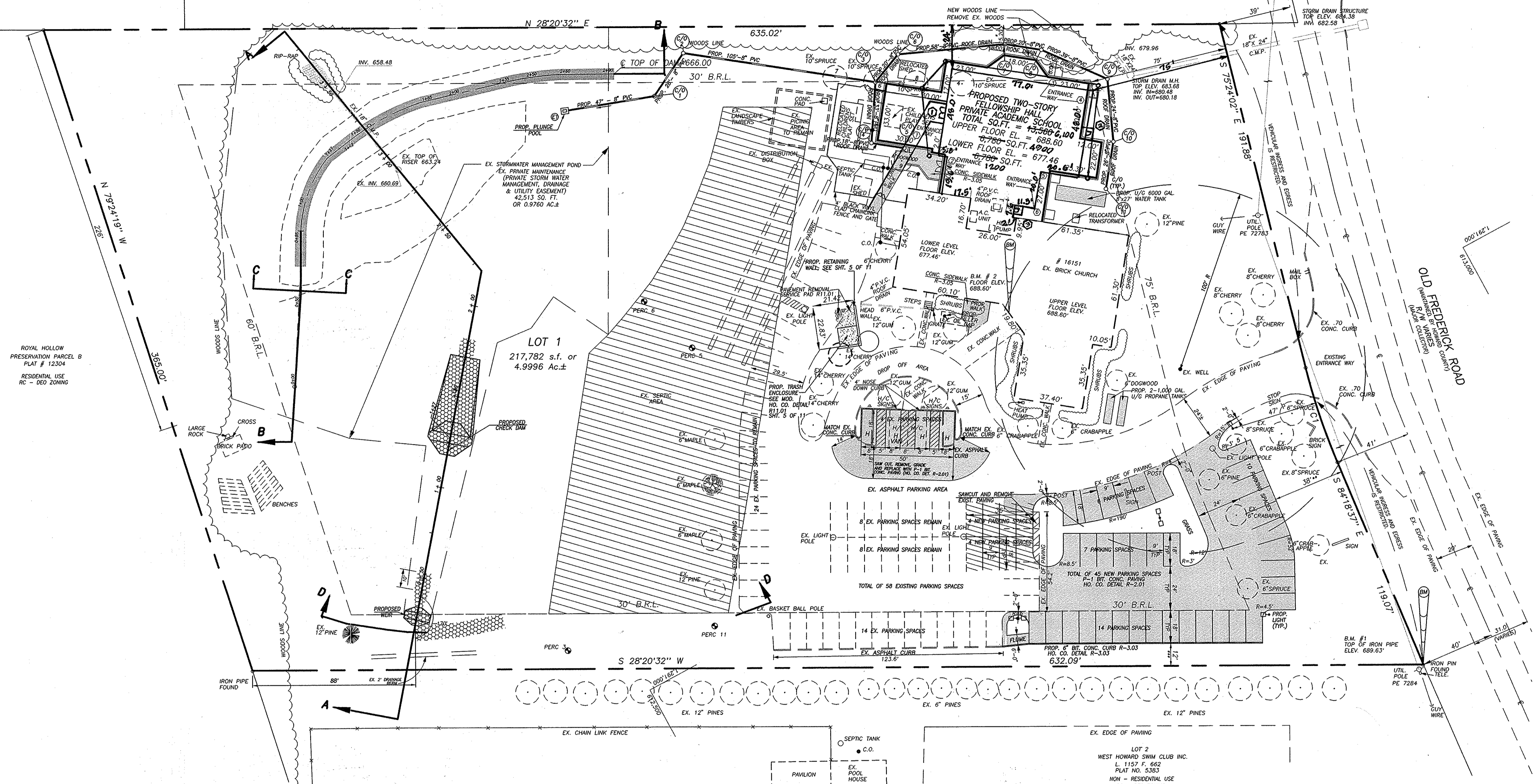
VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street P.O. Box 338 Mount Airy, Maryland 21771
(301) 823-2880 (301)851-5015 (410) 549-2751

PREPARED FOR:
OWNER
CALVARY LUTHERAN CHURCH
16151 OLD FREDERICK ROAD
MOUNT AIRY, MARYLAND 21771

LOT 1
KARRAS PROPERTY, AMENDED
PLAT NO. 6953
DONALD C. LEWIS
L. 4984 F. 149
RESIDENTIAL USE
RC - DEO ZONING

PARCEL 86
CHARLES INMAN
L. 5262 F. 438
RESIDENTIAL USE
RC - DEO ZONING

RESIDENTIAL USE
RC - DEO ZONING



- SUMMARY OF BOARD OF APPEALS CASE BA 01-19C & V.
1. PROVIDE ~~30'~~ SIDEYARD SETBACK FOR RELIGIOUS STRUCTURE IN LIEU OF THE REQUIRED 30'.
 2. PROVIDE 38' USE SETBACK FROM A RIGHT OF WAY FOR PARKING IN LIEU OF THE REQUIRED 50'.
 3. PROVIDE 12' USE SETBACK FROM LOT LINE IN LIEU OF THE REQUIRED 30'.

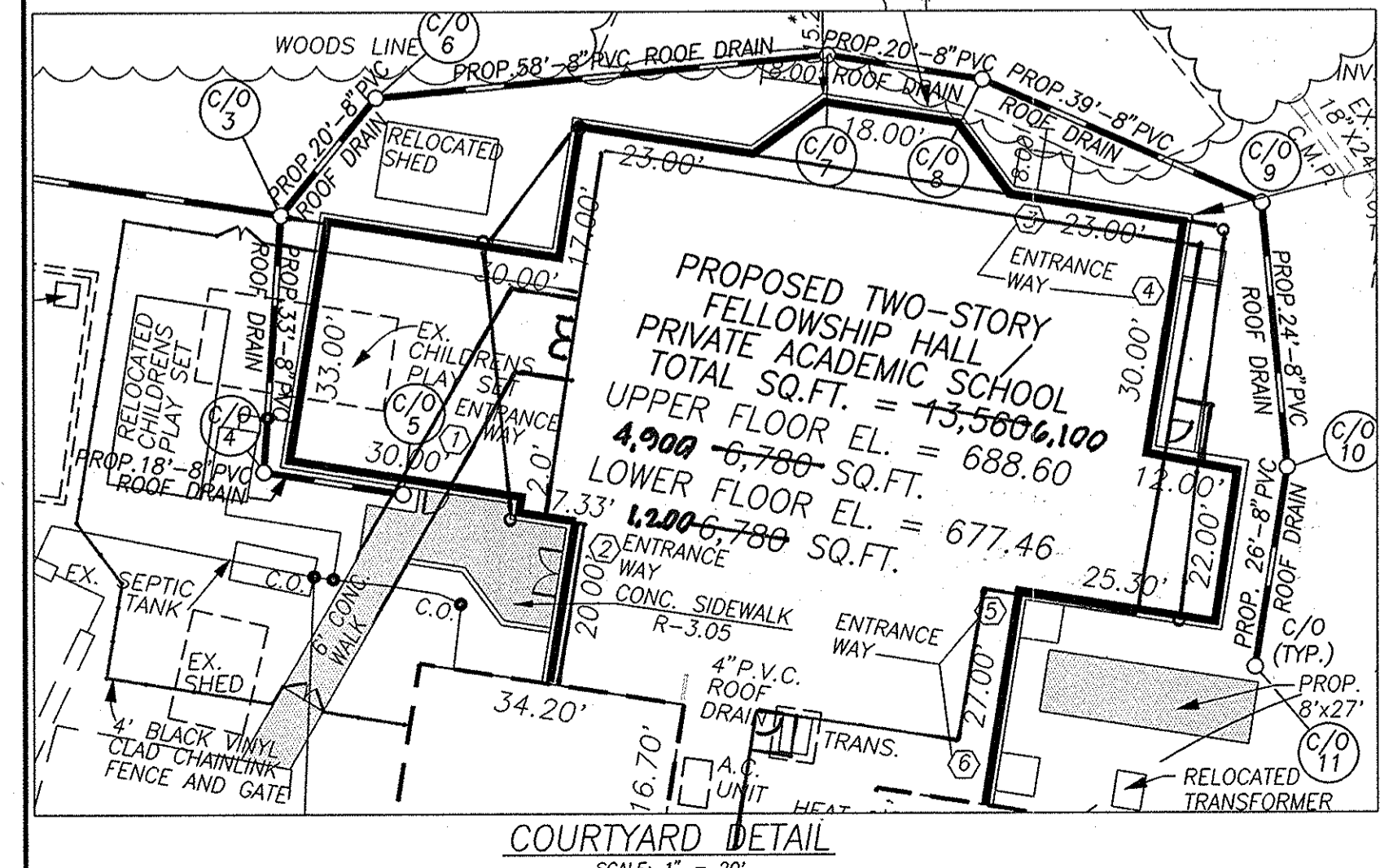
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT

Perry Bonville WY 515 10-2-03
HOWARD COUNTY HEALTH OFFICER JAB DATE

APPROVED:
DEPARTMENT OF PLANNING AND ZONING
[Signature] 9/26/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 10/6/03
CHIEF, DIVISION OF LAND DEVELOPMENT 38 DATE

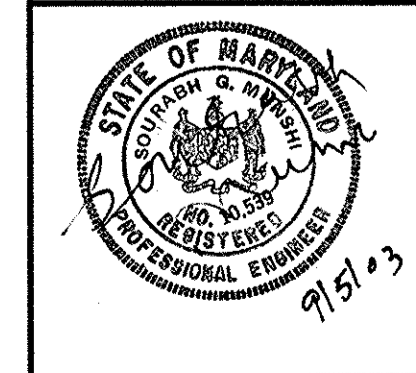
[Signature] 11/9/02
DIRECTOR DATE



- LEGEND
- PROPOSED SITE LIGHTING TO MATCH EXISTING POLE HEIGHT, POLE, AND HEAD, MINIMUM 25' FROM PROPERTY LINE.
 - ⊙ PROPOSED ENTRANCE WAY
 - EXISTING LIGHT POLE

