

**GENERAL NOTES**  
SCALE: 1"=1000'

- BEFORE THE START OF CONSTRUCTION, THE CONTRACTOR IS TO VERIFY THE LOCATION OF EXISTING UTILITIES BY CONTACTING "MISS UTILITY" (1-800-257-7777).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO AND MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
- WHERE REQUIRED BY ENCOUNTERED SPRINGS OR OTHER SEEPAGE CONDITIONS, UNDERDRAIN LINES SHALL BE INSTALLED USING 8-INCH DIAMETER PERFORATED UNDERDRAIN PIPE MEETING HOWARD COUNTY STANDARD SPECIFICATIONS.
- ALL DISTURBED AREAS AS A RESULT OF ROADWAYS AND STORM DRAIN CONSTRUCTION SHALL BE SEEDED AND MULCHED WITHIN FOURTEEN (14) DAYS AFTER COMPLETION.
- THE CHURCH AND ADDITION WERE CONSTRUCTED PRIOR TO THE 1977 ZONING REGULATIONS WHICH ESTABLISHED THE SPECIAL EXCEPTION FOR RELIGIOUS FACILITIES. THEREFORE, THE CHURCH IS A NON-CONFORMING USE. NO PREVIOUS SITE DEVELOPMENT PLANS EXIST FOR THE SITE.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL THAT IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NO. GIS 42 WAS USED FOR THIS PROJECT.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- WATER IS PRIVATE.
- SEWER IS PRIVATE.
- WATER QUALITY ON THE SITE IS PROVIDED BY A BIORETENTION FACILITY. THE FACILITY IS PRIVATE AND WILL BE MAINTAINED BY THE OWNER.
- THE EXISTING UTILITIES ARE BASED ON FIELD RUN TOPOGRAPHY. THE LOCATION AND ELEVATION OF ALL UTILITIES SHALL BE TEST PITTED PRIOR TO CONSTRUCTION.
- THE HANDICAP ACCESSIBLE ENTRANCE FOR THE PROPOSED ADDITION IS LOCATED TO THE SOUTHWEST OF THE PROPOSED ADDITION MAIN ENTRANCE.
- THERE ARE NO WETLANDS WITHIN THE CURRENTLY PROPOSED DEVELOPMENT ENVELOPE OF THE SITE.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY TRAFFIC CONCEPTS, INC., DATED NOVEMBER, 2002, AND WAS APPROVED ON 12-5-02.
- THIS SITE PETITIONED FOR A CONDITIONAL USE IN CASES BA-99-07E AND BA-01-83C. BA-01-83C IS THE MORE CURRENT PETITION AND WAS A REQUEST TO EXPAND THE EXISTING RELIGIOUS FACILITY AND FOR A "NON-PROFIT NURSERY SCHOOL (PRESCHOOL)" (ZONING CODE SECTIONS 131.N.13 AND 131.N.38). THE DECISION AND ORDER WAS SIGNED ON MAY 21, 2002. APPROVAL WAS GRANTED SUBJECT TO THE THREE CONDITIONS AS FOLLOWS:
  - THE CONDITIONAL USE SHALL APPLY ONLY TO THE RELIGIOUS FACILITY AND AS DESCRIBED IN THE PETITION AND AND AS DEPICTED ON THE PLAN SUBMITTED ON OCTOBER 31, 2001, OR AS MAY BE REVISED BY THE BOARD, AND NOT TO ANY OTHER ACTIVITIES, USES, OR STRUCTURES ON THE PROPERTY.
  - THE HOURS OF OPERATION OF THE SCHOOL SHALL BE LIMITED TO 9:00 AM TO 3:00 PM MONDAY THROUGH FRIDAY.
  - ANY ADDITIONAL OUTDOOR LIGHTING SHALL BE SHIELDED AND DIRECTED SO THAT IT DOES NOT ILLUMINATE ADJACENT RESIDENTIAL PROPERTIES, NOR PRODUCE GLEARE IN ANY DIRECTION.
- A LANDSCAPE SURETY IN THE AMOUNT OF \$5,370 WILL BE INCLUDED WITH THE DEVELOPER'S AGREEMENT.
- THE FOREST CONSERVATION SURETY FOR THE PROJECT IS \$11,857, BASED ON 1.56 ACRES OF RETENTION (THE FOREST CONSERVATION BREAK EVEN POINT). \$46,000 OF THE PETITIONER SHALL IMPROVE ENTRANCE DRIVEWAYS AS REQUIRED BY THE STATE HIGHWAY ADMINISTRATION. THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE & COUNTY LAWS AND REGULATIONS.

**SITE ANALYSIS DATA CHART**

- TOTAL PROJECT AREA: 6.59 ACRES
- AREA OF PLAN SUBMISSION: 0.503 ACRES
- LIMIT OF DISTURBED AREA: 0.503 ACRES
- ZONING: RR-DEO
- PROPOSED USE(S): NON-PROFIT NURSERY SCHOOL (PRESCHOOL)
- ADDITIONAL FLOOR SPACE: 6480 S.F. (EACH OF 2 STORIES)
- REQUIRED PARKING: 1 SPACE PER 3 SANCTUARY SEATS (86 SPACES FOR 259 SEATS)
- PROVIDED PARKING: 86 SPACES, 4 HANDICAPPED
- EXISTING BUILDING COVERAGE: 9000 S.F.
- PROPOSED BUILDING COVERAGE: 15480 S.F.
- APPLICABLE DPZ FILE REFERENCES: BA-01-63C, BA-09-07E

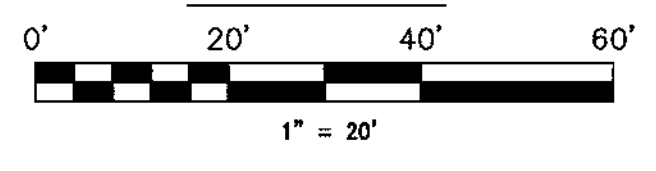
**INDEX OF DRAWINGS**

SHT. NO.	DESCRIPTION
1	SITE PLAN
2	DETAIL SHEET
3	SEDIMENT CONTROL PLAN
4	SEDIMENT CONTROL NOTES AND DETAILS
5	STORMWATER MANAGEMENT PLAN
6	STORMWATER MANAGEMENT PROFILES AND DETAILS
7	SEPTIC PLAN
8	LANDSCAPING PLAN
9	LANDSCAPING DETAILS
10	FOREST CONSERVATION PLAN

**NOTES:**

- THE EXISTING FEATURES WITHIN THE DEVELOPMENT ENVELOPE ON THIS DRAWING WERE GENERATED FROM CNA FIELD TOPOGRAPHY OBTAINED 12/2001. AREAS OUTSIDE THE DEVELOPMENT ENVELOPE HAVE BEEN TIED IN WITH 1993 HOWARD COUNTY AERIAL TOPOGRAPHY.
- BOUNDARY INFORMATION IS BASED ON DEED 503/575.

**SITE PLAN**



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* 10/8/03  
 Chief, Division of Land Development: *[Signature]* 2/25/04  
 Director (CNA): *[Signature]* 3/1/04

APPROVED: FOR PRIVATE WATER AND SEWERAGE SYSTEMS  
 County Health Officer: *[Signature]* 10-10-03  
 Howard County Health Department: *[Signature]*

CONSULTING ENGINEER

**CNA**  
campbell & nolan associates, inc.

CAMPBELL & NOLAN ASSOCIATES, INC.  
 Civil Engineers • Land Surveyors • Landscape Architects  
 Planners • Geotechnical Engineers • Environmental Engineers  
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 (410)879-7200 • (410)838-2784 • Fax (410)838-1811  
 E-mail: cnamail@campbell-nolan.com

OWNER/DEVELOPER

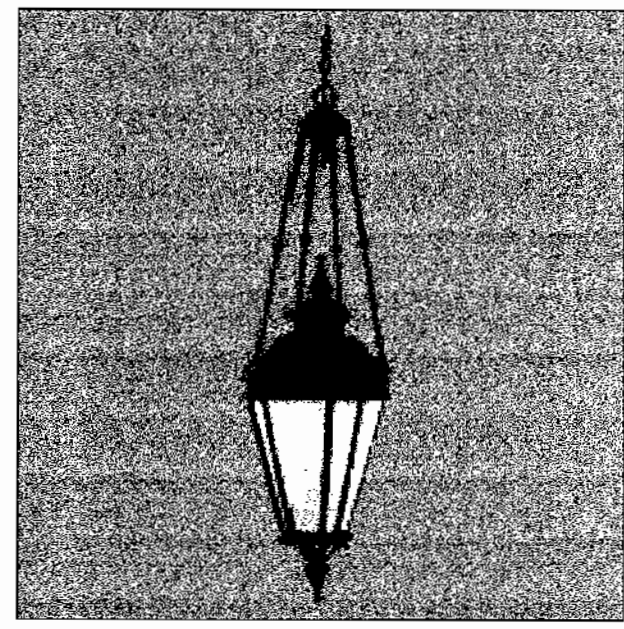
SAINT JAMES UNITED METHODIST CHURCH  
 C/O ROBERT GRIM  
 P.O. BOX 9  
 WEST FRIENDSHIP, MARYLAND 21794  
 PHONE: 410-489-7455

SAINT JAMES UNITED METHODIST CHURCH (BUILDING ADDITION)  
 SITE DEVELOPMENT PLANS  
 SITE PLAN

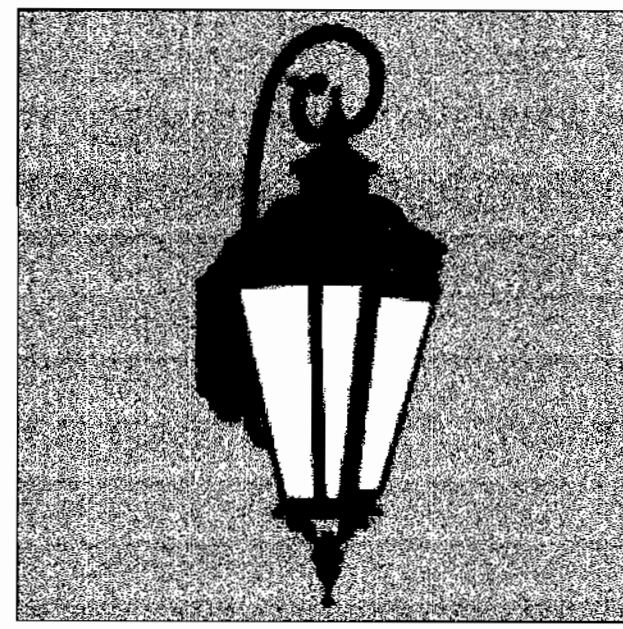
DESIGNED BY: J.P.D.	SCALE AS SHOWN	TAX MAP 9	A.D.C. MAP 5	JOB # 01153	SHEET 1
DRAWN BY: P.F.N.	DEED REF. 503/575	PARCEL 138	GRID D-13	FILES N:\Design\01000\01153\SITE\01153sheet1.dwg	NO. OF 10
CHECKED BY: J.P.D.					

THIRD ELECTION DISTRICT: HOWARD COUNTY, MARYLAND  
 DRAWING COMPLETED: 4-24-03

SDP.03.70

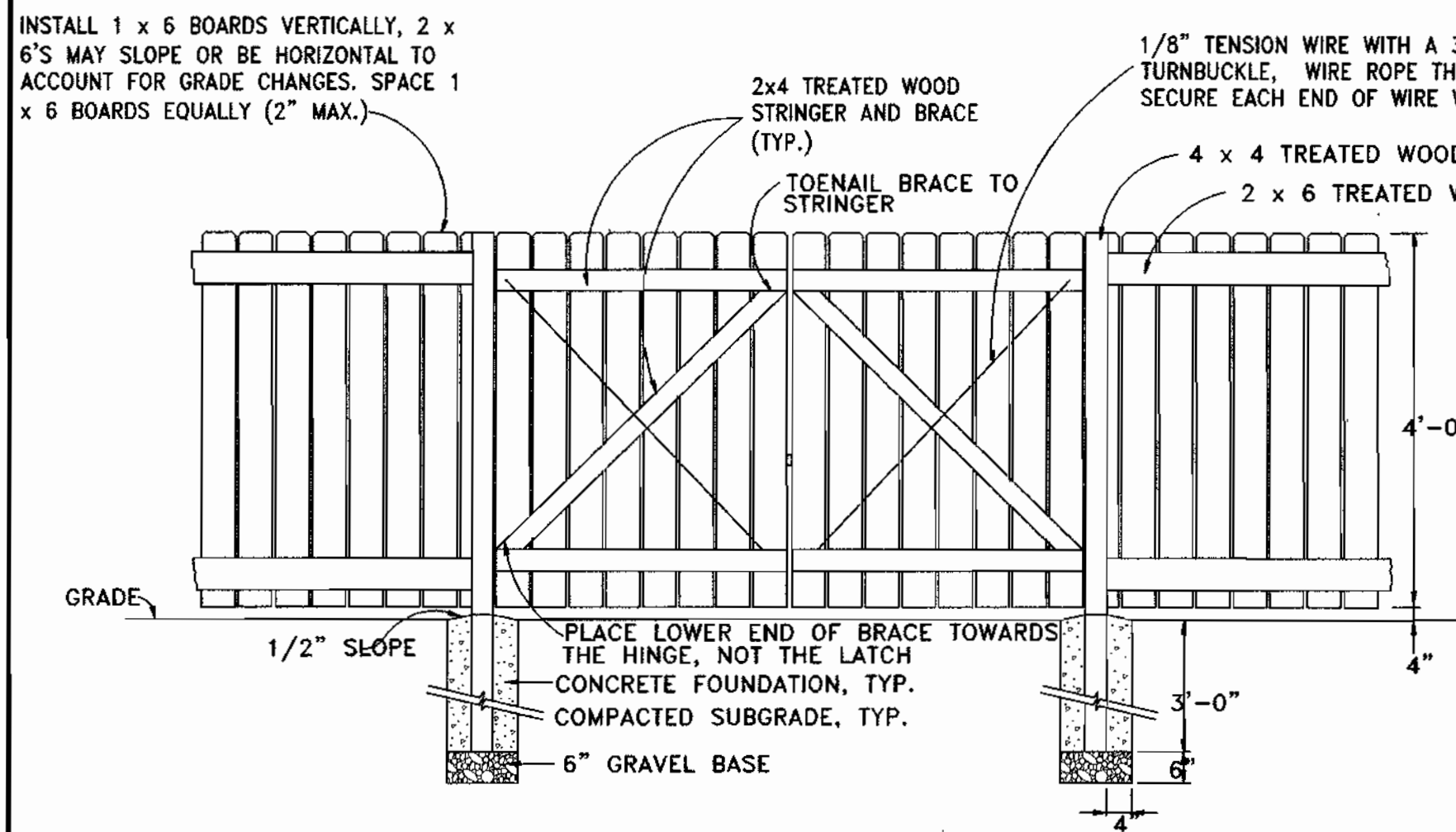


Category: Outdoor  
 Description: Georgian Collection four-light chain hung lantern with white art glass.  
 Finish: Gilded Iron  
 Glass: White Art  
 Width/Diameter: 12"  
 Height: 47"  
 Overall Length: 85"  
 Wire Length: 10"  
 Depth Extension: N/A  
 Lamp Quantity: Four  
 Lamp Type: B-10  
 Lamp Wattage: 60W  
 Intensity: 4200 Lumens  
 (TYPE A)



Category: Outdoor  
 Description: Georgian Collection three-light wall lantern with white art glass.  
 Finish: Gilded Iron  
 Glass: White Art  
 Notes: H/CTR 15-3/8"  
 Width/Diameter: 10"  
 Height: 29"  
 Overall Length: N/A  
 Wire Length: N/A  
 Depth Extension: 12-5/8"  
 Lamp Quantity: Three  
 Lamp Type: B-10  
 Lamp Wattage: 60W  
 Intensity: 3100 Lumens  
 (TYPE B)

LIGHTING DETAIL  
 NOT TO SCALE



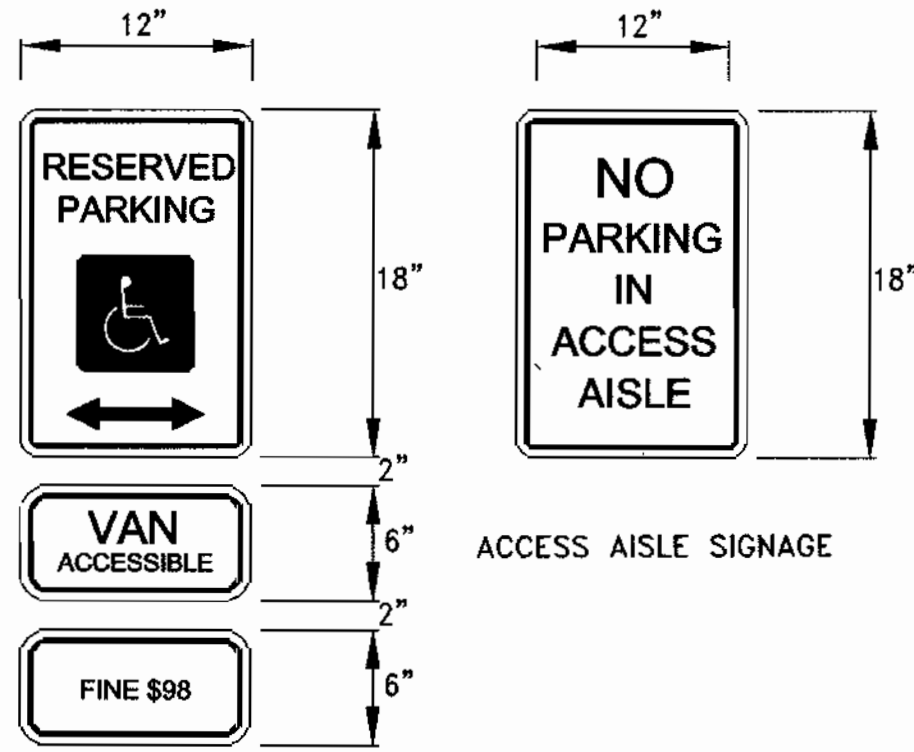
INSIDE VIEW  
 FENCE DETAIL  
 NOT TO SCALE

GENERAL NOTES

1). THE CONTRACTOR IS TO NOTIFY MISS UTILITY 48 HRS PRIOR TO THE START OF CONSTRUCTION AT 800-257-7777.

WORK WITHIN SHA RIGHT-OF-WAY

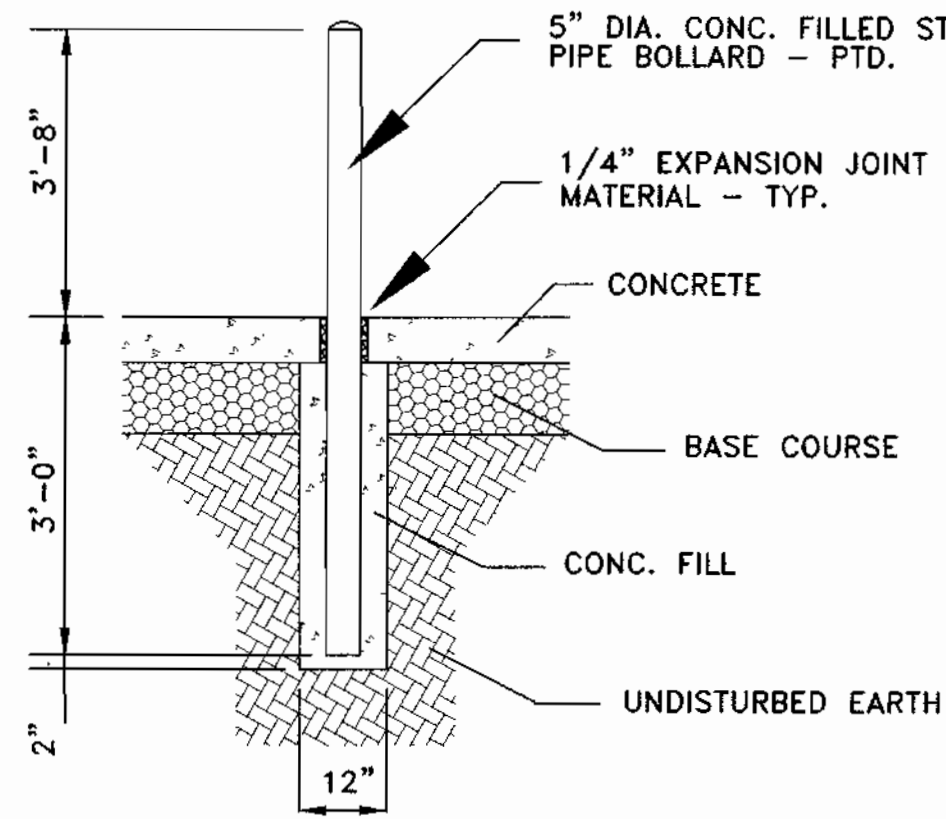
REFER TO THE MARYLAND STATE HIGHWAY ADMINISTRATION ACCESS PERMIT FOR THE PROJECT REQUIREMENTS CONCERNING TRAFFIC CONTROL.



