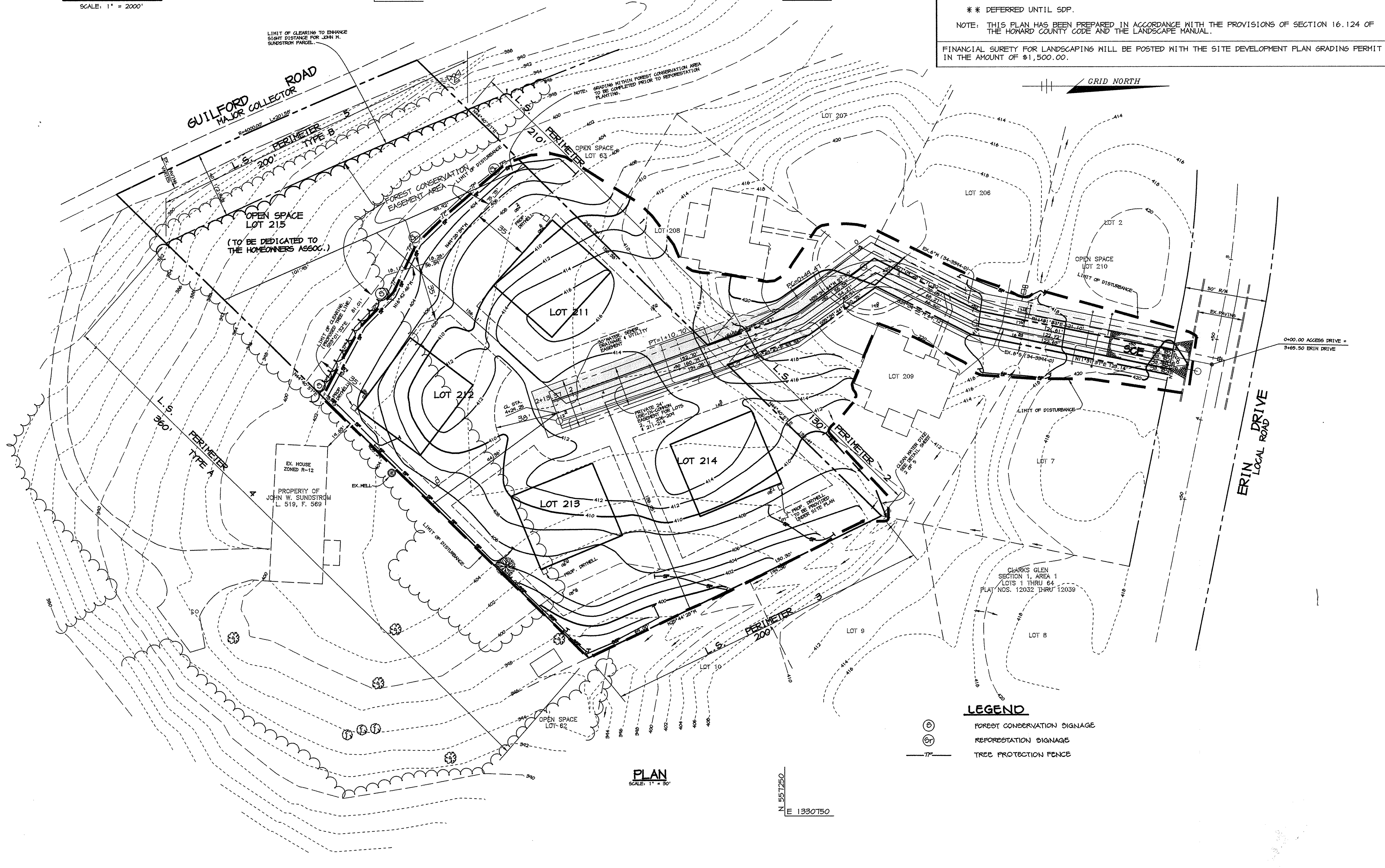


VICINITY MAP
SCALE: 1" = 2000'