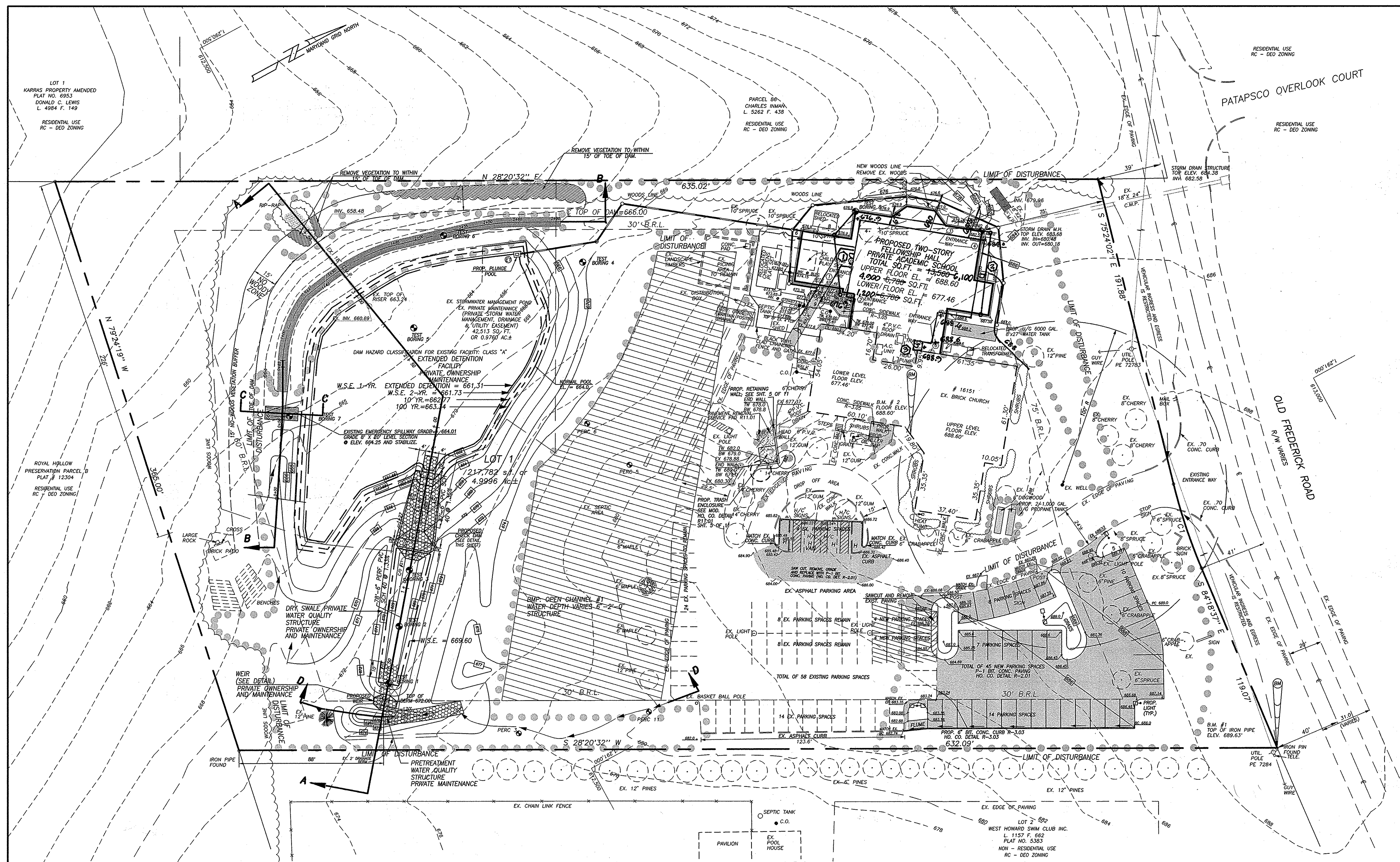
OWNER/PETITIONER
CALVARY LUTHERAN CHURCH
16151 OLD FREDERICK ROAD
MOUNT AIRY, MARYLAND 21771

DATE	REVISIONS
7/6/05	REV. 0209, DIM., 02, FOOTING & SETBACK



LAYOUT AND DIMENSIONING PLAN
CALVARY LUTHERAN CHURCH
CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
PLAT C.M.P. NO. 4795
TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
SITUATED ON OLD FREDERICK ROAD
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: 1"=30' FEBRUARY, 2002

VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street P.O. Box 328 Mount Airy, Maryland 21771
(301) 829-2890 (301)851-5015 (410) 549-2751



OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED OPEN CHANNEL SYSTEMS (P-1 AND P-2)

- The open channel system shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
- The open channel shall be mowed a minimum of six times during the growing season to maintain a maximum grass height of less than 6 inches.
- Debris and litter shall be removed during regular mowing operations and as needed.
- Visible signs of erosion in the open channel system shall be repaired as soon as it is noticed.
- Remove silt in the open channel system when it exceeds 25% of the original W.O.

ROUTINE MAINTENANCE:

- Facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
- Top and side slopes of the embankment shall be mowed a minimum of two (2) times per year, once in late and once in September. Other side slopes and maintenance access shall be mowed as needed.
- Debris and litter shall be removed during regular mowing operations and as needed.
- Visible signs of erosion in the pond as well as the riprap or gabion outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE:

- Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
- Settlement shall be removed from the pond, and further action shall be taken when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

Note: Private ownership & private maintenance of all S.W.M. facilities is the responsibility of Calvary Lutheran Church.

Dam Hazard classification for existing facility: Class "A".

OPERATION, MAINTENANCE AND INSPECTION

Inspection of the pond(s) shown herein shall be performed at least annually, in accordance with the checklist and requirements contained within USGS, SCS "Standards and Specifications for Ponds" (40-378). The pond owner(s) and any heirs, successors, or assigns shall be responsible for the safety of the pond and the continued operation, maintenance, 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.

LEGEND:

① ENTRANCE WAY

- Remove woody vegetation within principal spillway, riser & barrel structure and within 15' of toe of existing dam.
- Weld patch to existing 18" cnp barrel & regualvinate.

NOTES:

LOW MAINTENANCE SEED MIX FOR BMP #1 AND DISTURBED AREA OR EXTENDED DETENTION FACILITY

THE FOLLOWING SEED MIX IS TO BE USED IN THOSE OPEN SPACE AREAS WITHIN SUBDIVISIONS WHERE MOWING IS TO BE INFREQUENT. SUCH AREAS WOULD INCLUDE STORMWATER MANAGEMENT FACILITIES, STEEP SLOPES, ETC. THIS MIXTURE IS AS FOLLOWS:

- CANADIAN BLUE GRASS 10 LBS PER ACRE
- KENTUCKY BLUE GRASS 10 LBS PER ACRE
- PENNSYLVANIA RED FESCUE 20 LBS PER ACRE
- REDTOP GRASS SEED 10 LBS PER ACRE
- BIRDFOOT TREFOIL 5 LBS PER ACRE

THE USE OF TALL FESCUES IS TO BE AVOIDED IN THESE AREAS TO ELIMINATE A "HAY FIELD" EFFECT.

