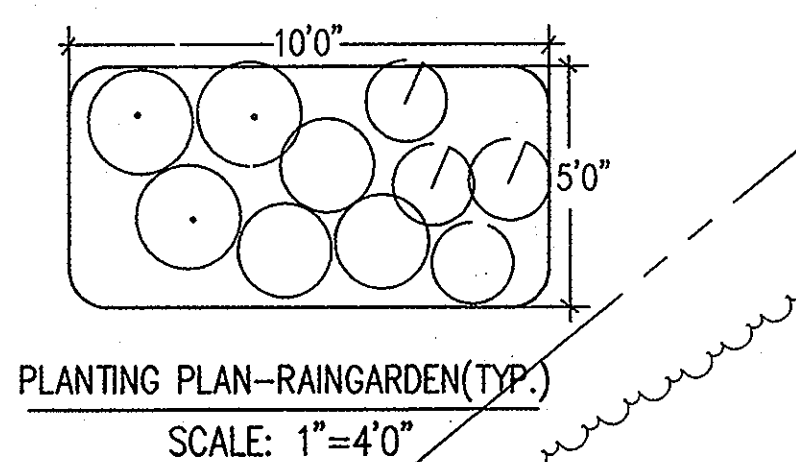


DETAIL PROFILE OF RAINGARDEN (TYP.) NTS

Material	Specification	SIZE	Notes
Plantings	See Table R.5	n/a	Plantings are site specific
Plantings Soil (2' / 2" to 4' depth)	Sand: 30%-60% Silt: 30%-55% Clay: 0%-25%	n/a	USDA soil types: loamy sand, sandy loam or loam
Mulch	Shredded hardwood	n/a	Aged six months minimum
Geotextile	Class C - apparent opening size (ASTM-D-4751) grab tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4833)		Use as necessary beneath underdrains only
Underdrain	Gravel AASHTO M-43/67 or #67 Piping F758, type PS 28 or AASH TO M-278	3/8" to 3/4"	3/8" perforations @ 6" on center, 4 holes per row; minimum of 3" gravel cover pipes; gravel not necessary beneath pipes

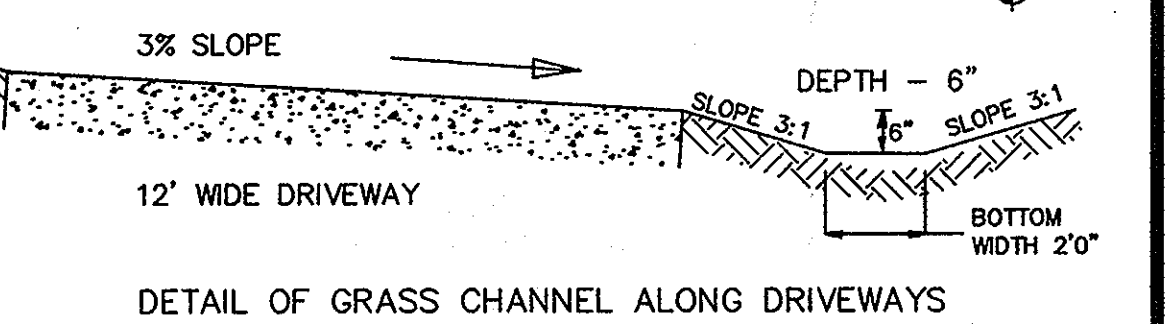
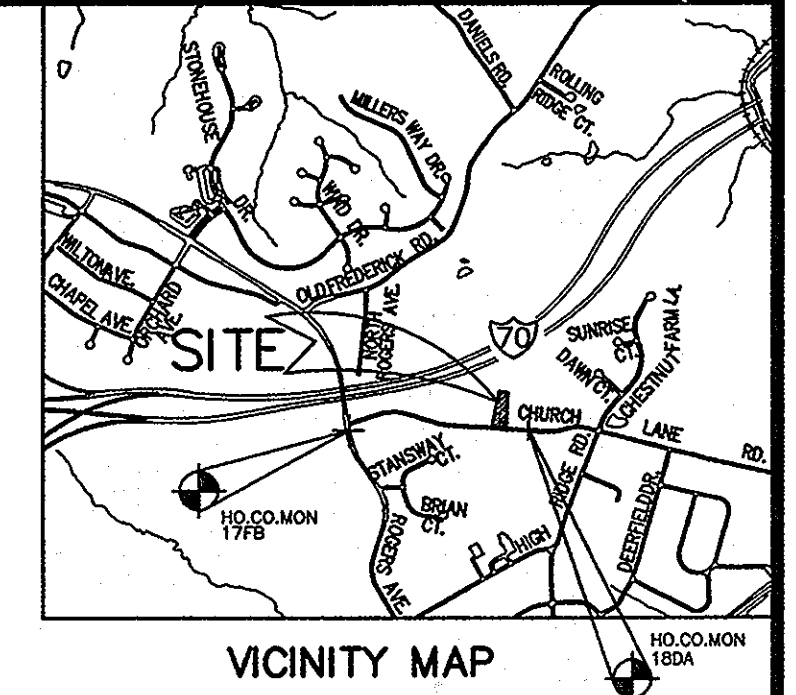
NO.	UNDER DRAIN OUTFALL INVERT	UNDER DRAIN INLET INVERT	RAIN GARDEN TOP ELEV.	RAIN GARDEN BOTTOM ELEV.
R#1	459.0	460.25	464.0	464.75
R#2	465.0	466.25	470.0	468.75

KEY	QTY	BOTANICAL NAME/COMMON NAME	SIZE	ROOT
○	3	MYRICA PENNSYLVANICA BAYBERRY (male spp. only)	12"-24" HT.	B&B OR CONT.
○	3	LINDERA BENZON SPICE BUSH	12"-24" HT.	B&B OR CONT.
○	4	CERPHALANTHUS OCCIDENTALIS BUTTONBUSH	12"-24" HT.	B&B OR CONT.



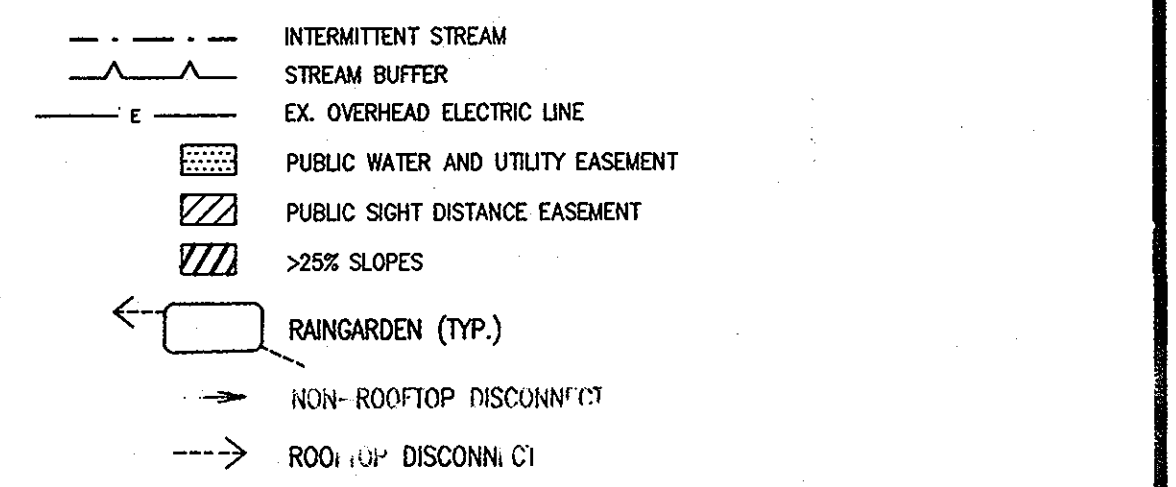
SYMBOL	NAME/DESCRIPTION	TYPE
BrC2	Brandywine loam, 8 to 15% slopes, moderately eroded	C
GIC2	Glencle loam, 8 to 15% slopes, moderately eroded	B
KeB2	Kelly silt loam, 3 to 8% slopes	D
Md	Made land	