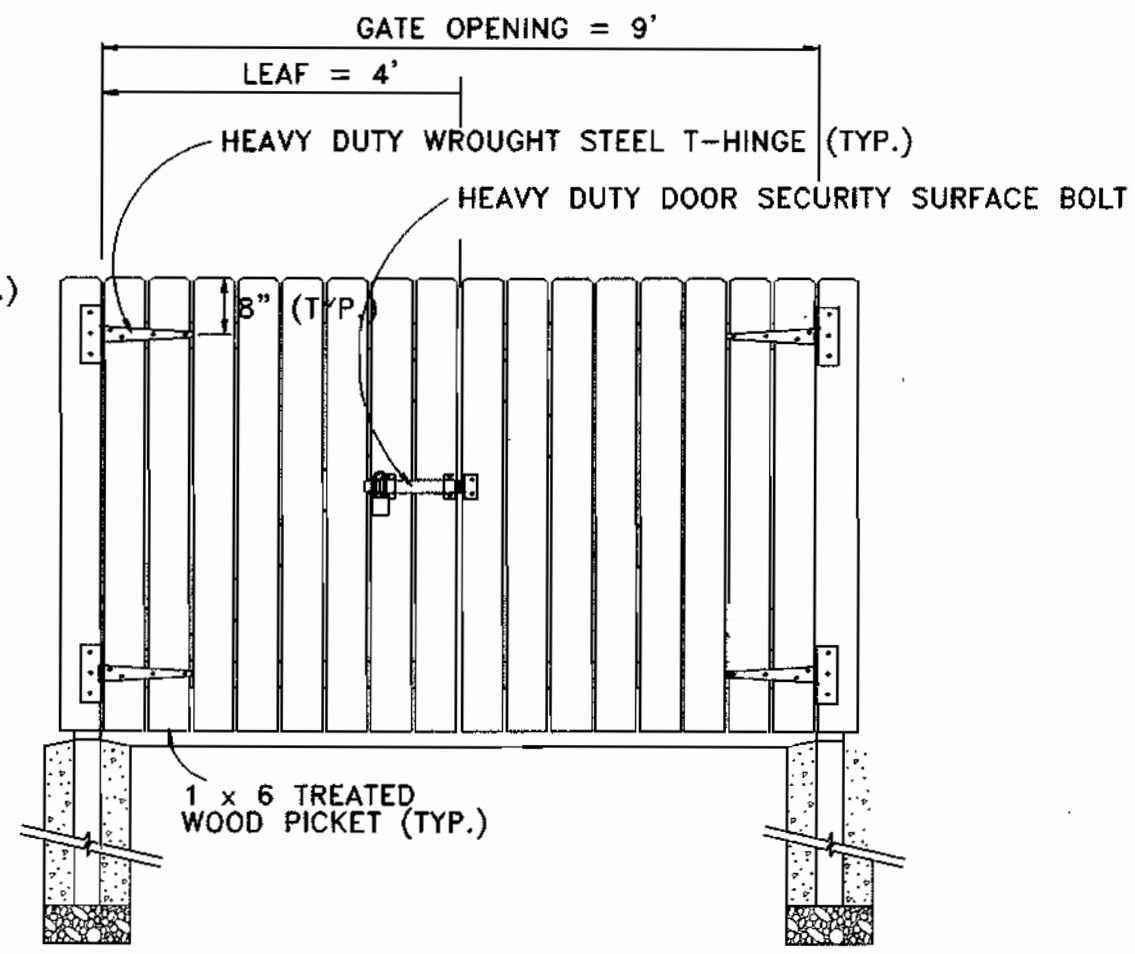
PARKING SPACE SIGNAGE

1. THE SIGNS SHALL BE MOUNTED WITH THE LOWEST A MINIMUM 7'-0" FROM THE GROUND.
2. THE DIMENSIONS OF THE LETTERING, LOGO AND COLORS ON THE SIGNS SHALL BE IN ACCORDANCE WITH THE MARYLAND ACCESSIBILITY CODE.

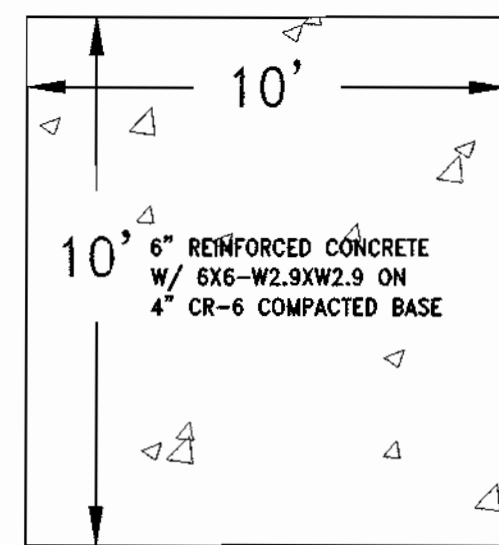
HANDICAP PARKING SIGNAGE  
 NOT TO SCALE



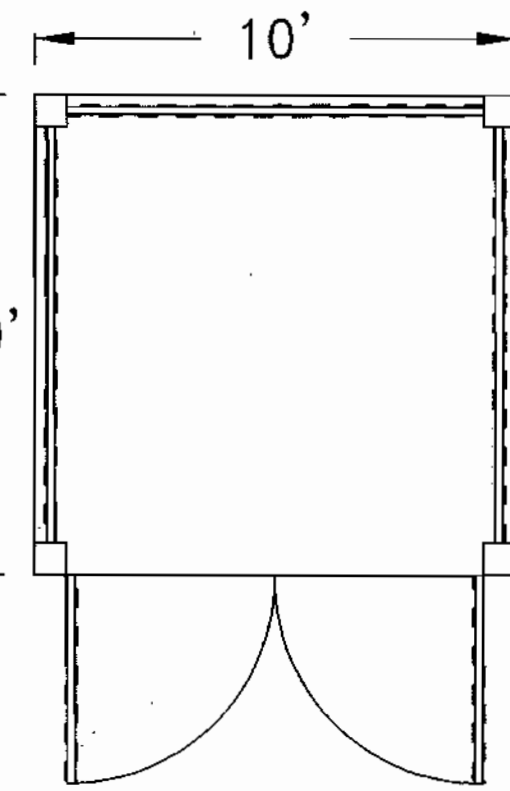
TYPICAL PIPE BOLLARD DETAIL  
 NOT TO SCALE



DUMPSTER PAD GATE DETAIL  
 NOT TO SCALE

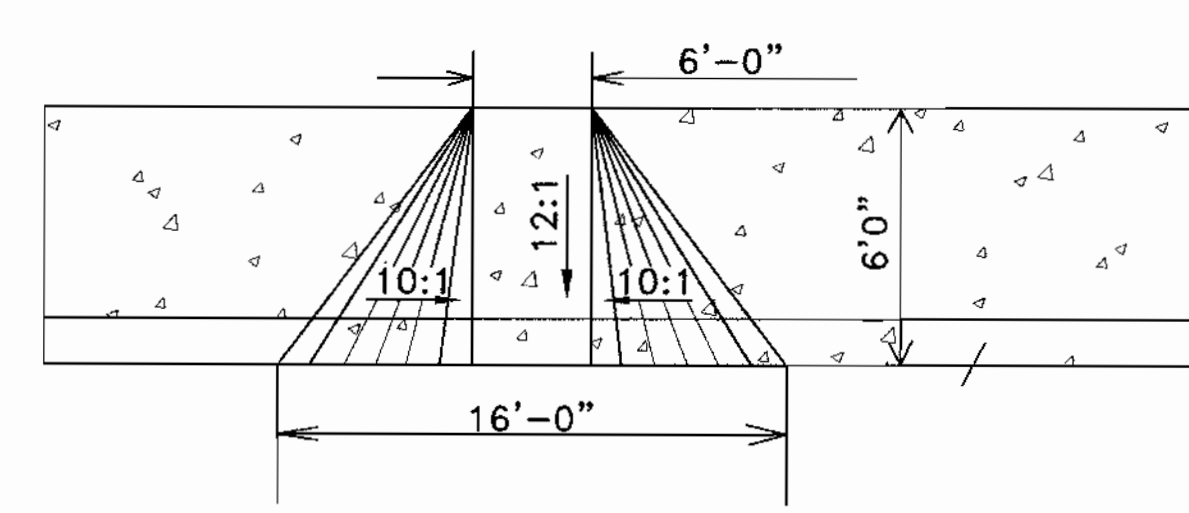


DUMPSTER PAD  
 NOT TO SCALE

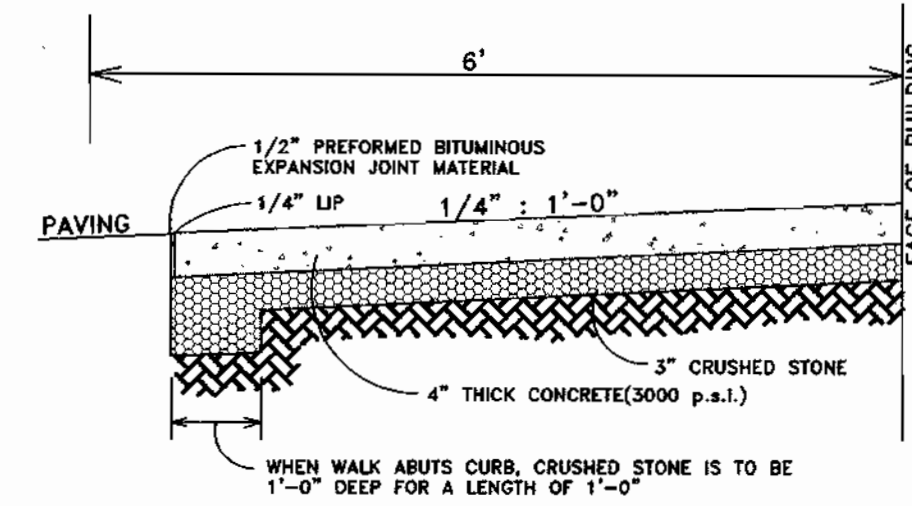


TRASH PAD / SCREENING DETAIL  
 NOT TO SCALE

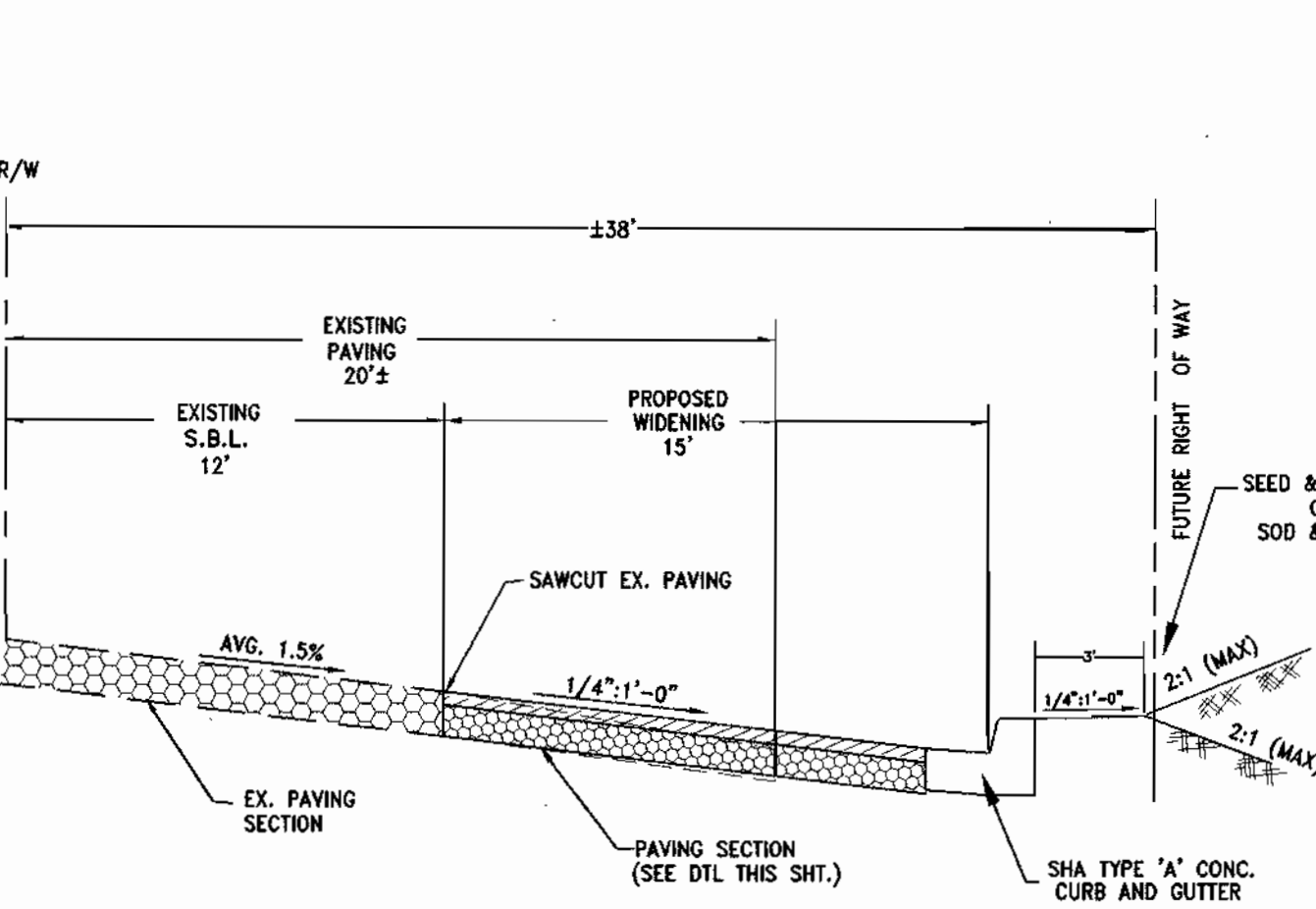
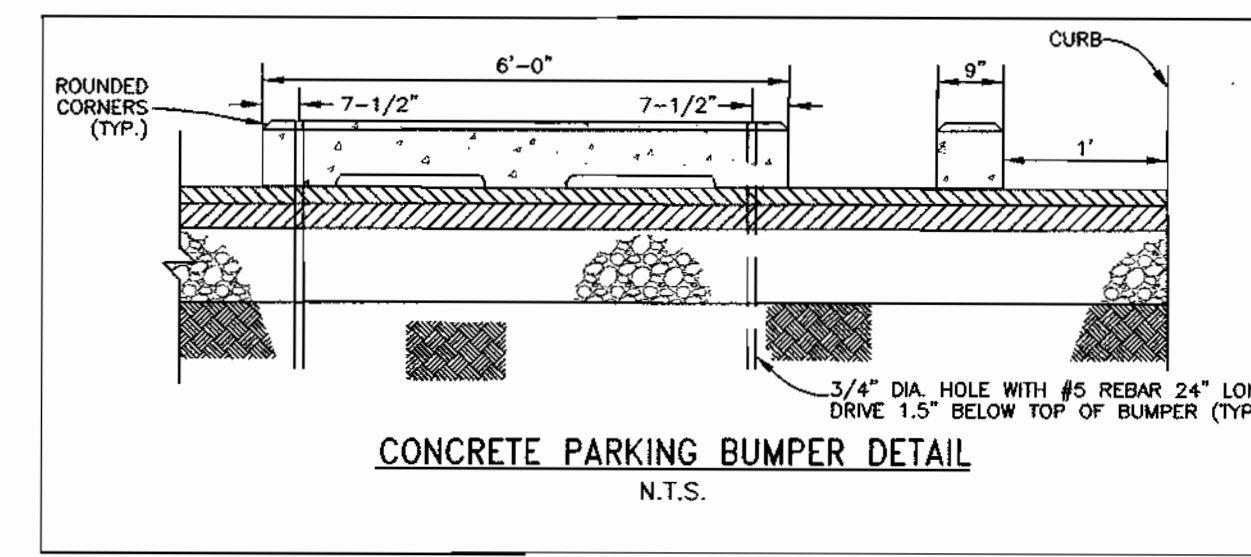
- CONSTRUCTION NOTES
1. CORNER/SUPPORT POSTS SHALL BE 4x4 TREATED TIMBER, WITH 2" BURY, 6" EXPOSED
  2. FORM & POUR CONCRETE PAD TO OUTSIDE OF POST; 4" THICK, 3000 PSI CONC.
  3. ALTERNATING BOARD FENCE AND GATES SHALL BE USED.
  4. ALL WOOD SHALL BE PRESSURE TREATED.
  5. ALL HARDWARE AND FASTENERS SHALL BE NON-CORROSIVE.
  6. ONE GATE MUST HAVE A THROW BOLT INTO CONC. PAD.
  7. A LATCH SHALL BE PROVIDED TO SECURE BOTH GATES TOGETHER.
  8. HINGES SHALL BE ADEQUATE TO SUPPORT THE WEIGHT OF THE GATE.



HANDICAP RAMP DETAIL  
 NOT TO SCALE

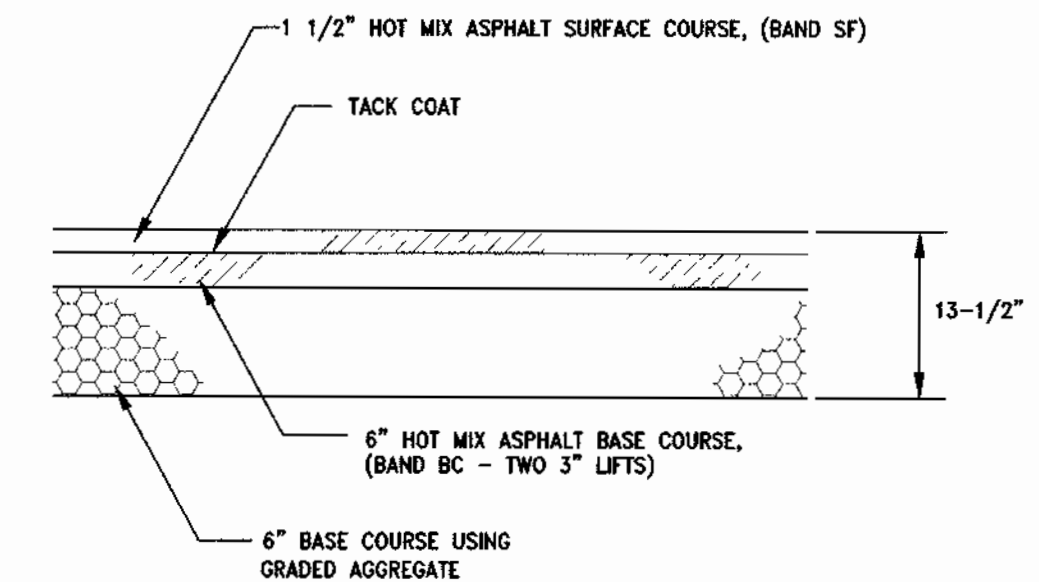


CONCRETE WALK AT BUILDING  
 NOT TO SCALE

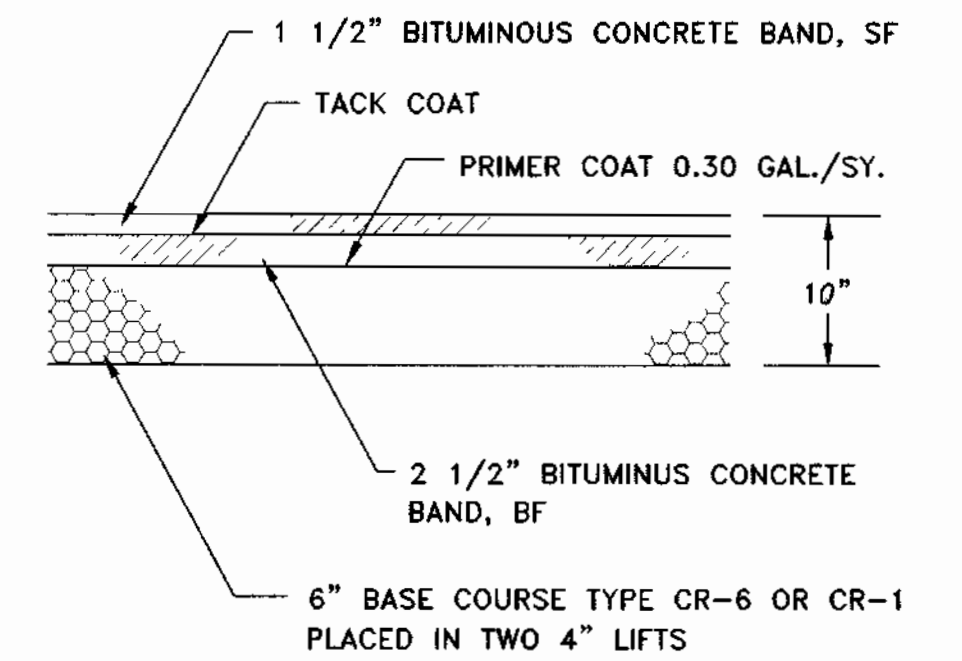


OPTIONAL SHA PAVING SECTIONS:

- a.) AS SHOWN
- b.) 1 1/2" HOT MIX ASPHALT SURFACE COURSE, (BAND SF)
- 6" HOT MIX ASPHALT BASE COURSE, (BAND BC)
- 7" BASE COURSE USING BANK RUN GRAVEL-BASE AGGREGATE PLACED IN TWO- 3" AND 4" LIFTS
- c.) 1 1/2" HOT MIX ASPHALT SURFACE COURSE, (BAND SF)
- 6" HOT MIX ASPHALT BASE COURSE, (BAND FC- TWO 3" LIFTS)
- 12" CAPPING BORROW

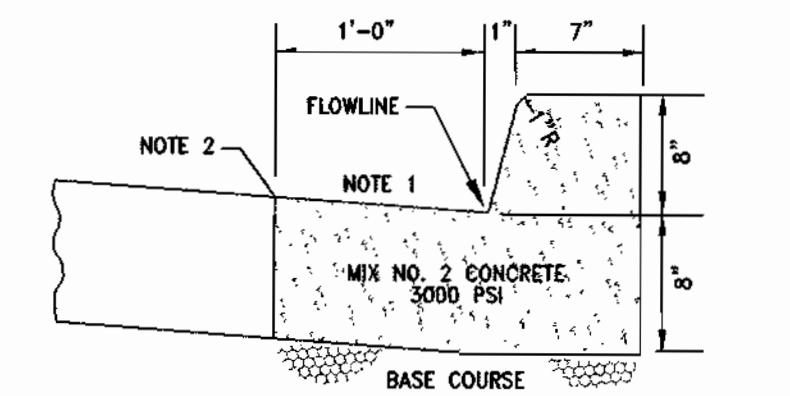


SHA STD. HEAVY DUTY PAVING SECTION  
 NOT TO SCALE



- NOTES:
1. THE SECOND LIFT SHALL BE LAID WITHIN TEN WORKING DAYS AFTER THE FIRST LIFT.

