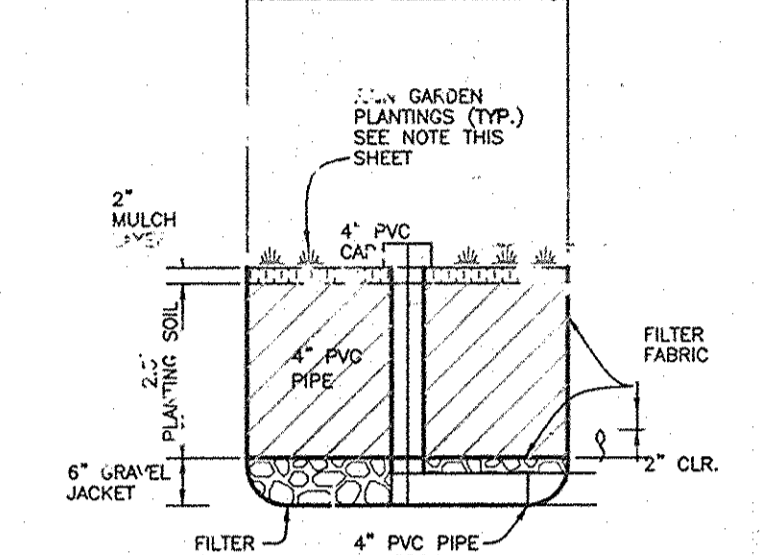


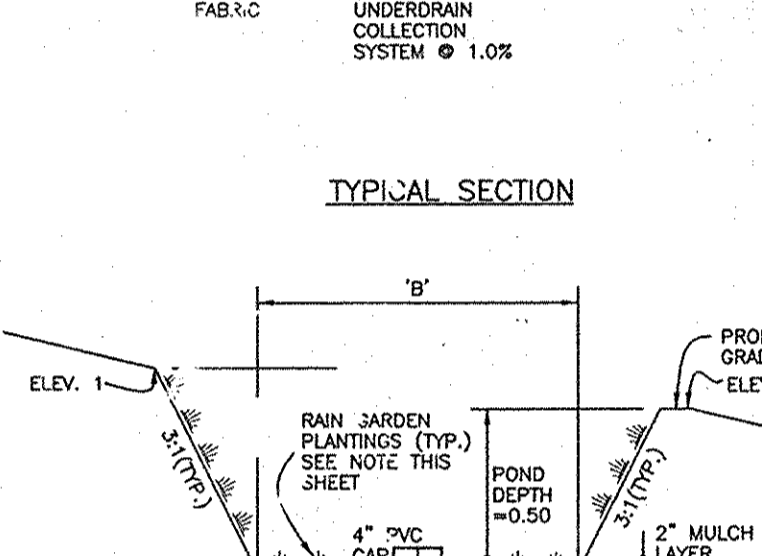
SEE S.D.P. 09-051 FOR REVISION TO R.G. 2

RAINGARDEN TABLE		RAINGARDEN TABLE	
LOT 2	RG 1	LOT 3	RG 2
ELEV. 1	269.2	ELEV. 1	267.7
ELEV. 2	268.7	ELEV. 2	267.2
ELEV. 3	268.2	ELEV. 3	266.7
ELEV. 4	268.03	ELEV. 4	266.53
ELEV. 5	265.53	ELEV. 5	264.03
ELEV. 6	265.03	ELEV. 6	263.53
DIMENSIONS		DIMENSIONS	
'A'	12'	'A'	12'
'B'	12'	'B'	12'



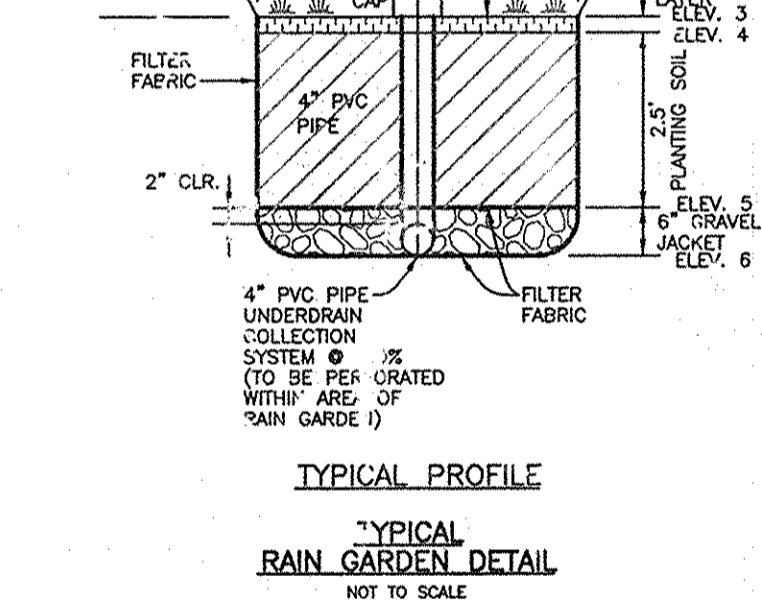
SEE S.D.P. 09-051 FOR REVISION TO R.G. 3

RAINGARDEN TABLE		RAINGARDEN TABLE	
LOT 4	RG 3	LOT 5	RG 4
ELEV. 1	262.0	ELEV. 1	272.1
ELEV. 2	261.5	ELEV. 2	271.6
ELEV. 3	261.0	ELEV. 3	271.1
ELEV. 4	260.83	ELEV. 4	270.93
ELEV. 5	258.33	ELEV. 5	268.43
ELEV. 6	257.83	ELEV. 6	267.93
DIMENSIONS		DIMENSIONS	
'A'	12'	'A'	12'
'B'	12'	'B'	12'



SEE S.D.P. 09-051 FOR REVISION TO R.G. 6

RAINGARDEN TABLE		RAINGARDEN TABLE	
LOT 6	RG 5	LOT 7	RG 6
ELEV. 1	273.1	ELEV. 1	266.50
ELEV. 2	272.6	ELEV. 2	266.00
ELEV. 3	272.1	ELEV. 3	265.50
ELEV. 4	271.93	ELEV. 4	265.33
ELEV. 5	268.43	ELEV. 5	262.83
ELEV. 6	268.93	ELEV. 6	262.33
DIMENSIONS		DIMENSIONS	
'A'	12'	'A'	14'
'B'	12'	'B'	14'



SEE S.D.P. 09-051 FOR REVISION TO R.G. 6

RAINGARDEN TABLE		RAINGARDEN TABLE	
LOT 2	RG 7	LOT 4	RG 8
ELEV. 1	268.90	ELEV. 1	266.0
ELEV. 2	268.40	ELEV. 2	265.50
ELEV. 3	267.90	ELEV. 3	265.0
ELEV. 4	267.73	ELEV. 4	264.83
ELEV. 5	265.23	ELEV. 5	262.33
ELEV. 6	264.73	ELEV. 6	261.83
DIMENSIONS		DIMENSIONS	
'A'	9'	'A'	10'
'B'	9'	'B'	10'

### SITE ANALYSIS DATA CHART

GENERAL SITE DATA

- PRESENT ZONING: R-12
- APPLICABLE DPZ FILE REFERENCES: N/A
- DEED REFERENCE: 9407/580, 10366/530
- PROPOSED USE OF SITE: SINGLE-FAMILY DETACHED
- PROPOSED WATER AND SEWER SYSTEMS: PUBLIC AREA TABULATION
  - GROSS TRACT AREA: 2.30 AC.±
  - AREA WITHIN 100-YEAR FLOODPLAIN: 0.00 AC.±
  - TOTAL AREA OF 25% OR GREATER STEEP SLOPES: 0.00 AC.±
  - AREA NOT IN FLOODPLAIN: 0.00 AC.±
  - NET TRACT AREA: 2.28 AC.±
  - TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS PROPOSED IN THIS SUBMISSION: 7
  - AREA OF ROAD RIGHT-OF-WAY: 0.02 AC.±
  - OPEN SPACE ON-SITE TOTAL REQUIREMENTS: 10.800 AC.±
  - MINIMUM RESIDENTIAL LOT SIZE: 0.23AC±
  - OPEN SPACE REQUIRED (10%): 0.23AC±

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Walter J. Smith* 7-25-08  
CHIEF, BUREAU OF HIGHWAYS

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/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.

*Samuel Hassan* 8/6/08  
DEVELOPER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Candy Harris* 9/30/08  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Walter J. Smith* 8/6/08  
CHIEF, DEPARTMENT OF PLANNING AND ZONING