GENERAL NOTES:
1. The coordinates shown herein are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System, Howard County Monument Nos. 1778 and 182A were used for this project.
2. This plan is based on a field run monumented boundary survey performed on or about January 27, 2006 by KCE Engineering, Inc.
3. B.R.L. indicates building restriction line.
○ Denotes rebar with FW44 cap set iron pipe found.
□ Denotes stone or monument found.
4. All areas shown herein have been rounded off and are more or less.
5. Driveways shall be provided prior to issuance of a use and occupancy permit for any new dwellings to insure safe access for fire and emergency vehicles per the following minimum:
a) Width = 12' (16' serving more than one residence);
b) Surface = 5" of compacted crusher run base w/tar and chip coating (1-1/2" min.);
c) Geometry = max. 15% grade, max. 10% grade change and min. 45' turning radius;
d) Structures (culverts/bridges) = capable of supporting 25 gross tons (H25 loading);
e) Drainage Elements = capable of safely passing 100-year flood with no more than one foot depth over driveway surface;
f) Structure clearances minimum 12 feet.
g) Maintenance = sufficient to insure all weather use.



MINIMUM SIZING CRITERIA	VOLUME REQUIREMENT	NOTES
WATER QUALITY VOLUME (WQv)	0.27 AC.FT.	Provided by SWM credits (grass channel) and raingardens
RECHARGE VOLUME (Rev)	0.078 AC.FT.	Provided by SWM credits (grass channel) and raingardens
CHANNEL PROTECTION VOLUME (Cpv)	-	Not Required
OVERBANK FLOOD PROTECTION (Op)	-	Not Required
EXTREME FLOOD VOLUME (Of)	-	Not Required

MINIMUM SIZING CRITERIA	VOLUME REQUIREMENT	NOTES
WATER QUALITY VOLUME (WQv)	0.015 AC.FT.	Provided by SWM credits (grass channel)
RECHARGE VOLUME (Rev)	0.0038 AC.FT.	Provided by SWM credits (grass channel)
CHANNEL PROTECTION VOLUME (Cpv)	-	Not Required
OVERBANK FLOOD PROTECTION (Op)	-	Not Required
EXTREME FLOOD VOLUME (Of)	-	Not Required



LOT NO.	GROSS AREA (S.F.)	PIPESTEM AREA (S.F.)	LOT SIZE (S.F.)
1	20,305	-	20,305
2	20,133	-	20,133
3	31,261	5,496	25,765

- This subdivision complies with the forest conservation requirements of Section 16.1200 of the Howard County Code with a 0.54 acre reforestation obligation. Fee-in-lieu in the amount of \$11,761.50 will be paid.
- Open space requirements for the creation of the new lots will be satisfied by the payment of a fee-in-lieu in amount of \$3,000 to the Howard County.
- Perimeter landscaping requirements were addressed under F-07-021 in accordance with Section 16.124 of the Howard County Code and the Landscape Manual. Survey of plantings for raingardens on Lot 3 for 10 raingardens in the amount of \$300 and \$3,300 for landscape requirement of 7 shrubs and 5 evergreen trees (total \$3,600) will be done with the developer's payment. Landscape requirements for Lot 2 are deferred until SDP stage, and a note not required for Lot 2 (ex-house).
- For flag or pipestem lots, refuse collection, snow removal and road maintenance are provided to the junction of the flag or pipestem and road right-of-way line and not onto the pipestem lot driveway.
- Public water and sewage allocation will be granted at the time of issuance of the building permit if capacity is available at that time.
- This subdivision is subject to section 18.122B of the Howard County Code. Public water and/or sewer service has been granted under the terms and provisions thereof, effective July 10, 2006 on which date developer agreement #14-4432-0 was filed and accepted with F-07-021.
- Development or construction on these lots must comply with setback and buffer regulations in effect at the time of submission of the site development plan, waiver petition application or building/grading permit.
- The subject property is zoned "R-ED" per the 2/2/04 Comprehensive Zoning Plan and the Comp-Lite Zoning Amendments dated July 28, 2006.
- These lots are developed pursuant to the R-20 district regulations under Section 107(6)(1) of the Howard County Zoning Regulations.
- Stormwater Management for Lots 1 and 2 is provided through grass channel credits (Section 5.5) for the driveways. SWM for lot 3 is provided through raingarden for rooftop run off for the driveways. Cpv is not required for this site because the one-year peak development discharge rate is less than 2 cfs.
- Approval of a site development plan, waiver petition application or building/grading permit is required under Section 16.155 of the Subdivision and Land Development Regulations.
- There are existing dwellings located on Lots 1 and 2, to remain. The remaining ex-structures will be removed from the site prior to recording of the final plat. If an SDP is submitted for lots 1&2 in future, stormwater management will need to be provided for at that time. No new buildings, extensions or additions to the existing dwellings are to be constructed at a distance less than the zoning regulations require.
- No historic structures or cemeteries exist on the subject property.
- There are no floodplains, wetlands or streams located on-site as certified by Eco-Science Professionals, Inc. on date July 17, 2006.
- There are no steep slopes on-site with a contiguous area of 20,000 s.f. or greater.
- No grading, clearing or construction is permitted within the stream buffer.
- Owner of lot 3 will own and maintain the proposed raingardens on lot 3.
- Any proposed change to lots 1 or 2 which requires a site development plan approval will require a re-evaluation of stormwater management requirements for the entire subdivision (lots 1-3). Cpv management will be required when the cumulative proposed disturbance in land cover results in a discharge rate for the 1 year frequency storm of greater than or equal to 2 cubic feet per second.
- Developer reserves unto itself, its successors and assigns, all easements shown on this plat for water, sight distance, and all other public utilities located in, over, and through any lot or parcel shown on this plat. Any and all conveyances of the aforesaid lots and parcels shall be subject to the easements herein reserved, whether or not expressly stated in the deed(s) conveying the said lot(s). Developer shall execute and deliver deeds for the easements herein reserved to Howard County upon completion of the public utilities and their acceptance by Howard County, the County shall accept the easements and record the deed(s) of the easement among the land records for Howard County.
- Trash and recyclables collection will be at Church Lane Road within 5' of the County roadway.

- SITE DATA**
- LOCATION: TAX MAP 18, PARCEL 206
 - SECOND ELECTION DISTRICT
 - EXISTING ZONING: R-ED (DEVELOPED AS R-20)
 - GROSS AREA OF PARCEL: 79,884 SFT.=1.8339 ACRES
 - AREA OF RIGHT OF WAY: 8,185 SFT.
 - AREA OF FLOODPLAIN: N/A
 - AREA OF CONTIGUOUS STEEP SLOPES 12,130 SQ.FT.<20,000 SQ.FT.
 - AREA OF PUBLIC UTILITY EASEMENT = 1,160 S.F.
 - AREA OF SIGHT DISTANCE EASEMENT = 147 S.F.
 - NET AREA OF SITE = 71,699 S.F.
 - AREA OF REQUIRED OPEN SPACE (N-LIEU FEE PAYMENTS) = 4,793 S.F. (6% OF SITE AREA)
 - NUMBER OF PROPOSED RESIDENTIAL LOTS: 3
 - AREA OF PROPOSED RESIDENTIAL LOTS = 71,699 S.F.
 - AREA OF SMALLEST BUILDABLE LOT PROPOSED: 20,133 S.F.