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

Jim Mena 9/16/03
USDA-NATURAL RESOURCE CONSERVATION SERVICE DATE

Shelley Selby 9/16/03
HOWARD SOIL CONSERVATION DISTRICT DATE

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

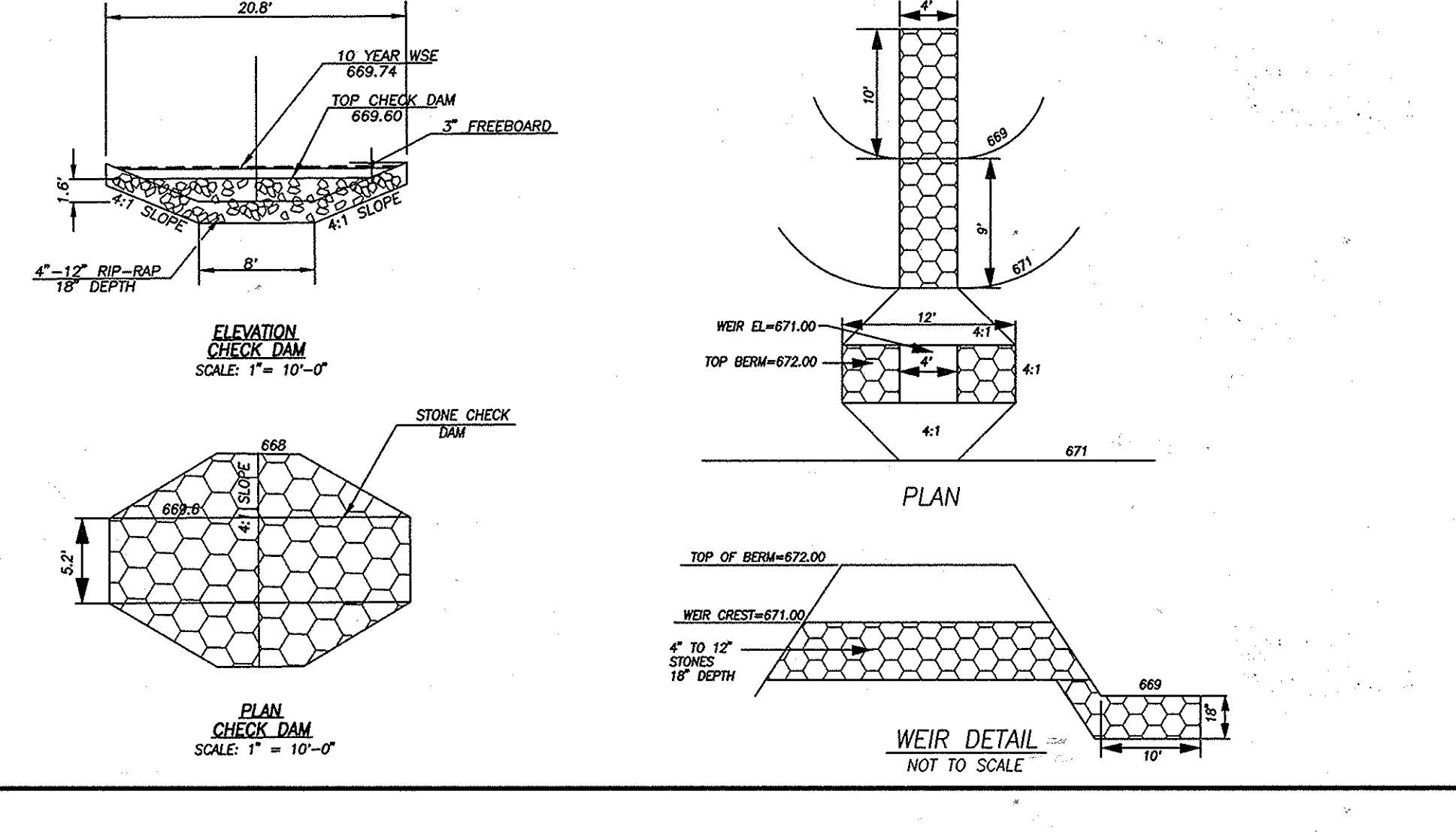
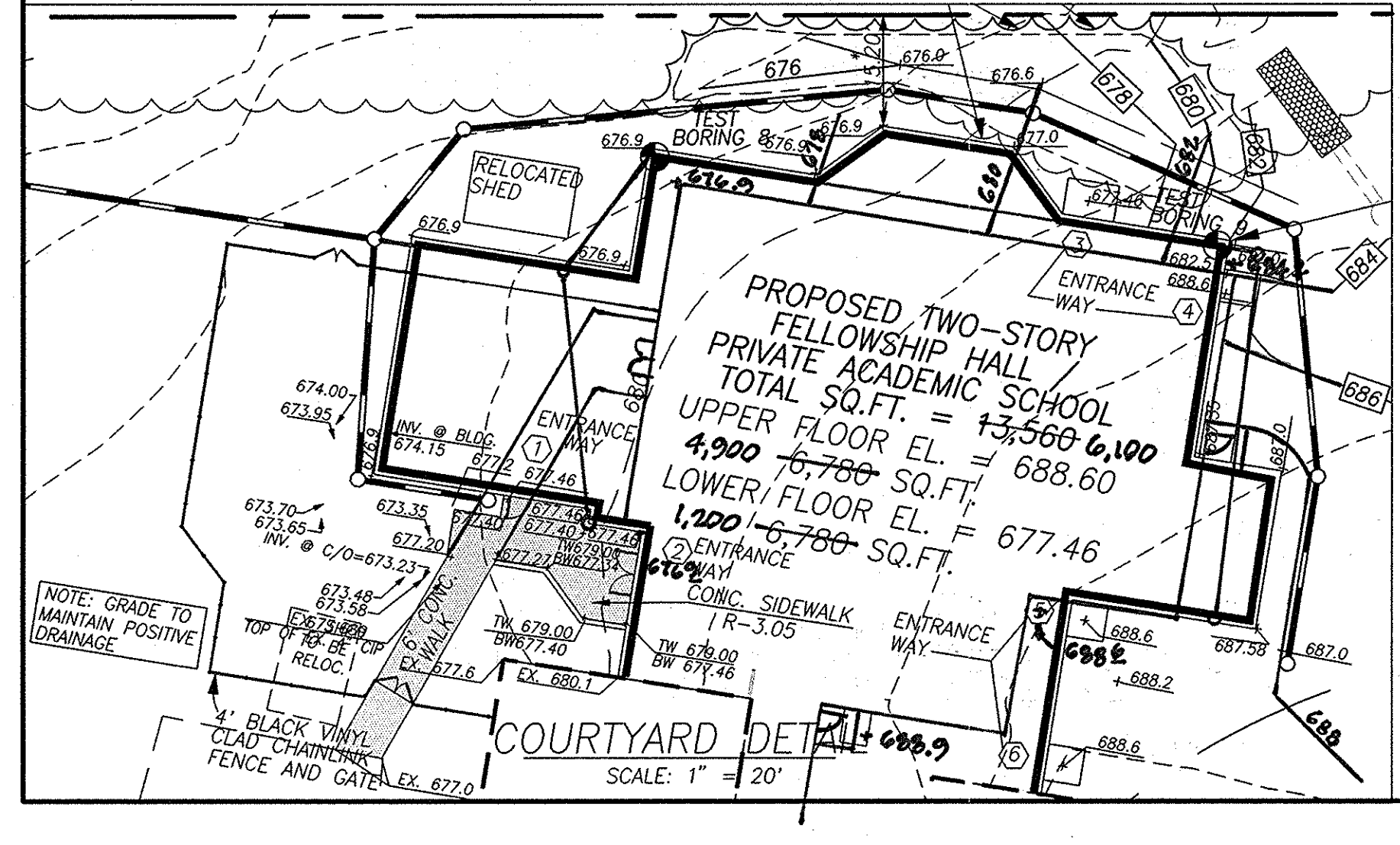
Deanna Brantley 10-2-03
HOWARD COUNTY HEALTH OFFICER-SHS DATE

APPROVED:
DEPARTMENT OF PLANNING AND ZONING

John M. ... 9/16/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

John M. ... 10/15/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

David ... 11/2/03
DIRECTOR DATE



SUMMARY OF GENERAL STORAGE REQUIREMENTS FOR AREA P1

TYPE OF CONTROL	AREA	ACREAGE	VOLUME REQUIRED	VOLUME PROVIDED	REMARKS
Rev	P1	3.68	528 cft	528 cft	Storage under WD Structure
Wov	P1	3.68	1524.6 cft	1552.46 cft	WV Structure is a dry swale.
CPv	P1	3.68	0.123 Ac-ft	0.748 Ac-ft	1-year extended detention structure in existing pond
GP10		N/A			Checked for 10-year discharged to pass safely
GP100		N/A			Checked for 100-year discharged to pass safely

LEGEND

LIMIT OF DISTURBANCE

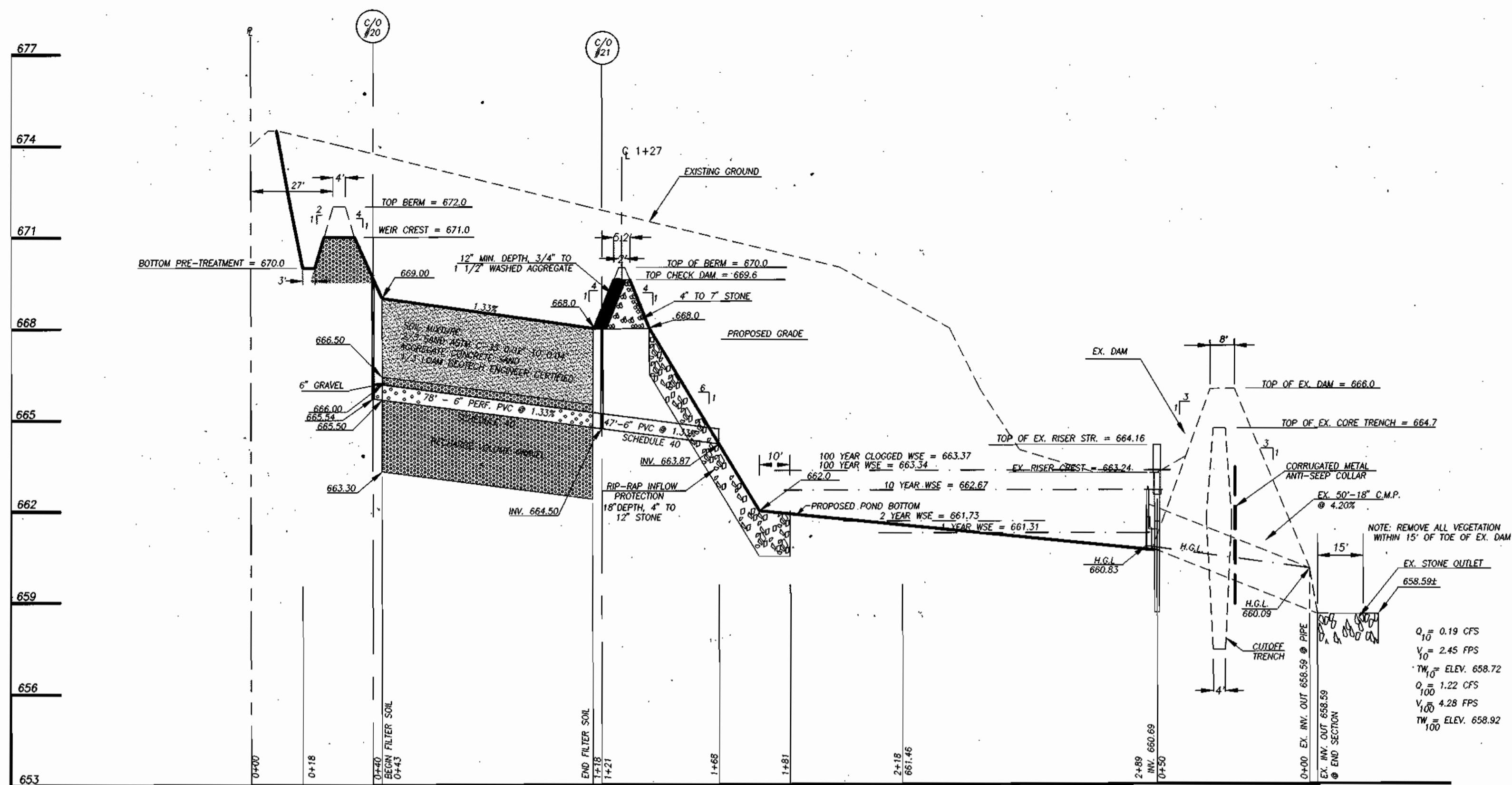
OWNER/PETITIONER
CALVARY LUTHERAN CHURCH
16151 OLD FREDERICK ROAD
MOUNT AIRY, MARYLAND 21771

DATE: 7/6/05
REVISIONS: REV. COR. ELEV.