### PUBLIC STREET TREE PLANTING LIST

SYMBOL	QUANTITY	NAME	REMARKS
+	5	ACER RUBRUM 'NORTHERN GLORY'	2 1/2" - 3" CAL

### PERIMETER LANDSCAPE PLANTING LIST

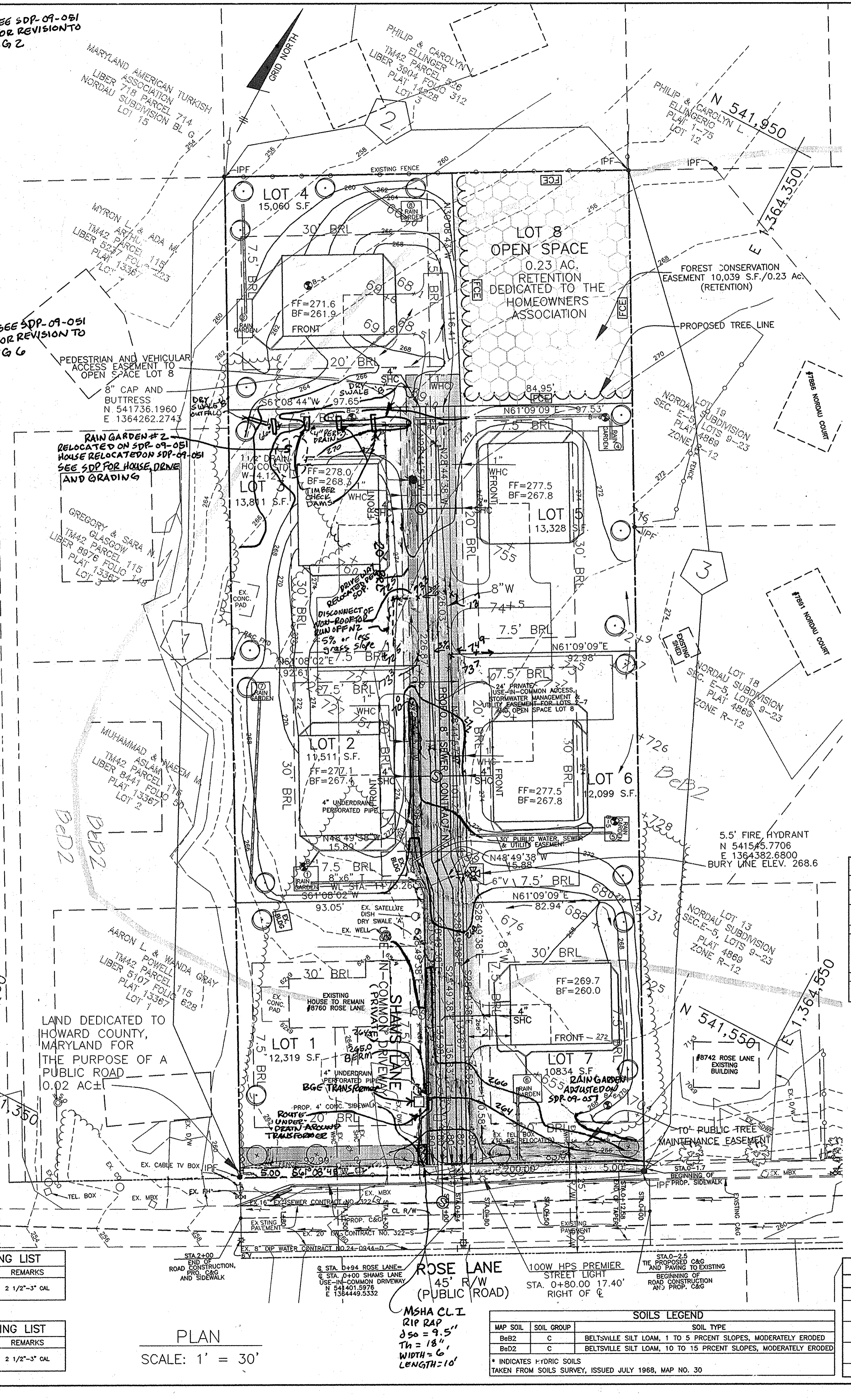
SYMBOL	QUANTITY	NAME	REMARKS
○	18	ACER RUBRUM 'GREEN MOUNTAIN'	2 1/2" - 3" CAL

### RAIN GARDEN - PLANTING DATA

- PLANTINGS WITHIN THE PONDING AREA OF THE RAIN GARDEN ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE  
SUGGESTED SPECIES:  
CREEPING BUGLEWEED (AJUGA REPTANS)  
COMMON PERIWINKLE (VINCA MINOR)  
LILY-TURF (LIRIOPE SP.)
- PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE RAIN GARDEN ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE  
SUGGESTED SPECIES:(PERENNIALS/ANNUALS)  
IRIS (IRIS VERSICOLOR)  
DAYLILY (HEMEROCALLIS SP.)  
WHITELIGHT ASTER (ASTILE SP.)
- AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE RAIN GARDEN NEAR PIPE AND UNDERDRAIN.

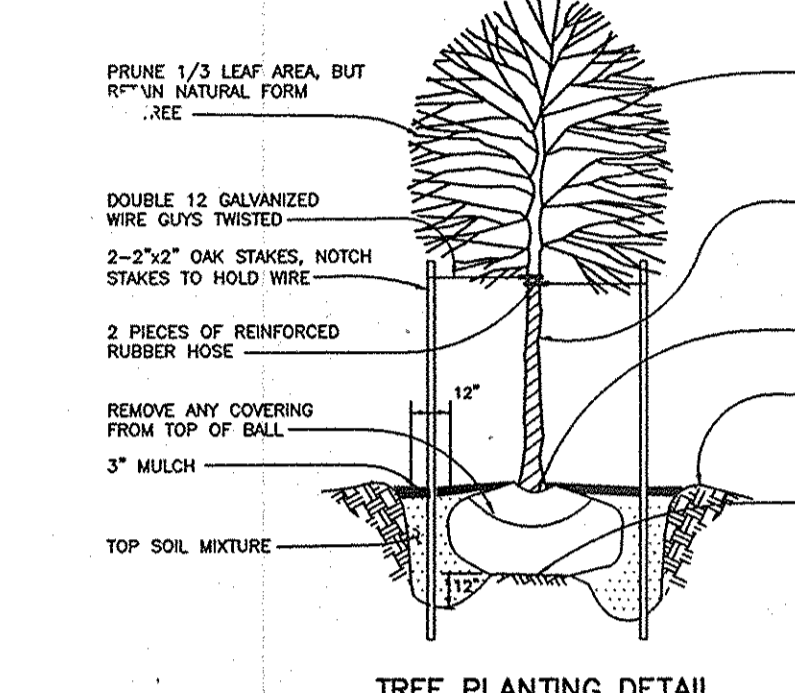
### RAIN GARDEN - PLANTING SCHEDULE

SYMBOL	NAME	QUANTITY
△	VINCA MINOR (COMMON PERIWINKLE)	18
△	AJUGA REPTANS S (CREEPING BUGLEWEED)	15
△	IRIS VERSICOLOR (IRIS)	8
△	HEMEROCALLIS SP. (DAYLILY)	5
△	ACER RUBRUM (RED MAPLE)	1



### LEGEND

SOILS CLASSIFICATION	AbC1
SOILS DELINEATION	---
EXISTING CONTOURS	---
PROPOSED CONTOURS	---
EXISTING WOODS LINE	---
PROPOSED WOODS LINE	---
EXISTING STRUCTURE	---
PROPOSED STRUCTURE	---
PRIVATE & SEWER EASEMENTS	---
PRIVATE USE IN COMMON EASEMENTS	---
10' PUBLIC TREE MAINTENANCE EASEMENTS	---
FOREST CONSERVATION EASEMENTS	---
PROPOSED SIDEWALK	---



### SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES	NO	NO	NO
PERIMETER NO. / LANDSCAPE TYPE	(1) A	(2) A	(3) A	(3) A	(3) A
LINEAR FEET OF (FRONTAGE/PERIMETER)	500'	200'	500'		
CREDIT FOR EXISTING VEGETATION (NO OR YES (W/LINEAR FEET) (DESCRIBE BELOW IF NEEDED))	NO	YES	YES	YES	116.37
CREDIT FOR WALL, FENCE OR BERM (NO OR YES (W/LINEAR FEET) (DESCRIBE BELOW IF NEEDED))	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED: SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTE) SHRUBS	9	2	7		
NUMBER OF PLANTS PROVIDED: SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTE) SHRUBS (10:1 SUBSTITUTE) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	9	2	7		

### OPERATION & MAINTENANCE SCHEDULE FOR RAIN GARDENS

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

### MATERIALS AND SPECIFICATIONS FOR RAIN GARDEN

MATERIAL	SPECIFICATION	SIZE	NOTES:
PLANTINGS	SEE APPENDIX A TABLE A.4	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL (2.5' TO 4.0' DEEP)	USDA SOIL TYPES: LOAMY SAND, SANDY LOAM OR LOAM	N/A	
MULCH	SHREDDED HARDWOOD	N/A	AGRO 6 MONTHS, MINIMUM
GEOTEXTILE (CLASS 2)	APPROPRIATE OPENING SIZE: 1/4" (MIN) 1/2" (MAX) TENSILE STRENGTH: 100 LBS (MIN) PUNCTURE RESISTANCE: (ASTM D-4853)	N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY
UNDERDRAIN PIPING	ASPH/ST 1/4-3/8"	0.375" TO 0.750"	
UNDERDRAIN GRISEL	F758, TYPE P252 OR ASPHO M-278	4" TO 6" RIGID SCHED 40 PVC, SCH40 OR HOPE	3/8" PERFOR. 6" O/C. 4 HOLES PER ROW. MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES

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

### LANDSCAPING NOTES

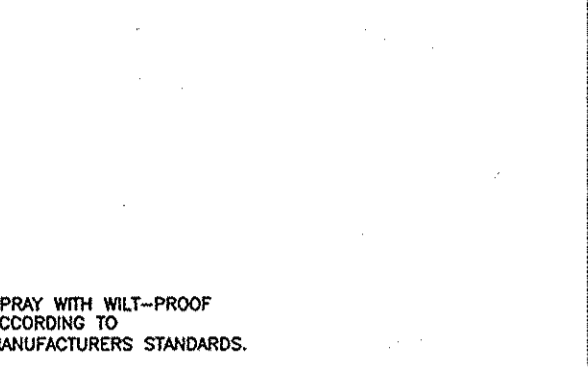
- PERIMETER LANDSCAPING SHALL BE PROVIDED BY THE PLANTINGS AS SHOWN ON THESE PLANS.
- TREES MUST BE A MINIMUM OF FOUR(4) FEET FROM THE CURB OR SIDEWALK AND MUST BE A MINIMUM OF FIVE(5) FEET FROM ANY STORM DRAIN.
- A MINIMUM DISTANCE OF TWENTY(20) FEET MUST BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB AND FROM ANY STREET LIGHTS.
- TREES MUST BE PLANTED A MINIMUM OF TEN(10) FEET FROM A DRIVEWAY.
- PERIMETER LANDSCAPING AND STREET TREES PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL SHALL BE PROVIDED AS SHOWN ON A CERTIFIED LANDSCAPE PLAN ON FILE WITH THE SUBDIVISION SURVEY IN THE AMOUNT OF \$6,400.00 FOR 18 SHADE TREES SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN, 7-27-197.

### SHEET INDEX

NO.	DESCRIPTION
1	GRADING PLAN AND LANDSCAPE PLAN
2	SEDIMENT AND EROSION CONTROL PLAN, NOTES AND DETAILS
3	DRY SWALE PROFILE AND SECTION AND MAINTENANCE OF TRAFFIC DETAILS
4	ROADWAY IMPROVEMENTS CROSS-SECTIONS AND DETAILS
5	FOREST CONSERVATION PLAN

### BENCH MARKS

HO. CO. #421A	HOWARD COUNTY CONTROL NO. 3241001 CONCRETE MONUMENT WEST SIDE OF MISSION ROAD 74.3' NORTH OF B&E POLE #297906 AND 39.2' WEST OF C&P #137114	N 543,390.356 E 1,364,912.655 ELEV. 312.67
HO. CO. #421B	HOWARD COUNTY NO. 3241002 CONCRETE MONUMENT SOUTH SIDE OF GULFROAD ROAD OPPOSITE OF MISSION ROAD 42.2' SOUTHWEST OF DRAIN INLET 19.4' SOUTHEAST OF B&E POLE NO. 271362 AND 16.3' EAST OF GUY WIRE.	N 542,366.879 E 1,363,076.003 ELEV. 283.12



ADD MAP 20 GRID D-4 VICINITY MAP SCALE: 1" = 2000'