LEGEND

- FIRE HYDRANT
- ⊙ WATER METER
- POWER POLE
- LIGHT POLE
- ⊙ TELEPHONE PEDESTAL
- ⊙ SANITARY SEWER MANHOLE
- MAIL BOX

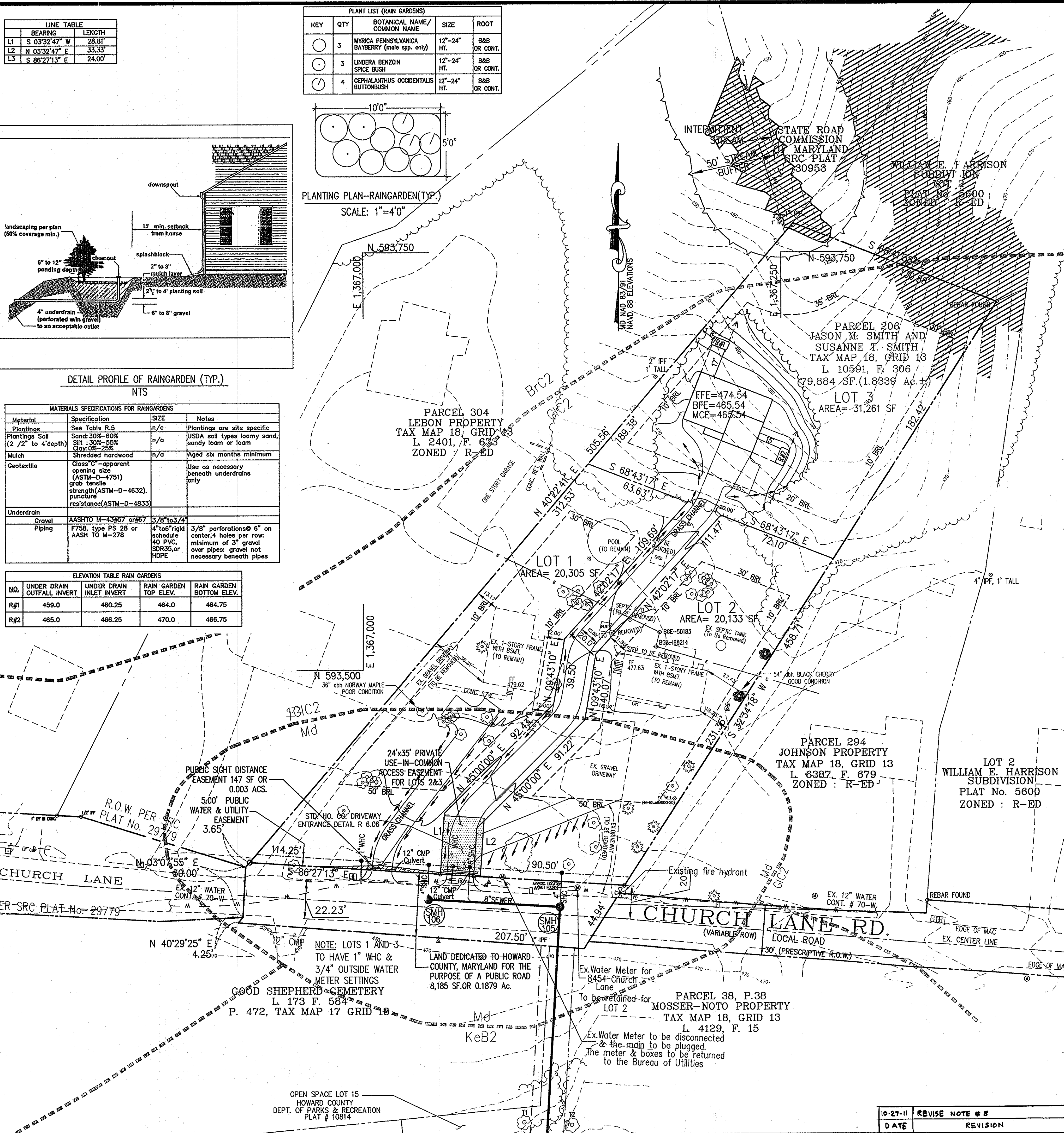
FOR DRIVEWAY, SEE COUNTY STD. DETAIL R-6.06

OWNER/DEVELOPER
JASON SMITH
7660 HARMAN DRIVE
SYKESVILLE, MD 21784
PHONE: 443-250-4781

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 6/19/08

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 6/24/08



GRADING AND STORMWATER MANAGEMENT PLAN
RYMAC SUBDIVISION
LOTS 1 TO 3

2nd ELECTION DISTRICT- HOWARD COUNTY, MARYLAND
PARCEL 206 L. 10591, F. 306
TAX MAP 18 GRID 13 ZONE R-ED (R-20)

KCE ENGINEERING, INC.
EXECUTIVE CENTER
3300 NORTH RIDGE ROAD, SUITE 315
ELLICOTT CITY, MARYLAND 21043
PHONE (410) 203-9800 FAX (410) 203-9228

DRAWN BY: MG
CHECKED BY: DVK
SCALE: 1"=30'
DATE: June 6, 2008

SHEET:
1 OF 4

DATE	REVISION
10-27-11	REVISE NOTE # 5

FOREST CONSERVATION WORKSHEET
Rymac Subdivision, Howard County R-20 Zoned

NET TRACT AREA:

A. Total tract area	1.80
B. Land dedication acres (parks, county facility, etc.)	0.00
C. Land to remain in commercial agricultural production/use	0.00
D. Other deductions (specify)	0.00
E. Net Tract Area	1.80

LAND USE CATEGORY: (from Trees Technical Manual)
Input the number "1" under the appropriate land use, limit to only one entry.

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

G. Afforestation Threshold ... 15% x F = 0.27
H. Conservation Threshold ... 20% x F = 0.36

EXISTING FOREST COVER:

I. Existing forest cover	0.27
J. Area of forest above afforestation threshold	0.00
K. Area of forest above conservation threshold	0.00

BREAK EVEN POINT:

L. Forest retention above threshold with no mitigation	0.00
M. Clearing permitted without mitigation	0.00

PROPOSED FOREST CLEARING:

N. Total area of forest to be cleared	0.27
O. Total area of forest to be retained	0.00

PLANTING REQUIREMENTS:

P. Reforestation for clearing above conservation threshold	0.00
Q. Reforestation for clearing below conservation threshold	0.54
R. Credit for retention above conservation threshold	0.00
S. Total reforestation required	0.54
T. Total afforestation required	0.00
U. Credit for landscaping (may not exceed 20% of "S")	0.00
V. Total reforestation and afforestation required	0.54

LINE TABLE

BEARING	LENGTH
L1 S 03°32'47" W	21.50'
L2 N 03°32'47" E	21.50'
L3 S 86°27'13" E	20.00'