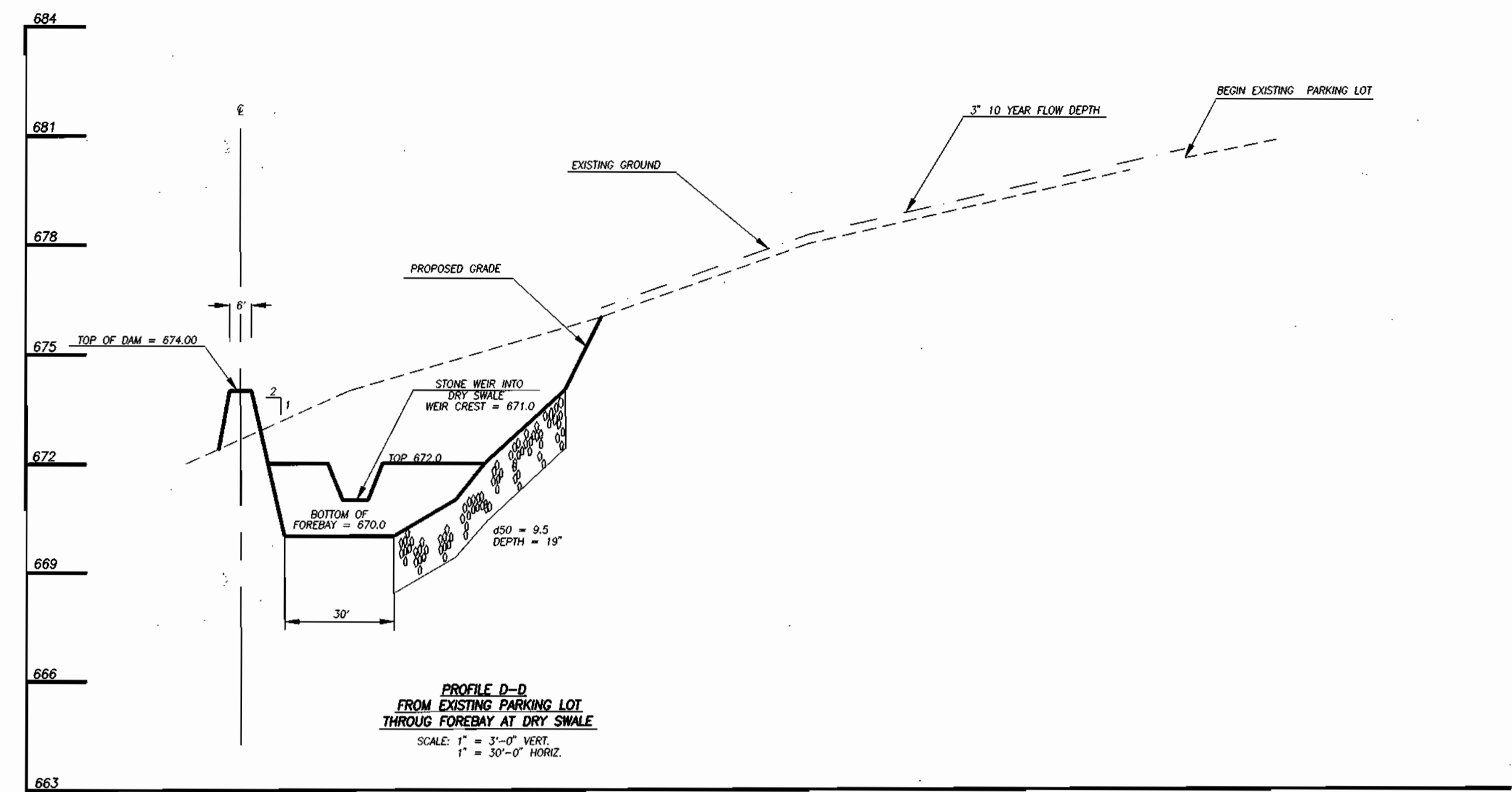
STATE OF MARYLAND
PROFESSIONAL ENGINEER
915103

GRADING & STORMWATER MANAGEMENT PLAN AND DETAILS
CALVARY LUTHERAN CHURCH
CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
PLAT C.M.P. NO. 4795
TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
SITUATED ON OLD FREDERICK ROAD
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: 1"=30' FEBRUARY, 2002

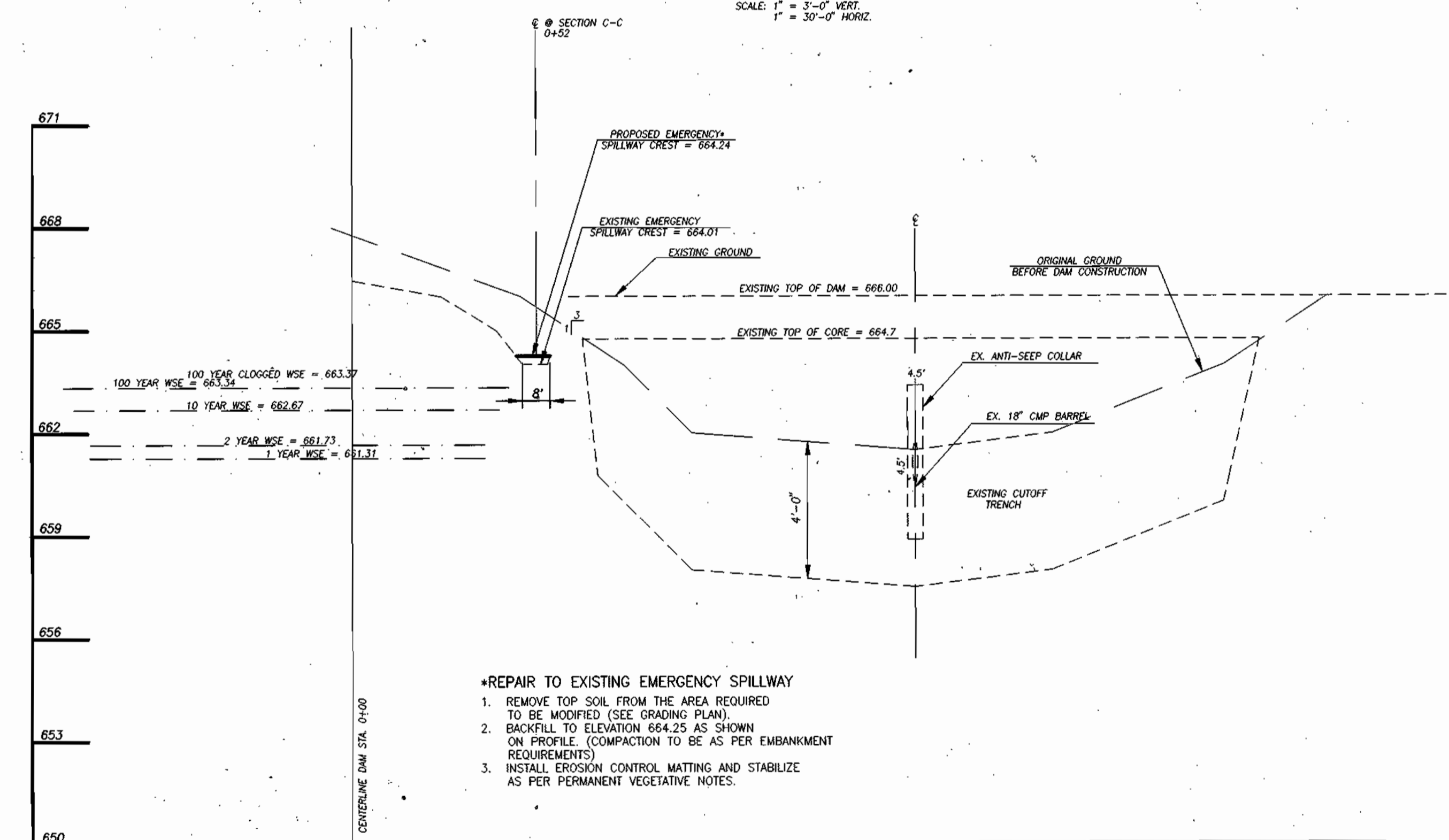
VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street P.O. Box 528 Mount Airy, Maryland 21771
(301) 823 2890 (301)851 5015 (410) 549 2751



PROFILE A-A
THROUGH DRY SWALE, EXTENDED DETENTION
FACILITY AND OUTFALL
SCALE: 1" = 3'-0" VERT.
1" = 30'-0" HORIZ.

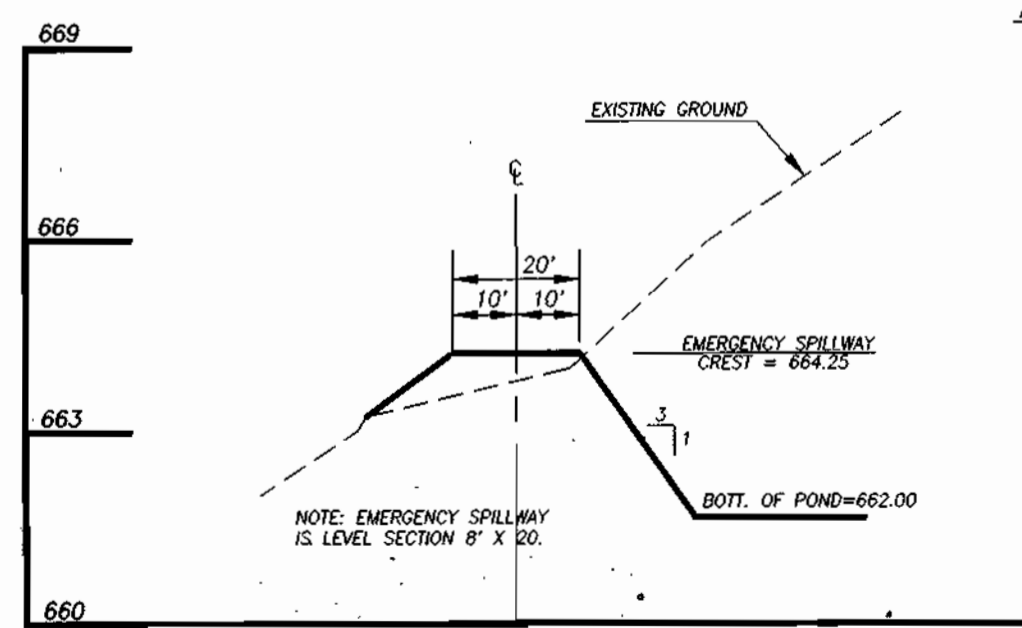


PROFILE D-D
FROM EXISTING PARKING LOT
THROUGH FOREBAY AT DRY SWALE
SCALE: 1" = 3'-0" VERT.
1" = 30'-0" HORIZ.