### GENERAL NOTES

- EXISTING TOPOGRAPHY SHOWN HEREON WAS FIELD RUN BY BENCHMARK ENGINEERING, INC. DATED NOVEMBER, 2006. CONTOUR INTERVAL IS 2 FEET.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY SEC 16.124 CONTROL MONUMENTS 421A & 421B, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM.
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER SHALL BE PUBLIC. CONTRACT NO. 24-451-1-2. THE DRAINAGE AREA IS WITHIN THE MIDDLE PATIENT AREA WATERSHED.
- STORMWATER MANAGEMENT SHALL BE PROVIDED FOR THIS PROJECT BASED ON GUIDELINES ESTABLISHED BY THE 2000 MARYLAND STORMWATER DESIGN MANUAL AND ITS SUPPLEMENTS. STORMWATER MANAGEMENT SHALL BE PROVIDED BY USE OF ROOFTOP DISCONNECTION CREDITS, RAIN GARDENS AND NON-ROOFTOP DISCONNECTION CREDITS.
- EXISTING UTILITIES SHOWN WERE LOCATED BY APPROVED CONTRACT DRAWINGS AND FIELD LOCATIONS.
- THERE ARE NO EXISTING WETLANDS, WETLANDS BUFFER ZONES, STREAM BUFFERS OR 100-YR. FLOODPLAIN ON-SITE.
- PERIMETER LANDSCAPING SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL AS SHOWN ON A CERTIFIED LANDSCAPE PLAN ON FILE WITH THE SUBDIVISION SURVEY. POSTING OF SURETY IN THE AMOUNT OF \$6,400.00 SHALL BE PROVIDED WITH THE DEVELOPER'S AGREEMENT FOR THIS PLAN, 7-27-197. 0.23 AC OPEN SPACE IS PROVIDED ON THIS SUBDIVISION.
- THERE IS AN EXISTING DWELLING LOCATED ON LOT 1 TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATIONS REQUIRE.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON-SITE.
- UNLESS NOTED AS "PRIVATE", ALL EASEMENTS ARE PUBLIC.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
  - WIDTH - 12' (16 SERVING MORE THAN ONE RESIDENCE).
  - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH "AR AND CH" COATING (1-1/2" MIN).
  - GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE & MIN. 45' TURNING RADIUS.
  - STRUCTURES (CULVERTS, BRIDGES) - CAPABLE OF SUPPORTING 25,000 LBS (12.5 TONS).
  - DRAINAGE ELEMENTS - CAPABLE OF 1/2" DRAINAGE PER 100' OF ROADWAY SURFACE WITH NO MORE THAN 1" DEPTH OF WATER OVER SURFACE.
  - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
  - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- THIS PLAN IS SUBJECT TO THE AMENDED 5TH EDITION OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND THE AMENDED HOWARD COUNTY ZONING REGULATIONS, COUNCIL BILL 90-2001.
- SUBJECT PROPERTY IS ZONED R-12 PER 7/28/06 COMPREHENSIVE ZONING PLAN.
- THE FOREST RESTORATION OBLIGATION IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL SHALL BE FULFILLED BY THE PLANTING OF 23 ACRES OF FOREST RESTORATION PLANTING. THE FOREST CONSERVATION SURETY IN THE AMOUNT OF \$2,007.80 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN, 7-27-197, AND BY THE PLANTING OF 23 ACRES OF FOREST RESTORATION PLANTING IN THE AMOUNT OF \$28,136 TO THE FOREST CONSERVATION FUND FOR 0.8 ACRES OF REQUIRED RESTORATION.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE MASS GROUP IN MARCH, 2006 AND REVISED IN JULY, 2007, AND WAS APPROVED ON AUGUST 24, 2007.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE U.S. STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PUBLIC WORKS DEPARTMENT AS APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 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 COMMENCEMENT OF ANY ASPHALT.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME 1 (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN STREET LIGHTS AND ANY TREE.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE CURB OR SIDEWALK SHALL BE LOCATED ON A 2" GALVANIZED STEEL PERFORATED SQUARE TUBE POST (1 1/2" DIA.) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (1 1/2" DIA.) 5' LONG. A GALVANIZED STEEL PLATE SHALL BE INSTALLED ON TOP OF EACH SIGN POST.

NO.	DATE	REVISION
3	6-26-14	REVISE UTIC GRADING, SWM AND RELOCATE DRY SWALE "B"
2	4-29-11	REMOVE SIDEWALK FROM IN FRONT OF LOT 1
1	6-21-10	REVISE CURB & GUTTER AND REMOVE PROPOSED FIRE HYDRANT

### BENCHMARK ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE # SUITE 418  
ELLICOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644  
www.bel-civilr-engineering.com

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 21443. Expiration Date: 12-21-2008.

*Omali Man* 7-10-08

PROJECT: ROSE LANE SECTION E-5

LOCATION: TAX MAP 42 - GRID 24 PARCELS 160 AND 240 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: GRADING PLAN AND LANDSCAPE PLAN

DATE: APRIL, 2007 PROJECT NO. 1968  
JULY, 2008

SCALE: AS SHOWN DRAWING 1 OF 5

Design: DAM Draft: EDD Check: DAM

SCALE: 1" = 30'

PLAN

SOILS LEGEND

MAP SOIL	SOIL GROUP	SOIL TYPE
BeB2	C	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
BeD2	C	BELTSVILLE SILT LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED

\* INDICATES FERRIC SOILS TAKEN FROM SOILS SURVEY, ISSUED JULY 1988, MAP NO. 30



**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1850).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL, REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. 9) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR PERMANENT SEEDINGS (SEC. 51) SO (SEC. 52), TEMPORARY SEEDING (SEC. 52) 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.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE (THIS SUBMISSION)	2.3	ACRES
AREA DISTURBED	0.45	ACRES
AREA TO BE ROOFED OR PAVED	0.21	ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.24	ACRES
TOTAL CUT	453	CY
TOTAL FILL	300	CY
OFFSITE "A" BORROW AREA LOCATION	*	

\* IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY THE SPILL/BORROW SITE AND NOTIFY AND OBTAIN APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR OF THE SITE AND ITS GRADING PERMIT NUMBER AT THE TIME OF CONSTRUCTION.

**PERMANENT SEEDBED PREPARATIONS**

SCHEDULES: SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0-0 UREAFORM FERTILIZER (9.5/1000 SQ FT).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0-0 UREAFORM FERTILIZER (9.5/1000 SQ FT).

SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.5 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.5 LBS/1000 SQ FT) OF WINDSOR LOWGROWER DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28. PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW OR SEED AS SHOWN AS POSSIBLE IN THE SPRING. OPTION (2) USE 500 OPTI-N (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF ENHANCED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

**SEQUENCE OF CONSTRUCTION**

NOTIFY SEDIMENT CONTROL DIV. IN 48 HOURS PRIOR TO START OF CONSTRUCTION

DAY 1-9 OBTAIN GRADING PERMIT.

DAY 3-9 CLEAR & GRUB FOR SEDIMENT CONTROL DEVICES. \*NO INST. SEDIMENT CONTROL DEVICES.

DAY 10-15 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR CLEAR AND GRUB REMAINDER OF THE SITE.

DAY 10-26 OBTAIN APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, BEGIN MASS GRADING OF THE SITE.

DAY 27-28 STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDING NOTES.

DAY 29-49 INSTALL STORM DRAINAGE AND OTHER UTILITIES INCLUDING THE UNDERGROUND STORMWATER MANAGEMENT FACILITIES AND SAND FILTERS. (NOTE-UNDERGROUND PIPES ENTERING THE SAND FILTERS SHALL BE BLOCKED UP AT THE SITE IS STABILIZED).

DAY 50-55 INSTALL CURB AND GUTTER.

DAY 56-61 INSTALL BASE COURSE PAVING FOR PARKING LOT.

DAY 62-162 CONSTRUCT OFFICE BUILDING.

DAY 163-166 FIN. AL. GRADE REMAINDER OF SITE AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDING NOTES.

DAY 167-170 INSTALL FINAL PAVING.

DAY 171-172 INSTALL LANDSCAPING AS SPECIFIED ON THESE PLANS.

DAY 173-183 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE ANY REMAINING DISTURBED AREAS.

NOTE: 1. SEDIMENT CONTROL LOCATION AND IMPLEMENTATION SHOWN ON THESE PLANS IS SUBJECT TO REVISION BY THE FIELD AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR.

2. EROSION CONTROL MATTING SHALL BE PLACED IN SWALES WHERE DEEMED NECESSARY UNLESS VEGETATION IS ESTABLISHED OR SOIL SOO SHOULD