N 557000
E 1330250

N 557250
E 1330250



PLAN
SCALE: 1" = 30'

N 557250
E 1330750

SCHEDULE A - PERIMETER LANDSCAPING

CATEGORY	ADJACENT TO PROPERTIES				ADJACENT TO ROADWAYS
	1*	2*	3*	4	
LANDSCAPE TYPE REQUIRED	N/A	N/A	N/A	A	B
LINEAR FEET	210'	130'	200'	360'	200'
CREDIT FOR EXISTING VEGETATION	N/A	N/A	N/A	**	**
LINEAR FEET OF CREDIT	-	-	-	-	-
CREDIT FOR WALL, FENCE OR BERM	-	-	-	-	-
LINEAR FEET OF CREDIT	-	-	-	-	-
NUMBER OF PLANTS REQUIRED (SITE)					
SHADE TREES	N/A	N/A	N/A	6	4
EVERGREEN TREES				0	5
SHRUBS				0	0
NUMBER OF PLANTS PROVIDED (SITE)					
SHADE TREES	N/A	N/A	N/A	**	**
EVERGREEN TREES					
OTHER TREES (2:1 SUBSTITUTION)					
SHRUBS (10:1 SUBSTITUTION)					

NOTES: * THERE IS NO REQUIREMENT FOR EDGES, BUFFERING OR SCREENING BETWEEN INTERVAL LOTS OF THE SAME SUBDIVISION. DPZ LETTER DATED APRIL 22, 1997.
** DEFERRED UNTIL SDP.
NOTE: THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
FINANCIAL SURETY FOR LANDSCAPING WILL BE POSTED WITH THE SITE DEVELOPMENT PLAN GRADING PERMIT IN THE AMOUNT OF \$1,500.00.

SHEET INDEX

NO	DESCRIPTION
1	GRADINGS AND SEDIMENT CONTROL PLAN
2	DETAIL SHEET
3	DIMENSION AND PAVING PLAN
4	REFORESTATION PLAN
5	REFORESTATION NOTES AND DETAILS

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

Melba J. Donald 6/15/98
DEVELOPER DATE

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

Abdul Muegg 6/15/98
ENGINEER DATE

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

Ceryl Simmons 6/23/98
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Robertson 6/23/98
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Howard S. Shaffer 6/24/98
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Cindy Hatcher 7/6/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Arthur E. Muegge 6/24/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

OWNER/DEVELOPER
MILBEN II LIMITED PARTNERSHIP
C/O JOHN E. BITTNER, V.P.
1501 S. EDGEMOOD STREET
SUITE K
BALTIMORE, MARYLAND 21227
(410) 644-5603

PROJECT
CLARKS GLEN
SECTION 4, LOTS 211 THRU 215
PRIVATE ROAD PLANS

AREA PARCEL 205 ZONED R-12
TAX MAP 34, BLOCK 18 TAX MAP 35, BLOCK 13
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
GRADINGS AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE 6-15-98
DESIGNED BY: C.J.R.
DRAWN BY: DAM
PROJECT NO: 93213
RD1.DWG
DATE: JUNE 15, 1998
SCALE: AS SHOWN
DRAWING NO. 1 OF 5

Arthur E. Muegge #8707
ARTHUR E. MUEGGE

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS 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 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL, AND REVISIONS THERETO.
- 3. 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 AND ALL SLOPES GREATER THAN 2:1, B) 14 DAYS AS TO OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE 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 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL FOR PERMANENT SEEDINGS (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONG 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	1.84 ACRES
AREA DISTURBED	1.73 ACRES
AREA TO BE ROOFED OR PAVED	0.15 ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.58 ACRES
TOTAL CUT	0 CU.YDS.
TOTAL FILL	11,496 CU.YDS.
- 8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 10. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
- 11. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
- 12. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL. NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.
- 13. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 AC., 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.
- 14. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where 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.

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

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual ryegrass (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR rate and methods not covered.

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, discing 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 per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 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 ureaform fertilizer (9 lbs. per 1000 sq.ft.).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
- 2) Use sod.
- 3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseeding.