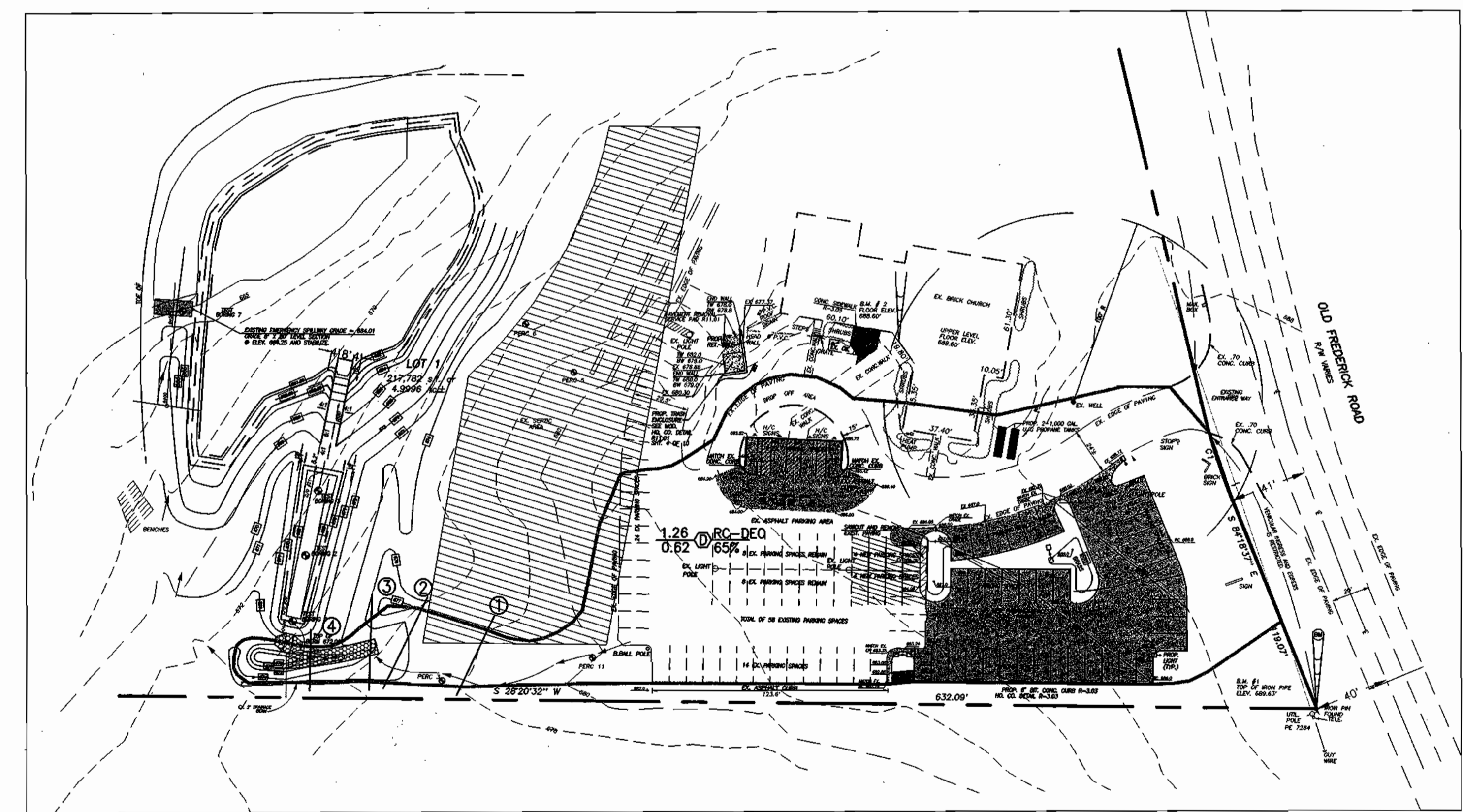


- REPAIR TO EXISTING EMERGENCY SPILLWAY
- 1. REMOVE TOP SOIL FROM THE AREA REQUIRED TO BE MODIFIED (SEE GRADING PLAN)
- 2. BACKFILL TO ELEVATION 664.25 AS SHOWN ON PROFILE (COMPACTION TO BE AS PER EMBANKMENT REQUIREMENTS)
- 3. INSTALL EROSION CONTROL MATTING AND STABILIZE AS PER PERMANENT VEGETATIVE NOTES.

PROFILE B-B
THROUGH CENTERLINE OF EXISTING DAM
AND EMERGENCY SPILLWAY
SCALE: 1" = 3'-0" VERT.
1" = 30'-0" HORIZ.



SECTION C-C
EMERGENCY SPILLWAY
SCALE: 1" = 3'-0" VERT.
1" = 30'-0" HORIZ.



DRAINAGE AREA
SCALE: 1" = 50'

PREPARED FOR:
OWNER
CALVARY LUTHERAN CHURCH
16151 OLD FREDERICK ROAD
MOUNT AIRY, MARYLAND 21771

APPROVED:
DEPARTMENT OF PLANNING AND ZONING

9/20/03
DATE

10/1/02
DATE

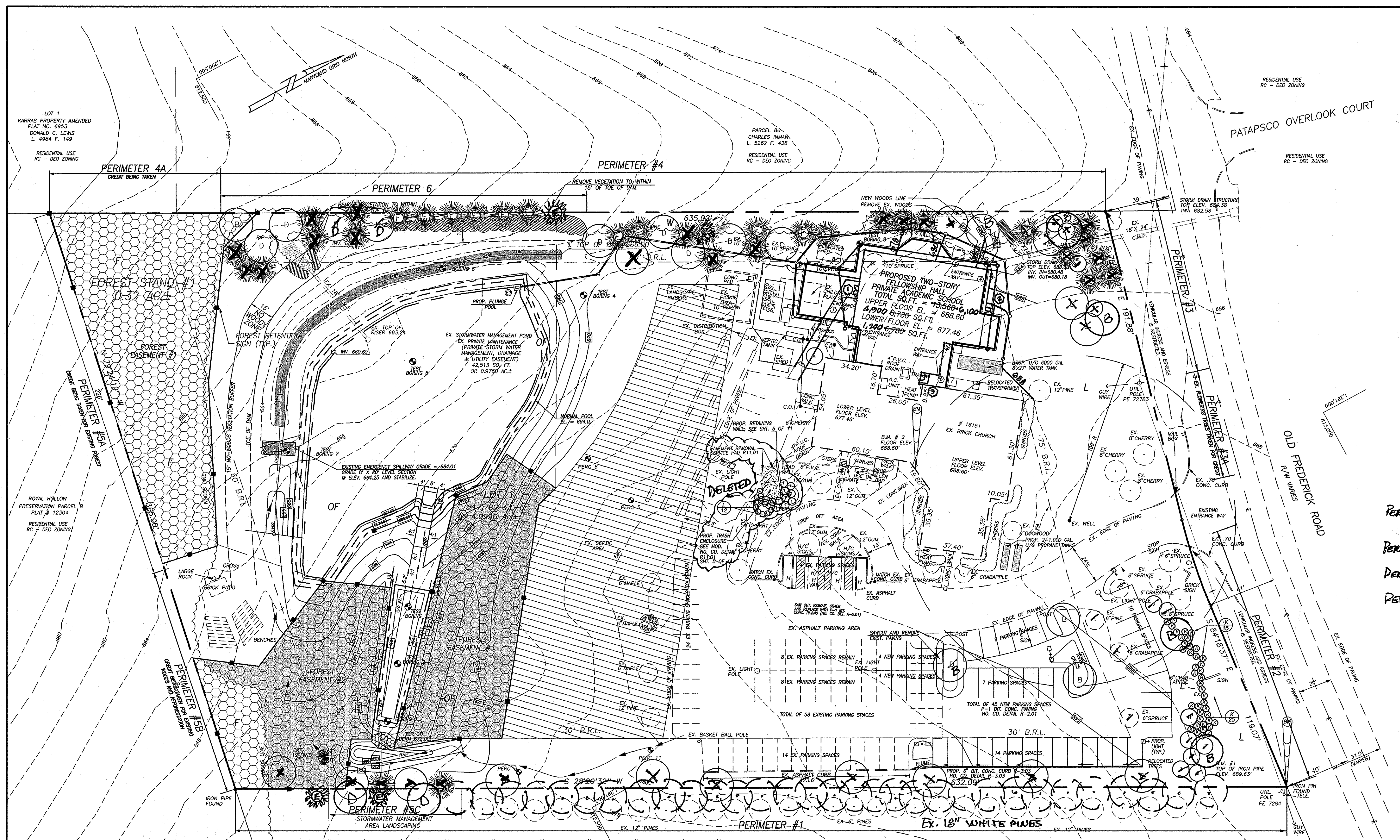
11/3/02
DATE

DATE	REVISIONS
9/20/03	
10/1/02	
11/3/02	



STORMWATER MANAGEMENT PROFILES
CALVARY LUTHERAN CHURCH
CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
PLAT C.M.P. NO. 4795
TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
SITUATED ON OLD FREDERICK ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN FEBRUARY, 2002

VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South North Street P.O. Box 328 Mount Airy, Maryland 21771
(301) 829-2890 (301) 851-5015 (410) 549-2751