**LEGEND**

SOILS CLASSIFICATION AbC1

SOILS DELINEATION 999

EXISTING CONTOURS 999

PROPOSED CONTOURS 999

EXISTING WOODS LINE

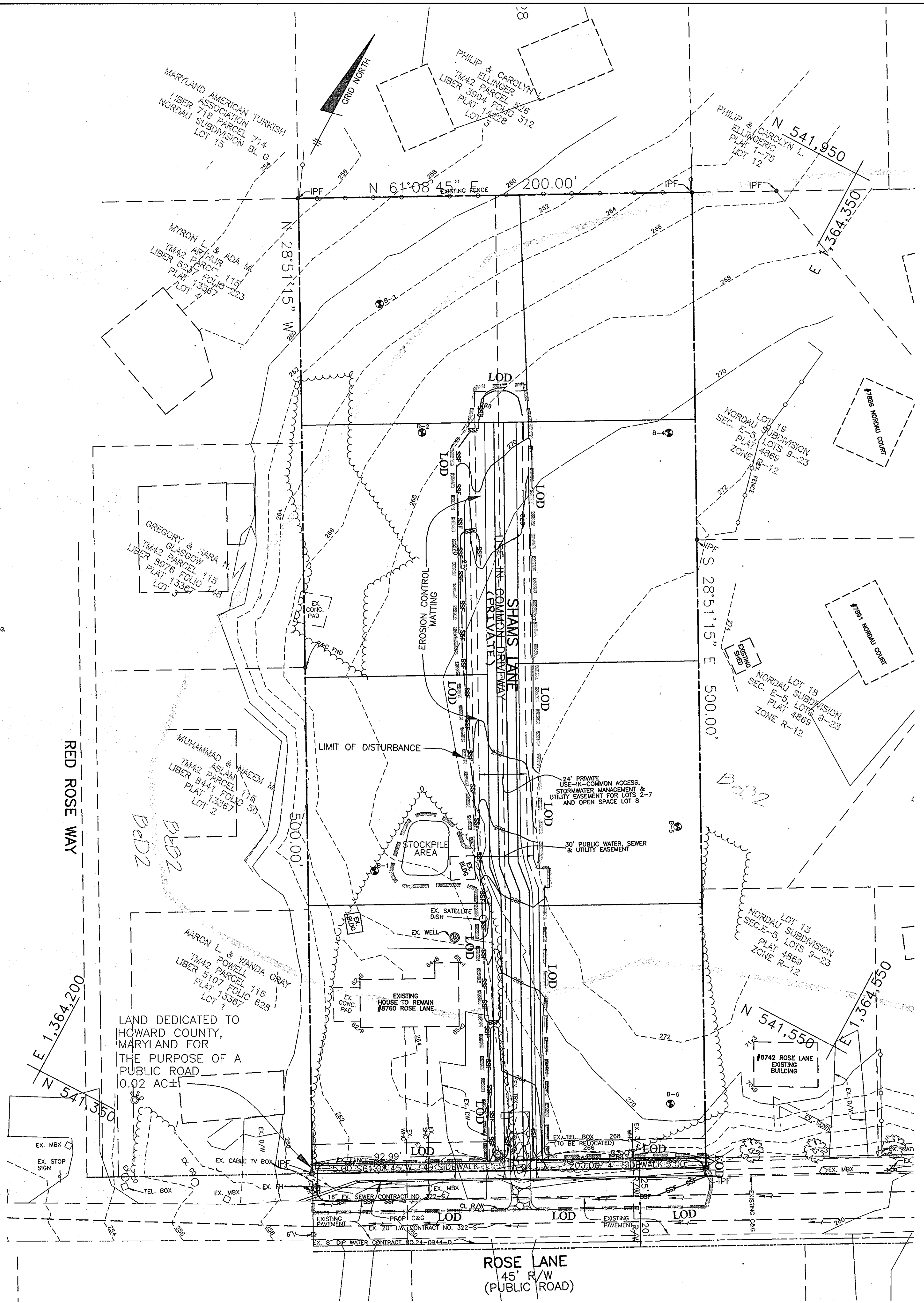
EXISTING STRUCTURE

PROPOSED SIDEWALK

LIMIT OF DISTURBANCE

SUPER SILT FENCE SSF

STABILIZED CONSTRUCTION ENTRANCE



**SEDIMENT AND EROSION CONTROL PLAN**  
SCALE: 1" = 30'

**SUPER SILT FENCE**

**CONSTRUCTION SPECIFICATIONS**

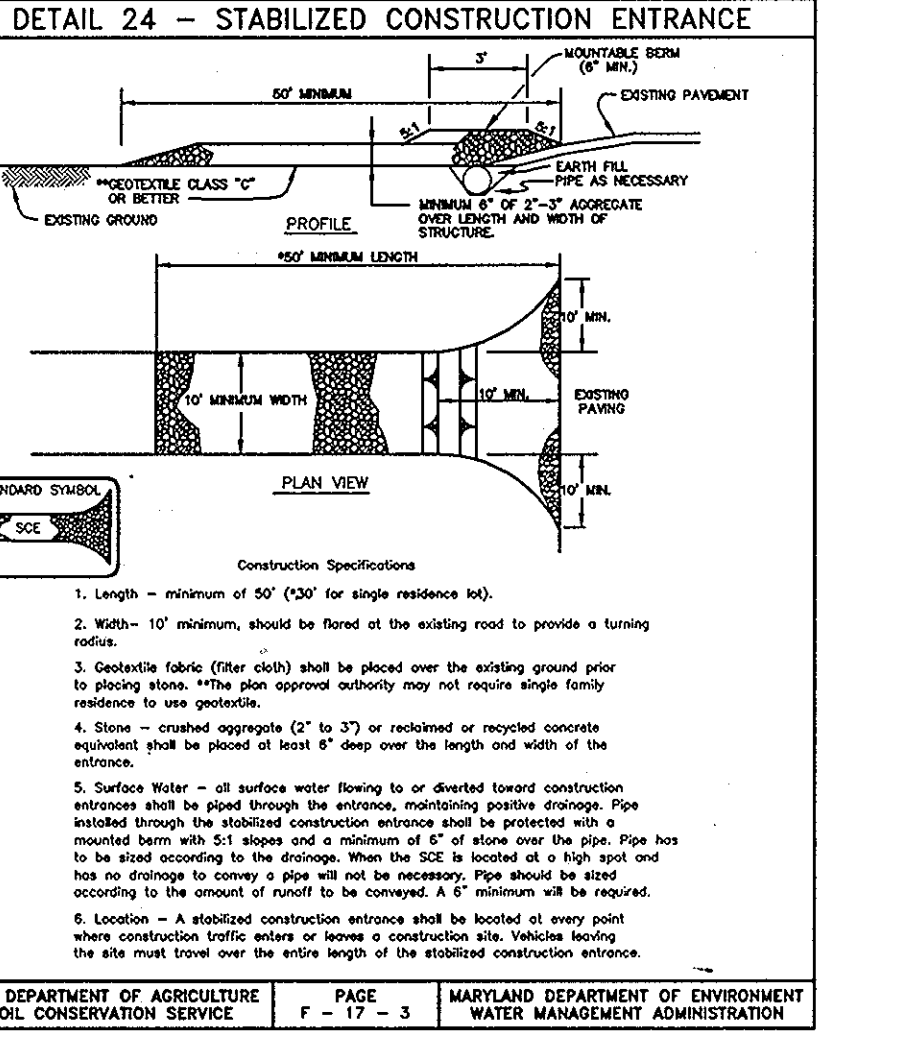
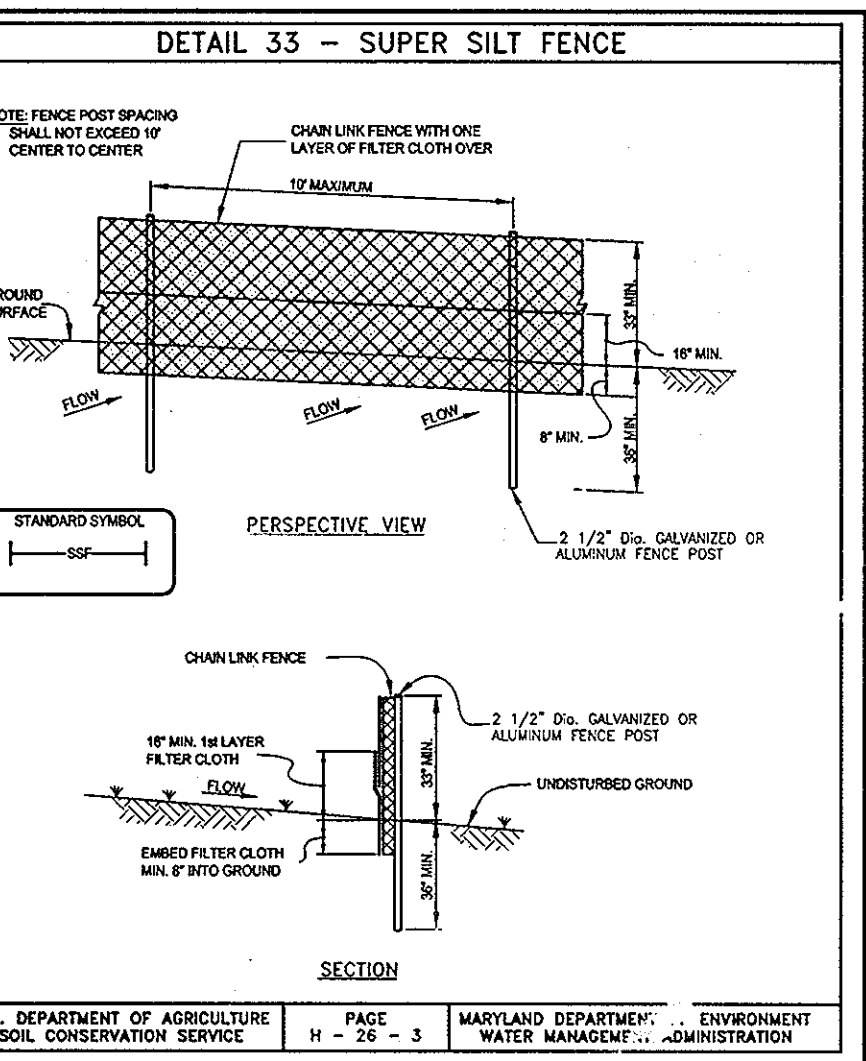
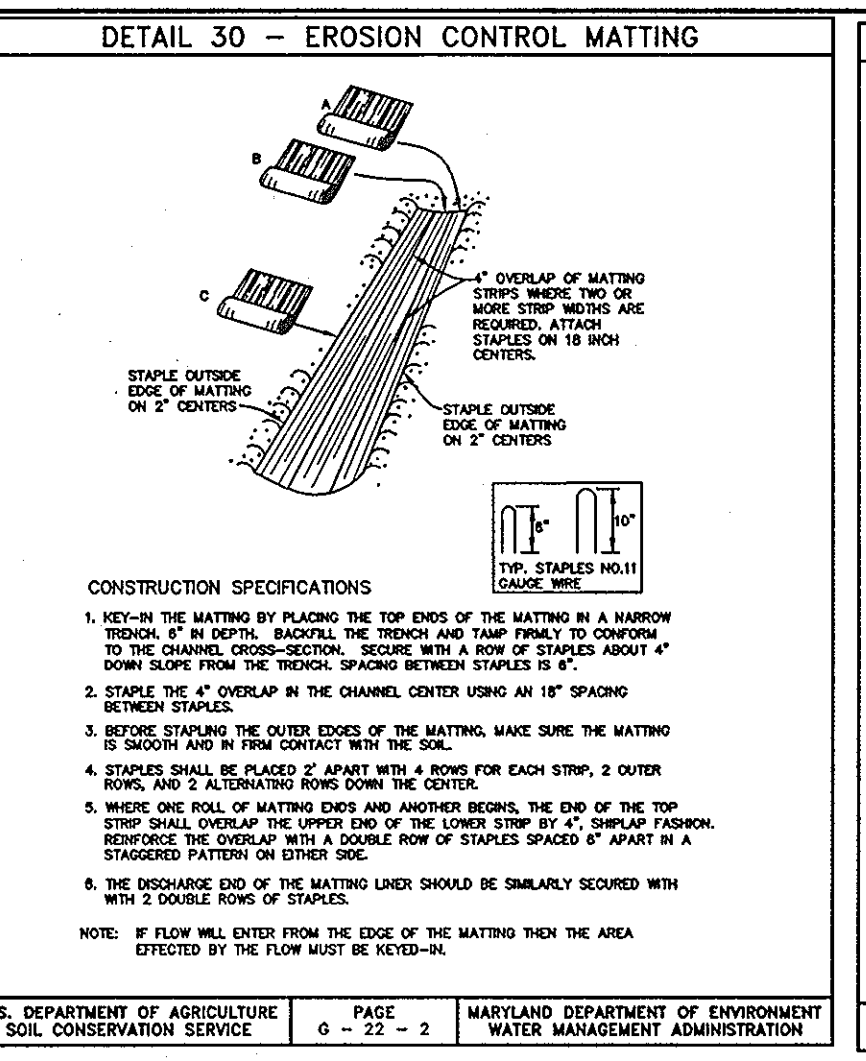
- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 4" layer of filter cloth shall be used, substituting 42" fabric and 6" length posts.
- Chain link fence shall be fastened securely to the fence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

Tensile Strength	50 lbs/in. (min.)	Test: MSFT 509
Tensile Modulus	20 lbs/in. (min.)	Test: MSFT 508
Flow Rate	0.5 gal/ft. (min.)	Test: MSFT 322
Filtration Efficiency	75% (min.)	Test: MSFT 322

**SUPER SILT FENCE DESIGN CRITERIA**

Slope	Slope Steadiness	Slope Length (Maximum)	Silt Fence Length
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-26-3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



**TOPSOIL SPECIFICATIONS**

- Topsoil salvaged from the existing site may be used provided that it meets that standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textures and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1-1/2" in diameter.
  - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
  - Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres:
  - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
    - 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 6.0 or higher.
    - Organic content or topsoil shall be not less than 1.5 percent by weight.
    - Topsoil having soluble salt content greater than 5.0 parts per million shall not be used.
    - 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.
  - 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.
- Placement (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
- Topsoil Application
  - 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.
  - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, about 4" - 8" higher in elevation.
  - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that seeding or seeding can proceed at a minimum rate of 100 lbs/acre. Seeding 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.
  - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet, or in a condition that may otherwise be detrimental to proper grading and seeding operations.
- Alternative for Permanent Seeding - Instead of applying the full amount of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
  - 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:
    - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted to produce the lime of circulation of the compost by the Maryland Department of the Environment under COMAR 26.04.06.
    - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a total 1.0 to 6.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
    - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
  - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/2 the normal lime application rate.