21.0 STANDARD AND SPECIFICATIONS

FOR TOPSOIL

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

Purpose
To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil 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.
- II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

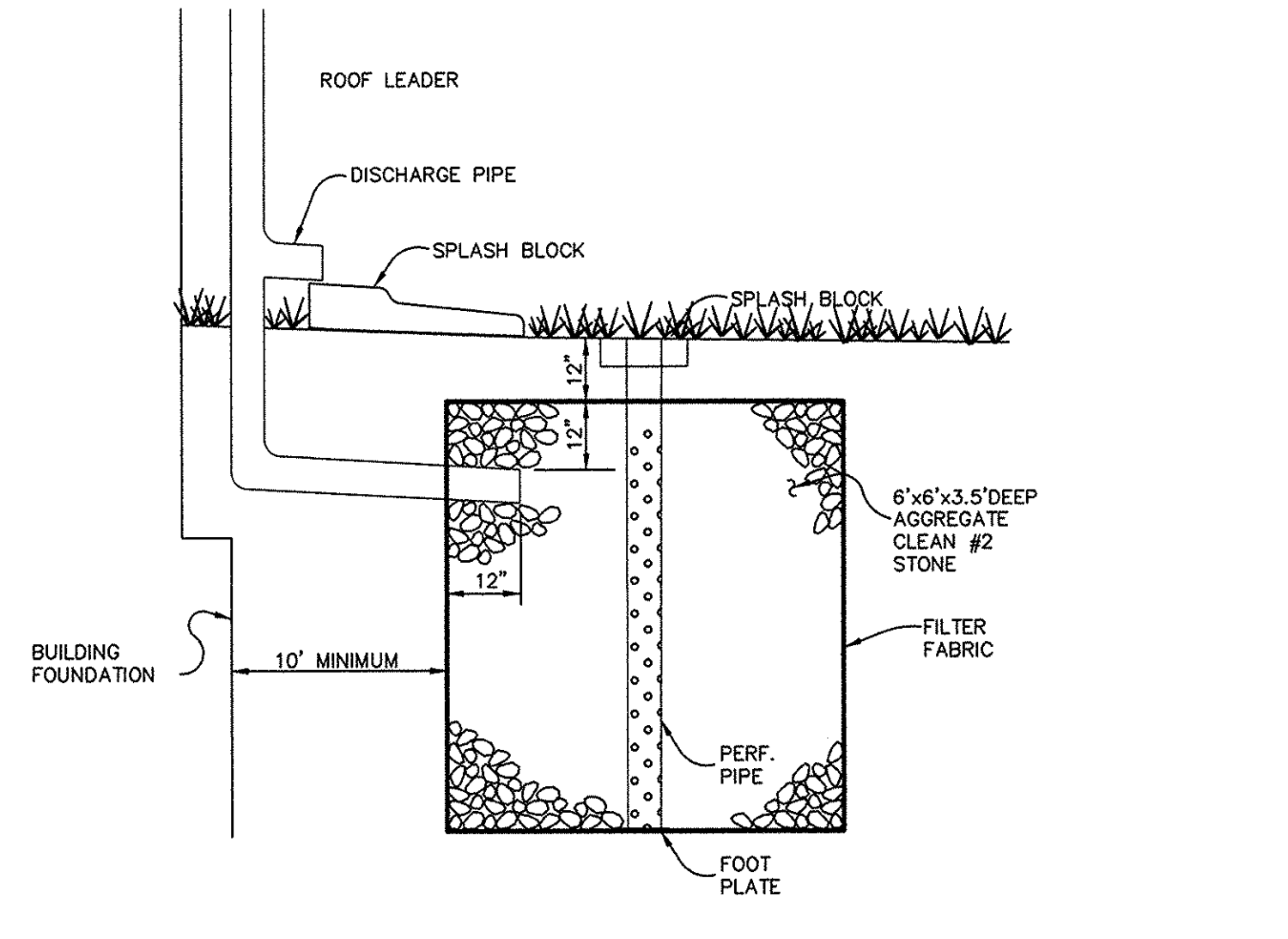
Construction and Material Specifications