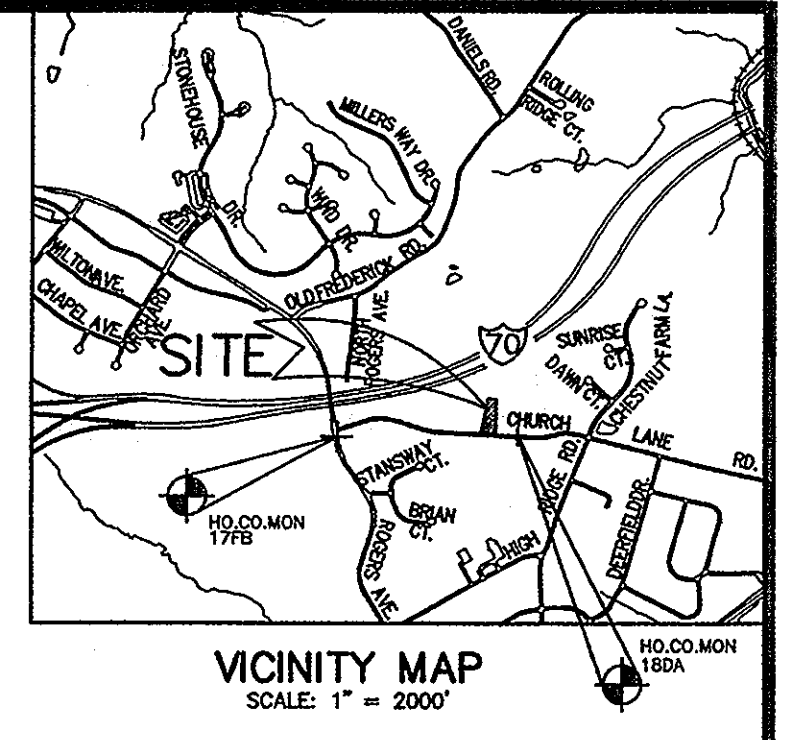
CURVE TABLE

No.	ARC	RADIUS	DELTA	CHORD LENGTH	CHORD BEARING
C1	35.45'	49.00'	41°27'16"	34.68'	S 24°16'25" W
C2	20.98'	29.00'	41°27'16"	20.53'	N 24°16'25" E

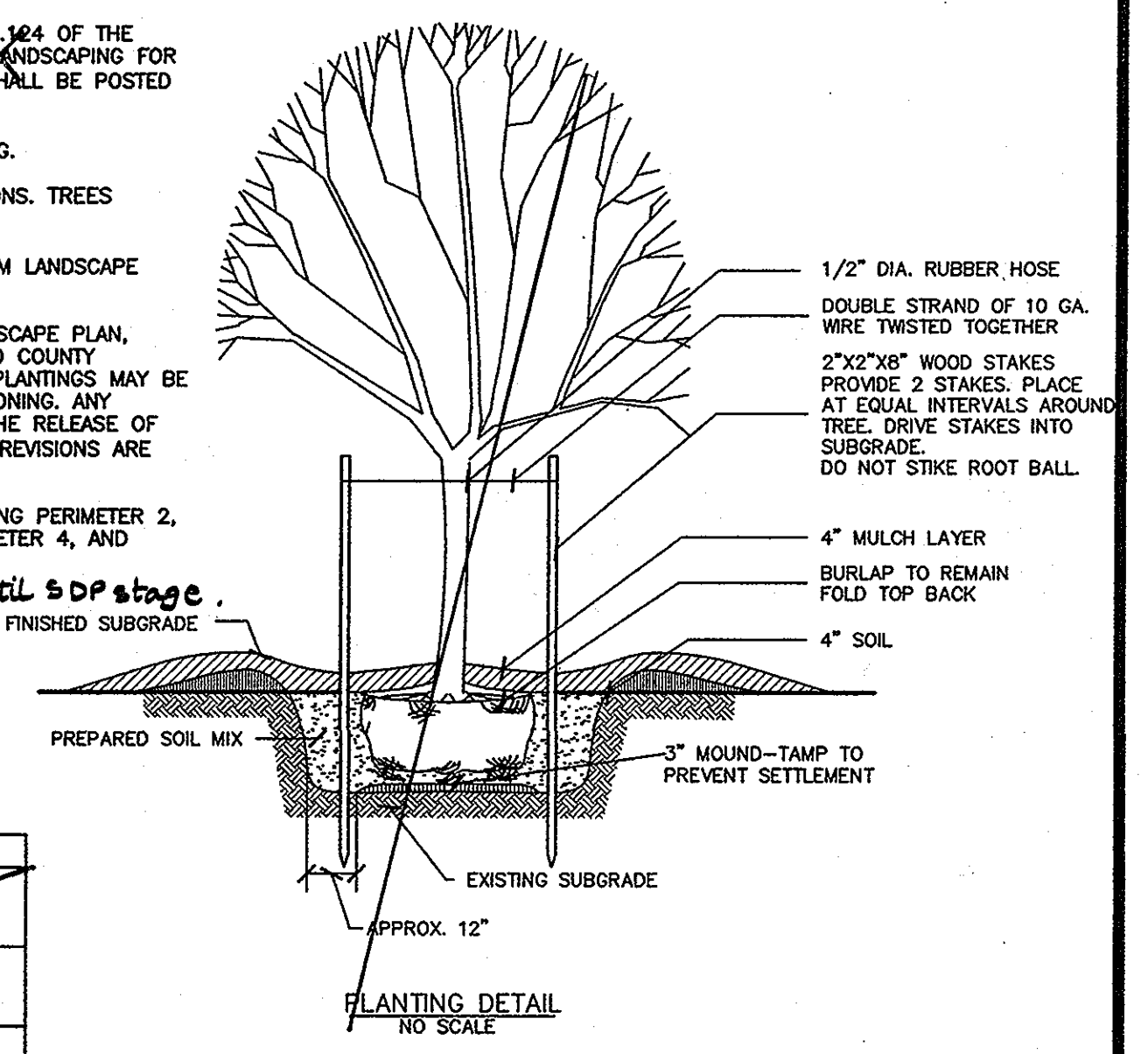
SOIL ANALYSIS

SYMBOL	NAME/DESCRIPTION	TYPE
BrC2	Brandywine loam, 8 to 15% slopes, moderately eroded	C
GIC2	Glencig loam, 8 to 15% slopes, moderately eroded	B
KeB2	Kelly silt loam, 3 TO 8% slopes	D
Md	Made land	

Ho. Co. Soil Map #16



- NOTES
- NO RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED ON THIS SITE.
 - THERE ARE NO ISOLATED FOREST STANDS ON THIS SITE.
 - THE PROPERTY OUTLINE IS BASED ON A BOUNDARY SURVEY PREPARED BY KCE ENGINEERING, INC. DATED JANUARY 27, 2006.
 - THE EXISTING FEATURES AND CONTOURS SHOWN HEREON ARE BASED ON A FIELD RUN SURVEY PREPARED BY KCE ENGINEERING, INC. DATED JANUARY 27, 2006.
 - THIS SUBDIVISION COMPLIES WITH THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE WITH A 0.54 AC. REFORESTATION OBLIGATION FEE-IN-LIEU IN THE AMOUNT OF \$11,761.50 WILL BE PAID.
 - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR PERIMETER LANDSCAPING FOR 7 SHADE TREES AND 8 EVERGREEN TREES AND 10 SHRUBS IN THE AMOUNT OF \$3,600 SHALL BE POSTED ALONG WITH THE DEVELOPER'S AGREEMENT.
 - CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
 - FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWEETS.
 - CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
 - AT THE TIME OF PLANT INSTALLATION, ALL TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATIONS FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE PLANS.
 - CREDIT IS TAKEN FOR 2 EXISTING SHADE TREES AND 237 LF OF EXISTING WOODS ALONG PERIMETER 2, 131 LF OF EXISTING WOODS ALONG PERIMETER 3, 8 LF OF EXISTING WOODS ALONG PERIMETER 4, AND 115 LF OF EXISTING WOODS ALONG PERIMETER 5.
 - Landscaping requirements for Lot 3 are deferred until SDP stage. Landscaping is not required for Lots 1 & 2 since there are ex. dwellings, which are to remain.