References: Guidelines Specifications, Soil Preparation and Seeding, U.S. Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.

**TEMPORARY SEEDBED PREPARATIONS**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHEN A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT). SEEDING: FOR PERIODS MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT) FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WINDSOR LOWGROWER (1.5 LBS/1000 SQ FT) FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28. PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW M/CH AND SEED AS SOON AS POSSIBLE IN THE SPRING OR USE SOO.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF ENHANCED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Walter R. ...* 9-25-08  
CHIEF, BUREAU OF HIGHWAYS DATE

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

*Sayed Hassan* 8/6/08  
DEVELOPER - SAYED HASSAN DATE

BY THE ENGINEER:

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

*Donald Mason* 7-10-09  
ENGINEER - DONALD A. MASON, P.E. # 21443 DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*John R. Robertson* 9/14/08  
HOWARD COUNTY SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*John ...* 8/15/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Condy ...* 9/29/08  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

**BENCHMARK ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644  
www.bei-civilengineering.com

OWNER: SAYED AND SONA HASSAN  
9467 VOLLMERHAUSEN DRIVE  
COLUMBIA, MARYLAND 21046  
301-693-6700

PROJECT: ROSE LANE  
SECTION E-5  
LOT 7 AND OPEN SPACE  
LOT 8, A SUBDIVISION OF NORDAU  
SUBDIVISION SECTION E-5, LOTS 3 AND  
4 PLAT BOOK 3 FOLD 51

LOCATION: TAX MAP 42 - GRID 24  
PARCEL 160 AND 240  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