ON-SITE PAVING SECTION  
 NOT TO SCALE



- NOTES:
1. Slope gutter pan 1/2" per foot toward flow line
  2. Roadway pavement/gutter construction joint.
  3. 3000 psi Minimum Mix No. 2 concrete

STANDARD S.H.A. TYPE "A" CURB & GUTTER  
 NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING	Date
<i>[Signature]</i>	10/2/03
Chief, Development Engineering Division	Date
<i>[Signature]</i>	2/25/04
Chief, Division of Land Development	Date
<i>[Signature]</i>	3/1/04
Director	Date
APPROVED: FOR PRIVATE WATER AND SEWERAGE SYSTEMS	Date
<i>[Signature]</i>	10-10-03
County Health Officer	Date
Howard County Health Department	

CONSULTING ENGINEER

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 E-mail: cnamail@campbell-nolan.com

STATE OF MARYLAND

PROFESSIONAL ENGINEER

*[Signature]* 5.19.03

OWNER/DEVELOPER

SAINT JAMES UNITED METHODIST CHURCH  
 C/O ROBERT GRIMM  
 P.O. BOX 9  
 WEST FRIENDSHIP, MARYLAND 21794  
 PHONE: 410-489-7455

SAINT JAMES UNITED METHODIST CHURCH (BUILDING ADDITION) SITE DEVELOPMENT PLANS SITE PLAN DETAILS			
THIRD ELECTION DISTRICT	HOWARD COUNTY, MARYLAND	A.D.C. MAP	DATE
DESIGNED BY: J.P.D.	SCALE AS SHOWN	5	01153
DRAWN BY: P.F.N.	DEED REF. 503/575	PARCEL 138	GRID D-13
CHECKED BY: J.P.D.			
DRAWING COMPLETED 4-24-03		SHEET NO. 2 OF 10	



**LEGEND**

- 100 --- EXISTING CONTOUR
- EXISTING PAVED AREAS
- [ ] EXISTING BUILDING
- PROPOSED BUILDING
- 100 --- PROPOSED CONTOUR
- SF --- SF --- SILT FENCE
- ..... LIMIT OF DISTURBANCE

SITE ANALYSIS	
AREA DISTURBED:	0.69 AC.
AREA TO BE CLEARED:	0.03 AC.
AREA TO BE PAVED:	0.07 AC.
AREA TO BE VEGETATED:	0.48 AC.
BUILDING AREA:	0.14 AC.
TOPSOIL:	79 Cu. Yds.
SILT FENCE:	515 L.F.

NOTE: STATE HIGHWAY IMPROVEMENT SHALL BE SO AS ANY DISTURBED AREA ARE STABILIZED AT THE END OF EACH WORKING DAY.

NOTE: A STABILIZED CONSTRUCTION MAY BE REQUIRED AT THE SEDIMENT AND EROSION CONTROL INSPECTORS REQUEST. THE INSPECTOR MAY REQUEST ADDITIONAL CONTROLS DURING THE TIME OF CONSTRUCTION.

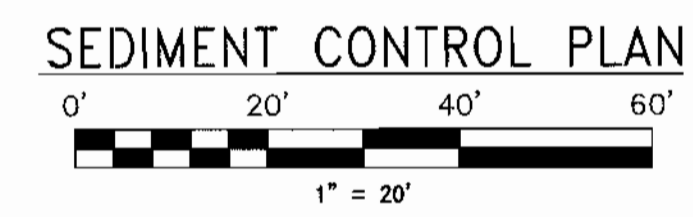
(MD. RTE. 99)

Reviewed for Howard SCD and meets Technical Requirements  
*Jim M. Neis* 9/29/03  
 USA - Natural Resources Conservation Service Date

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
*John K. Robertson* 9/29/03  
 USA - Natural Resources Conservation Service Date

**ENGINEER'S CERTIFICATE**  
 "I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
*Steph K. Nolan* 4-22-03  
 SIGNATURE OF ENGINEER (Print name below signature) DATE

**DEVELOPER'S CERTIFICATE**  
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*Robert Grim* 4-21-03  
 SIGNATURE OF DEVELOPER (Print name below signature) DATE



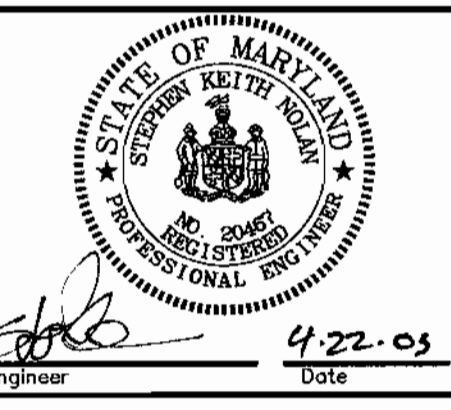
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Andy Hamilton* 10/2/03  
 Chief, Development Engineering Division Date  
*John Kelly* 7/25/04  
 Chief, Division of Land Development Date  
*John Kelly* 3/11/04  
 Director (Acting) Date

APPROVED: FOR PRIVATE WATER AND SEWERAGE SYSTEMS  
*Penny Brantley* 10-10-03  
 County Health Officer Date  
 Howard County Health Department

CONSULTING ENGINEER

**CNA**  
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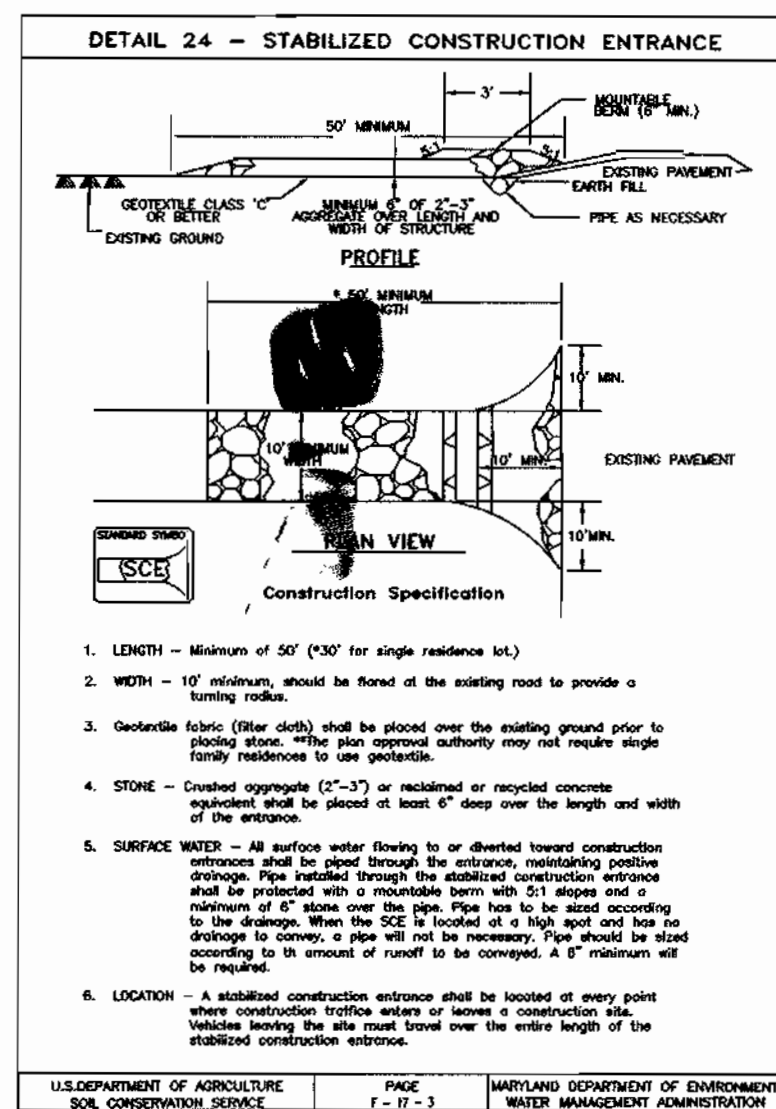
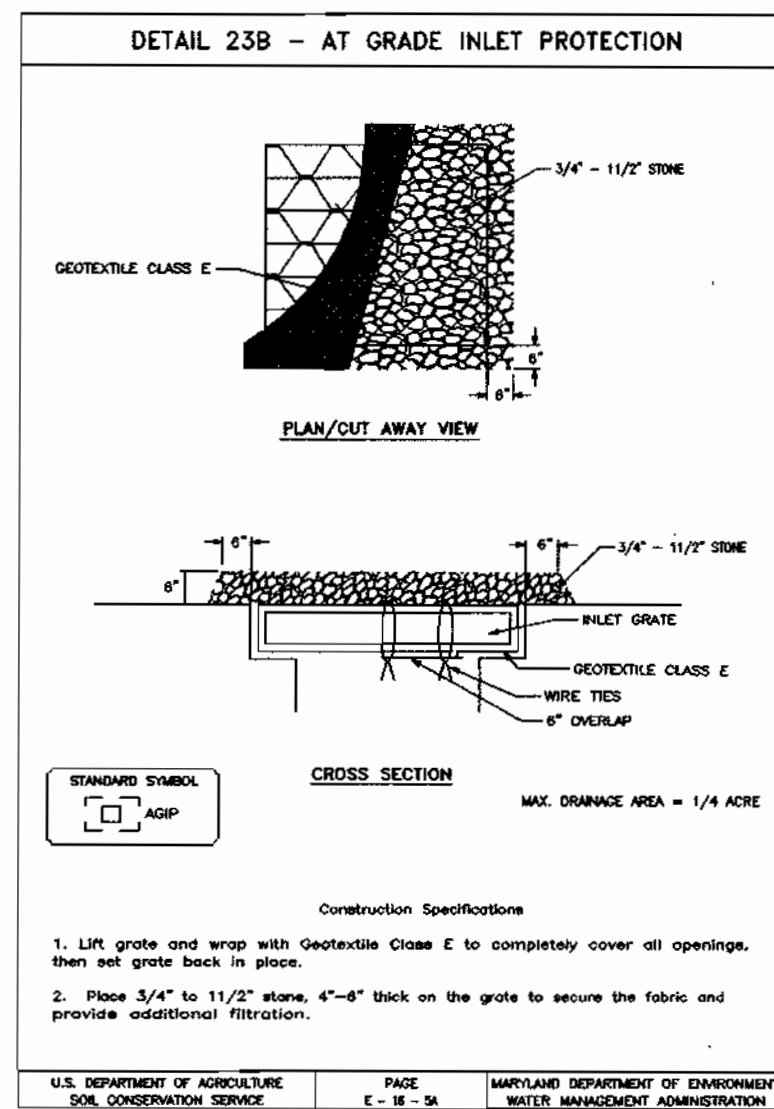
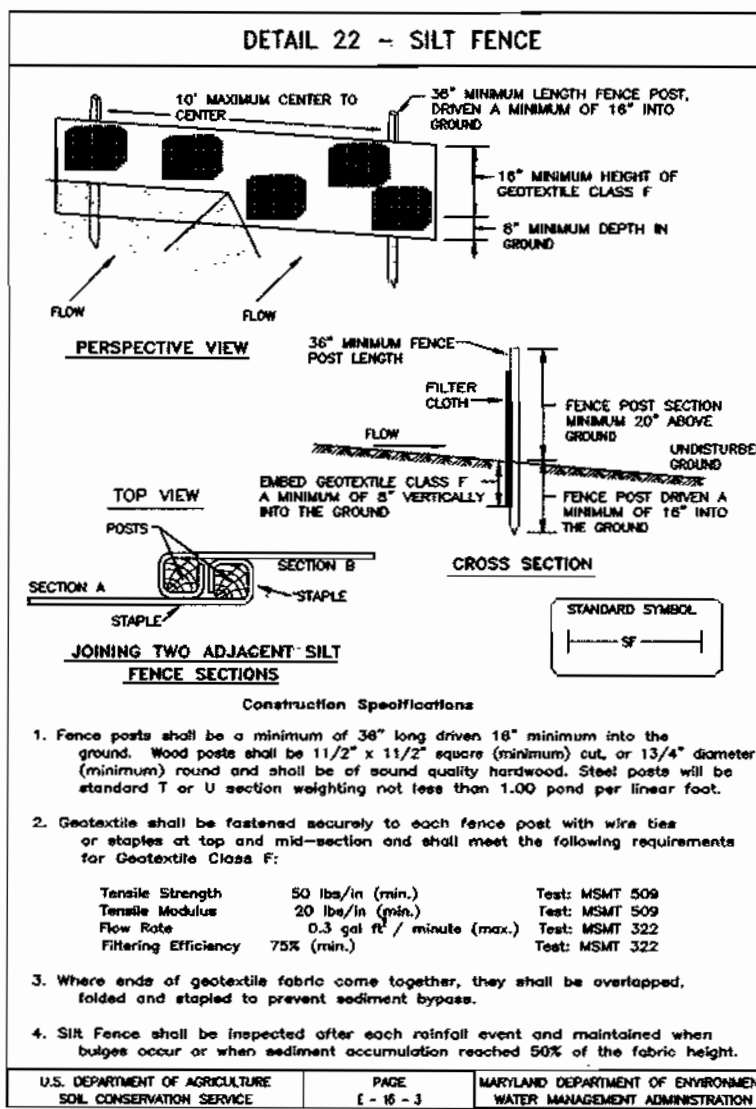


OWNER/DEVELOPER

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 C/O ROBERT GRIM  
 P.O. BOX 9  
 WEST FRIENDSHIP, MARYLAND 21794  
 PHONE: 410-489-7455

SAINT JAMES UNITED METHODIST CHURCH (BUILDING ADDITION) SITE DEVELOPMENT PLANS SEDIMENT CONTROL PLAN		THIRD ELECTION DISTRICT		HOWARD COUNTY, MARYLAND	
DESIGNED BY:	J.P.D.	SCALE	TAX MAP	A.D.C. MAP	JOB #
DRAWN BY:	P.F.N.	AS SHOWN	9	5	01153
CHECKED BY:	J.P.D.	DEED REF.	PARCEL	GRID	FILES
		503/575	138	D-13	NA\Design\01000\01153\SEC\01153secn13.dwg
					NO. 3
					OF 10

SDP.03.70



**SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT**

**Site Preparation**

1. Stabilize as per Standard Responsibility Note #3.
2. Temporary perimeter dikes and silt traps; etc., are to be provided as per this plan prior to grading operations with location adjustments to be made in the field as necessary and to be maintained at the end of the working day. The minimum area practical shall be disturbed for the minimum amount of time possible.
3. Permanent Seeding:
  - A. Seedbed Preparation: Area to be seeded shall be loose and friable to a depth of at least 3 inches. The top layer shall be loosened by raking, discing or other acceptable means before seeding occurs. Apply 2 tons of dolomitic limestone and 1,000 pounds of 10-20-20 fertilizer per acre. Harrow or disk lime and fertilizer into the soil to a depth of at least 3 inches on slopes flatter than 3:1. No attempt should be made to drag any disked area to make the soil surface smooth after disking.
  - B. Seeding: Apply the following seed mixtures between 1 February and 31 October:
 

Kentucky 31 Tall Fescue	100 pounds per acre
Red Top	15 pounds per acre
Serica Lespedeza	30 pounds per acre
Annual Rye Grass	25 pounds per acre
or German Millet	20 pounds per acre
<b>Total</b>	<b>165 to 175 pounds per acre</b>

Use German Millet between 1 June and 15 August.

Apply seed uniformly on a moist, firm seedbed with a cyclone seed drill, cultipacker seeder or hydroseeder (slurry includes seeds and fertilizer, recommended on slopes only). Maximum seed depth should be 1/4" in clayey soils and 1/2" in sandy soils when using other than the hydroseeder method. Irrigate if soil moisture is deficient to support adequate growth, until vegetation is firmly established.

C. Mulching: Mulch shall be unchopped, unrotted, small grain straw applied at a rate of 2 tons per acre. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds.

D. Guaranteed permanent vegetative stabilization of all areas affected by the execution of this contract is required. Areas not stabilized with a viable stand of permanent vegetative cover must be overseeded, limed and fertilized and, if necessary, straw mulched and tacked by no later than the following growing season following initial stabilization efforts.

**Temporary Seeding:**

Lime: 100 pounds of dolomitic limestone per 1,000 square feet

Fertilizer: 15 pounds of 10-10-10 per 1,000 square feet.

Seed: Perennial rye, Italian rye - 0.92 pounds per 1,000 square feet

(February 1 through April 30 or August 15 through November 1)  
Millet - 0.92 pounds per 1,000 square feet (May 1 through August 15)

5. No fills may be placed on frozen ground. All fill to be placed in approximately horizontal layers, each layer having a loose thickness of not more than 8". All fill in roadways and parking areas is to be classified Type 2 as per Anne Arundel County Grading Ordinance, Section 12-2027, and compacted to 90% density; compaction to be determined by ASTM D-1557 (Modified Proctor). Any fill within building area is to be compacted to a minimum of 95% as determined by methods previously mentioned. All other fills shall be compacted sufficiently so as to be stable and prevent erosion and slippage.

**Permanent Sod:**

Permanent sod is to be Kentucky 31 tall fescue, state approved sod; lime and fertilizer per permanent seeding specifications and lightly irrigate soil prior to laying sod. Sod is to be laid on the contour with all ends tightly shutting, joints are to be staggered between rows. Water and roll or tamp sod to insure positive root contact with the soil. Additional watering for establishment may be required. Sod is not to be applied on frozen ground.