PLANT LIST					
SYMBOL	QUANTITY	BOTANICAL NAME COMMON NAME	SIZE	CONDITION	SPACING (SEE NOTES)
(B)	9	Zelkova serrata 'Green Vase' Green Vase Zelkova	2.5-3' cal.	B & B	heavy
(D)	12	Pin Oak Quercus palustris	2.5-3' cal.	B & B	heavy
(E)	2	Eastern White Pine Pinus strobus (weeblae) (strelae)	8' ht.	B & B	AS SHOWN
(F)	13	Austrain Pine Pinus misono	6-8' ht.	B & B	AS SHOWN
(H)	0	Yucca glauca Yucca glauca	1.5-2' cal. 8-10' ht.	B & B	AS SHOWN
(U)	0	Yucca glauca Yucca glauca	8-10' ht.	B & B	AS SHOWN
(O)	40	Compact Pfitzer Juniper Juniperus chinensis pfitzeriana compacta	24-30" ht.	B & B	EVENLY SPACED IN BED & MULCH
(P)	0	Platanus acerifolia Platanus acerifolia	18-24" ht.	B' cons	EVENLY SPACED IN BED & MULCH
(T)	0	Geopeltis laevigata Geopeltis laevigata	2.5-3' ht.	B & B	EVENLY SPACED IN BED & MULCH

(C) LOCATION OF TRANSPLANTED EXISTING TREE

CATEGORY	PERIMETER LANDSCAPE EDGE				ADJACENT TO PERIMETER PROPERTIES
	#1-B	#2-E	#1-A	#1-B	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	175 L.F.	160 L.F.	632 L.F.	635 L.F.	TOTAL
CREDIT FOR EXISTING VEGETATION (YES: NO LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	3 EVER-GREEN TREES	3 EVER-GREEN TREES	3 EVER-GREEN TREES	3 EVER-GREEN TREES	EX. WOODS TO REMAIN 100 L.F.
CREDIT FOR OTHER LANDSCAPING SWM BUFFER	4	N/A	2	2	
NUMBER OF PLANTS REQUIRED	4	4	2	2	
SHADE TREES	4	4	2	2	11 19
EVERGREEN TREES	0	0	0	0	13 13
SHRUBS	0	0	0	0	0 0
NUMBER OF PLANTS PROVIDED	4	4	2	2	11 19
SHADE TREES	4	4	2	2	11 19
EVERGREEN TREES	0	0	0	0	13 13
SHRUBS	0	0	0	0	0 0
OTHER TREES (2:1 SUBSTITUTION)	0	0	0	0	0 0
SHRUBS (10:1 SUBSTITUTION)	0	0	0	0	0 0
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)					SEE BELOW SEE BELOW

SHRUBS ARE TO BE PROVIDED FOR EACH PAD LANDSCAPING

SUBSTITUTIONS:
 PERIMETER #1: 2 SHADE TREES & 2 EVERGREEN TREES OF PERIMETER #2C FOR 2 SHADE TREES
 PERIMETER #2: 4 FLOWERING TREES & 4 RELOCATED FLOWERING TREES & 3 DECIDUOUS TREES
 PERIMETER #3A: 2 EXISTING FLOWERING TREES AND 1 EXIST. PINE AND 1 PINE FOR 2 SHADE TREES
 PERIMETER #4: 2 SHADE TREES & 12 EVERGREEN TREES OF PERIMETER #5 FOR 5 SHADE TREES
 NOTE: FLOWERING TREES ARE QUANTITATIVE TREES

PERIMETER #1: CREDIT EXISTING EVERGREEN TREE LINE ALONG PROPERTY LINE. KEEP PERIMETER #5C TREES

PERIMETER #2: 3 EVERGREEN TREES & 1 FLOWERING DECIDUOUS TREE SUBSTITUTED FOR 2 SHADE TREES

PERIMETER #3A: TWO SHADE TREES SUBSTITUTED FOR REQUIRED EVERGREEN TREES

PERIMETER #4: CHANGE LANDSCAPE TYPE C TO LANDSCAPE TYPE B

AGREEMENT EXISTS BETWEEN WEST HAVEN SWIM CLUB AND CALVARY LUTHERAN TO MAINTAIN TREE BUFFER AND ALLOW FOR THE PLANTING OF FOUR TREES ON SWIM CLUB PROPERTY

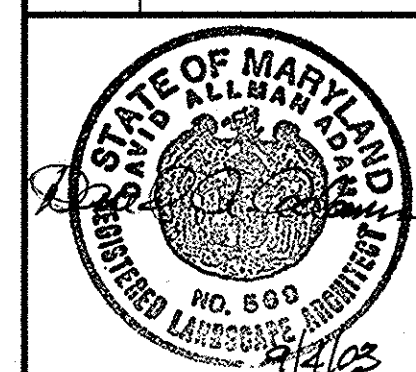
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.
 HOWARD COUNTY HEALTH DEPARTMENT
 Penn Bentes M.D. 10-2-03
 HOWARD COUNTY HEALTH OFFICER JAS DATE

APPROVED:
 DEPARTMENT OF PLANNING AND ZONING
 9/25/03
 DATE
 Chief, Development Engineering Division
 Cindy Hamilton 09/25/03
 CHIEF, DIVISION OF LAND DEVELOPMENT
 Paul Koyll 10/2/03
 DIRECTOR DATE

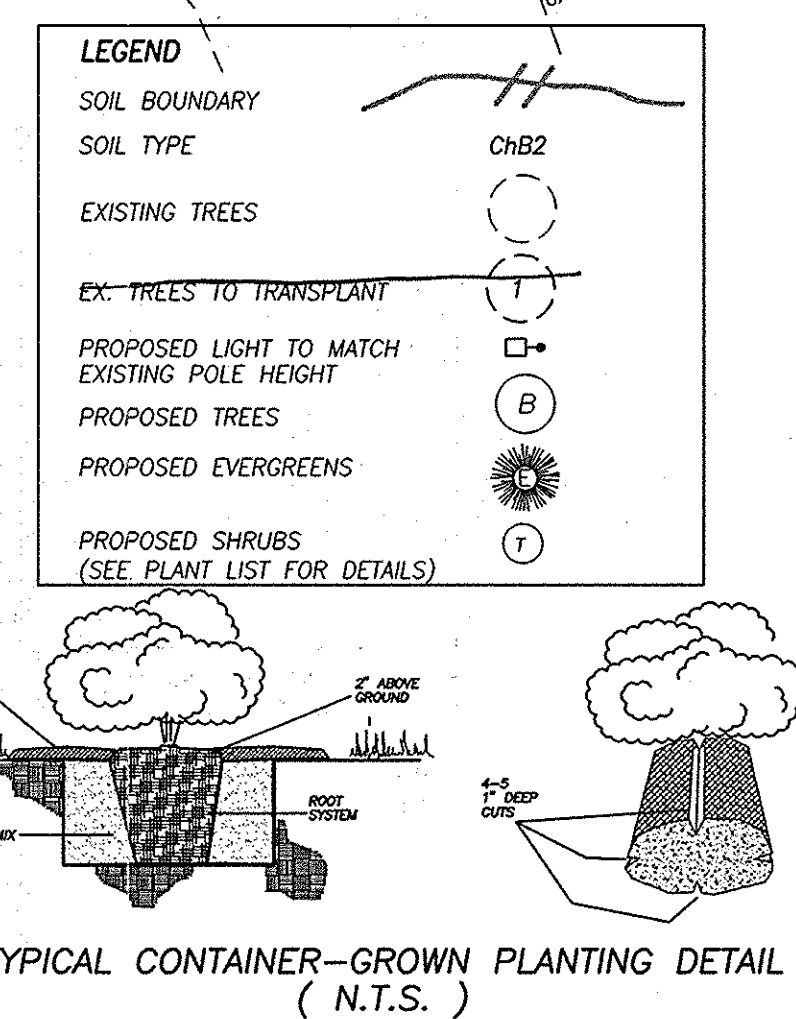
OWNER/PETITIONER
 CALVARY LUTHERAN CHURCH
 16151 OLD FREDERICK ROAD
 MOUNT AIRY, MARYLAND 21771

DATE REVISIONS
 7/6/03 REV. 2/09 4 ENTRANCES
 7/16/06 REV. LANDSCAPE

LANDSCAPE PLAN
CALVARY LUTHERAN CHURCH
 CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
 PLAT C.M.P. NO. 4795
 TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
 SITUATED ON OLD FREDERICK ROAD
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: 1"=30' FEBRUARY, 2002



VANMAR ASSOCIATES, INC.
 Engineers/Surveyors/Planners
 310 South Main Street P.O. Box 528 Mount Airy, Maryland 21771
 (301) 285 2850 (301) 351 5015 (410) 549 2751



SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	45
NUMBER OF TREES REQUIRED	2,25
NUMBER OF TREES PROVIDED	3
OTHER TREES (2:1 SUBSTITUTION)	
LANDSCAPED ISLANDS REQUIRED	2

SCHEDULE D STORMWATER MANAGEMENT LANDSCAPING		
LINEAR FEET OF PERIMETER & TYPE	#5=445LF TYPE B	#6=220LF TYPE B
NUMBER OF TREES REQUIRED	9	5
SHADE TREES (1.50 FEET)	12	6
EVERGREEN TREES (1-10 FEET)		
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	EX. WOODS REMAIN 54=225LF; 51%	N/A
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	AFFORESTATION 58=140LF; 31%	
NUMBER OF TREES PROVIDED	10	6
SHADE TREES	10	6
EVERGREEN TREES		
OTHER TREES (2:1 SUBSTITUTION)	SEE BELOW	

SUBSTITUTIONS:
 PERIMETER #5B: 0.17 AC AFFORESTATION AND 0.05 AC EX. WOODS

NOTE:
 AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS AND SIZE IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

Landscape Notes

- 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 OWNER'S DPW DEVELOPER'S AGREEMENT. IN THE AMOUNT OF \$16,260.00 FOR:
 25 SHADE TREES @ 300 EA = \$ 8,700
 34 EVERGREENS @ 150 EA = \$ 5,100
 4 ORNAMENTAL TREES @ 150 EA = \$ 600
 62 SHRUBS @ 30 EA = \$ 1,860
 \$16,260.00

DEVELOPER'S/BUILDER'S CERTIFICATE

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

Rev. Roger L. Rinker 9-5-03
 CALVARY LUTHERAN CHURCH DATE

ACRES (1/10 acre)	ACRES (1/10 acre)
4.9996	4.9996
0.0000	0.0000
0	0
4.9996	4.9996

AFFORESTATION EASEMENT #2
 ACREAGE OF PLANTING: 0.17 Acres x 350 whips/acre = 60 whips required.