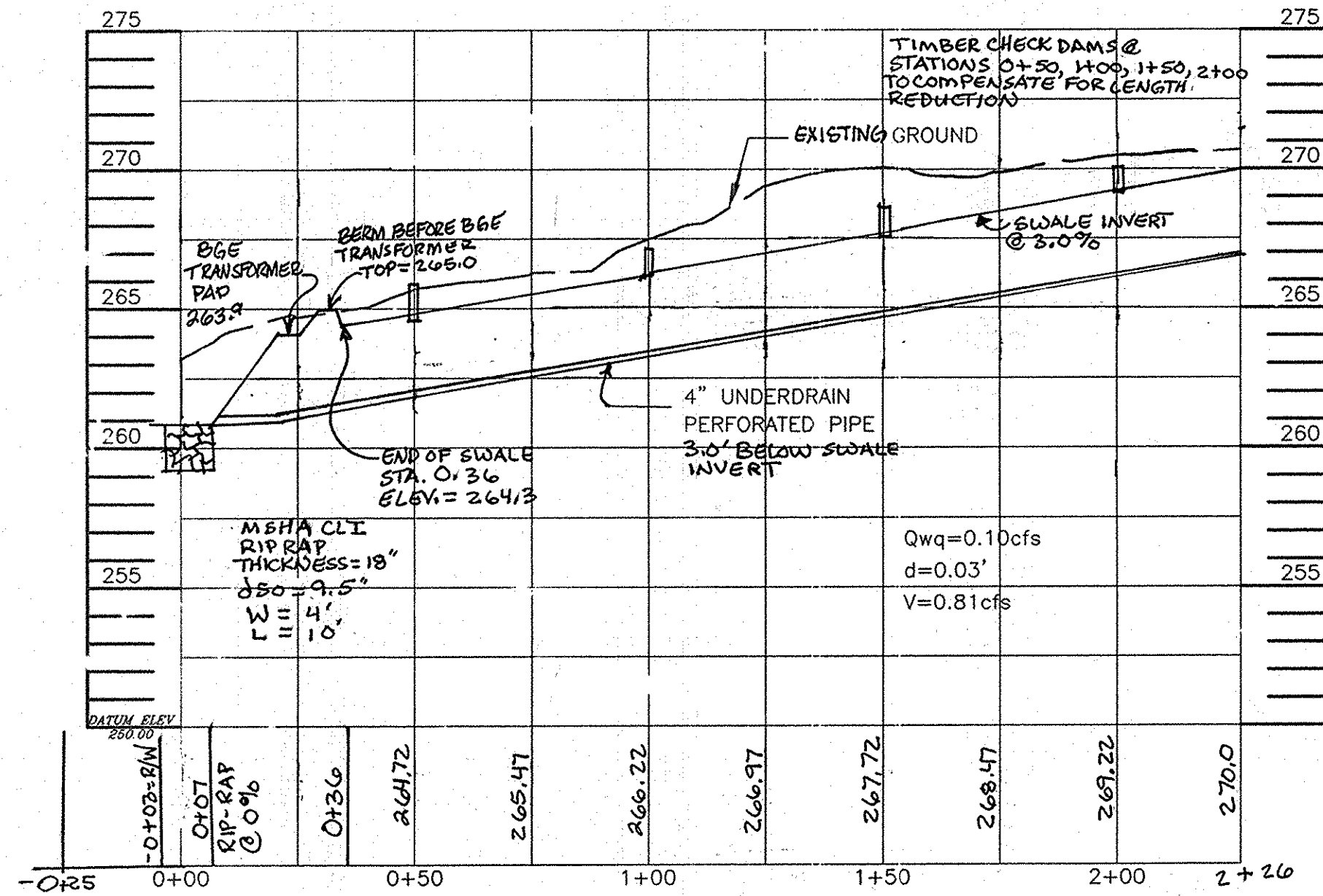
TITLE: SEDIMENT AND EROSION CONTROL PLAN, NOTES AND DETAILS

DATE: APRIL 2008  
July 2008 PROJECT NO. 1968

Design: DAM Draft: EDD Check: DAM SCALE: AS SHOWN DRAWING 2 OF 5

F-07-197

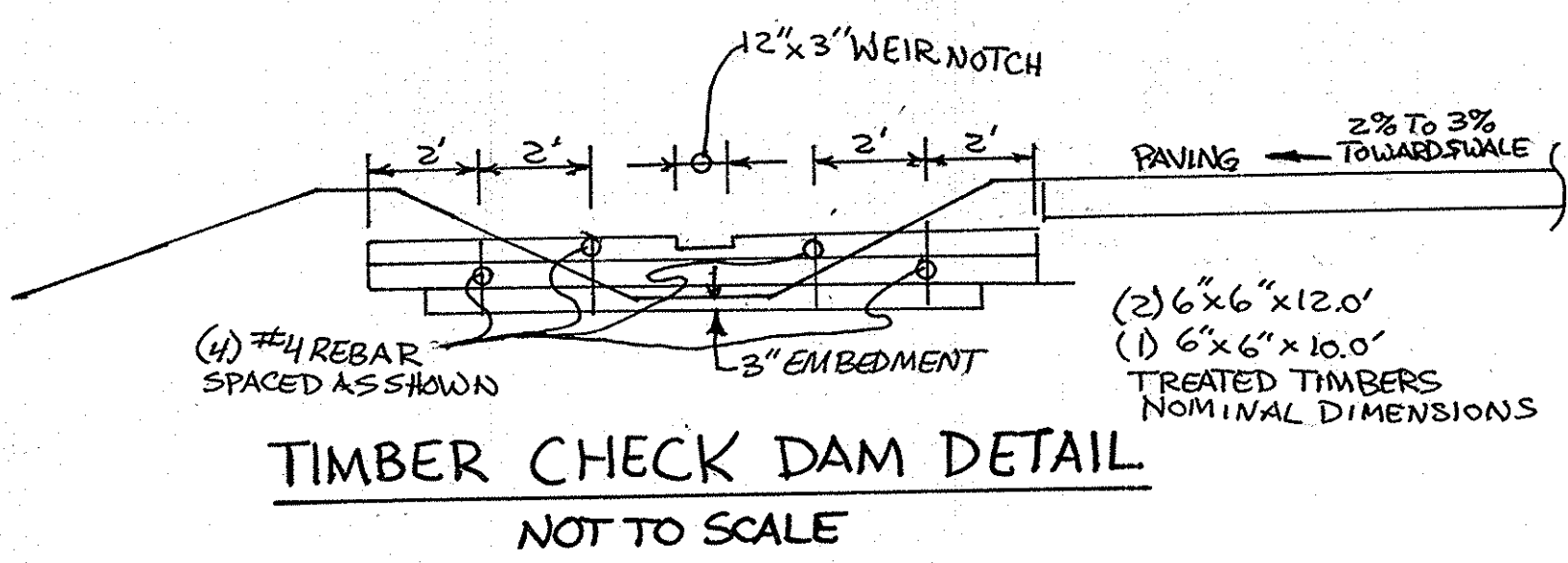




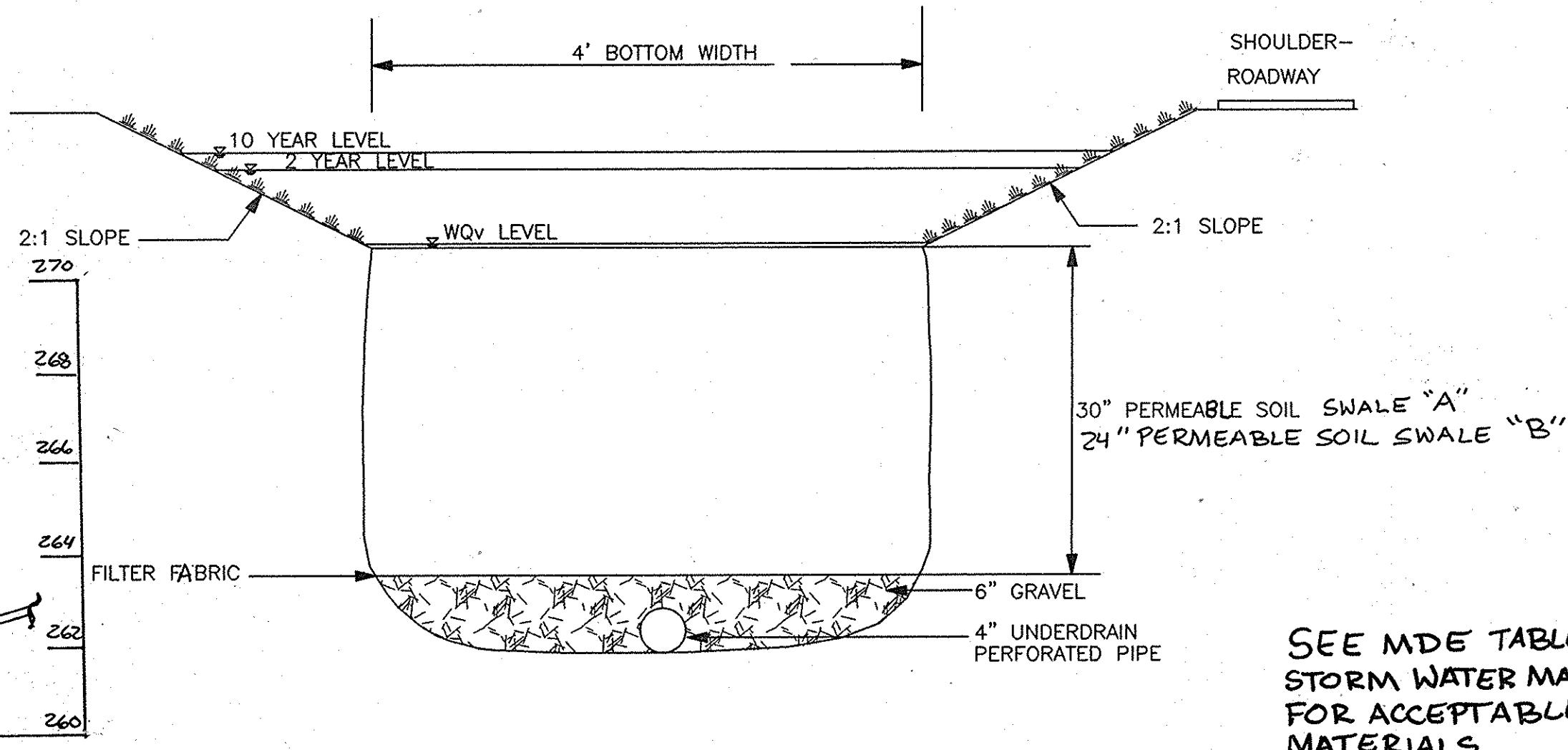
CONTRACTOR TO ROUTE 4" UNDER DRAIN AROUND BGE TRANSFORMER INTO USE-IN-COMMON DRIVE AREA THEN BACK TO 6.0' FROM EDGE OF PAVING.

PROFILE DRY SWALE 'A'

SCALE: 1" = 30' HORIZONTAL  
1" = 5' VERTICAL



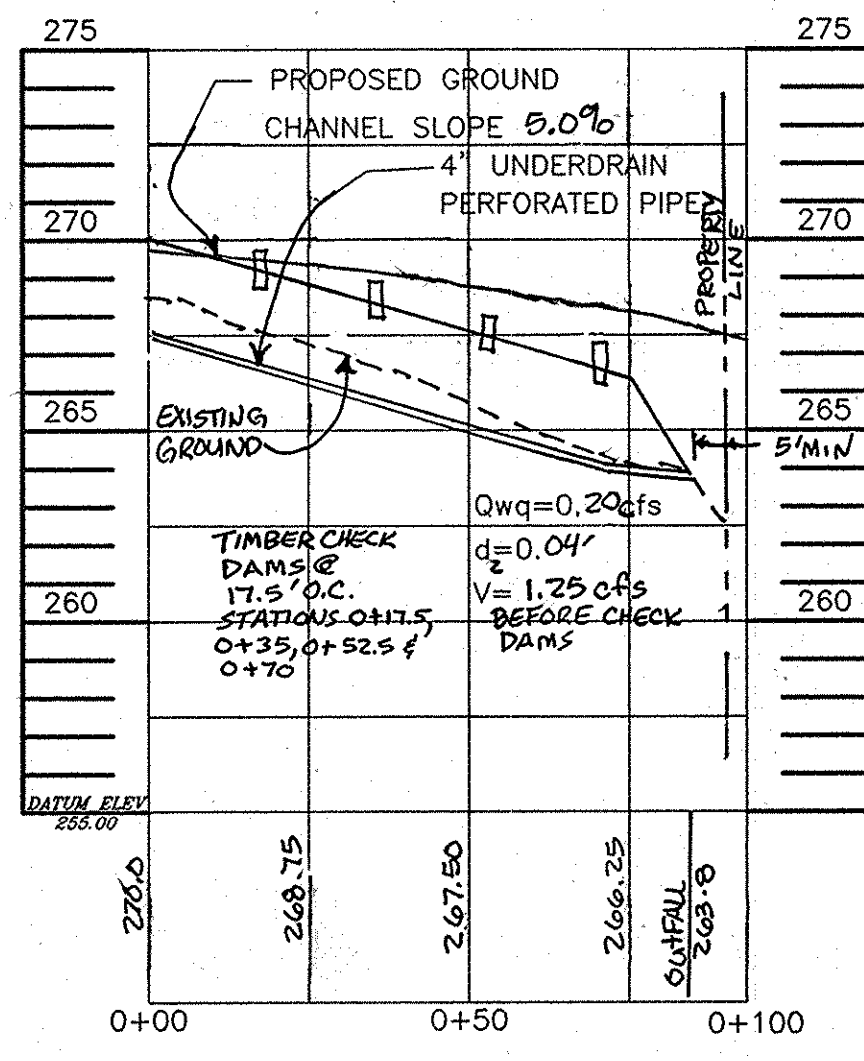
TIMBER CHECK DAM DETAIL NOT TO SCALE



DRY SWALE SECTION SCALE: 1" = 1'

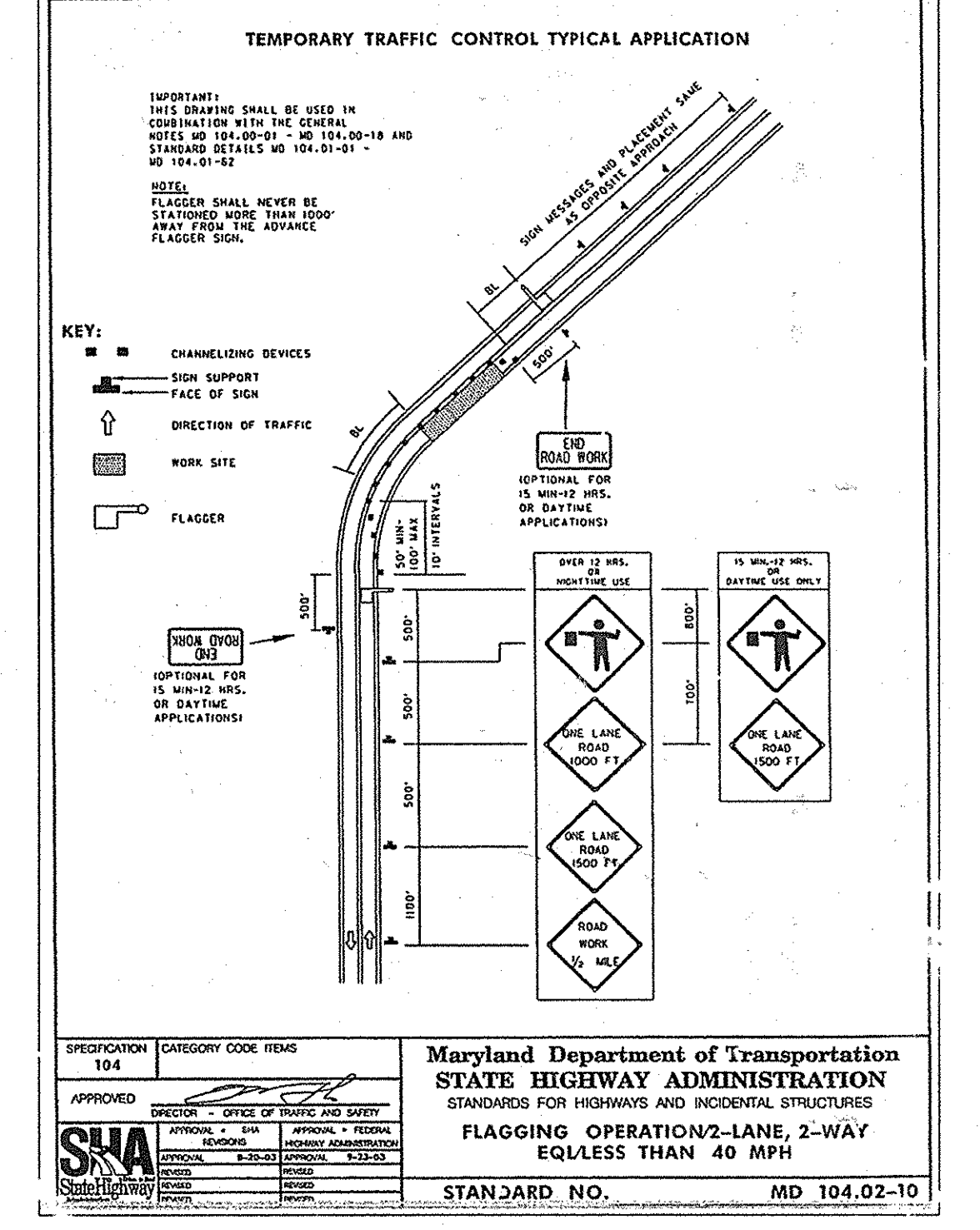
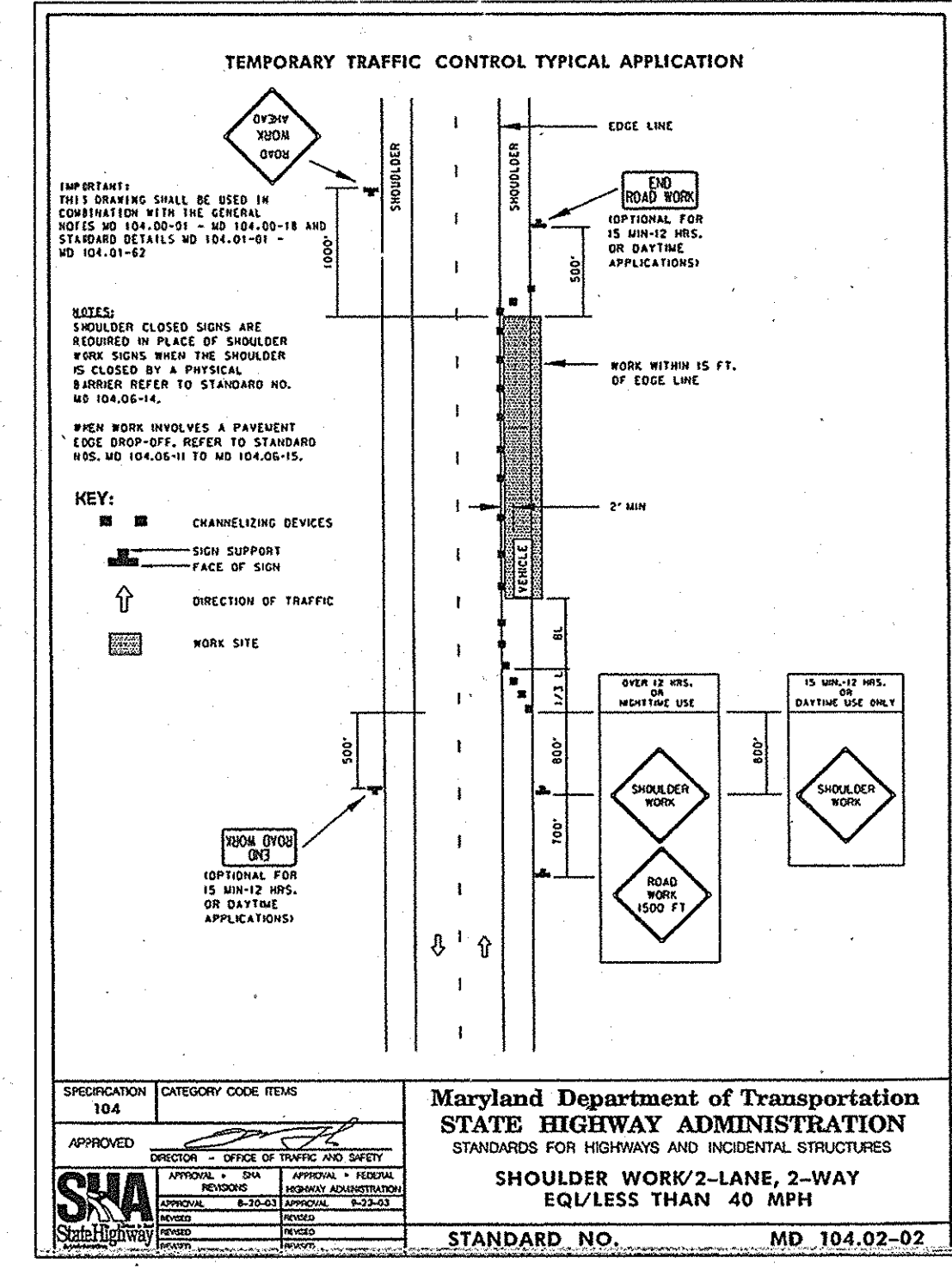
SEE MDE TABLE B.4.1 STORM WATER MANUAL FOR ACCEPTABLE MATERIALS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Walter Z. ...* 9-25-08  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Carol Harris* 9/29/08  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*William ...* 8/15/08  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