**Mining Operations:**

Sediment control plans for mining operations must include the following seeding dates and mixtures:

For seeding dates of:

February 1 through April 30 and August 15 through October 31 use seed mixture of Kentucky 31 Tall Fescue at the rate of 2 pounds per 1000 square feet and Sericea Lespedeza at the rate of 0.5 pounds per 1000 square feet.

For seeding dates of May 1 through August 14 use seed mixture of Kentucky 31 Tall Fescue at the rate of 2 pounds per 1000 square feet and Weeping Lovegrass at the rate of 0.1 pound per 1000 square feet.

**NOTE:** Use of this information does not preclude meeting all of the requirements of the current Maryland Standards and Specifications for Soil Erosion and Sediment Control.

**SEDIMENT CONTROL NOTES**

1. The contractor/owner is responsible for obtaining all necessary permits. No further construction activity shall take place until all required permits have been obtained.
2. The limits of disturbance shall be clearly delineated in the field prior to grading of the site to ensure compliance with approved plans. Any work beyond limits of disturbance is considered to be a violation of this plan.
3. All sediment control practices must be installed prior to any construction activity. Upon completion of installation of perimeter sediment control practices, the site must be inspected by DPW. No additional construction activity will be authorized without the approval of DPW.
4. All points of ingress and egress shall be protected to prevent tracking of mud into public ways. During construction, every means will be taken to control soil erosion and siltation. If necessary, a wash rack may need to be established.
5. Earth dikes, sediment traps, etc. will be located as shown on these drawings. Field changes and minor adjustments are permissible as long as the installation functions and conforms to specifications. All such changes must be approved by the site inspector prior to installation. Major changes to the approved plan will require reapproval by the Howard Soil Conservation District.
6. Following initial soil disturbance, permanent or temporary stabilization shall be completed within:
  - a. seven calendar days on slopes greater than 3:1 and all waterways, and to the surface of all perimeter controls.
  - b. fourteen calendar days as to all other disturbed or graded areas of the project site.
7. Sediment basins must be built to design specifications shown. If the basin is to be used as a future SWM pond, the basin will be built in accordance with the latest MD-378 specifications. Specified materials must be used. No changes or modifications will be made without written authorization of the Howard Soil Conservation District.
8. Temporary fencing shall be placed around all sediment basins, traps, and ponds during construction and site grading.
9. At the end of each working day all sediment control practices will be inspected and left operational. A weekly log will be kept in accordance with NOI/NPDES regulations. A copy of the approved sediment control plans shall be available at the site at all times.
10. Cut and/or fill shall be done in conformance with 1994 Erosion and Sediment Control Standard and Specifications for Land Grading.
11. Surface flows over cut and fill slopes shall be controlled by either redirecting flows from traversing the slopes or by installing mechanical devices to safely convey water down slopes without causing erosion.
12. Off-site waste or borrow areas shall have an approved erosion and sediment control plan prior to the import or export of material to the project site.
13. All material originating from the development of the property and deposited on the public right-of-way shall be immediately removed.
14. Storm drain inlets and outlets shall be protected per 1994 Erosion and Sediment Control standards and specifications.
15. Topsoiling, liming, fertilizing, seeding, mulching, saddling, etc. are all essential parts of sediment control and must be completed along with all other practices.
16. Traps to be removed shall be dewatered as per the 1994 Erosion and Sediment Control Standards and Specifications.
17. Prior to removal or conversion of sediment basins to SWM facilities, the storm drains will be flushed.
18. Sediment control practices will be maintained until all disturbed areas for which practices were installed have been stabilized. Sediment control practices may be removed only with the authorization of DPW. All disturbed areas resulting from the removal of sediment control devices shall be stabilized immediately. Removal prior to inspector approval constitutes a violation.

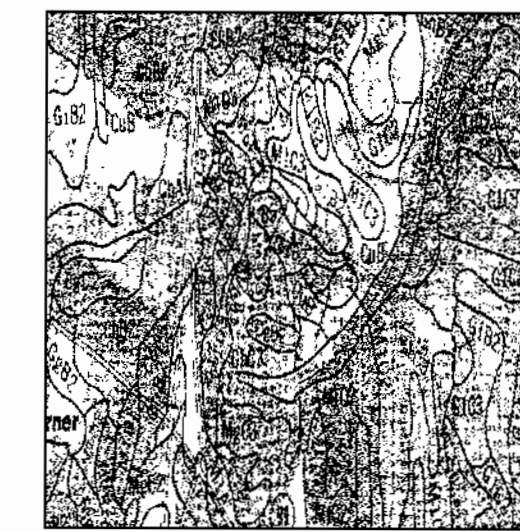
**Permanent Seeding Summary**

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (lb/20')			Lime Rate
					N	P205	K20	
1	KENTUCKY 31 TALL FESCUE RED TOP SERICEA LESPEDEZA	150	5/1 - 8/15 8/15 - 11/15	*	80 lb/ac (2.0 lb/1000 sq ft)	175 lb/ac (4.4 lb/1000 sq ft)	175 lb/ac (4.4 lb/1000 sq ft)	2 tons/ac (100 lb/1000 sq ft)
2	TALL FESCUE WEeping LOVEGRASS GERMAN MILLET	110	5/1 - 8/15 8/15 - 11/15	*				

**Temporary Seeding Summary**

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (lb/20')			Lime Rate
					N	P205	K20	
1	RYE	140	5/1 - 8/15 8/15 - 11/15	*				
2	WEeping LOVEGRASS	4	5/1 - 8/15 8/15 - 11/15	*	600 lb/ac (15 lb/1000 sq ft)			2 tons/ac (100 lb/1000 sq ft)
3	TALL FESCUE	30	5/1 - 8/15 8/15 - 11/15	*				

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



**SOILS MAP**  
SCALE 1" = 500'

**SEQUENCE OF OPERATIONS**

1. NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES & PERMITS AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBANCE @ 410-313-2455.
2. INSTALL SILT FENCE AND INLET PROTECTION AT LOCATION SHOWN ON PLAN. (1 DAY)
3. START SITE GRADING, BUILDING CONSTRUCTION, AND STORMWATER MANAGEMENT FACILITY CONSTRUCTION. (90 DAYS)
4. INSTALL STONE BASE IN AREAS TO BE PAVED. (2 DAYS)
5. CONSTRUCT THE WATER QUALITY FACILITY IN ACCORDANCE WITH THE SEQUENCE ON THE STORMWATER MANAGEMENT PLANS. (5 DAYS)
6. INSTALL PAVING. (2 DAYS)
7. FINE GRADE REMAINING AREAS AND PROVIDE PERMANENT STABILIZATION. (3 DAYS)
8. REMOVE SEDIMENT CONTROL MEASURES WITH APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR.
9. STABILIZE AREAS DISTURBED AS A RESULT OF SEDIMENT CONTROL MEASURE REMOVAL.

Reviewed for Howard SCD and meets Technical Requirements

*Jim Mager*  
USDA - Natural Resources Conservation Service  
Date: 9/29/03

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
*John K. Johnson*  
USDA - Natural Resources Conservation Service  
Date: 9/29/03

**ENGINEER'S CERTIFICATE**

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

*Stephen K. Nolan*  
Stephen K. Nolan  
SIGNATURE OF ENGINEER (Print name below signature) DATE: 5.19.03

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*John Dammann*  
Chief, Development Engineering Division  
Date: 10/8/03  
Date: 2/25/04  
Date: 3/10/04

APPROVED: FOR PRIVATE WATER AND SEWERAGE SYSTEMS  
*Wesley Brantley*  
County Health Officer  
Date: 10-10-03

CONSULTING ENGINEER  
**CAMPBELL & NOLAN ASSOCIATES, INC.**  
Civil Engineers • Land Surveyors • Landscape Architects  
Planners • Geotechnical Engineers • Environmental Engineers  
P.O. Box 850 • Bel Air, Maryland 21014  
(410)879-7200 • (410)838-2784 • Fax (410)838-1811  
E-mail: cnamail@campbell-nolan.com

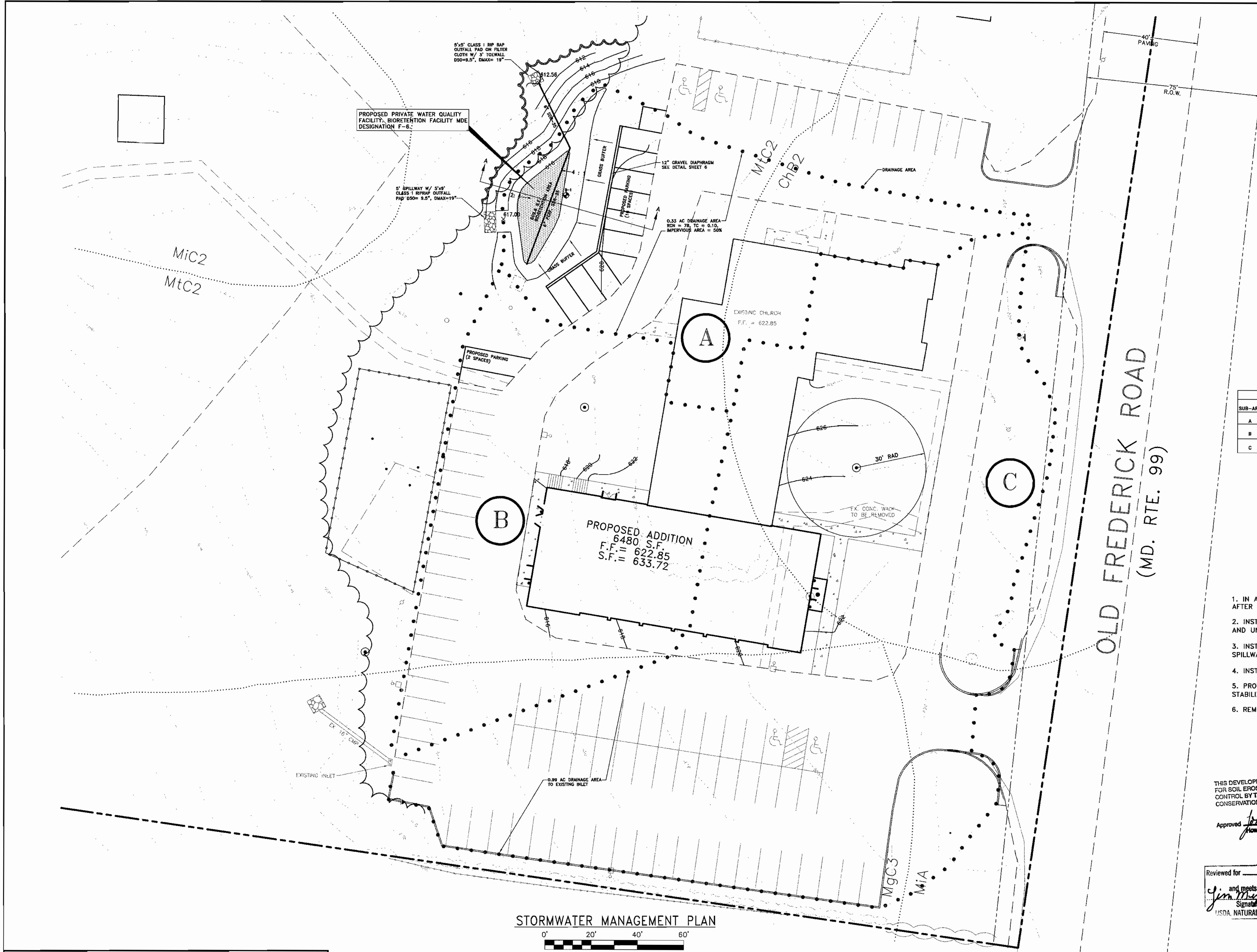
STATE OF MARYLAND  
REGISTERED PROFESSIONAL ENGINEER  
*John K. Johnson*  
Date: 5.19.03

OWNER/DEVELOPER  
SAINT JAMES UNITED METHODIST CHURCH  
C/O ROBERT GRIMM  
P.O. BOX 9  
WEST FRIENDSHIP, MARYLAND 21794  
PHONE: 410-489-7455

SAINT JAMES UNITED METHODIST CHURCH  
(BUILDING ADDITION)  
SITE DEVELOPMENT PLANS  
SEDIMENT CONTROL DETAILS  
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGNED BY: J.P.D. SCALE AS SHOWN TAX MAP 9 A.D.C. MAP 5 JOB # 01153 SHEET NO. 4 OF 10  
DRAWN BY: P.F.N. DEED REF. 503/575 PARCEL 138 GRID D-13 FILES M:\Design\01000\01153\SEC\011353secsh4.dwg  
CHECKED BY: J.P.D.

DATE: 9/23/03  
DRAWING COMPLETED: 1-27-03



**SOILS DATA**

ID	NAME	SOIL GROUP
ChB2	CHILLUM	B
M1C2	MT. AIRY	A
M1A	MANOR	C
M1C2	MANOR	C
MgC3	MANOR	B

**GEOTECHNICAL INFORMATION**  
BORING MATERIAL CONSISTENCY - DARK BROWN SANDY SILT W/ TRACE ROCK FRAGS.  
UNIFIED CLASSIFICATION - ML  
USDA CLASSIFICATION - SILT LOAM  
INFILTRATION RATE - 1.6 IN/HR  
GROUNDWATER ENCOUNTERED - NO  
ROCK ENCOUNTERED - NO

- SWM DATA**
- ON-SITE FACILITY
  - STRUCTURE CLASSIFICATION - NA (NOT 378)
  - TYPE OF FACILITY - BIORETENTION FACILITY
  - MAINTENANCE RESPONSIBILITY - PRIVATE
  - WATERSHED AREA TO FACILITY - 0.33 AC.±
  - CPV NOT REQUIRED.
  - Q10 = 1.3 CFS, Q100 = 2.2 CFS
  - FREEBOARD - 0.73'
  - REQUIRED STORAGE VOLUME - 762 CU.FT.
  - PROVIDED STORAGE VOLUME - 845 CU.FT.
  - FILTER BED AREA REQUIRED - 609.6 S.F.
  - TOTAL SITE AREA - 6.59 AC.±
  - RUNOFF CURVE NUMBER - 78
  - TIME OF CONCENTRATION - 0.10 HOURS

**STORMWATER MANAGEMENT SUMMARY**

SUB-AREA	ACREAGE (ACRES)	Rev (CU FT)	WQv (CU FT)	CPv (CU FT)	10-YR (CFS)	100-YR (CFS)	COMMENTS
A	0.33	261	501	NOT REQUIRED	1.5 ROUTED	2.2 ROUTED	WATER QUALITY AND GROUNDWATER RECHARGE FOR NEWLY DEVELOPED AREAS IN SUB-AREAS B & C HAVE BEEN PROVIDED FOR IN THE FACILITY LOCATED IN SUBAREA A WITH AN EQUIVALENT CONTRIBUTING IMPERVIOUS AREA TO MINIMIZE DISTURBANCE TO EXISTING TREES IN THE ACTUAL IMPROVEMENT SUBAREAS. THE FACILITY IS A BIORETENTION FACILITY DESIGNED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL.
B	0.43	SEE COMMENT	SEE COMMENT	NOT REQUIRED	NA	NA	
C	0.99	COMMENT	COMMENT	NOT REQUIRED	NA	NA	

**NOTES:**  
1. SEDIMENT LADEN RUNOFF AND DEBRIS IS NOT TO ENTER THE FACILITY DURING OR AFTER CONSTRUCTION.

- SEQUENCE OF CONSTRUCTION (WATER QUALITY FACILITY CONSTRUCTION)**
- IN ACCORDANCE WITH THE GRADING SEQUENCE BEGIN CONSTRUCTION OF FACILITY ONLY AFTER ALL CONTRIBUTORY DRAINAGE AREA HAS BEEN STABILIZED.
  - INSTALL THE STONE DIAPHRAGM AND BEGIN EXCAVATION FOR INSTALLATION OF FILTER MEDIA AND UNDERDRAIN. (1 DAY)
  - INSTALL THE UNDERDRAIN, OUTFALL PROTECTION, CONSTRUCT EMBANKMENT (NON-378) WITH SPILLWAY AND PROVIDE SPILLWAY OUTFALL PROTECTION. (1 DAY)
  - INSTALL FILTER MEDIA AND MULCH LAYER AND STABILIZE EXTERIOR OF FACILITY. (1 DAY)
  - PROVIDE PLANTINGS FOR THE FACILITY IN ACCORDANCE WITH THE LANDSCAPING PLAN AND STABILIZE ANY REMAINING DISTURBED AREAS. (2 DAYS)
  - REMOVE THE SEDIMENT CONTROLS ONLY AFTER APPROVAL BY THE INSPECTOR.

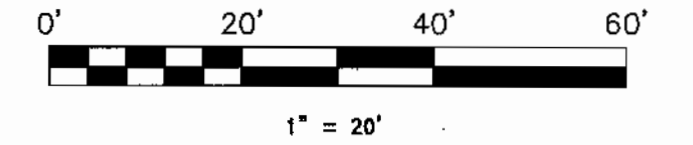
**LEGEND**

- 100 EXISTING CONTOUR
- EXISTING PAVED AREAS
- EXISTING BUILDING
- PROPOSED BUILDING
- 100 PROPOSED CONTOUR
- SILT FENCE
- LIMIT OF DISTURBANCE
- DRAINAGE AREA
- SOILS
- SUBAREA LABEL

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
Approved: *John K. Robertson* 9/29/03  
Howard S.C.D. Date

Reviewed for: HOWARD S.C.D.  
Name: *Jan M. ...* Date: 9/29/03  
Signature: *Jan M. ...*  
USDA, NATURAL RESOURCES CONSERVATION SERVICE

**STORMWATER MANAGEMENT PLAN**



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*John ...* 10/8/03  
Chief, Development Engineering Division Date  
*Andy Hamilton* 7/25/04  
Chief, Division of Land Development Date  
*Steve ...* 5/1/04  
Director Date  
APPROVED: FOR PRIVATE WATER AND SEWERAGE SYSTEMS  
*Dennis ...* 10-10-03  
County Health Officer Date  
Howard County Health Department

CONSULTING ENGINEER

**CNA**  
campbell & nolan associates, inc.

CAMPBELL & NOLAN ASSOCIATES, INC.  
Civil Engineers • Land Surveyors • Landscape Architects  
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PHONE: 410-489-7455

SAINT JAMES UNITED METHODIST CHURCH (BUILDING ADDITION) SITE DEVELOPMENT PLANS

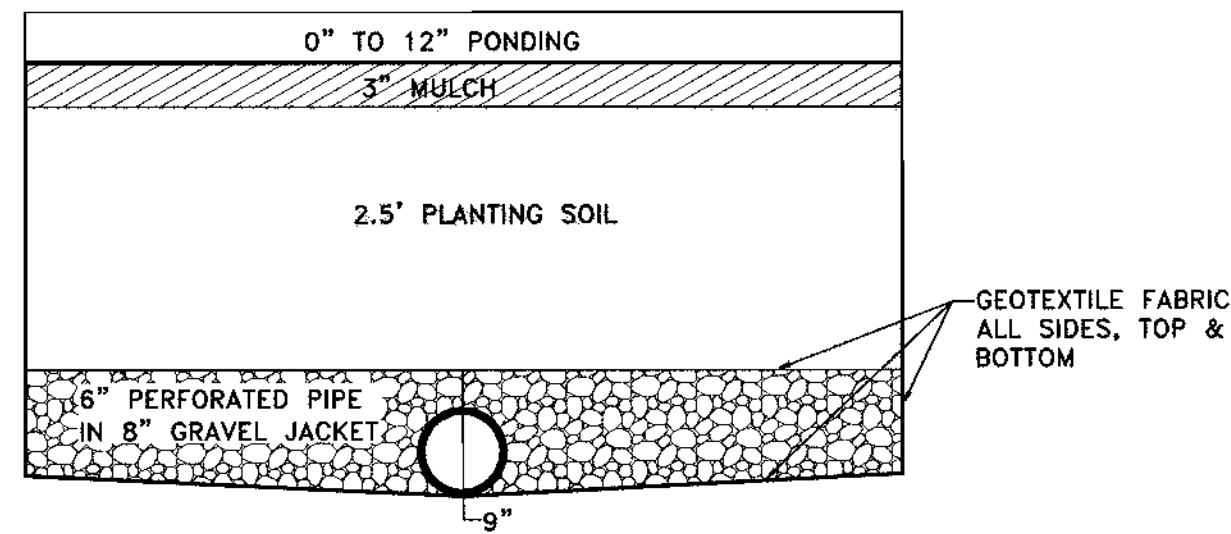
DATE	REVISION	BY

STORMWATER MANAGEMENT PLAN & DRAINAGE AREA MAP THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

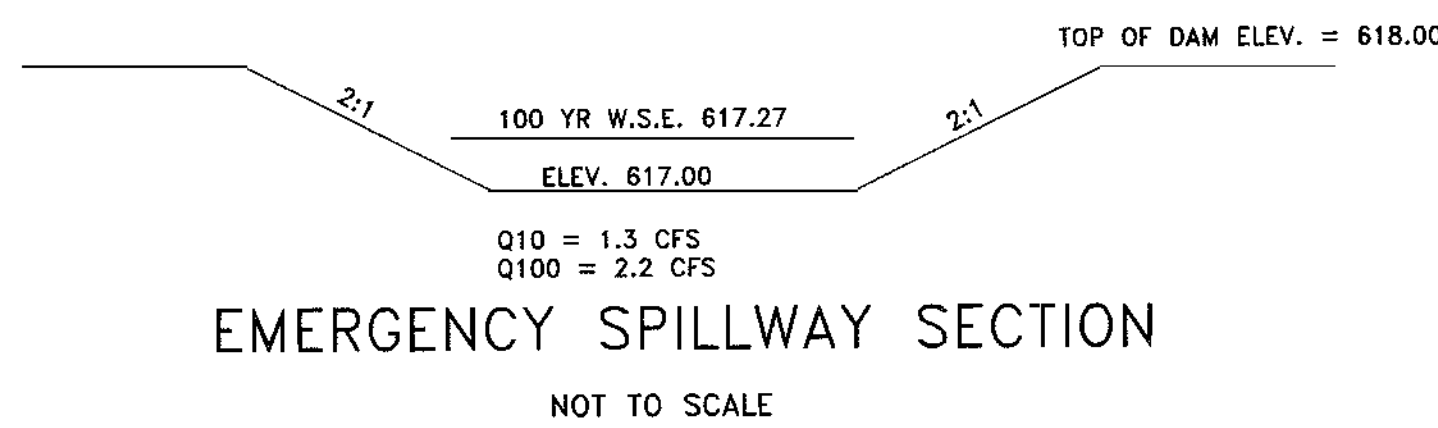
DESIGNED BY:	SCALE AS SHOWN	TAX MAP 9	A.D.C. MAP 5	JOB # 01153	SHEET
J.P.D.					5
DRAWN BY:	DEED REF. 503/575	PARCEL 138	GRID D-13	FILES N:\Design\01000\01153\ SWM\01153swmah15.dwg	NO. OF
J.P.D.					10