SPECIES LIST:

SPECIES	24"	WHIPS
Black Cherry	24"	4
Sassafras	Sassafras albidum	4
Red Maple	Acer rubrum	4
Tulip Poplar	Liriodendron tulipifera	4
DOGWOOD	40"	4
White Oak	Quercus alba	5
UNDERSTORY		6
Wild Hazelnut	Corylus americana	6
Spice Bush	Lindera benzoin	6
Blackberry	Rubus occidentalis	6
Servilletto	Amelanchier spp.	6
TOTAL		60

AFFORESTATION EASEMENT #3
 ACREAGE OF PLANTING: 0.21 Acres x 350 whips/acre = 74 whips required.

SPECIES LIST:

SPECIES	24"	WHIPS
Black Cherry	24"	5
Sassafras	Sassafras albidum	5
Red Maple	Acer rubrum	5
Tulip Poplar	Liriodendron tulipifera	5
DOGWOOD	40"	5
White Oak	Quercus alba	7
UNDERSTORY		7
Wild Hazelnut	Corylus americana	7
Spice Bush	Lindera benzoin	7
Blackberry	Rubus occidentalis	7
Servilletto	Amelanchier spp.	7
TOTAL		74

ON-SITE FOREST CONSERVATION EASEMENT NOTE

The Forest Conservation Easements shown herein have been established to fulfill the requirements of Section 16.1200 of the Howard County Subdivision and Land Development Regulations, Forest Conservation Act. No clearing, grading or construction is permitted within the forest conservation easements. Any unauthorized activities that result in additional clearing, or that affect proposed planting/retention areas shown on the forest conservation plan may result in a request for recalculation of forest conservation requirements and designation of additional planting/retention areas if needed to meet the obligations of the Forest Conservation Program. Any future subdivision, development, or change in land use may be subject to additional requirements of the Howard County Forest Conservation Program.

- No clearing below the Minimum. If existing forests are less than the afforestation minimum (if B is less than C) and no clearing is proposed, the following calculations apply: Total afforestation required = 0.38. Afforestation must make total forest area equal the minimum required.
- NOTE:** THIS WORKSHEET IS A REFINEMENT OF THE WORKSHEET APPROVED BY RESOLUTION 48. THIS WORKSHEET MUST ACCOMPANY ALL FOREST STAND DELINEATION AND FOREST CONSERVATION PLAN SUBMISSIONS.
- (Worksheet corrected 1/00, there is no "C" in Section "IV" or "B" in Section "V.") FOREST CONSERVATION OBLIGATION: 0.37 AC. ON-SITE RETENTION: 0.38 AC. ON-SITE FOREST CONSERVATION PROVIDED: 0.75 AC. TOTAL ACREAGE OF 100 YEAR FLOODPLAIN, BRANCH AND UTILITY EASEMENTS IS 0.0000 ACRES. RECORDING REFERENCE FOR AMENDED SUBDIVISION PLAN:
- GENERAL NOTES:**
 - The number of trees in the existing woods exceeds the 100 stem per acre threshold as defined in the Forest Conservation Manual.
 - These perpetual forest easements are established in accordance with the Howard County Forest Conservation Manual (FCM), as specifically set forth in the terms of the recorded FCM easement.
 - Super Silt Fence protective fencing and signage to be installed at the perimeter of forest preservation areas as shown on plan and inspected during the period of construction.
 - Tree protection signs @ 100' o.c., with Super Silt Fence adjacent to 100 year flood plain, drainage and utility easement shall be installed as shown on plan and inspected prior to any grading or disturbance activities on-site.
 - A forest conservation easement will be placed around each forest preservation area and a deed of easement will be recorded specifying long-term protection for the area.
 - The owner will execute a forest public works agreement for each section as development occurs.
 - As each section is developed, a preconstruction meeting is to be arranged as follows: After the boundaries of the limits of disturbance have been staked and flagged and the forest protection devices have been installed, and before any disturbance has taken place on site, a pre-construction meeting at the construction site shall take place. The developer, contractor or project manager, and appropriate local inspectors should attend. The purpose of this meeting will be to:
 - Identify the locations of the forest retention areas, specimen trees, limits of construction, employee parking areas, and equipment staging areas on site plans.
 - Inspect all flagged boundaries, protection devices, and Sediment and Erosion control devices on site.
 - Make all necessary adjustments.
 - Assign responsibilities as appropriate and discuss penalties.
 - This plan sheet is to show the on site forest retention, afforestation, easement area and location of signs only.
 - All contractors performing work on this site shall notify "Miss Utility" 48 hours prior to any construction or grading by calling 1-800-257-7777 for the location of all utilities.
 - The contractors performing work on the site are responsible for protecting existing native & noninvasive plantings during construction.
 - All planting, pruning, and maintenance shall be according to the National Arborist Standards and the Howard County Forest Conservation Manual, latest edition.

ON-SITE RETENTION	0.37 AC. = 16,118 S.F. x \$0.20 = \$ 3,224.00
ON-SITE AFFORESTATION	0.38 AC. = 16,553 S.F. x \$0.50 = \$ 8,277.00
TOTAL SURETY	\$11,501.00

 Surely in the amount of \$11,501.00 has been posted as part of the Developer's Agreement for the 0.75 acre of forest conservation afforestation and retention easement shown on this plan and recorded on plat.