- I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SS in cooperation with Maryland Agricultural Experimentation Station.
- 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. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured substrata 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.
 - ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, johnsongrass, nutedge, poison Ivy, thistle, or others as specified.
 - iii. Where 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. Limestone shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- III. For sites having disturbed areas under 5 acres:
 - i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
 - ii. For sites having disturbed areas over 5 acres:
 - a. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - i. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - ii. Organic content of topsoil shall be not less than 1.5 percent by weight.
 - iii. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - iv. No soil or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

Note: Topsoil substitutes to 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.

GENERAL NOTES

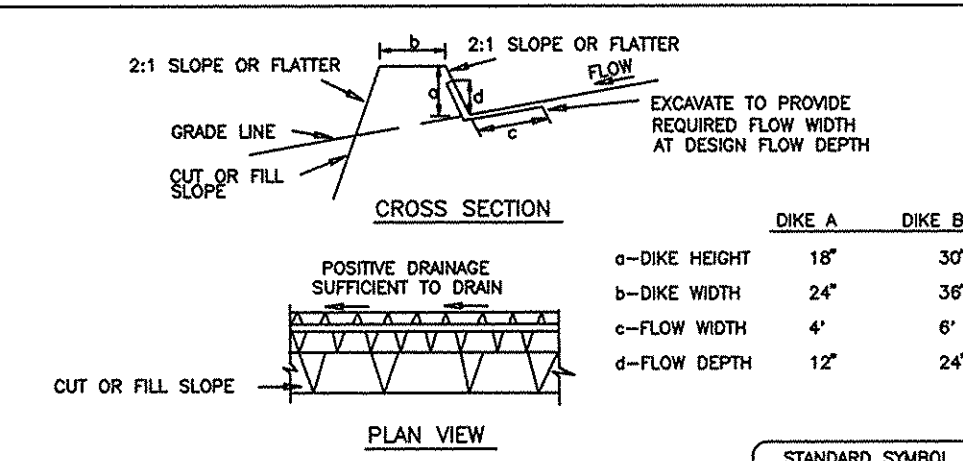
- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- 2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERS/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- 3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 4. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- 5. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1983) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1983)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- 6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AN AERIAL SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY KING'S AERIAL MAPPING DATED JANUARY 19, 1997.
- 7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 356A AND 356B WERE USED FOR THIS PROJECT.
- 8. WATER IS PUBLIC. CONTRACT NO. 34-3944-D
- 9. SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATAPSCO CONTRACT NO. 34-3994-D
- 10. A FEE-IN-LIEU OF STORMWATER MANAGEMENT WAS GRANTED ON APRIL 8, 1997. WATER QUALITY FOR EACH LOT WILL BE PROVIDED BY DRY WELLS.
- 11. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- 12. THERE IS NO 100-YEAR FLOODPLAIN AFFECTING THIS PROJECT.
- 13. THERE ARE NO WETLANDS ON THIS SITE.
- 14. NO TRAFFIC STUDY REQUIRED FOR THIS PROJECT.
- 15. NO NOISE STUDY IS REQUIRED FOR THIS PROJECT.
- 16. THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY RIEBER MUEGGE & ASSOCIATES
- 17. SUBJECT PROPERTY ZONED R-12 PER 10-18-83 COMPREHENSIVE ZONING PLAN.
- 18. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- 19. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S. 5-44-16, NP-44-31, P-44-25, P-45-89.
- 20. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- 21. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- 22. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- 23. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- 24. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- 25. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- 26. PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- 27. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T100.



DRYWELL DETAIL

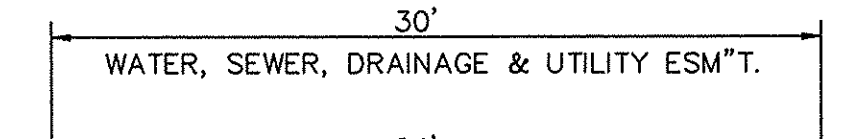
NOTE: DRY WELLS TO BE MORE DETAILED AND LOCATED, IN SIGHT DEVELOPMENT PLAN.