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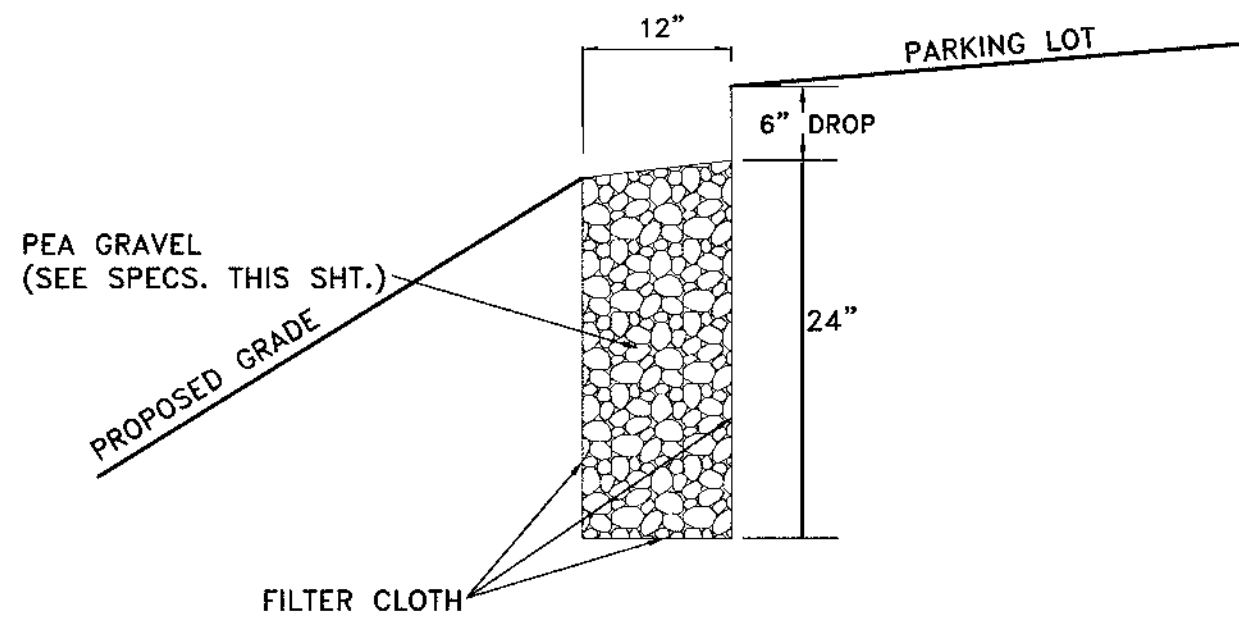
MATERIAL SPECIFICATIONS FOR BIORETENTION CONSTRUCTION			
MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTING SOIL (2.5' DEEP)	SAND - 35% TO 60% SILT - 30% TO 55% CLAY - 10% TO 25%	N/A	USDA SOIL TYPES LOAMY SAND, SANDY LOAM OR LOAM
MULCH	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM
PEA GRAVEL DIAPHRAGM AND CURTAIN DRAIN	PEA GRAVEL: ASTM-D-448	PEA GRAVEL: No.6 STONE: 2" TO 5"	
GEOTEXTILE FABRIC	CLASS "C" - APPARENT OPENING SIZE (ASTM D-4751), GRAB TENSILE STRENGTH (ASTM D-4632), PUNCTURE RESISTANCE (ASTM D-4833)	N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY
UNDERDRAIN GRAVEL	AASHTO M-43	0.375" TO 0.75"	
UNDERDRAIN PIPING	F 758, TYPE PS 28 OR AASHTO M-278	6" RIGID SCHEDULE 40 PVC OR SDR-35	3/8" PERF. 6" C/C PER ROW; MIN. 3" GRAVEL OVER PIPES.
LANDSCAPING			SEE THE LANDSCAPING PLAN FOR PLANTING WITHIN THE BIORETENTION FACILITY



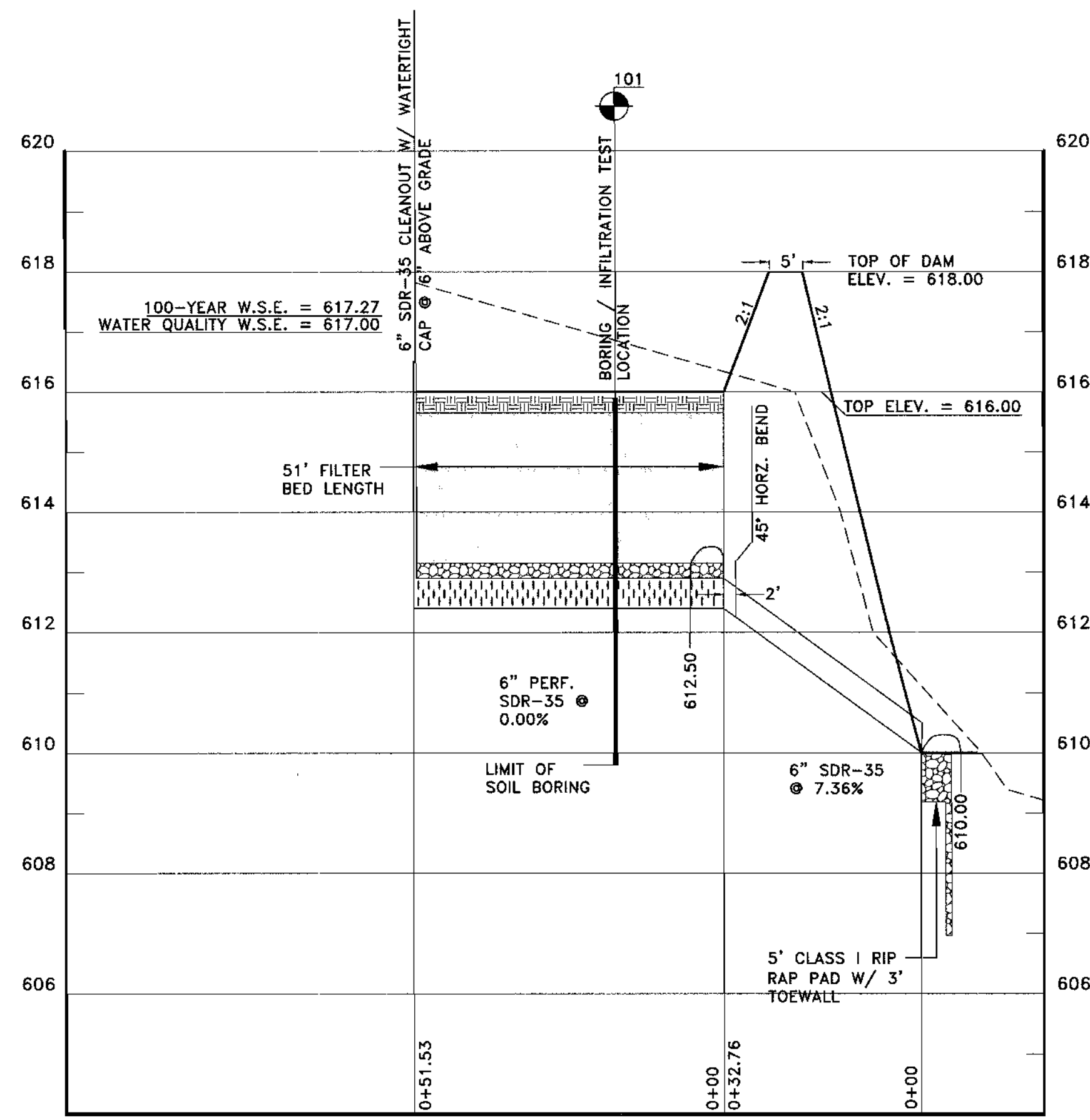
**BIORETENTION FILTER TYPICAL SECTION**  
NOT TO SCALE



**EMERGENCY SPILLWAY SECTION**  
NOT TO SCALE

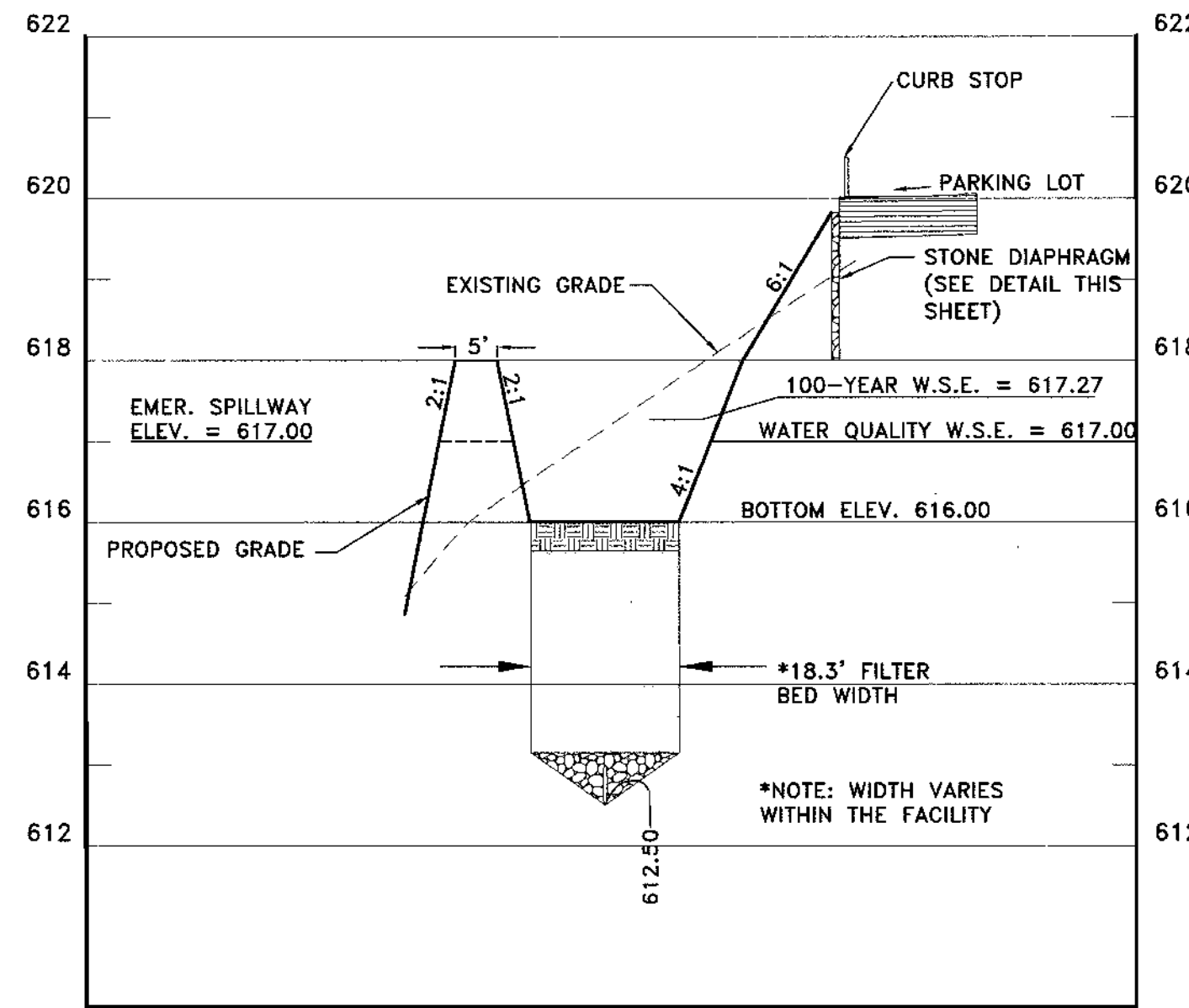


**STONE DIAPHRAGM DETAIL**  
NOT TO SCALE



**BIORETENTION UNDERDRAIN PROFILE**

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

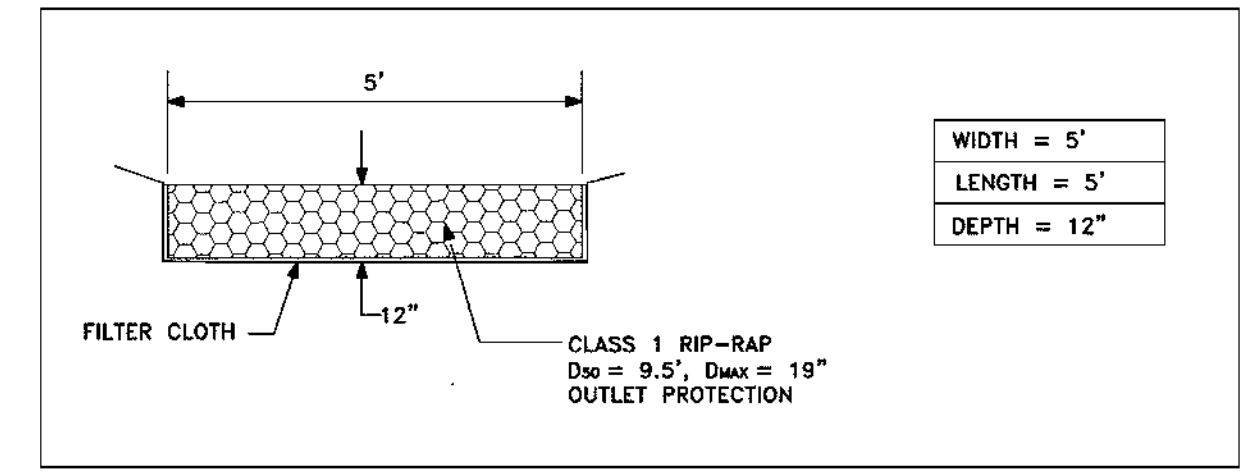


**BIORETENTION FILTER SECTION A-A**

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

**STORMWATER MANAGEMENT MAINTENANCE CRITERIA**

- 1) THE STORMWATER WETLAND FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
- 2) DEAD AND DISEASED PLANTINGS SHALL BE REMOVED AND REPLACED FROM THE FACILITY.
- 3) AREAS DEVOID OF MULCH SHALL BE REPLACED ON AN ANNUAL BASIS.
- 4) DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR AS SOON AS IT IS NOTICED.
- 5) VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- 7) WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
- 8) A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- 9) THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- 10) ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



**SECTION THROUGH TYP. OUTFALL PAD**  
NOT TO SCALE

**STORMWATER MANAGEMENT GENERAL NOTES**

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

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

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

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. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

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 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, and on the sides of pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand 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 the 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.

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

1. Materials - Pipe shall be SDR-35 conforming to ASTM D-1785 or ASTM D-2241.
2. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
3. Backfilling shall conform to "Structure Backfill."

Care of Water during Construction: All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from 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 of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps 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 Maryland Soil 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 to be employed during the construction process.

Construction Inspection by designated Engineers: The construction of the stormwater management facility and declaration that the facility has been built in accordance with the drawings and specifications shall be under the supervision of a Registered Professional Engineer. The Contractor shall provide the Engineer with a minimum of two weeks advance notice of the date that he expects to start construction. At this same time, the Contractor shall also provide the Engineer, in writing, a list of all materials to be incorporated into the work, along with their sources of supply. The Engineer shall be given sufficient notice of all upcoming activities, prior to and during the process of the work, in order that arrangements can be made for 1) inspection of all materials and their associated certifications prior to their installation/ placement in the proposed work; 2) inspection and related testing of the construction of the cutoff/core trenches, and pond embankment; installation of the principal spillway, anti-seep collars and riser assembly; construction of the emergency spillway and other critical flow channels; 3) inspection of all other significant construction/ installation items for the proposed facility and related piping, including backfilling and soil compaction. The engineer shall also direct the integrity of the dam in order to compensate for unusual soil conditions, and the removal and replacement of defective fill.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division: *[Signature]* 10/10/03  
 Chief, Division of Land Development: *[Signature]* 2/25/04  
 Director (Acting): *[Signature]* 3/11/04

APPROVED: FOR PRIVATE WATER AND SEWERAGE SYSTEMS  
 County Health Officer: *[Signature]* 10-18-03  
 Howard County Health Department

CONSULTING ENGINEER

**CAMPBELL & NOLAN ASSOCIATES, INC.**  
 Civil Engineers • Land Surveyors • Landscape Architects  
 Planners • Geotechnical Engineers • Environmental Engineers  
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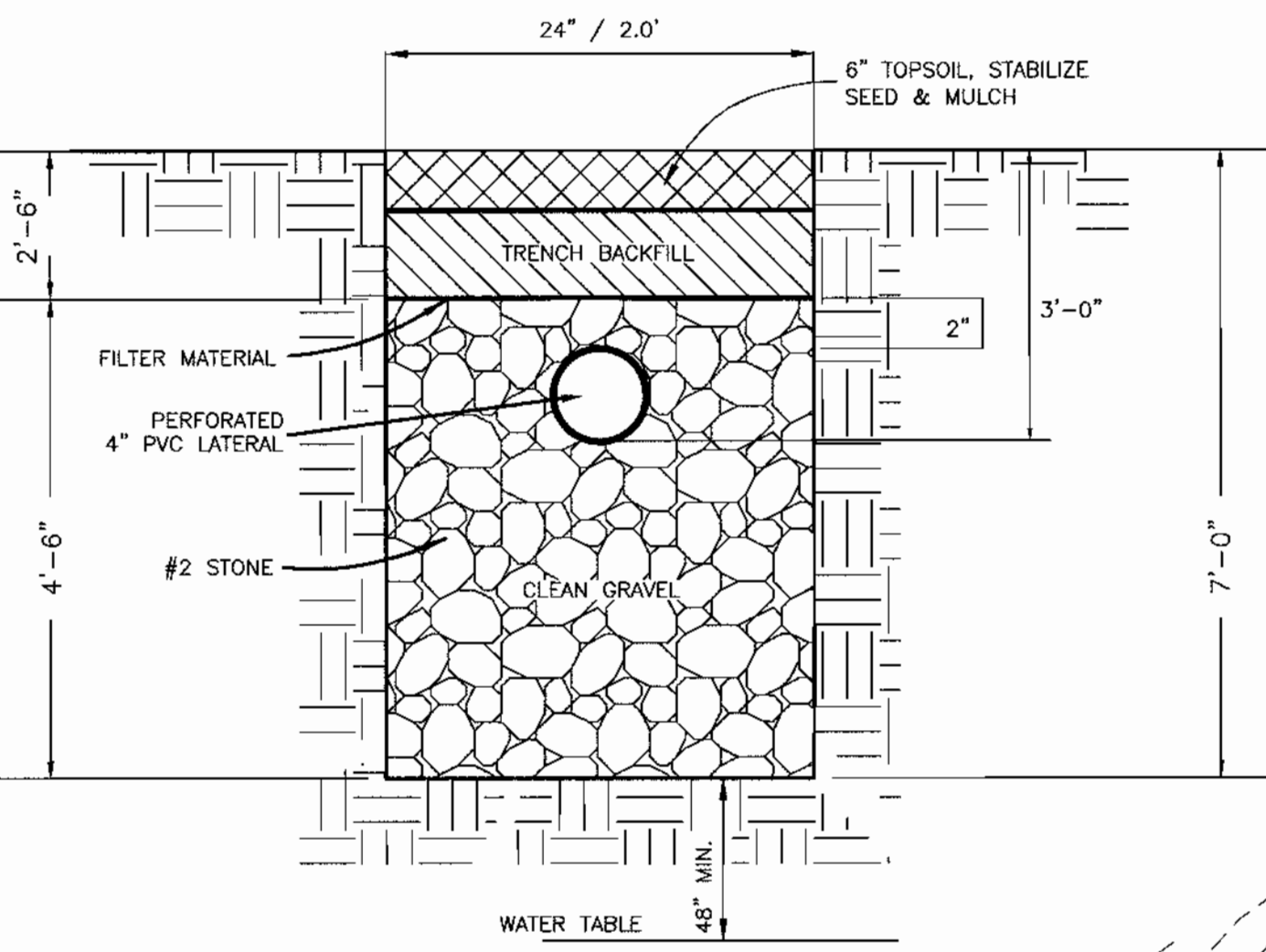
STATE OF MARYLAND  
 PROFESSIONAL REGISTERED ENGINEER  
*[Signature]* 4-22-03  
 Date