PLANT LIST (PERIMETER LANDSCAPING)

QTY	SPECIES	SIZE	SYMBOL	COMMENTS
3	Acer rubrum 'Red Sunset' / Red Sunset Red Maple	2-1/2" to 3" cal.	(Symbol)	Plant min. 40' apart
1	Quercus phellos Willow Oak	2-1/2" to 3" cal.	(Symbol)	Plant min. 30' apart
3	Quercus acutissima Sawtooth Oak	1-1/2" to 2" cal.	(Symbol)	Plant min. 30' apart
8	Cupressus forbesii Leyland Cypress	5'-6" ht.	(Symbol)	Plant min. 15' apart

SCHEDULE A - PERIMETER LANDSCAPE EDGE

Category	Perimeter					TOTAL PLANTS PROVIDED
	1	2	3	4	5	
Landscape Type	B	A	A	A	A	
Linear Feet of Roadway/Frontage/Perimeter	227'	414'	131'	8'	498'	
Number of Plants Required						
Shade Trees	0	7	2	0	8	
Evergreen Trees	0	0	0	0	0	
Shrubs	0	0	0	0	0	
Credit for Existing Vegetation	No	Yes*	Yes*	Yes*	Yes*	
Shade Trees	0	2**	0	0	0	
Evergreen Trees	0	0	0	0	0	
Other: (20' wide landscape buffer)	0	237'	131'	8'	115'	
Number of Plants Provided						
Shade Trees	0	1	0	0	6	7 Shade
Evergreen Trees	0	0	0	0	0	0 Evergreen
Shrubs	0	0	0	0	0	0 Shrubs

* EXISTING WOODS TO REMAIN
** CREDIT FOR 2 EX. TREES ALONG PERIMETER 2

DEVELOPER'S LANDSCAPE CERTIFICATE
I 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 LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

6/5/08
OWNER/DEVELOPER SIGNATURE DATE

LEGEND

- FIRE HYDRANT
- WATER METER
- POWER POLE
- LIGHT POLE
- TELEPHONE PEDESTAL
- SANITARY SEWER MANHOLE
- MAIL BOX
- INTERMITTENT STREAM
- STREAM BUFFER
- TREES CREDITED TOWARD LANDSCAPE REQ.
- EX. OVERHEAD ELECTRIC LINE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

FOR DRIVEWAY, SEE COUNTY STD. DETAIL R-6.06

OWNER/DEVELOPER
JASON SMITH
7660 HARMAN DRIVE
SYKESVILLE, MD 21784
PHONE: 443-250-4781

6/24/08
DATE

10-27-11 REMOVE Landscaping, Note # 6. Add note # 12
DATE REVISION

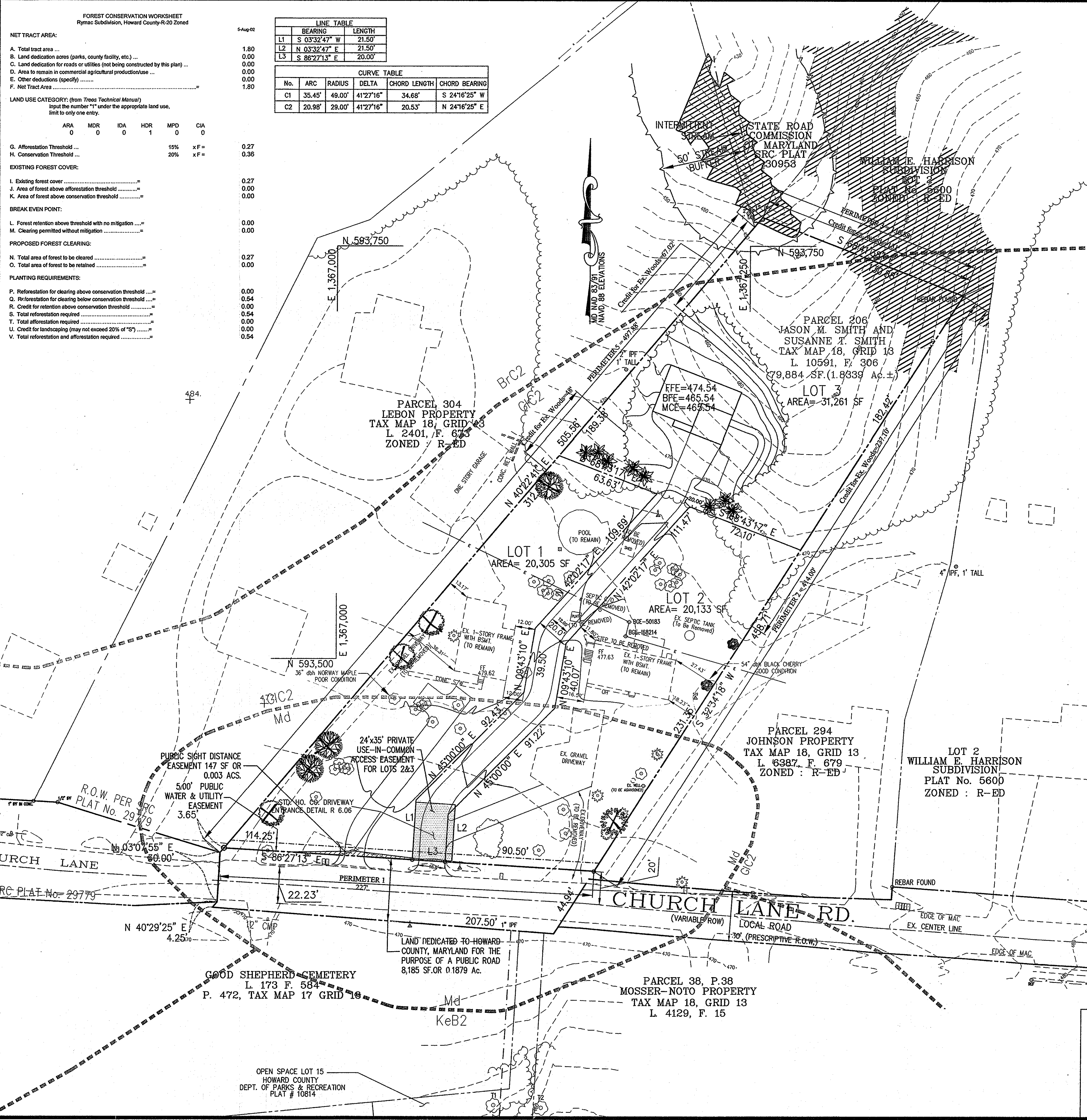
LANDSCAPE PLAN
RYMAC SUBDIVISION
LOTS 1 TO 3

2nd ELECTION DISTRICT- HOWARD COUNTY, MARYLAND
PARCEL 206 L. 10591, F. 306
TAX MAP 18 GRID 13 ZONE R-ED (R-20)

KCE ENGINEERING, INC.
EXECUTIVE CENTER
3300 NORTH RIDGE ROAD, SUITE 315
ELLCOTT CITY, MARYLAND 21043
PHONE (410) 203-9800 FAX (410) 203-9228

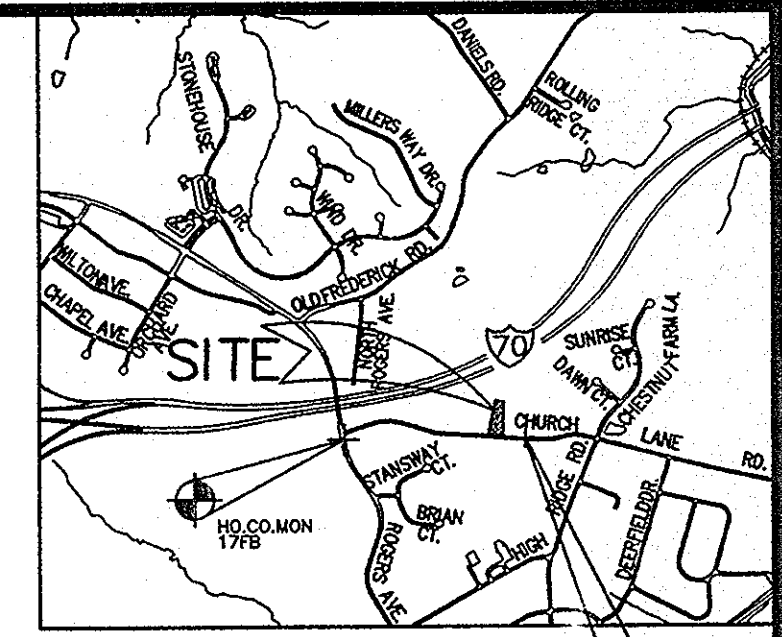
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CHECKED BY: DVK
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DATE: June 6, 2008