DETAIL 1 - EARTH DIKE



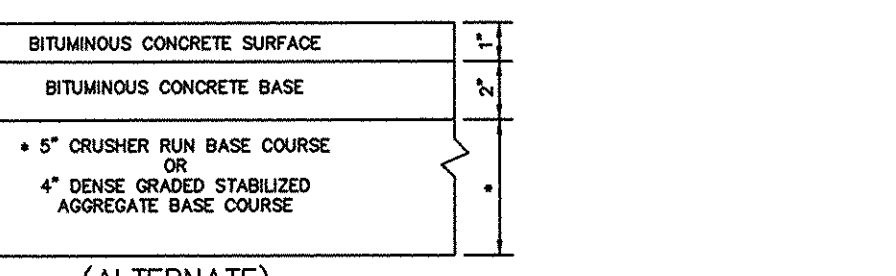
Construction Specifications

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum.
4. All temporary earth dikes shall have unimpeded positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
5. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
6. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
7. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
8. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
9. Fill shall be compacted by earth moving equipment.
10. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
11. Inspection and maintenance must be provided periodically and after each rain event.



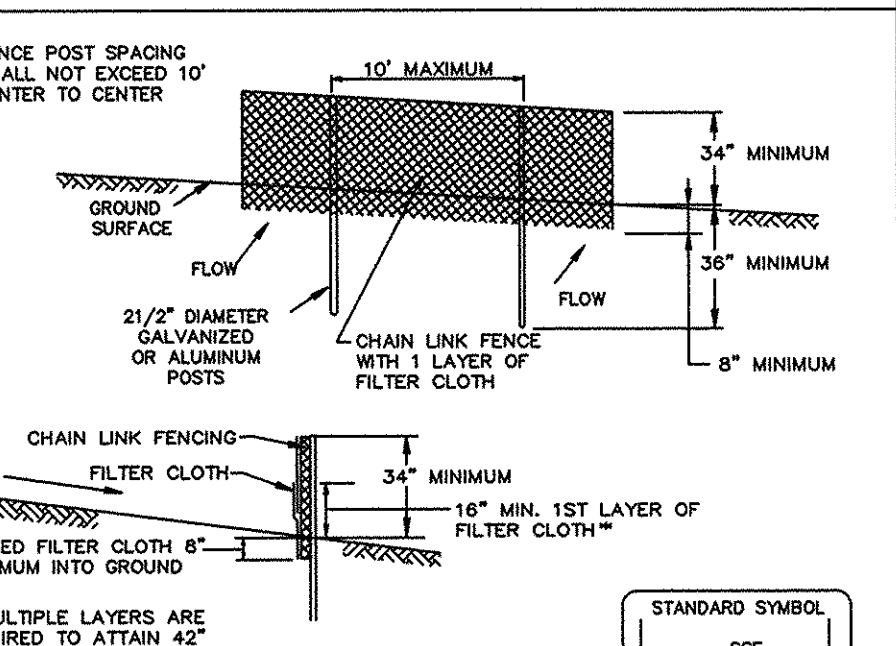
TYP. SECTION ACCESS ROAD

NOTE: *OFFSETS VARY, SEE SHEET 3 OF 3, DIMENSION AND PAVING PLAN.