PROFILE DRY SWALE 'B'

SCALE: 1" = 30' HORIZONTAL  
1" = 5' VERTICAL



MAINTENANCE OF TRAFFIC CONTROL PLAN NOT TO SCALE

NO.	DATE	REVISION
1	6-26-14	REVISE DRY SWALES 'A' & 'B', ADD TIMBER CHECK DAMS

**BENCHMARK ENGINEERING, INC.**  
 8480 BALTIMORE NATIONAL PIKE SUITE 418  
 ELLICOTT CITY, MARYLAND 21043  
 PHONE: 410-465-6105 FAX: 410-465-6644  
 www.bei-civilengineering.com

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 21443, Expiration Date: 12-21-2008.

*Don ...*  
 No. 21443  
 PROFESSIONAL ENGINEER  
 7-10-08

OWNER:	SAYED AND SONA HASSAN 9467 VOLLMERHAUSEN DRIVE COLUMBIA, MARYLAND 21046 301-776-8264
PROJECT:	ROSE LANE SECTION E-5 LOT 1 THRU LOT 7 AND OPEN SPACE LOT 8 A RESUBDIVISION OF NORDAU SUBDIVISION SECTION E-5, LOTS 3 AND 4 PLAT BOOK 3 FOLIO 51
LOCATION:	TAX MAP 42 - GRID 24 PARCELS 180 AND 240 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	DRY SWALE PROFILE AND SECTION AND MAINTENANCE OF TRAFFIC DETAILS
DATE:	APRIL 2007 JULY 2008
PROJECT NO.	1968
Design:	DAM
Draft:	EDD
Check:	DAM
SCALE:	AS SHOWN
DRAWING	3 OF 5







FOREST CONSERVATION WORKSHEET  
VERSION 1.0

NET TRACT AREA:

A. Total tract area	2.30
B. Area within 100 year floodplain	0.00
C. Area to remain in agricultural production	0.00
D. Net tract area	2.30

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

Input the number "1" under the appropriate land use zoning, and limit to only one entry.

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

E. Afforestation Threshold 15% x D = 0.35  
F. Conservation Threshold 20% x D = 0.45

EXISTING FOREST COVER:

G. Existing forest cover (excluding floodplain)	1.80
H. Area of forest above afforestation threshold	1.48
I. Area of forest above conservation threshold	1.34

BRFAK EVEN POINT:

J. Forest retention above threshold with no mitigation	0.73
K. Clearing permitted without mitigation	1.07

PROPOSED FOREST CLEARING:

L. Total area of forest to be cleared	1.57
M. Total area of forest to be retained	0.23

PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold	0.34
P. Reforestation for clearing above conservation threshold	0.45
Q. Credit for retention above conservation threshold	0.00
R. Total reforestation required	0.80
S. Total afforestation required	0.00
T. Total reforestation and afforestation required	0.80

LEGEND

SOILS CLASSIFICATION	AbC1
SOILS DELINEATION	---
EXISTING CONTOURS	---
PROPOSED CONTOURS	---
EXISTING WOODS LINE	---
PROPOSED WOODS LINE	---
EXISTING STRUCTURE	[ ]
PROPOSED STRUCTURE	[ ]
FOREST CONSERVATION EASEMENTS	[ ]
FOREST CONSERVATION SIGNAGE	[ ]
PROPOSED SIDEWALK	[ ]

SITE ANALYSIS DATA CHART

GENERAL SITE DATA

1. PRESENT ZONING:	R-12
2. APPLICABLE DPZ FILE REFERENCES:	N/A
3. DEED REFERENCE:	9407/580, 10366/530
4. PROPOSED USE OF SITE:	SINGLE-FAMILY DETACHED
5. PROPOSED WATER AND SEWER SYSTEMS:	PUBLIC AREA TABULATION
6. GROSS TRACT AREA:	2.30 AC.±
7. AREA WITHIN 100-YEAR FLOODPLAIN:	0.00 AC.±
8. TOTAL AREA OF 25% OR GREATER STEEP SLOPES:	0.00 AC.±
9. AREA NOT IN FLOODPLAIN:	0.00 AC.±
10. NET TRACT AREA:	2.28 AC.±
11. TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS PROPOSED ON THIS SUBMISSION:	7
12. AREA OF ROAD RIGHT-OF-WAY:	0.02 AC.±
13. OPEN SPACE ON-SITE TOTAL REQUIREMENTS MINIMUM RESIDENTIAL LOT SIZE:	10,800
14. OPEN SPACE REQUIRED (10%):	0.23 AC.

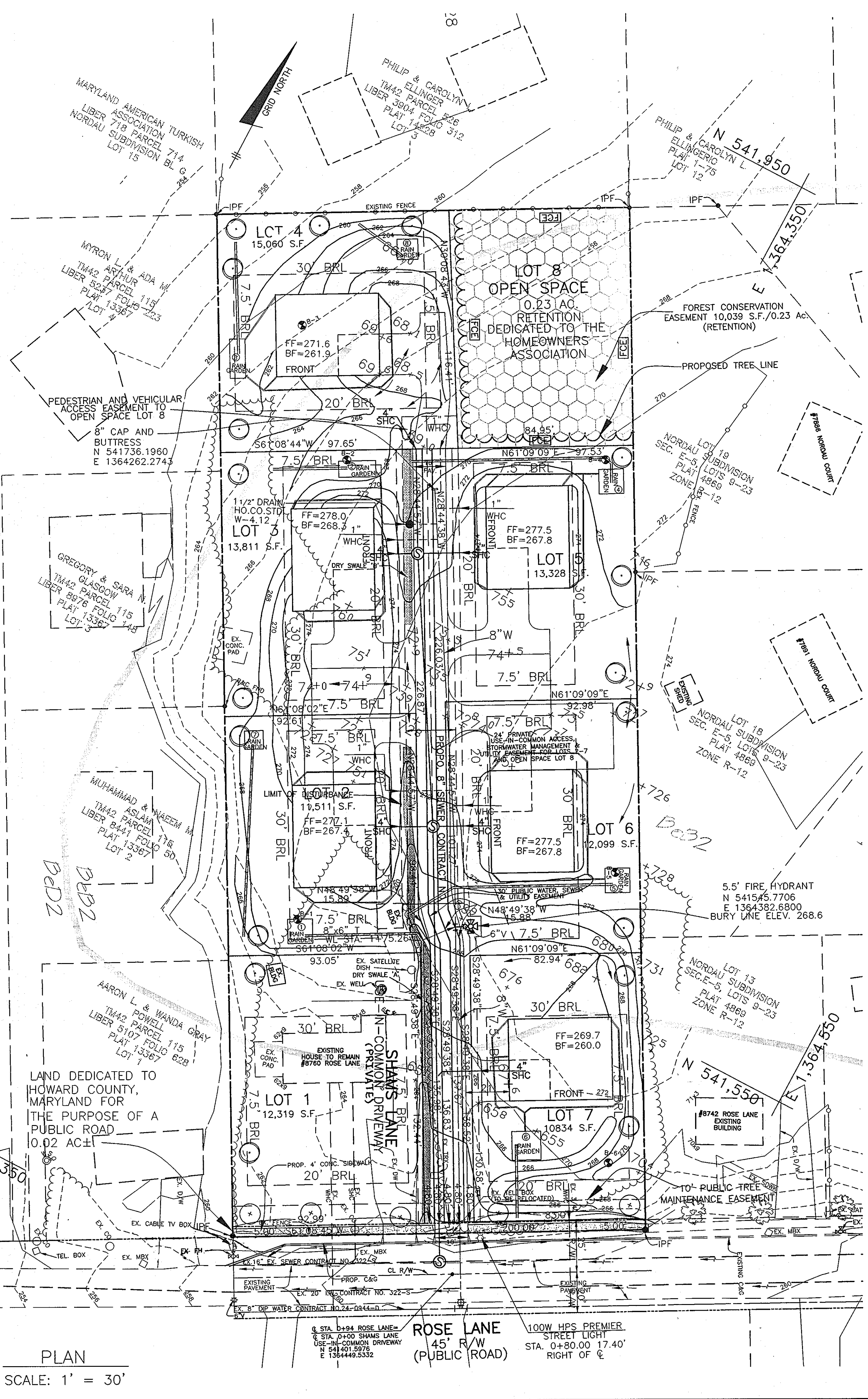
APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Michelle R. ...* 9-25-08  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Judy ...* 9/25/08  
CHIEF, DIVISION OF LAND DEVELOPMENT