OWNER/DEVELOPER

SAINT JAMES UNITED METHODIST CHURCH  
 C/O ROBERT GRIMM  
 P.O. BOX 9  
 WEST FRIENDSHIP, MARYLAND 21794  
 PHONE: 410-489-7455

DATE		REVISION		BY	
DRAWING COMPLETED 1-27-03					
DESIGNED BY: J.P.D.	SCALE: AS SHOWN	TAX MAP: 9	A.D.C. MAP: 5	JOB #: 01153	SHEET: 6
DRAWN BY: P.F.N.	DEED REF. 503/575	PARCEL: 138	GRID: D-13	FILES: N:\Design\01000\01153\SWM\01153swmsh6.dwg	NO. OF: 10

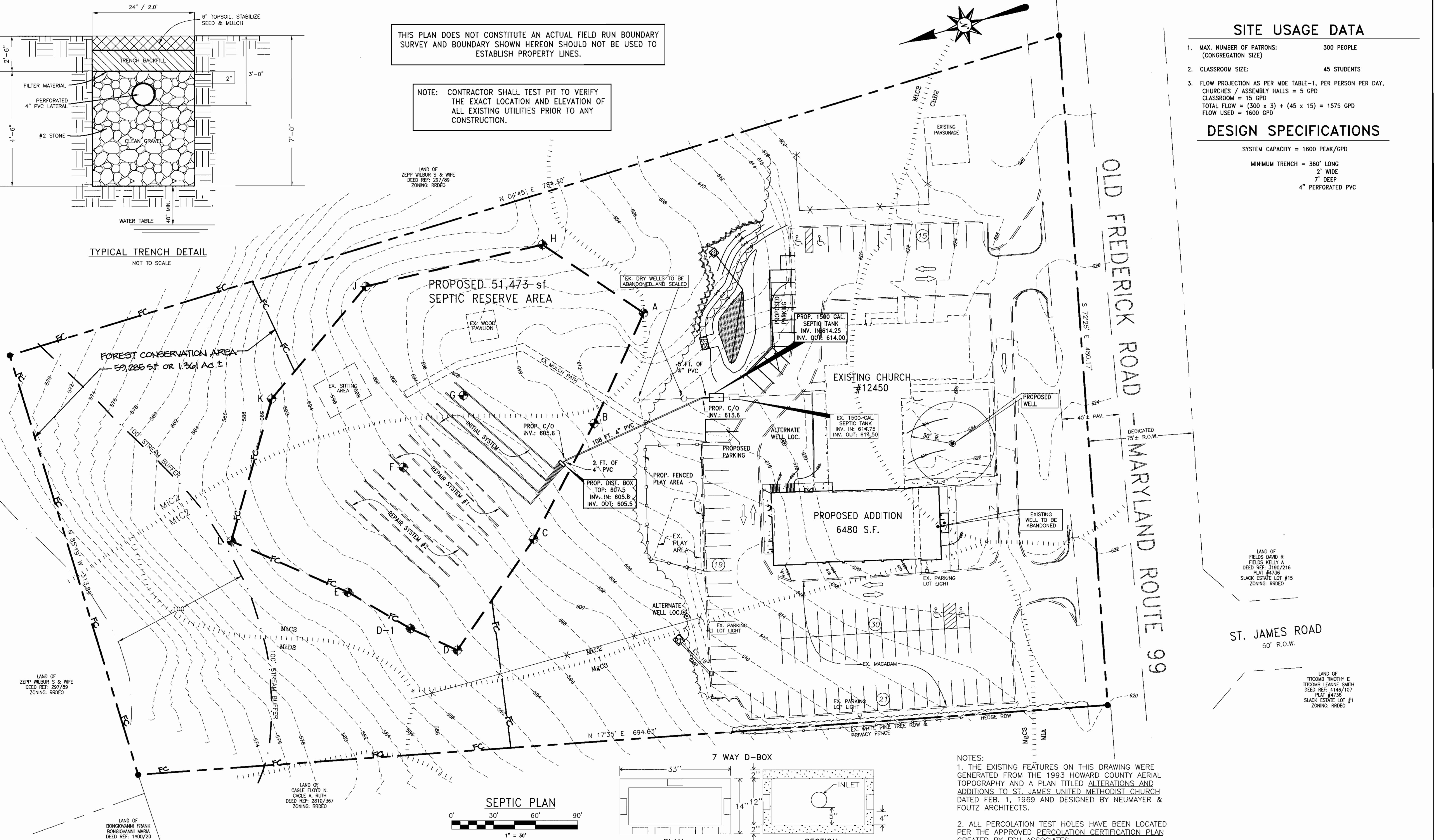
SDR.03.70



TYPICAL TRENCH DETAIL  
NOT TO SCALE

THIS PLAN DOES NOT CONSTITUTE AN ACTUAL FIELD RUN BOUNDARY SURVEY AND BOUNDARY SHOWN HEREON SHOULD NOT BE USED TO ESTABLISH PROPERTY LINES.

NOTE: CONTRACTOR SHALL TEST PIT TO VERIFY THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION.

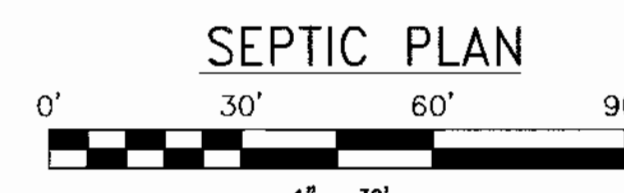


**SITE USAGE DATA**

- MAX. NUMBER OF PATRONS: 300 PEOPLE (CONGREGATION SIZE)
- CLASSROOM SIZE: 45 STUDENTS
- FLOW PROJECTION AS PER MDE TABLE-1, PER PERSON PER DAY, CHURCHES / ASSEMBLY HALLS = 5 GPD  
CLASSROOM = 15 GPD  
TOTAL FLOW = (300 x 3) + (45 x 15) = 1575 GPD  
FLOW USED = 1600 GPD

**DESIGN SPECIFICATIONS**

- SYSTEM CAPACITY = 1600 PEAK/GPD
- MINIMUM TRENCH = 360" LONG  
2" WIDE  
7" DEEP  
4" PERFORATED PVC



DISTRIBUTION BOXES WITH PLASTIC PIPE SEALS

- NOTES:
- THE EXISTING FEATURES ON THIS DRAWING WERE GENERATED FROM THE 1993 HOWARD COUNTY AERIAL TOPOGRAPHY AND A PLAN TITLED ALTERATIONS AND ADDITIONS TO ST. JAMES UNITED METHODIST CHURCH DATED FEB. 1, 1969 AND DESIGNED BY NEUMAYER & FOUTZ ARCHITECTS.
  - ALL PERCOLATION TEST HOLES HAVE BEEN LOCATED PER THE APPROVED PERCOLATION CERTIFICATION PLAN CREATED BY FSH ASSOCIATES.
  - BOUNDARY INFORMATION IS BASED ON DEED 503/575.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division: *[Signature]* Date: 10/10/03  
 Chief, Section of Land Development: *[Signature]* Date: 7/25/04  
 Director (A.B.M.): *[Signature]* Date: 3/1/04  
 APPROVED: FOR PRIVATE WATER AND SEWERAGE SYSTEMS  
 County Health Officer: *[Signature]* Date: 10-10-03  
 Howard County Health Department

CONSULTING ENGINEER

**CNA**  
 campbell & nolan associates, inc.  
 Civil Engineers • Land Surveyors • Landscape Architects  
 Planners • Geotechnical Engineers • Environmental Engineers  
 P.O. Box 850 • Bel Air, Maryland 21014  
 (410)879-7200 • (410)838-2784 • Fax(410)838-1811  
 E-mail: cnamail@campbell-nolan.com



OWNER/DEVELOPER

SAINT JAMES UNITED METHODIST CHURCH  
 C/O ROBERT GRIMM  
 P.O. BOX 9  
 WEST FRIENDSHIP, MARYLAND 21794  
 PHONE: 410-489-7455

SAINT JAMES UNITED METHODIST CHURCH (BUILDING ADDITION) SITE DEVELOPMENT PLANS SEPTIC PLAN		THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
DESIGNED BY: J.P.D.	SCALE: AS SHOWN	TAX MAP: 9	A.D.C. MAP: 5
DRAWN BY: P.F.N.	DEED REF.: 503/575	PARCEL: 138	GRID: D-13
CHECKED BY: J.P.D.			
DATE: 4-24-03	REVISION: 4-24-03	BY:	
DRAWING COMPLETED: 4-24-03	JOB #: 01153	SHEET NO.: 7	OF: 10

SP.03.70

APPROVED: Howard County Department of Planning and Zoning

*John P. Williams* 10/24/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Carly H. Hester* 8/29/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Stephen J. Lafferty* 8/1/04  
 DIRECTOR (Acting) DATE

These plans for S.W.M. construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

*John P. Williams* 9/29/03  
 APPROVED: HOWARD SOIL CONSERVATION DISTRICT DATE  
 PLAN NUMBER

Reviewed for the Howard Conservation District and meets technical requirements.

*Jim Meyer* 9/29/03  
 NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.

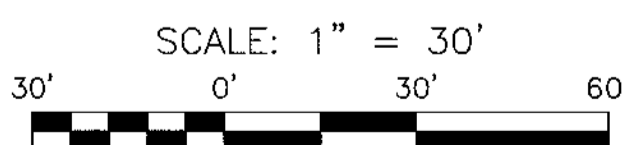
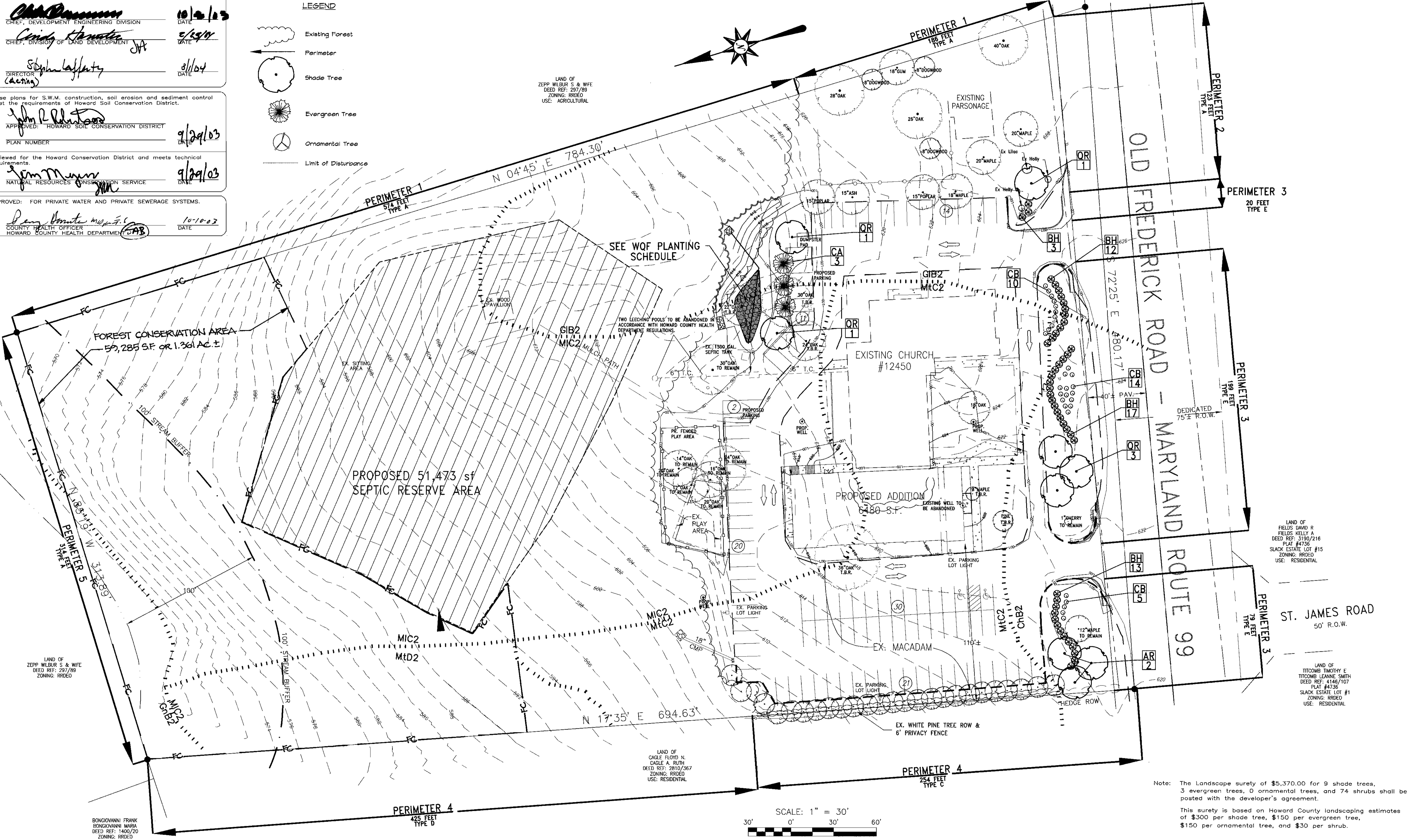
*Deanna Bonita M. ...* 10-10-03  
 COUNTY HEALTH OFFICER DATE  
 HOWARD COUNTY HEALTH DEPARTMENT (CAB)

- LEGEND**
- Existing Forest
  - Perimeter
  - Shade Tree
  - Evergreen Tree
  - Ornamental Tree
  - Limit of Disturbance

LAND OF  
 ZEPP WILBUR S. & WIFE  
 DEED REF: 297/89  
 ZONING: RR02D  
 USE: AGRICULTURAL

LAND OF  
 FIELDS DAVID R.  
 FIELDS KELLY A.  
 DEED REF: 3190/216  
 PLAT #4736  
 SLACK ESTATE LOT #15  
 ZONING: RR02D  
 USE: RESIDENTIAL

LAND OF  
 TITCOMB TIMOTHY E.  
 TITCOMB LEANNE SMITH  
 DEED REF: 4146/107  
 PLAT #4736  
 SLACK ESTATE LOT #1  
 ZONING: RR02D  
 USE: RESIDENTIAL

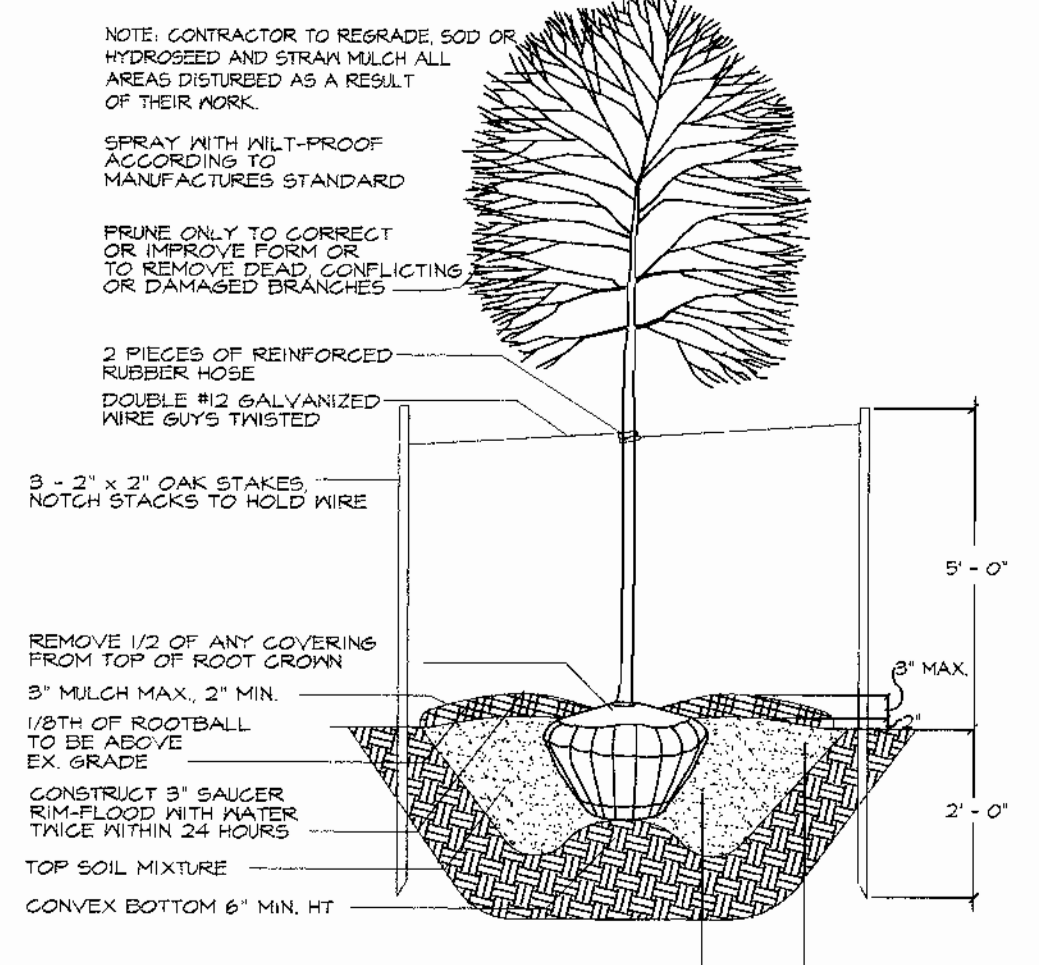


Note: The Landscape surety of \$5,370.00 for 9 shade trees, 3 evergreen trees, 0 ornamental trees, and 74 shrubs shall be posted with the developer's agreement.  
 This surety is based on Howard County landscaping estimates of \$300 per shade tree, \$150 per evergreen tree, \$150 per ornamental tree, and \$30 per shrub.