SHEET:
2 OF 4

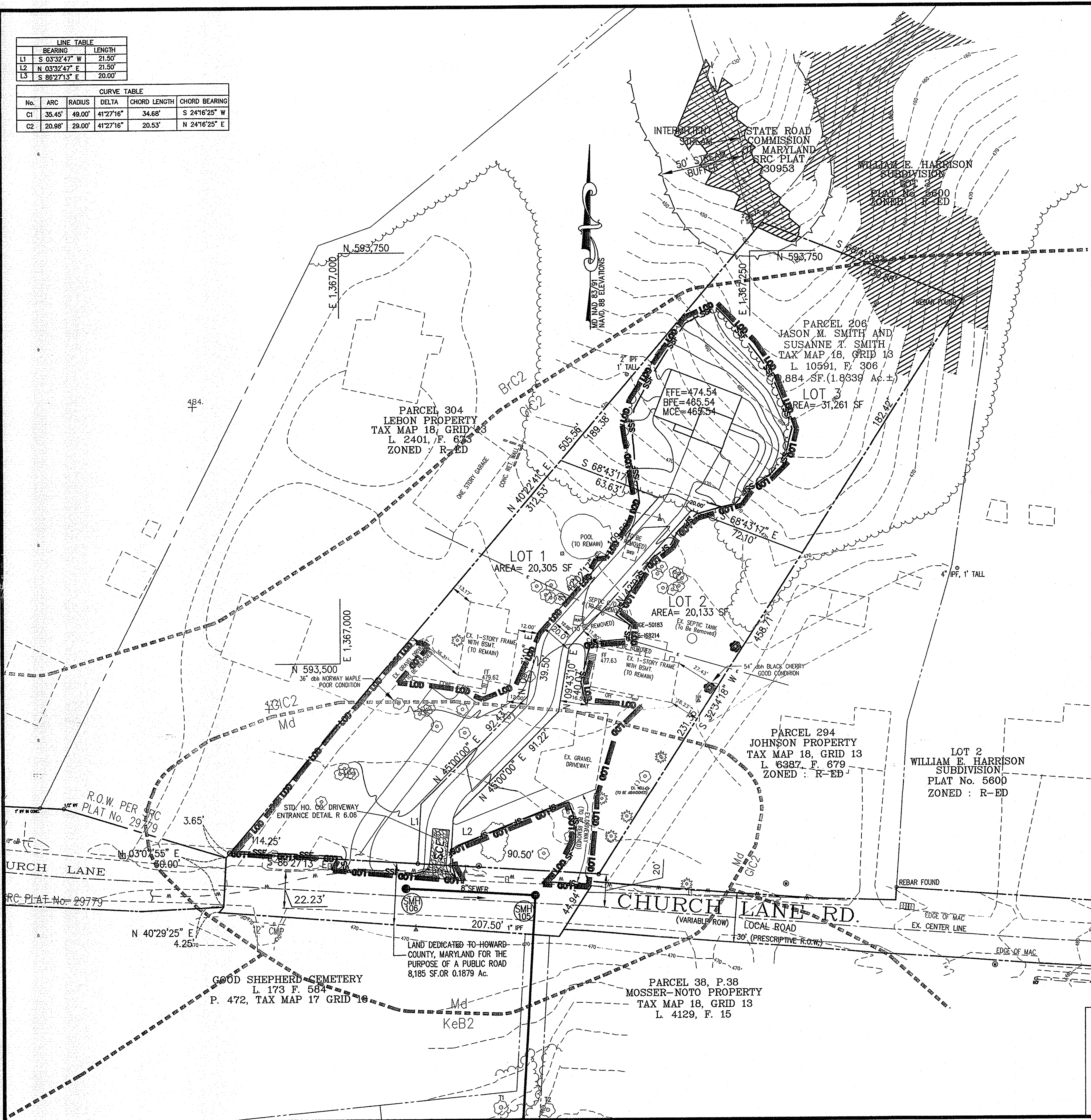


LINE TABLE	
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CURVE TABLE					
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VICINITY MAP
SCALE: 1" = 2000'



SOIL ANALYSIS		
SYMBOL	NAME/DESCRIPTION	TYPE
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Ho. Co. Soil Map #16

LEGEND	
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	WATER METER
	POWER POLE
	LIGHT POLE
	TELEPHONE PEDESTAL
	SANITARY SEWER MANHOLE
	MAIL BOX
	INTERMITTENT STREAM
	STREAM BUFFER
	LIMIT OF DISTURBANCE
	SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	SUPER SILT FENCE
	>25% SLOPES

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John K. Robertson 6/12/08 DATE

ENGINEERS CERTIFICATE

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

Jason Smith 6/12/08 DATE

SIGNATURE OF ENGINEER

DEVELOPERS CERTIFICATE

"I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT."

Jason Smith 6/15/08 DATE

SIGNATURE OF DEVELOPER

SEDIMENT & EROSION CONTROL PLAN

RYMAC SUBDIVISION

LOTS 1 TO 3

2nd ELECTION DISTRICT- HOWARD COUNTY, MARYLAND
PARCEL 206 L. 10591, F. 306
TAX MAP 18 GRID 13 ZONE R-ED (R-20)

KCE ENGINEERING, INC.

EXECUTIVE CENTER

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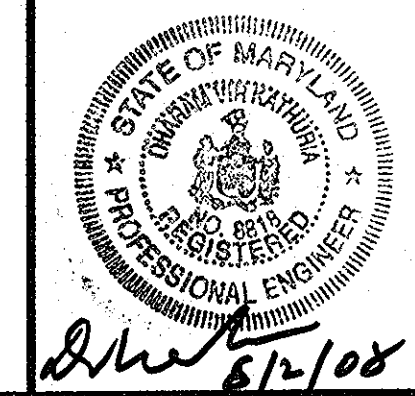
FOR DRIVEWAY, SEE COUNTY STD. DETAIL R-6.05

OWNER/DEVELOPER
JASON SMITH
7660 HARMAN DRIVE
SYKESVILLE, MD 21784
PHONE: 443-250-4781

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Michael J. ... 6/12/08 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Robert ... 6/24/08 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT



DRAWN BY: MG

CHECKED BY: DVK

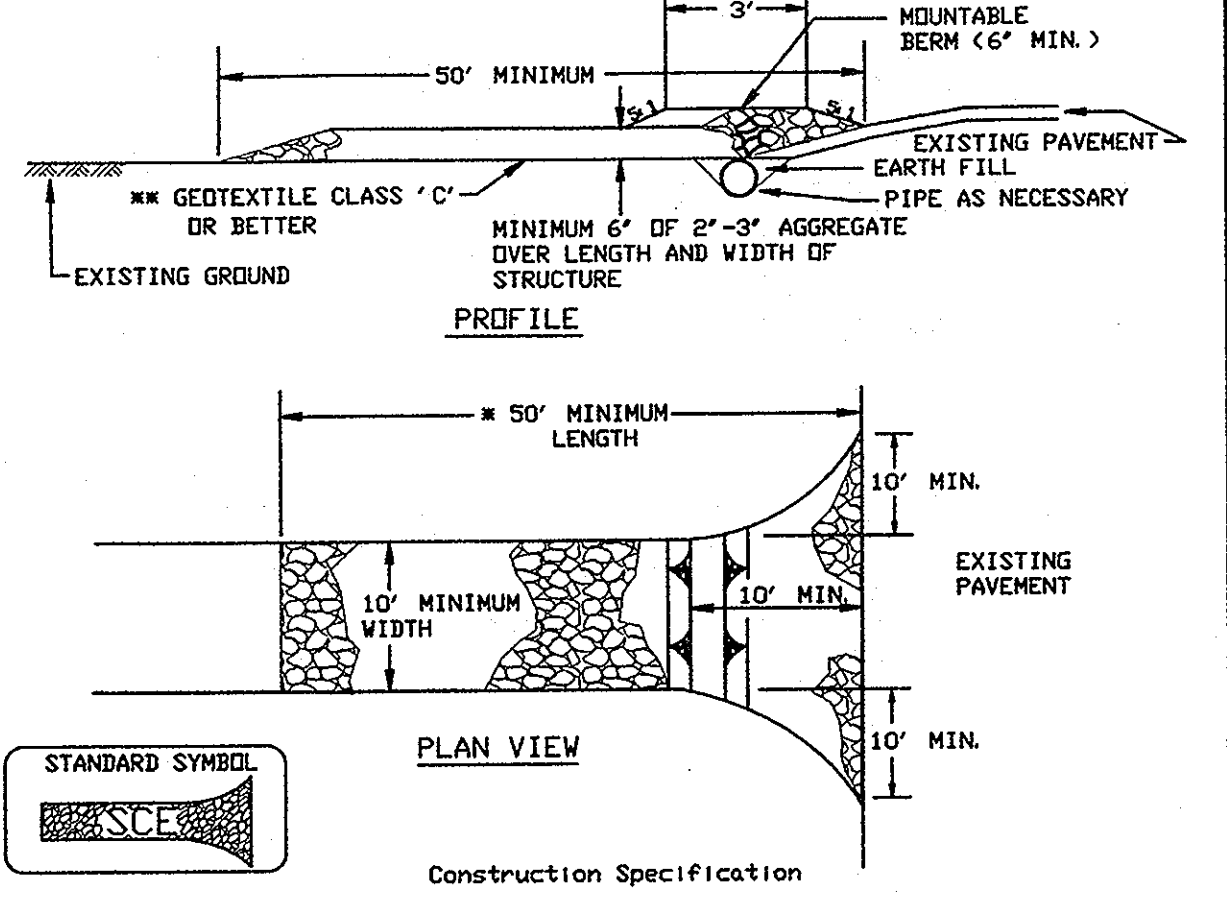
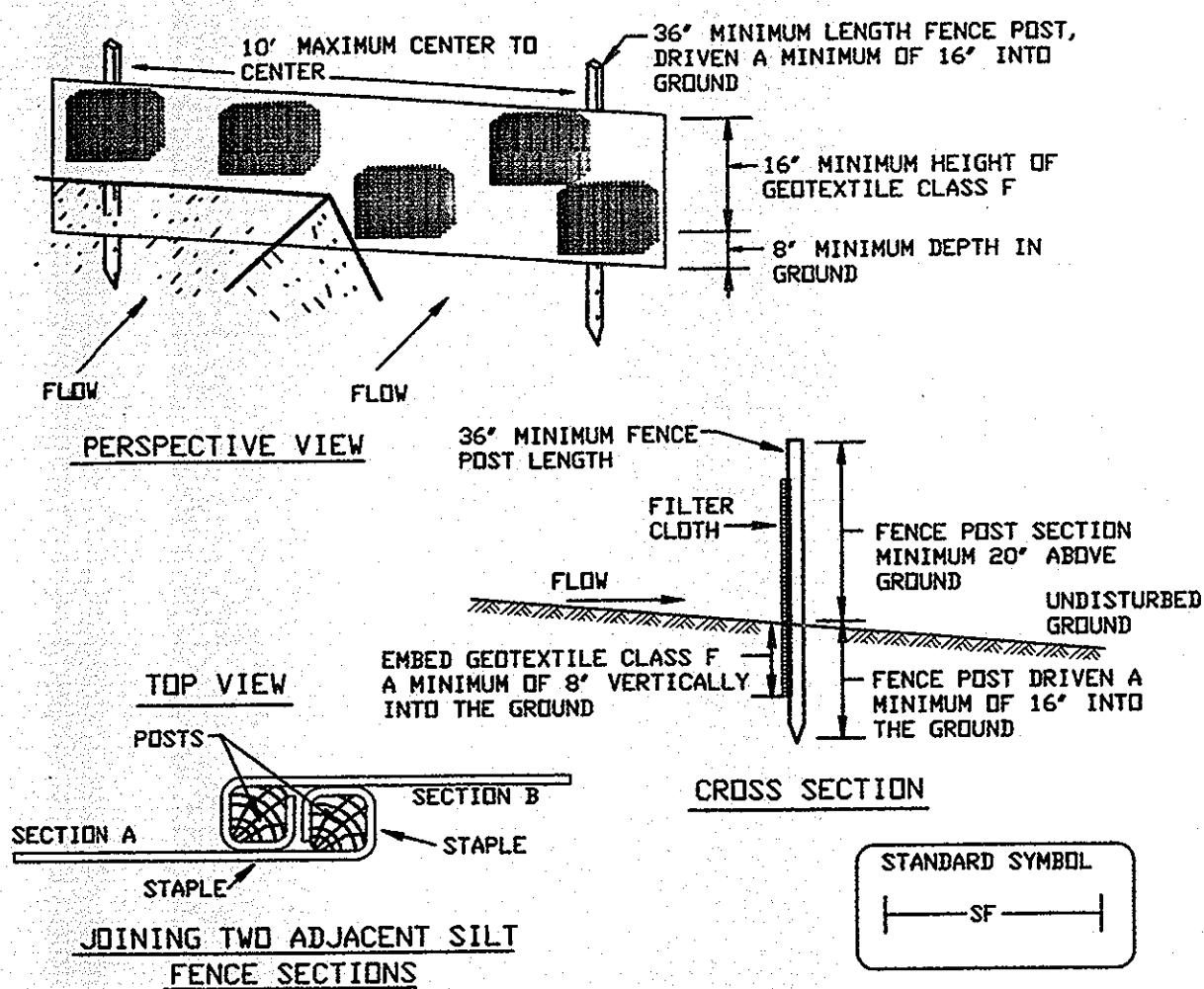
SCALE: 1"=30'

DATE: June 6, 2008

SHEET:
3 OF 4

DETAIL 22 - SILT FENCE

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.

1. Length - minimum of 50' (#30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.

Table with columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, PAGE E-15-3, MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION.

Table with columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, PAGE F-17-3, MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION.

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

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

PURPOSE

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

CONDITIONS WHERE PRACTICE APPLIES

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

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS.
II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
i. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND.
iii. 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.

- IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
I. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
A. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

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

V. TOPSOIL APPLICATION

- i. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, SILT FENCE, SEDIMENT TRAPS AND BASINS.
ii. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 8" HIGHER IN ELEVATION.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- 1. Preferred - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding.
2. Acceptable - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding.