*...* 9/25/08  
CHIEF, DEVELOPMENT ENGINEERING DIVISION



CONSTRUCTION PERIOD PROTECTION PROGRAM

- A. Forest Protection Techniques
- Soil Protection Area (Critical Root Zone):**  
The soil protection area, or critical root zone, of a tree is that portion of the soil column where most of its roots may be found. The majority of roots responsible for water and nutrient uptake are located just below the soil surface. Temporary fencing shall be placed around the critical root zone of the forest in areas where the forest limits occur within 25 feet of the limit of disturbance.
  - Fencing and Signage:**  
Existing forest limits occurring within 50 feet of the limits of disturbance shall be protected using temporary protective fencing. Permanent signage shall be placed around the afforestation area prior to plant installation, as shown on the plan.  
B. Pre-Construction Meeting  
Upon staking of limits of disturbance a pre-construction meeting will be held between the developer, contractor and appropriate County inspector. The purpose of the meeting will be to verify that all sediment control is in order, and to notify the contractor of possible penalties for non-compliance with the FCP.  
C. Storage Facilities/Equipment Cleaning  
All equipment storage, parking, sanitary facilities, material stockpiling, etc. associated with construction of the project will be restricted to those areas outside of the proposed Forest Conservation Easement. Cleaning of equipment will be limited to area within the LOD of the proposed easements. Wastewater resulting from equipment cleaning will be controlled to prevent runoff into environmentally sensitive areas.  
D. Sequence of Construction  
The following timetable represents the proposed timetable for development of the subject property. The items outlined in the Forest Conservation Plan will be enacted within two (2) years of subdivision approval.  
Below find a proposed sequence of construction.  
1. Install all signage and sediment control devices.  
2. Hold pre-construction meeting between developer, contractor and County inspector.  
3. Build access roads, install water and sewer, and construct houses. Stabilize all disturbed areas accordingly.  
4. Remove sediment control.  
5. Hold post-construction meeting with County inspectors to assure compliance with FCP. Submit Certification of Retention.  
E. Construction Monitoring  
Eco-Science Professionals, or another qualified professional designated by the developer, will monitor construction of the project to ensure that all activities are in compliance with the Forest Conservation Plan.  
F. Post-Construction Meeting  
Upon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will notify the County that construction has been completed and arrange for a post-construction meeting to review the project site. The meeting will allow the County inspector to verify that forest retention requirements have been met.

POST-CONSTRUCTION MANAGEMENT PLAN

- Howard County requires a two year post-construction management plan be prepared as part of the Forest Conservation Plan. The plan goes into effect upon acceptance of the construction certification of completion by the County. Eco-Science Professionals, or another qualified professional designated by the developer, will be responsible for implementation of the post-construction management plan.
- The following items will be incorporated into the plan for the subject property:
- Fencing and Signage**  
Permanent signage indicating the limits of the retention/planting area shall be maintained.  
Site inspections will be performed to insure that retention of the forest is met in accordance with this plan and that the forest edge remains healthy and stable.
  - Education**  
The developer will provide appropriate materials to property owners informing them of the location and purpose of the forest conservation easement. Materials may include site plans and information explaining the intent of the forest conservation law.
  - Final Inspection**  
At the end of the two year post-construction management period, Eco-Science Professionals, or another qualified professional, will submit to the administrator of the Howard County Forest Conservation Program certification that all retention/afforestation requirements have been met. Upon acceptance of this certification, the County will release the developer from all future obligations and release the developer's bond.

FOREST CONSERVATION EASEMENTS

Easements are a legal means of providing permanent protection of forests, farmland and open space. In accordance with the criteria outlined in the Howard County Forest Conservation Manual, a forest conservation easement will be recorded for the retention areas the subject property. Submission of this certification, the County will release the developer from all future obligations and release the developer's bond.

**FOREST RETENTION AREA**

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992

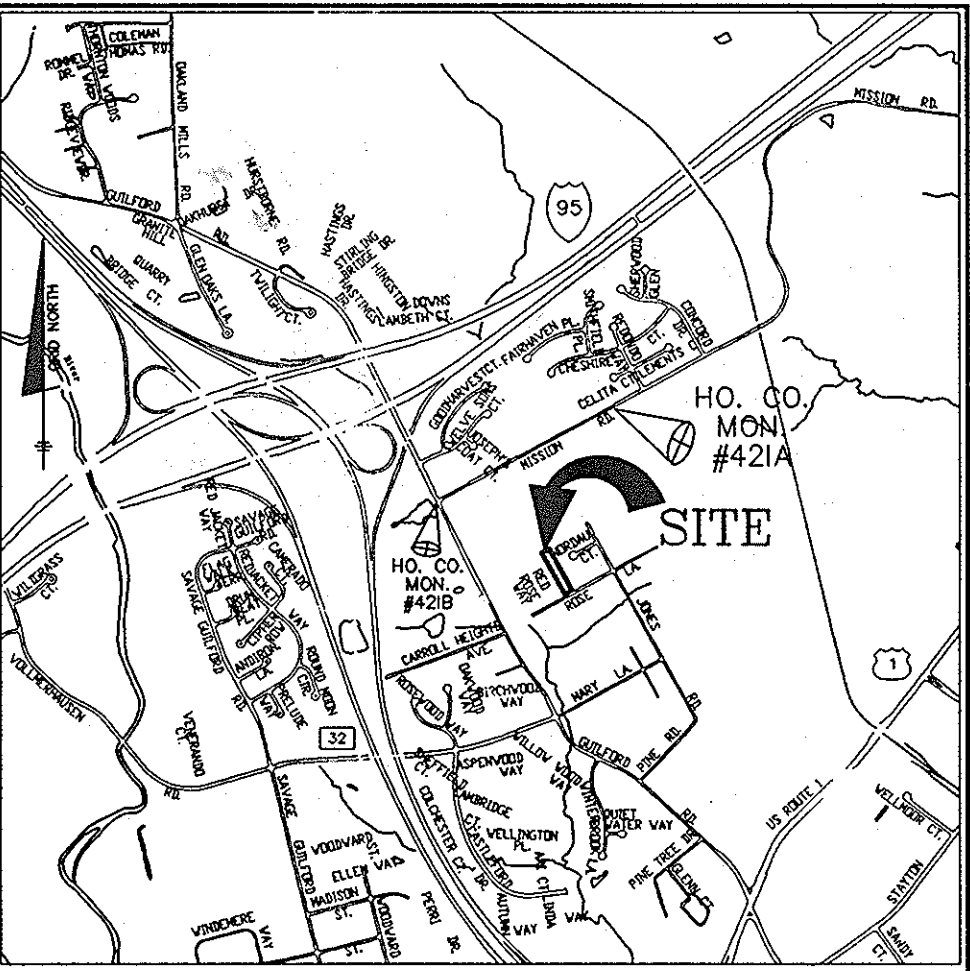
FCP NOTES:

- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEARING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. FENCING SHALL BE INSTALLED ALONG LIMITS OF DISTURBANCE OCCURRING WITHIN 50 FEET OF THE PROPOSED FCE LIMITS.
- PERMANENT SIGNAGE WILL BE POSTED AT 50-100 FEET INTERVALS ALONG ALL FCE LIMITS.
- THE FOREST CONSERVATION SIGNAGE MUST BE IN PLACE FOR PERPETUITY.
- THE FOREST CONSERVATION OBLIGATION IN ACCORDANCE SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL SHALL BE FULFILLED BY THE PLACEMENT OF 23 ACRES OF EXISTING FOREST INTO A FOREST CONSERVATION EASEMENT. SURETY IN THE AMOUNT OF \$2,007.80 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN, F-07-197, AND BY THE PAYMENT OF A FEE-IN-LIEU IN THE AMOUNT OF \$26,138 TO THE FOREST CONSERVATION FUND FOR 0.8 ACRES OF REQUIRED REFORESTATION.

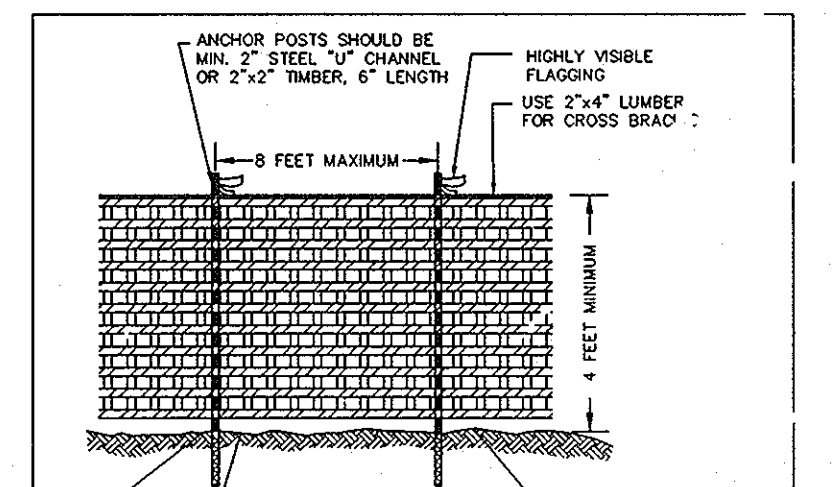
SOILS LEGEND

MAP SOIL	SOIL GROUP	SOIL TYPE
BnB2	C	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
BnD2	C	BELTSVILLE SILT LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED

\* INDICATES HYDRIC SOILS  
TAKEN FROM SOILS SURVEY, ISSUED JULY 1988, MAP NO. 30



ADC MAP 20 GRID D-4  
VICINITY MAP  
SCALE: 1" = 2000'



ANCHOR POSTS SHOULD BE 2" X 2" STEEL 1/2" CHANNEL OR 2" X 2" TIMBER, 6" LENGTH

HIGHLY VISIBLE FLAGGING

USE 24" LUMBER FOR CROSS BRAC

ANCHOR POSTS MUST BE INSTALLED TO A DEPTH OF NO LESS THAN 1/3 OF THE TOTAL HEIGHT OF THE POST.

USE 8" WIRE "U" TO SECURE FENCE BOTTOM

NOTES:

- BLAZE ORANGE OF BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE ONLY.
- BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART C OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
- BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
- AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR FLUKE LARGE ROOTS WHEN INSTALLING POSTS.
- PROTECTIVE SIGNS ARE REQUIRED.
- DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

ADAPTED FROM PRINCE GEORGE'S COUNTY, MARYLAND, WOODLAND CONSERVATION MANUAL AND FOREST CONSERVATION MANUAL, 1991.

**Eco-Science Professionals, Inc.**

CONSULTING ECOLOGISTS

MD DNR Qualified Professional  
USACOE Wetland Delineator  
Certification # WDCP93MD06100442D

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 21447, Expiration Date: 12-21-2008.

OWNER: SAYED AND SONA HASSAN  
9467 VOLLMERHAUSEN DRIVE  
COLUMBIA, MARYLAND 21046  
301-693-6700

PROJECT: ROSE LANE SECTION E-5  
LOT 1 THRU LOT 7 AND OPEN SPACE  
LOT 8, A RESUBDIVISION OF NORDAU SUBDIVISION SECTION E-5, LOTS 3 AND 4 PLAT BOOK 3 FOLIO 51

LOCATION: TAX MAP 42 - GRID 24  
PARCELS 20 AND 24D  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: FOREST CONSERVATION PLAN

DATE: APRIL 2007  
JULY 2008

PROJECT NO. 1968

Design: DAM Draft: EDD Check: DAM SCALE: AS SHOWN DRAWING 5 OF 5