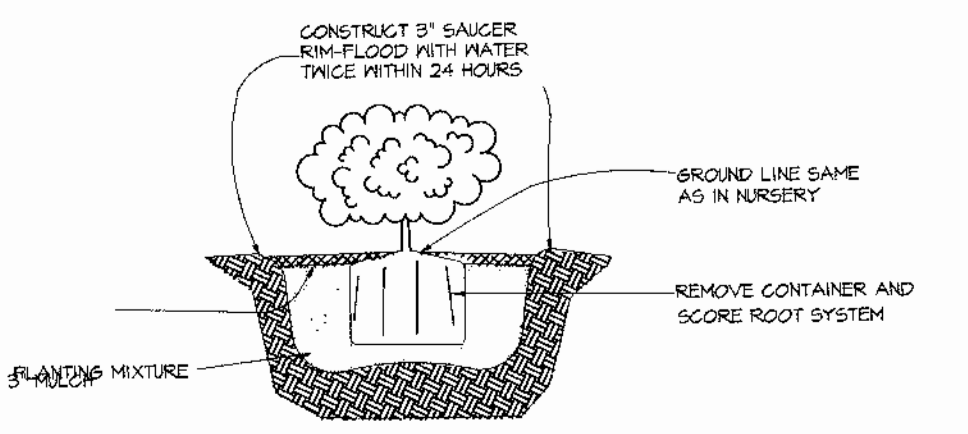
<p>CONSULTING ENGINEER</p> <p><b>CNA</b>          campbell &amp; nolan associates, inc.</p> <p>CAMPBELL &amp; NOLAN ASSOCIATES, INC.          Civil Engineers • Land Surveyors • Landscape Architects          Planners • Geotechnical Engineers • Environmental Engineers          P.O. Box 850 • Bel Air, Maryland 21014          (410)879-7200 • (410)838-2784 • Fax(410)838-1811          E-mail: cnamail@campbell-nolan.com</p>		<p>OWNER/DEVELOPER</p> <p>SAINT JAMES UNITED METHODIST CHURCH          C/O ROBERT GRIMM          P.O. BOX 9          WEST FRIENDSHIP, MARYLAND 21794          PHONE: 410-489-7455</p>	<p>SAINT JAMES UNITED METHODIST CHURCH          (BUILDING ADDITION)          SITE DEVELOPMENT PLANS          LANDSCAPING PLAN</p> <p>THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p> <table border="1"> <tr> <td>DESIGNED BY: E.R.M.</td> <td>SCALE: AS SHOWN</td> <td>TAX MAP: 9</td> <td>A.D.C. MAP: 5</td> <td>JOB #: 01153</td> <td>SHEET: 8</td> </tr> <tr> <td>DRAWN BY: E.R.M.</td> <td>DEED REF: 503/575</td> <td>PARCEL: 13B</td> <td>GRID: D-13</td> <td>FILES: N:\Design\01000\01153\Enviro\01153spshB.dwg</td> <td>NO. OF: 10</td> </tr> <tr> <td>CHECKED BY: D.R.K.</td> <td colspan="4"></td> <td>OF: 10</td> </tr> </table>	DESIGNED BY: E.R.M.	SCALE: AS SHOWN	TAX MAP: 9	A.D.C. MAP: 5	JOB #: 01153	SHEET: 8	DRAWN BY: E.R.M.	DEED REF: 503/575	PARCEL: 13B	GRID: D-13	FILES: N:\Design\01000\01153\Enviro\01153spshB.dwg	NO. OF: 10	CHECKED BY: D.R.K.					OF: 10
DESIGNED BY: E.R.M.	SCALE: AS SHOWN	TAX MAP: 9	A.D.C. MAP: 5	JOB #: 01153	SHEET: 8																
DRAWN BY: E.R.M.	DEED REF: 503/575	PARCEL: 13B	GRID: D-13	FILES: N:\Design\01000\01153\Enviro\01153spshB.dwg	NO. OF: 10																
CHECKED BY: D.R.K.					OF: 10																

SJP.03.70

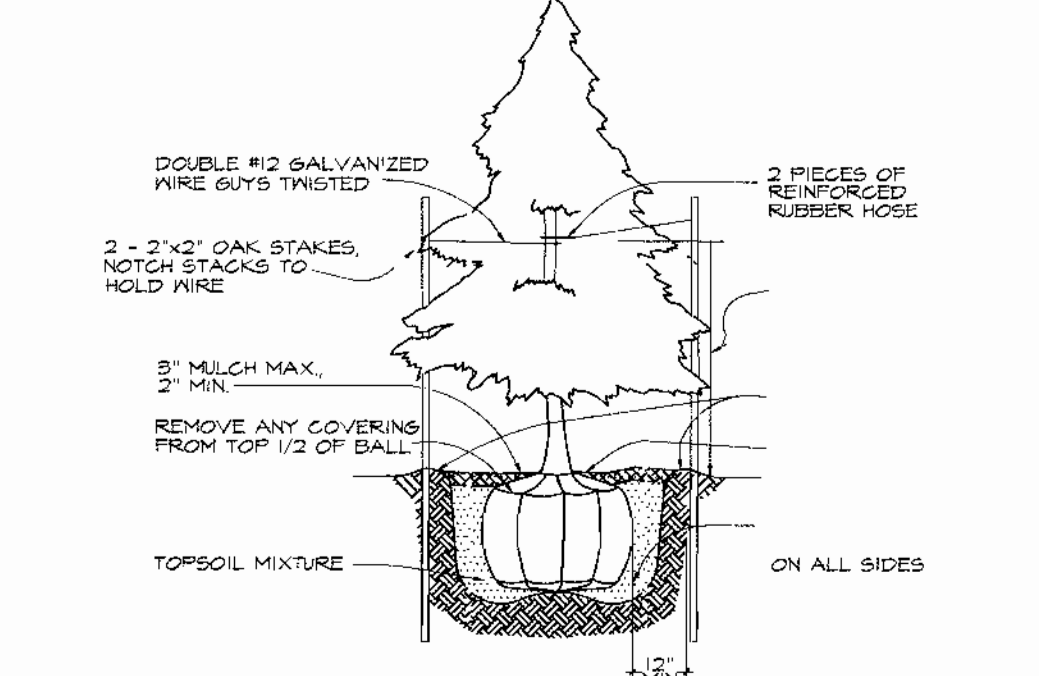




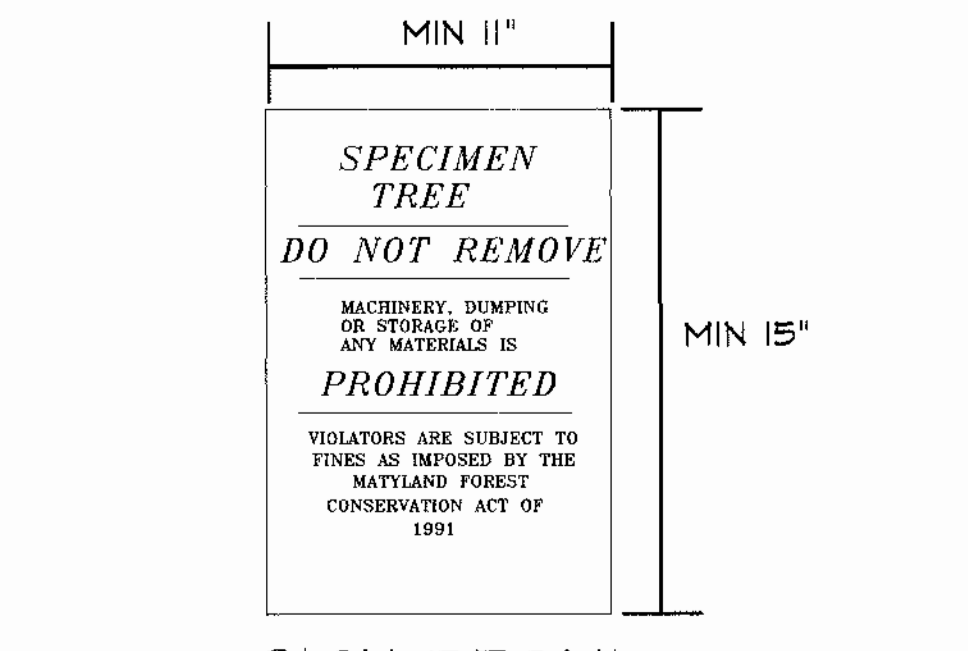
TREE PLANTING DETAIL  
NOT TO SCALE



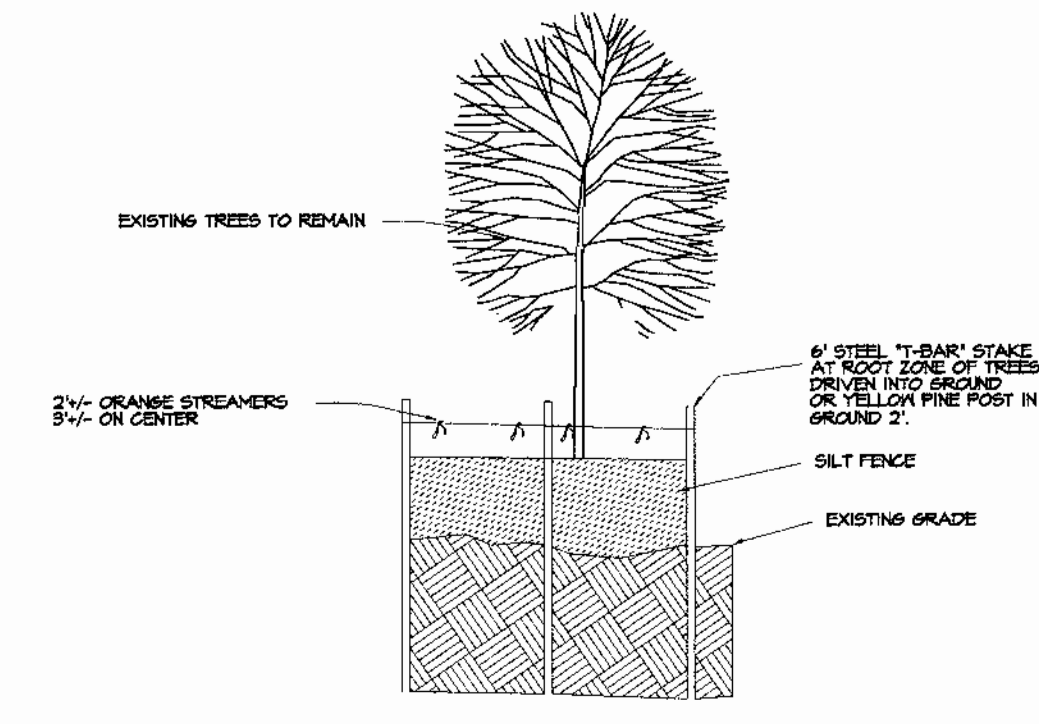
SHRUB PLANTING DETAIL  
NO SCALE



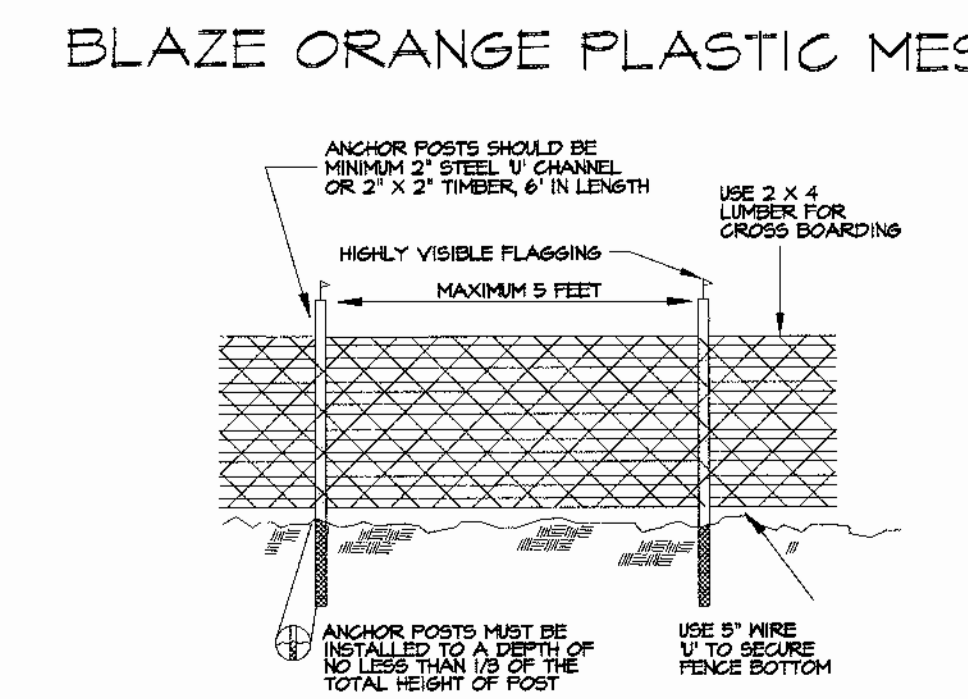
EVERGREEN TREE DETAIL  
NOT TO SCALE



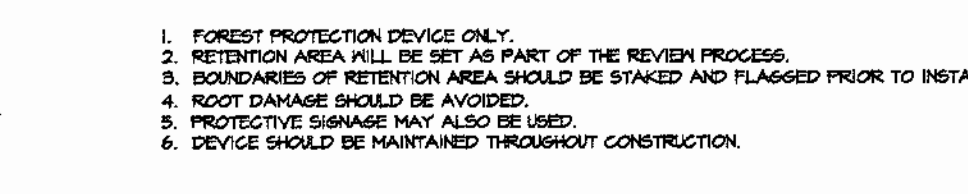
SIGN DETAIL  
NOT TO SCALE



TREE PROTECTION DETAIL  
NOT TO SCALE



BLAZE ORANGE PLASTIC MESH



TREE PROTECTION FENCING  
NO SCALE

PLANT MATERIALS AND PLANTING METHODS

A. Plant Materials  
The landscape contractor shall furnish and install and/or dig, ball, burlap, and transport all of the plant materials called for on drawings and/or listed in the Plant Schedule.

1. Plant Names  
Plant names used in the Plant Schedule shall conform to "Standardized Plant Names", latest edition.

2. Plant Standards  
All plant material shall be equal to or better than the requirements of the "USA Standard for Nursery Stock", latest edition, as published by the American Association of Nurserymen (hereafter referred to as AAN Standards). All plants shall be typical of their species and variety, shall have a normal habit of growth, and shall be first quality, sound, vigorous, well-branched and with healthy, well-furnished root systems. They shall be free of disease, insect pests and mechanical injuries.

a. All plants shall be nursery grown and shall have been grown under the same climate as the location of this project for at least two years before planting. Neither heeled-in plants nor plants from cold storage will be accepted.

b. Collected plants or transplanted trees may be called for by the landscape architect and used, provided, however, that locations and soil conditions will permit proper baling.

3. Plant Measurements  
All plants shall conform to the measurements specified in the Plant Schedule as approved by the Department of Planning and Code Enforcement Reviewing Officer.

- a. Caliper measurements shall be taken six inches (6") above grade for trees under four-inch (4") caliper and twelve inches (12") above grade for trees four inches (4") in caliper and over.
- b. Minimum branching height for all trees shall be six feet (6'), maximum eight feet (8').
- c. Minimum size for planting shade trees 2 1/2" - 3" caliper 12' - 14' in height.
- d. Diameter and depth of tree pits shall generally be as follows:
- e. Caliper, height, spread and size of ball shall be generally as follows:
- | Caliper     | Height    | Spread    | Size of Ball |
|-------------|-----------|-----------|--------------|
| 2 1/2" - 3" | 12' - 14' | 6' - 8'   | 28" diameter |
| 3" - 3 1/2" | 14' - 16' | 6' - 8'   | 32" diameter |
| 3 1/2" - 4" | 14' - 16' | 8' - 10'  | 36" diameter |
| 4" - 4 1/2" | 16' - 18' | 8' - 10'  | 40" diameter |
| 4 1/2" - 5" | 16' - 18' | 10' - 12' | 34" diameter |
| 5" - 5 1/2" | 16' - 20' | 10' - 12' | 48" diameter |
| 5 1/2" - 6" | 18' - 20' | 12' - 14' | 52" diameter |
- All plant material shall generally average the median for the size ranges indicated above as indicated in the "AAN Standards".

4. Plant Identification  
Legible labels shall be attached to all shade trees, minor trees, specimen shrubs and bundles or boxes of other plant material giving the botanical and common names, size and quantity of each. Each shipment of plants shall bear certificates of inspection as required by Federal, State and County authorities.

5. Plant Inspection  
The Department of Planning and Code Enforcement Reviewing Officer may, upon request by the builder or developer, at least ten (10) days prior to the installation of any proposed plant material, inspect all proposed plant material at the source of origin.

6. Planting Methods  
All proposed plant material that meet the specifications in Section A (preceding page) are to be planted in accordance with the following planting methods during the proper planting seasons as described in the following:

1. Planting Seasons  
The planting of deciduous trees, shrubs and vines shall be from March 1st to June 15th and from September 15th to December 15th. Planting of deciduous material may be continued during the winter months providing there is no frost in the ground and frost-free topsoil planting mixtures are used.

The planting of evergreen material shall be from March 15th to June 15th and from August 15th to December 1st. No planting shall be done when ground is frozen or excessively moist. No frozen or wet topsoil shall be used at any time. A 20% compaction figure of the soil to be removed is assumed and will be allowed in calculation of extra topsoil. The tabulated pit sizes are for purposes of uniform calculation and shall not override the specified depths below the bottoms of the root balls.

2. Digging  
All plant material shall be dug, balled and burlapped (B+B) in accordance with the "AAN Standards."

3. Excavation of Plant Pits  
The landscaping contractor shall excavate all plant pits, vine pits, hedge trenches and shrub beds in accordance with the following schedule:

- a. Locations of all proposed plant material shall be staked and approved in the field by the landscape architect before any of the proposed plant material is installed by the landscape contractor.
- b. All pits shall be generally circular in outline, vertical sides; depth shall not be less than 6" deeper than the root ball, diameter shall not be less than two times the diameter of the root ball as set forth in the following schedule.
- c. If areas are designated as shrub beds or hedge trenches, they shall be excavated to at least 18" depth minimum. Areas designated for ground covers and vines shall be excavated to at least 12" in depth minimum.

Plant Size	Root Ball Diameter	Depth
2 1/2" - 3" cal.	28"	56" 24"
3" - 3 1/2" cal.	32"	64" 28"
3 1/2" - 4" cal.	36"	72" 32"
4" - 4 1/2" cal.	40"	80" 36"
4 1/2" - 5" cal.	44"	88" 40"
5" - 5 1/2" cal.	48"	96" 44"
5 1/2" - 6" cal.	52"	104" 48"

4. Staking, Guying and Wrapping  
All plant material shall be staked or guyed, and wrapped in accordance with the following specifications:

- a. Stakes: Shall be sound wood 2" x 2" rough sawn oak or similar durable woods, or lengths, minimum 7' - 0" for major trees and 5' - 0" minimum for minor trees.
- b. Wire and Cable: Wire shall be #10 ga. galvanized or bethanzined annealed steel wire. For trees over 3" caliper, provide 5/16" turn buckles, eye and eye with 4" takeup. For trees over 5" caliper, provide 3/16", 7 strand cable cadmium plated steel, with galvanized "eye" thimbles of wire and hose on trees up to 3" in caliper.

c. Hose: Shall be new, 2 ply reinforced rubber hose, minimum 1/2" I.D. "Plastic Lock Ties" or "Paul's tree Braces" may be used in place of wire and hose on trees up to 3" in caliper.

d. All trees under 3" in caliper are to be planted and staked in accordance with the attached "Typical Tree Staking Detail". All trees over 3" in caliper are to be planted and guyed in accordance with the attached "Typical Tree Guying Detail."

5. Plant Pruning, Edging and Mulching

- a. Each tree, shrub or vine shall be pruned in an appropriate manner to its particular requirements, in accordance with accepted standard practice. Broken or bruised branches shall be removed with clean cuts flush with the adjacent trunk or branches. All cuts over 1" in diameter shall be pointed with an approved antiseptic tree wound dressing.
- b. All trenches and shrub beds shall be edged and cultivated to the lines shown on the drawing. The areas around isolated plants shall be edged and cultivated to the full diameter of the pit. Sod which has been removed and stacked shall be used to trim the edges of all excavated areas to the next lines of the plant pit saucers, the edges of shrub areas, hedge trenches and vine pockets.
- c. After cultivation, all plant materials shall be mulched with a 4" layer of tan bark, peat moss, or another approved material over the entire area of the bed or saucer.

6. Plant Inspection and Acceptance  
The Department of Planning and Code Enforcement Reviewing Officer shall be responsible for inspecting all planting projects on a periodic basis to assure that all work is proceeding in accordance with the approved plans and specifications.

7. Plant Guarantee  
All Plant material shall be guaranteed for the duration of one full growing season, after final inspection and acceptance of the work in the planting project. Plants shall be alive and in satisfactory growing condition at the end of the guarantee period.

- a. For this purpose, the "growing season" shall be that period between the end of the "Spring" planting season, and the commencement of the "Fall" planting season.
- b. Guarantee for planting performed after the specified end of the "Spring" planting season, shall be extended through the end of the next following "Spring" planting season.