Seeding - For the periods March 1 - April 20, and August 1 - October 20, inclusive, seed the appropriate seed mixtures:
Seed Mixture No. 1 - (relatively flat areas regularly mowed and exposed to normal conditions) with 192 lbs PLS/acre of 85% certified turf-type Tall Fescue, 28 lbs PLS/acre of 10% certified Kentucky Bluegrass and 14 lbs PLS/acre of 5% Perennial Ryegrass.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas.

Maintenance - Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seedbed preparation: - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: - Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding: - For periods March 1 - April 30 and from August 1 - November 30, inclusive, seed with 2-1/2 bushel per acre of Annual Rye/ Redtop (3.2 lbs/1000 sq. ft.).

Mulching: - Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.

5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

7. Site Analysis:
Total Area of Site 6,991 Acres
Area Disturbed: 0.78 Acres
Area to be roofed or paved: 1.65 Acres
Area to be vegetatively stabilized: 5.05 Acres
Total Cut: 3,340 Cu. Yds.
Total Fill: 13,000 Cu. Yds.
Excess borrow material to be hauled from an approved site.

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

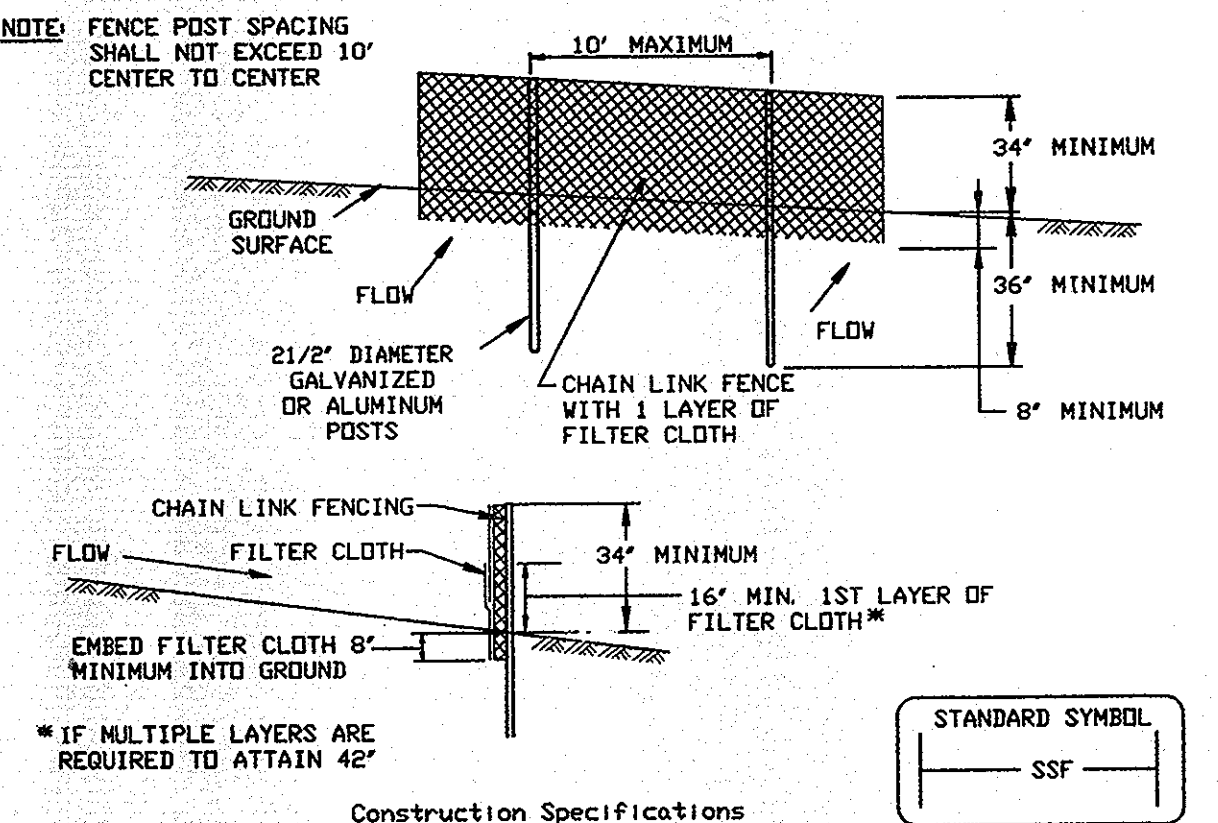
11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.

SEQUENCE OF CONSTRUCTION

- 1. Obtain grading permit. DURATION: 1 DAY
2. Notify Howard County Bureau of Inspections and Permits (313-1880) at least 24 hours before starting any work. DURATION: 1 DAY
3. Construct stabilized construction entrance. DURATION: 1 DAY
4. Install perimeter silt fence. DURATION: 1 DAY
5. With Inspector's approvals, clear and grub site to LOD. DURATION: 1 WEEK
6. Rough grade site. DURATION: 5 DAYS
7. Install perimeter landscaping as shown in Schedule 'A' sheet 2. DURATION: 2 WEEKS
8. Stabilize all disturbed areas with seed and mulch. DURATION: 1 WEEK
9. With approval of Inspector, remove sediment control devices. DURATION: 1 DAY

DETAIL 33 - SUPER SILT FENCE

SUPER SILT FENCE



1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42' fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

Table with columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, PAGE H-26-3, MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION.

Table with columns: Slope, Slope Steepness, Slope Length (maximum), Silt Fence Length (maximum). Rows include slopes from 0-10% to 50%+.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

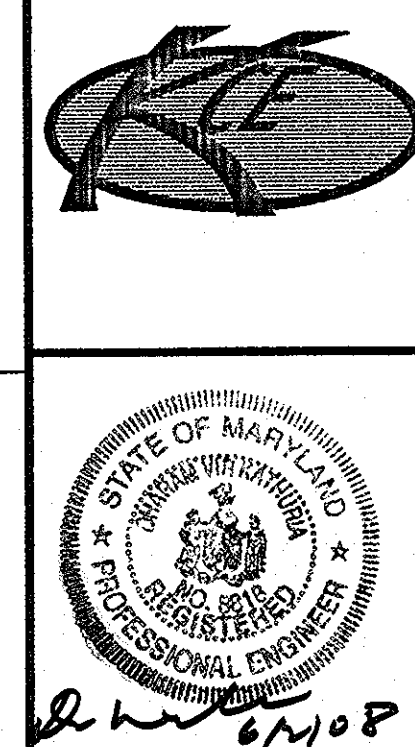
6. Maintenance shall be performed as needed and silt buildups removed when 'bulges' develop in the silt fence, or when silt reaches 50% of fence height.
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Table with columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, PAGE H-26-3A, MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION.

SEDIMENT & EROSION CONTROL NOTES AND DETAILS RYMAC SUBDIVISION LOTS 1 TO 3

2nd ELECTION DISTRICT- HOWARD COUNTY, MARYLAND PARCEL 206 L. 10591, F. 306 TAX MAP 18 GRID 13 ZONE R-ED (R-20)

KCE ENGINEERING, INC. EXECUTIVE CENTER 3300 NORTH RIDGE ROAD, SUITE 315 ELLICOTT CITY, MARYLAND 21043 PHONE (410) 203-9800 FAX (410) 203-9228



DRAWN BY: MG CHECKED BY: DVK SCALE: 1"=30' DATE: June 6, 2008 SHEET: 4 OF 4

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature of Chief, Development Engineering Division, dated 6/9/08

Signature of Chief, Division of Land Development, dated 6/24/08

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT TO MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Signature of Howard Soil Conservation District, dated 6/12/08

Signature of Howard Soil Conservation District, dated 6/12/08

ENGINEERS CERTIFICATE

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

Signature of Engineer, dated 6/10/08

DEVELOPERS CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

Signature of Developer, dated 6/5/08