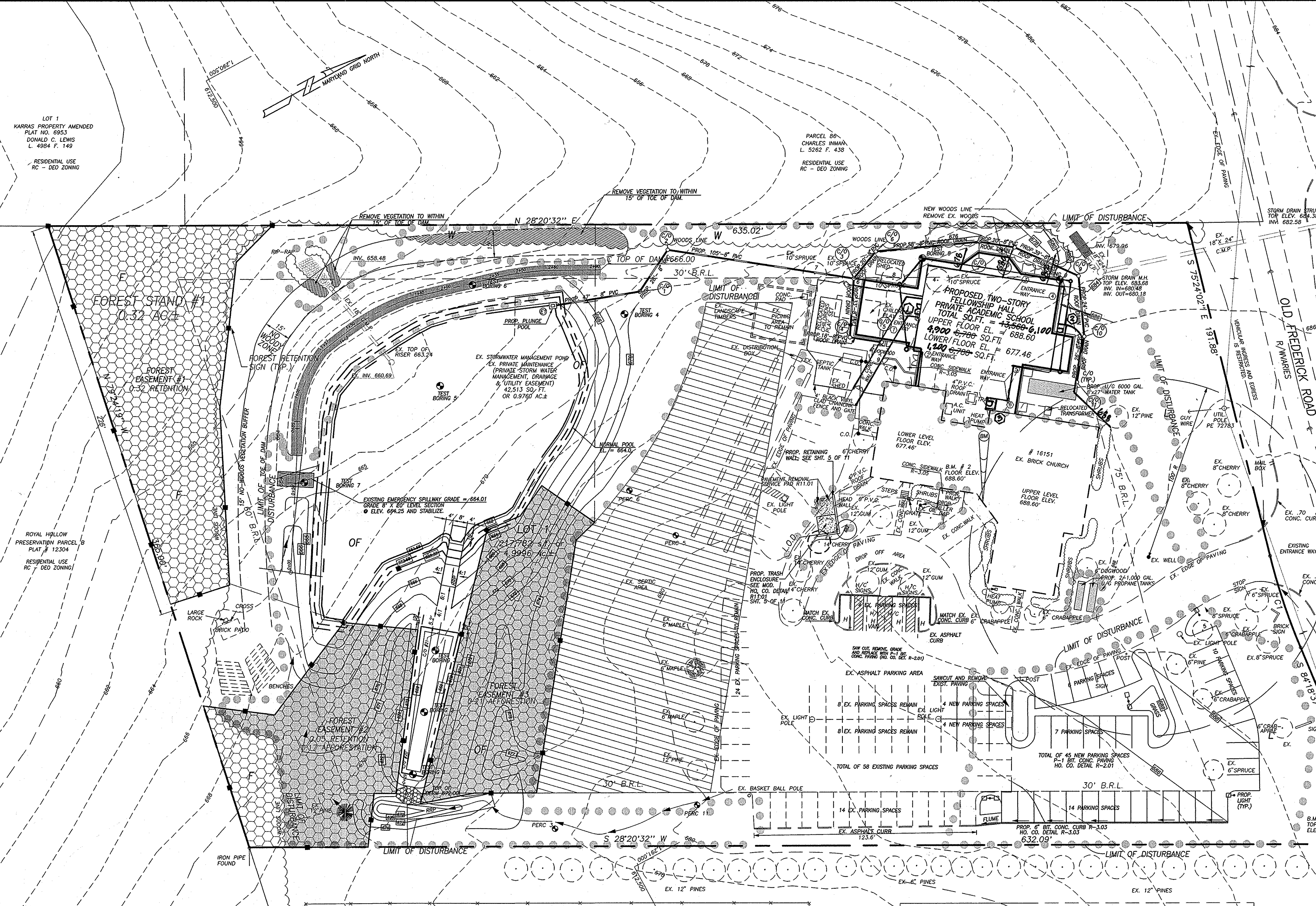
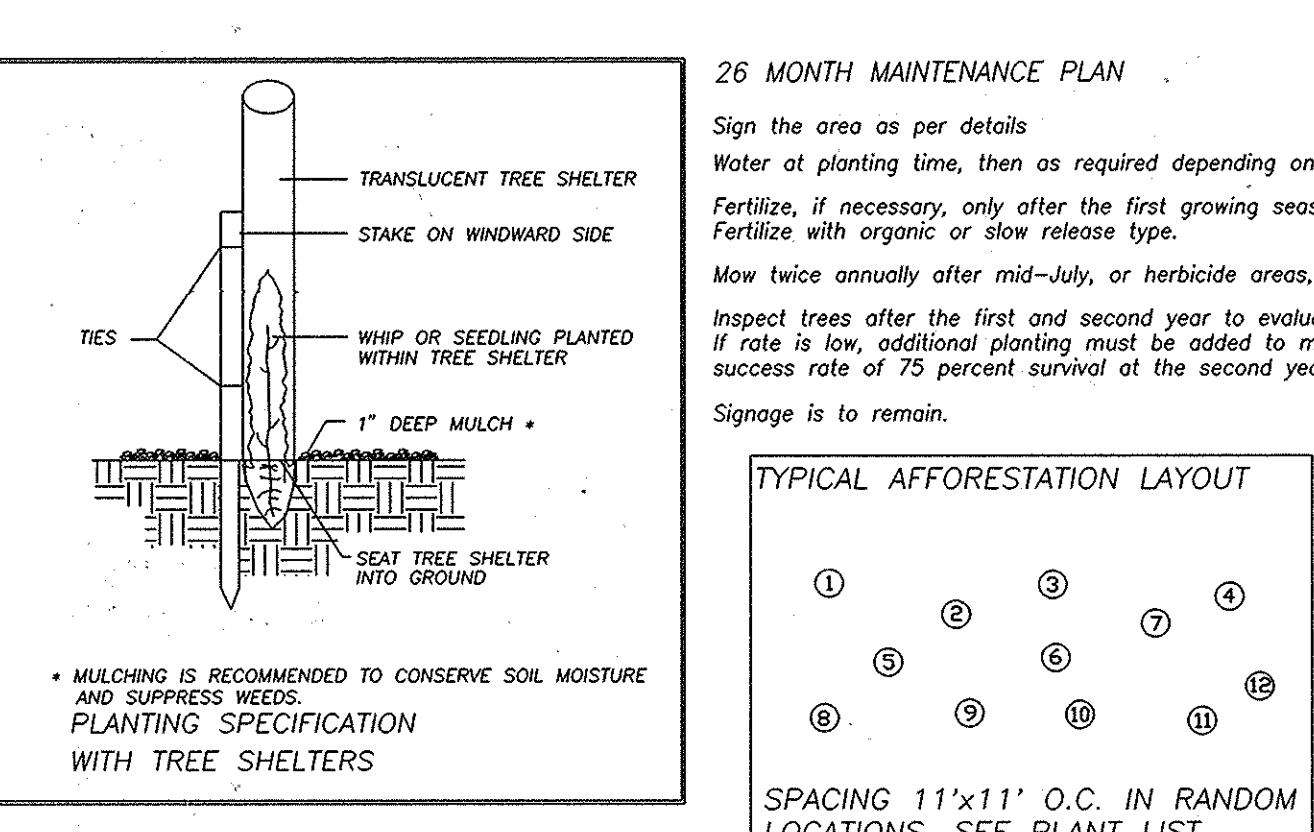
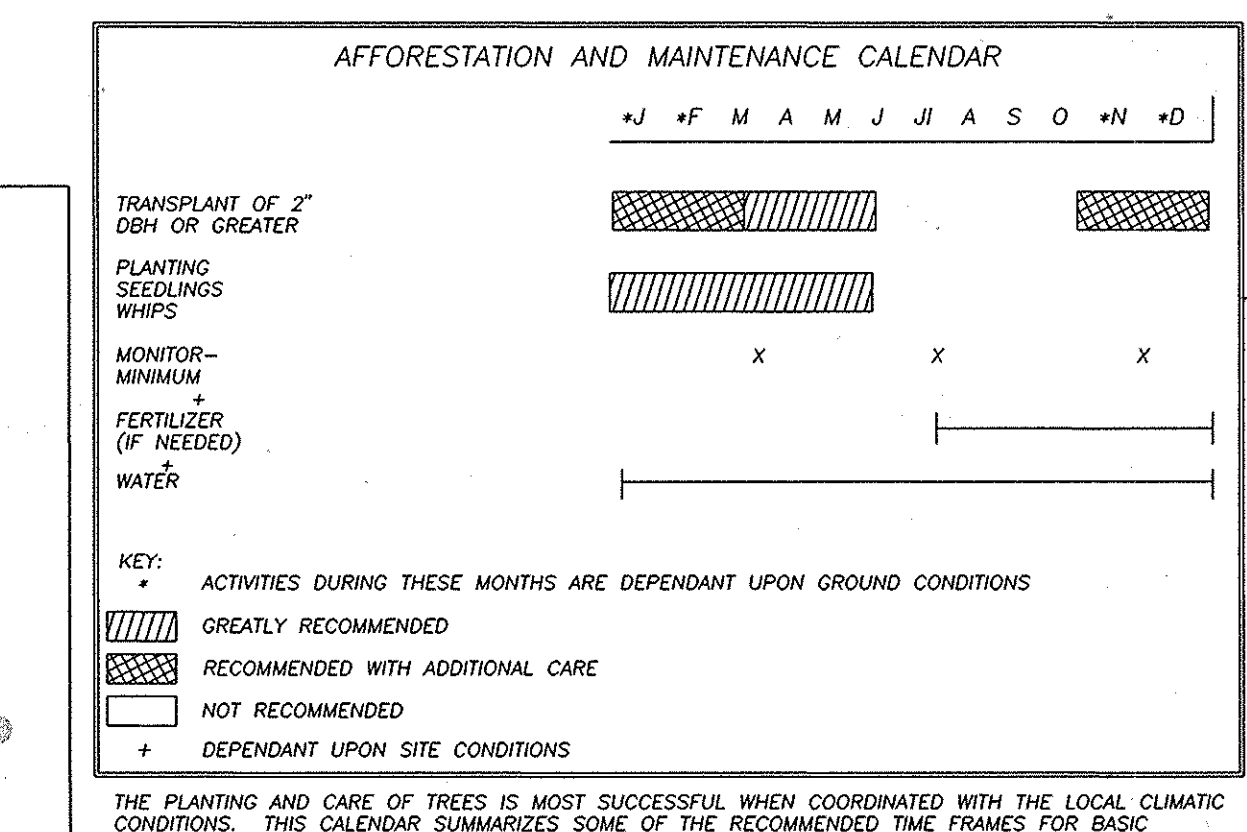
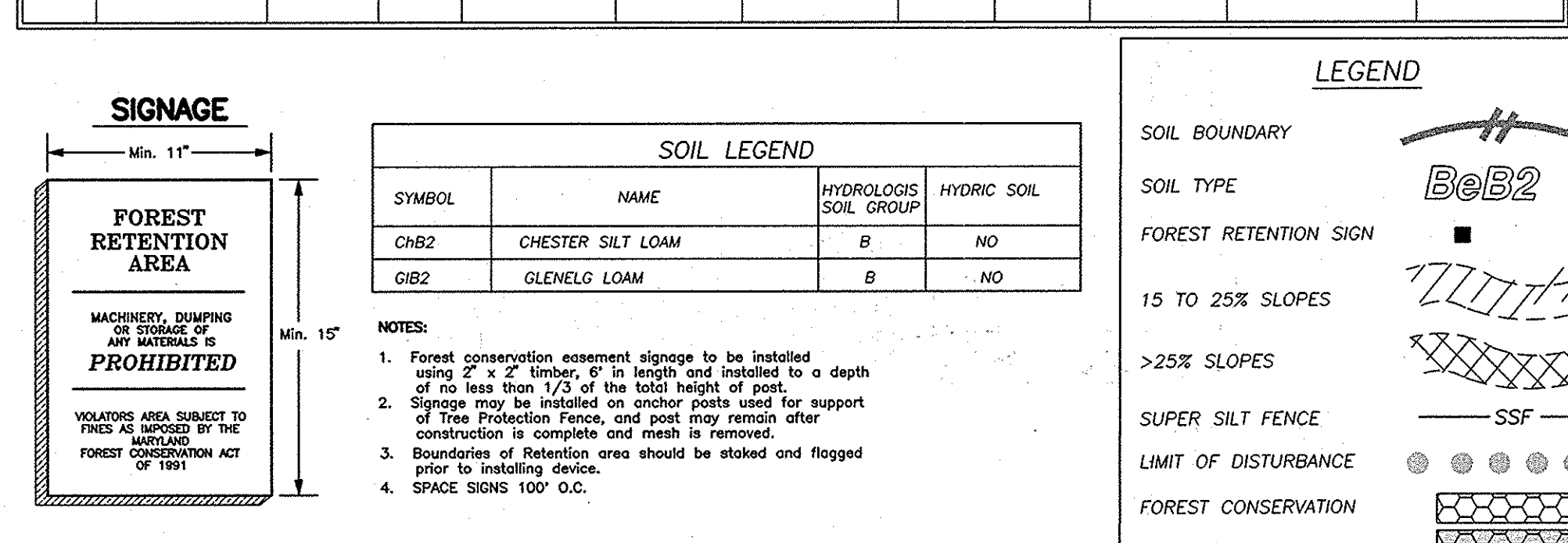


EXHIBIT 3-2 FOREST STAND ANALYSIS TABLE
 Applicant: Calvary Lutheran Church Project Name: Calvary Lutheran Church

KEY	A. TYPE OF COMMUNITY	B. AREA (1/10 Acre)	C. SOIL INFORMATION**	D. EXISTING VEGETATION (Dominant Species and Approx. %)	E. STAND CHARACTERISTICS (1. Size (Diam) 2. Age 3. General Conditions)	F. FOREST AREA IN SENSITIVE ENVIRONMENTS (Acres)	G. HABITAT VALUE
F	CHESTNUT OAK	0.38 AC.	Ch HARDWOOD	30 OAK	16-18" 10-15 YR. GOOD	NONE	GOOD



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.

HOWARD COUNTY HEALTH DEPARTMENT

Penny Brantner, M.D., F.S. 10-2-03
 HOWARD COUNTY HEALTH OFFICER - JAB DATE

APPROVED:

DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division 9/2/09
 DATE

Chief, Division of Land Development 10/5/09
 DATE

Director 10/3/10
 DATE

FOREST CONSERVATION PLAN
CALVARY LUTHERAN CHURCH
 CONNECTICUT ASPEN, INC. PROPERTY; LOT 1
 PLAT C.M.P. NO. 4795
 TAX MAP: 7; PARCEL: 92; EX. ZONING: RC-DEO
 SITUATED ON OLD FREDERICK ROAD
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: 1"=30' FEBRUARY, 2002

VANMAR ASSOCIATES, INC.
 Surveyors, Planners
 310 South Main Street P.O. Box 328 Mount Airy, Maryland 21771
 (301) 829-2999 (301)551-5015 (410) 549-2751