SEEDING AND SODDING  
All seeding and sodding shall be as per "Standards and Specifications for Soil Erosion and Sediment Control in Urbanized Areas" as published by the Department of Natural Resources.

LANDSCAPE PLANT SCHEDULE			
KEY	QUA.	BOTANICAL / COMMON NAME	REMARKS
SHADE TREES			
AR	3	Acer rubrum Red Sunset	2 1/2"-3" B4B
QR	6	Quercus rubra Red Oak	2"-2 1/2" B4B
EVERGREEN TREES			
CA	3	Cedrus atlantica Blue Atlas Cedar	6'-8" Ht. B4B
SHRUBS			
BH	45	Ilex X Meserveyae Blue Girl	3 Gal Cont.
CB	24	Rosa ssp. (Midland) Carefree Beauty	3 Gal Cont.

M&P PLANTING SCHEDULE			
QUA.	BOTANICAL / COMMON NAME	SIZE	REMARKS
HERBACEOUS			
100	Juncus Effusus Soft rush	Plug	18" O.C.
100	Carex lurida Shallow sedge	Plug	18" O.C.
30	Asclepias incarnata Swamp milkweed	Plug	18" O.C.
30	Hibiscus moscheutos Swamp rose mallow	Plug	18" O.C.

Note: The Landscape surety of \$5,370.00 for 9 shade trees, 3 evergreen trees, 0 ornamental trees, and 74 shrubs shall be posted with the developer's agreement.

This surety is based on Howard County landscaping estimates of \$300 per shade tree, \$150 per evergreen tree, \$150 per ornamental tree, and \$30 per shrub.

SCHEDULE B  
PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	40
NUMBER OF TREES REQUIRED	1:20 = 5
NUMBER OF TREES PROVIDED	0 = 5 Existing* 0 = 5 Substitution

\* 1 OAK, 2 POPLAR, 1 ASH, 1 MAPLE

SCHEDULE A  
PERIMETER LANDSCAPE EDGE

CATEGORY	PERIMETER 1	PERIMETER 2	PERIMETER 3	PERIMETER 4	PERIMETER 5
	ADJACENT TO PERIMETER PROPERTIES	PERIMETER ADJACENT TO ROADWAYS	PARKING ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	A	A	E	C	A
LINEAR FEET OF PERIMETER	160	125	240	674	314
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES 314 L.F. FOREST 1 OAK, 1 GUM, 2 DOGWOODS	YES 1 OAK, 1 MAPLE	YES 1 HOLLY, 1 MAPLE, 1 CHERRY	YES 425 L.F. FOREST 24 WHITE PINES	YES 314 L.F. FOREST
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED (SHADE TREES, EVERGREEN TREES, SHRUBS)	1:60 = 3 0 0	1:60 = 3 0 0	1:40 = 7 0 1:4 = 75	1:40 = 6 1:20 = 15 0	0 0 0
NUMBER OF PLANTS PROVIDED (SHADE TREES, EVERGREEN TREES, OTHER TREES (2) SUBSTITUTION, SHRUBS (1) SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	0 = 2 Existing 0 0	1 = 2 Existing 0 0	6 = 1 Existing 0 0 1 = 1 Existing 74 = 1 Existing	11 = 24 Existing 0 0	0 0 0

\* CREDIT OF SHADE TREE USED FOR PERIMETER 3

Developer/Builder's Certification  
I/We certify that the landscaping shown on this plan will be done according to the plan Section 16.124 of the Howard County Code and the Howard County Landscapes Manual. I/We further certify that upon completion of Certification of Landscaping Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Date: 4-21-03

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.  
Howard County Health Department  
DATE: 10/10/03

APPROVED: Howard County Department of Planning and Zoning  
Chief, Development Engineering Division  
Chief, Division of Land Development  
Director (Acting)  
DATE: 10/16/03, 2/28/04, 3/1/04

These plans for SWM construction soil erosion and sediment control meet the requirements of Howard Soil Conservation District.  
Approved: Howard Soil Conservation District  
DATE: 9/29/03

Reviewed for the Howard Conservation District and meets technical requirements.  
Natural Resources Conservation Service  
DATE: 9/29/03

CONSULTING ENGINEER  
CAMPBELL & NOLAN ASSOCIATES, INC.  
Civil Engineers • Land Surveyors • Landscape Architects  
Planners • Geotechnical Engineers • Environmental Engineers  
P.O. Box 850 • Bel Air, Maryland 21014  
(410) 879-7200 • (410) 838-2784 • Fax: (410) 838-1811  
E-mail: cnamail@campbell-nolan.com

Professional Engineer Seal for Douglas Kopack, License No. 01-27-03

OWNER/DEVELOPER  
SAINT JAMES UNITED METHODIST CHURCH  
C/O ROBERT GRIM  
P.O. BOX 9  
WEST FRIENDSHIP, MARYLAND 21794  
PHONE: 410-489-7455

SAINT JAMES UNITED METHODIST CHURCH  
SITE DEVELOPMENT PLANS  
LANDSCAPING NOTES & DETAILS  
THIRD ELECTION DISTRICT  
DESIGNED BY: E.R.M.  
DRAWN BY: E.R.M.  
CHECKED BY: D.R.K.

SCALE: AS SHOWN  
TAX MAP: 9  
DEED REF.: 503/575  
PARCEL: 13B

DATE: 01-27-03  
REVISION: BY: [ ]  
DRAWING COMPLETED: 01-27-03

A.D.C. MAP: 5  
JOB #: 01153  
FILES: N:\Design\01000\01153\Enviro\01153LSP.dwg

SHEET NO. 9 OF 10

Handwritten initials and date: J.P. 03.70

**SOILS LEGEND**

Symbol	Name/Description	Hydric Soils
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	N
GIB2	Genieg loam, 3 to 8 percent slopes, moderately eroded	N
GrB2	Glensville silt loam, 3 to 8 percent slopes, moderately eroded	N
MIC2	Manor loam, 8 to 15 percent slopes, moderately eroded	N
MIC2	Mt. Airy Channery Loam, 8 to 15 percent slopes, moderately eroded	N
MID2	Mt. Airy Channery loam, 15 to 25 percent slopes, moderately eroded	N

**FOREST CONSERVATION WORKSHEET**

I. SITE INFORMATION		ACRES (1/10 acre)
GROSS SITE AREA	6,590 ACRES	
AREA WITHIN 100 YEAR FLOODPLAIN	0.000 ACRES	
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (if applicable)	0.000 ACRES	
EXISTING LIMIT OF DISTURBANCE	2,810 ACRES	
NET TRACT AREA	3,780 ACRES	
LAND USE CATEGORY	INSTITUTIONAL	
II. INFORMATION FOR CALCULATIONS		
A. NET TRACT AREA	3,780 ACRES	
B. CONSERVATION THRESHOLD (20% X A)	0,756 ACRES	
C. AFFORESTATION MINIMUM (15% X A)	0,567 ACRES	
D. EXISTING FOREST ON NET TRACT AREA	3,780 ACRES	
E. FOREST AREAS TO BE CLEARED	2,419 ACRES	
F. FOREST AREAS TO BE RETAINED	1,361 ACRES	
G. BREAK EVEN POINT	1,361 ACRES	
III. REFORESTATION REQUIREMENT		
FOREST REMOVED BELOW REFORESTATION THRESHOLD	0,000 ACRES	
2:1 REFORESTATION REQUIREMENT	0,000 ACRES	
FOREST REMOVED ABOVE FOREST CONSERVATION THRESHOLD	2,419 ACRES	
1/4:1 REFORESTATION REQUIREMENT	0,605 ACRES	
TOTAL REFORESTATION REQUIRED	0,605 ACRES	
FOREST CREDIT	0,605 ACRES	
NET REFORESTATION REQUIRED	0,000 ACRES	
TOTAL PLANTING REQUIRED	0,000 ACRES	

Note: The objective for the forest conservation on this site is to retain sufficient acreage to meet the Break Even Point.

COST ESTIMATE: (For bonding purposes, only)  
ON-SITE RETENTION PROVIDED 59,285 SF X 0.20 = \$ 11,857.00

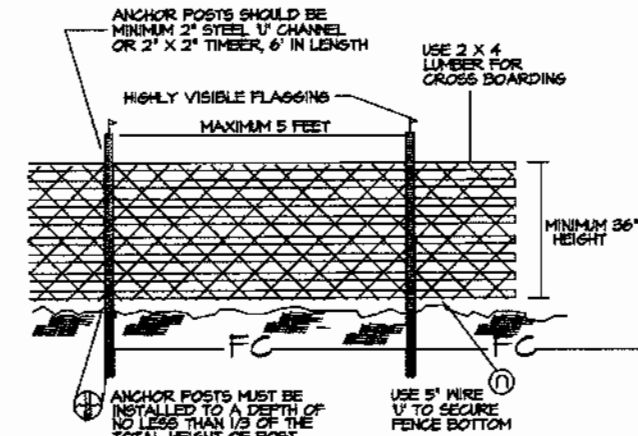
SURETY NOTE  
FINANCIAL SURETY IN THE AMOUNT OF \$11,857.00 WILL BE POSTED WITH THE FC INSTALLATION AND MAINTENANCE AGREEMENT.

For recorded Forest Conservation Easement, see plat # 16217

**LEGEND**

- EXISTING FOREST
- NONTIDAL WETLANDS
- NATURAL RESOURCES DISTRICT
- SOILS
- FOREST RETENTION AREA
- FOREST CONSERVATION SIGN
- FOREST PROTECTION FENCE

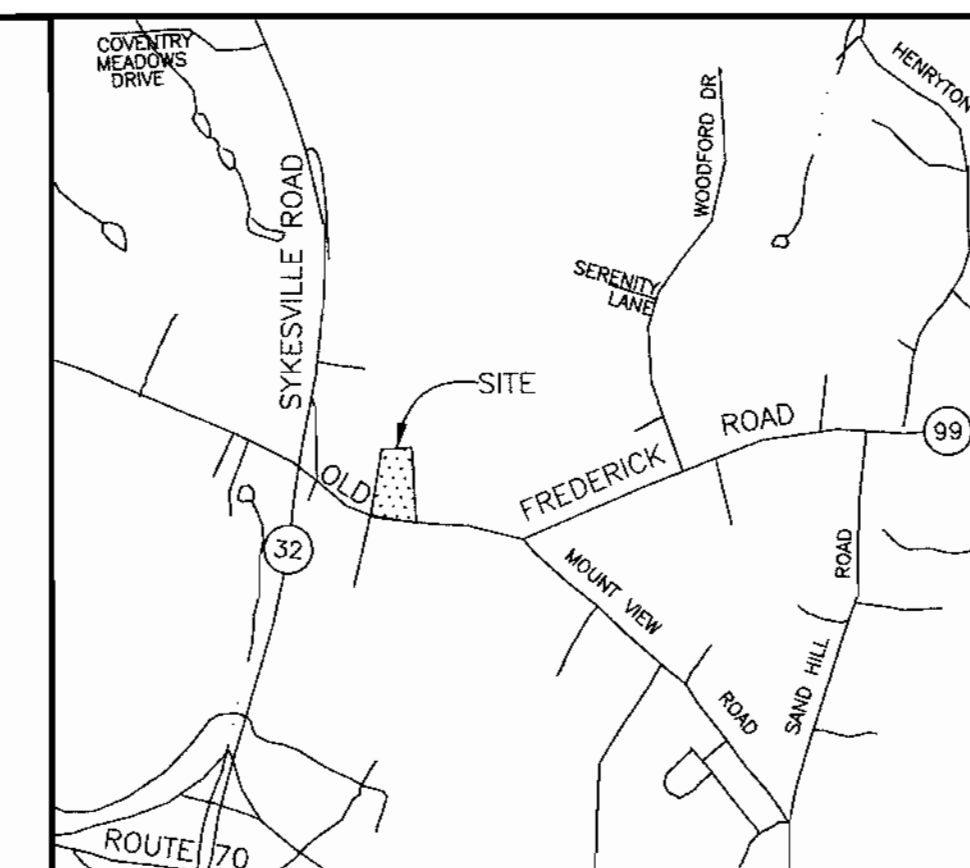
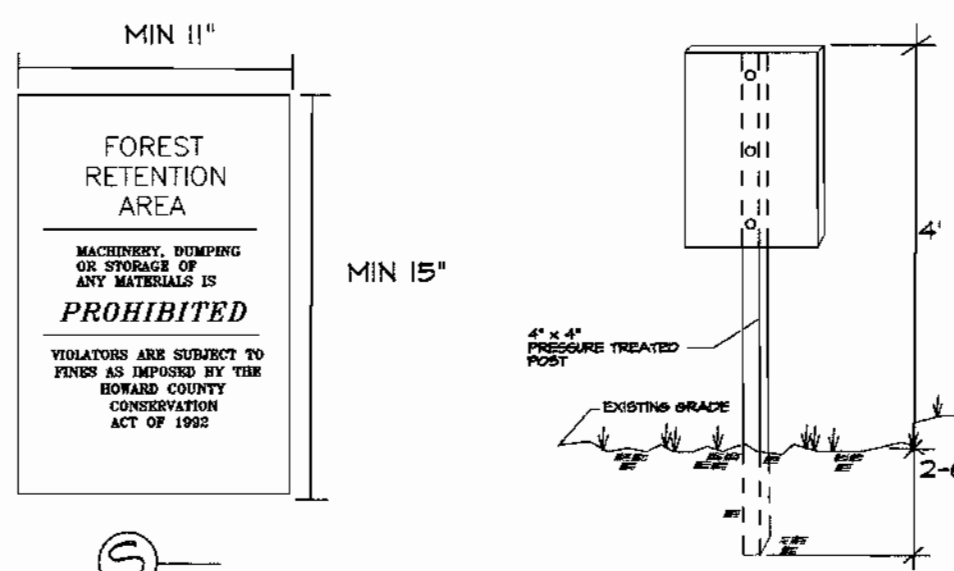
**BLAZE ORANGE PLASTIC MESH**



- NOTES:
- FOREST PROTECTION DEVICE ONLY.
  - RETENTION AREA SHALL BE SET AS PART OF THE REVIEW PROCESS.
  - BOUNDARIES OF RETENTION AREA SHOULD BE SPACED AND FLAGGED PRIOR TO INSTALLING DEVICE.
  - ROOT DAMAGE SHOULD BE AVOIDED.
  - PROTECTIVE DAMAGING MAY ALSO BE USED.
  - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

**TREE PROTECTION FENCING**

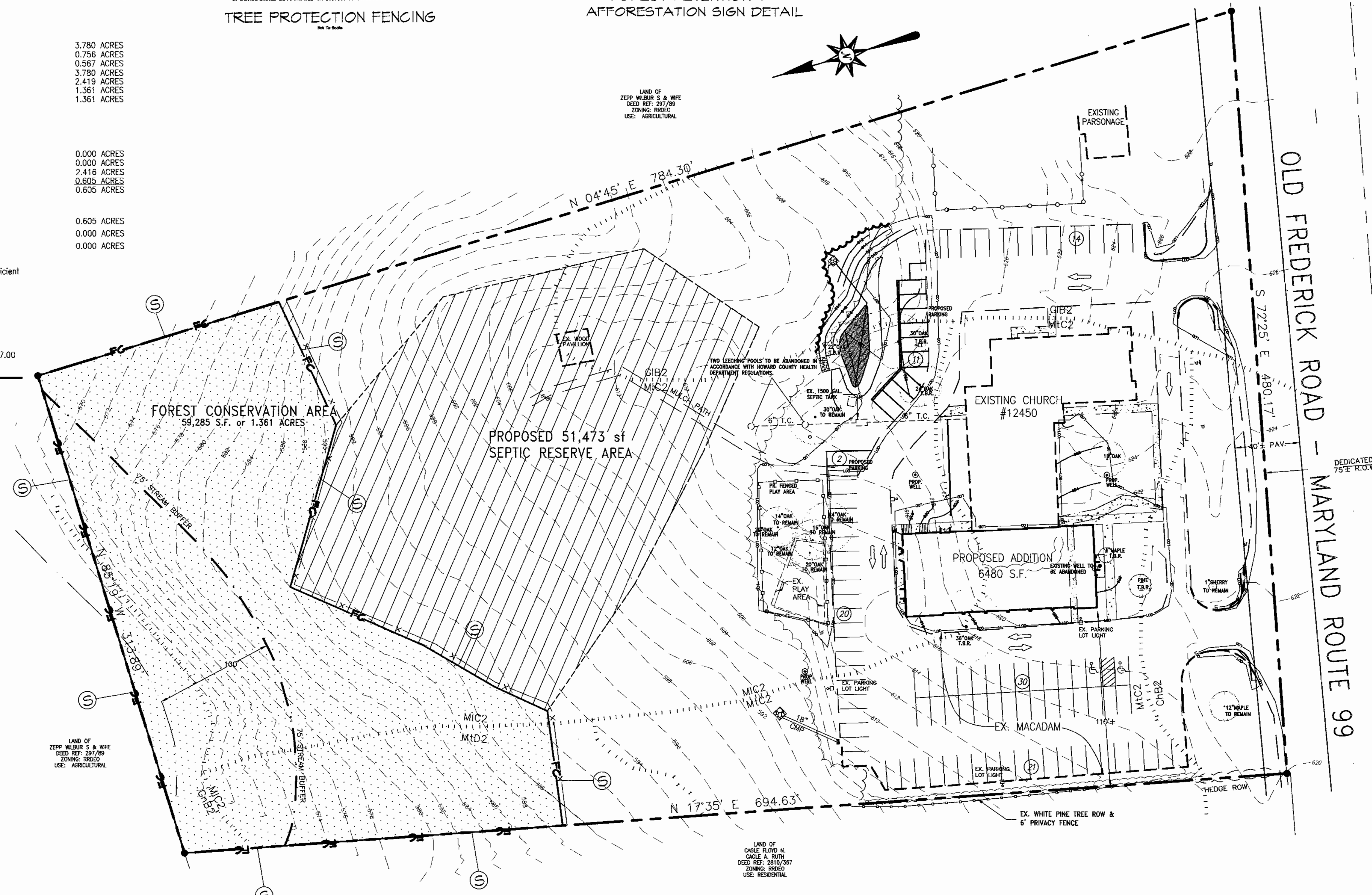
**FOREST RETENTION & AFFORESTATION SIGN DETAIL**



**LOCATION MAP**  
SCALE 1" = 2000'

**SITE DATA**

- SITE ADDRESS : #12450 STATE RT 99 MARRIOTTSTVILLE, MD 21104
- TAX MAP: #9, PARCEL: #138
- DEED REFERENCE: 503/573
- TOTAL ENCLOSED AREA: 6.59 AC.±
- THIRD ELECTION DISTRICT
- PRESENT ZONING: RRDEO
- EXISTING USE: CHURCH / SUNDAY SCHOOL
- PROPOSED USE: CHURCH / SUNDAY SCHOOL / DAY SCHOOL



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.  
*Raymond M. McPherson*  
COUNTY HEALTH OFFICER  
HOWARD COUNTY HEALTH DEPARTMENT  
DATE: 10-10-03

APPROVED: Howard County Department of Planning and Zoning  
*Chris Damman*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 10/10/03  
*Cindy Ammita*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/5/04  
*Stephen Lafferty*  
DIRECTOR (Acting)  
DATE: 3/1/04

CONSULTING ENGINEER  
**CAMPBELL & NOLAN ASSOCIATES, INC.**  
Civil Engineers • Land Surveyors • Landscape Architects  
Planners • Geotechnical Engineers • Environmental Engineers  
P.O. Box 850 • Bel Air, Maryland 21014  
(410)879-7200 • (410)838-2784 • Fax(410)838-1811  
E-mail: cnamail@campbell-nolan.com

OWNER/DEVELOPER  
SAINT JAMES UNITED METHODIST CHURCH  
C/O ROBERT GRIMM  
P.O. BOX 9  
WEST FRIENDSHIP, MARYLAND 21794  
PHONE: 410-489-7455

SAINT JAMES UNITED METHODIST CHURCH (BUILDING ADDITION)		FOREST CONSERVATION PLAN	
THIRD ELECTION DISTRICT	HOWARD COUNTY, MARYLAND	A.D.C. MAP	REVISION
DESIGNED BY: E.R.M.	SCALE AS SHOWN	5	DATE
DRAWN BY: E.R.M.	DEED REF. 503/575	9	BY
CHECKED BY: D.R.K.	PARCEL 138	5	DATE
DRAWING COMPLETED 01-27-03		JOB # 01153	SHEET NO. 10
FILES: N:\Design\01000\01153\Enviro\01153FCP2.dwg		GRID D-13	OF 10

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