P-1 PAVING

DETAIL 33 - SUPER SILT FENCE

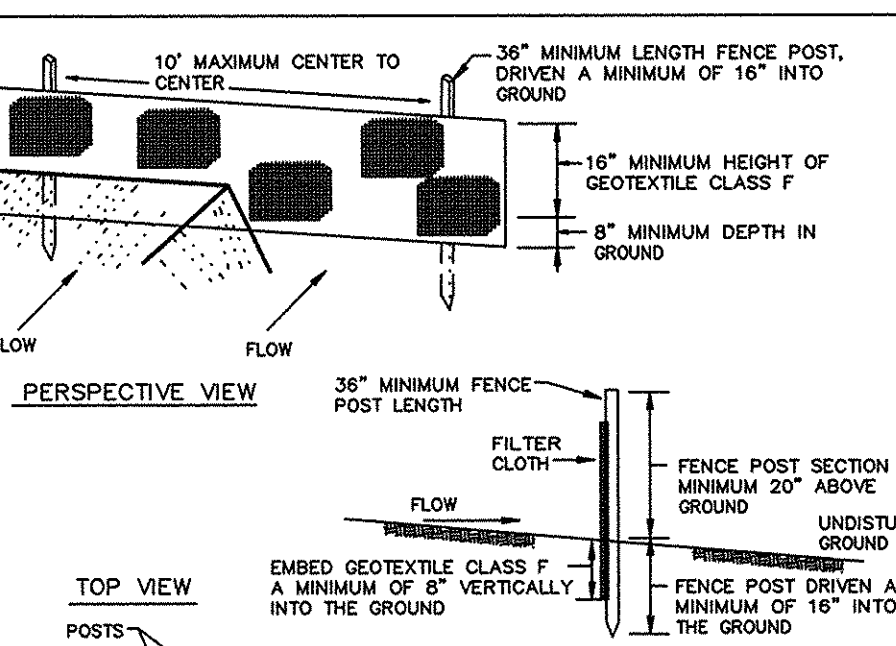


Construction Specifications

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

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

DETAIL 22 - SILT FENCE

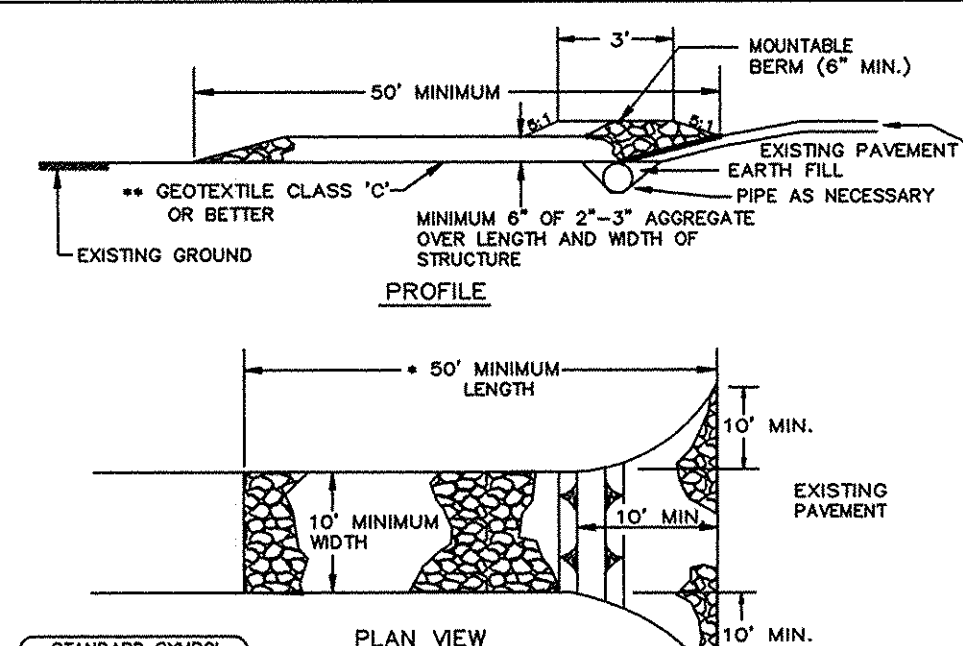


Construction Specifications

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 weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal./ft. /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

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

BY THE DEVELOPER :
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
Melvin [Signature] 6/15/98
DEVELOPER DATE

BY THE ENGINEER :
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Arthur E. Muegge 6/15/98
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.
Charles Simmons 6/23/98
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John R. Salvatoro 6/23/97
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Howard [Signature] 6/4/98
CHIEF, BUREAU OF HIGHWAYS DATE

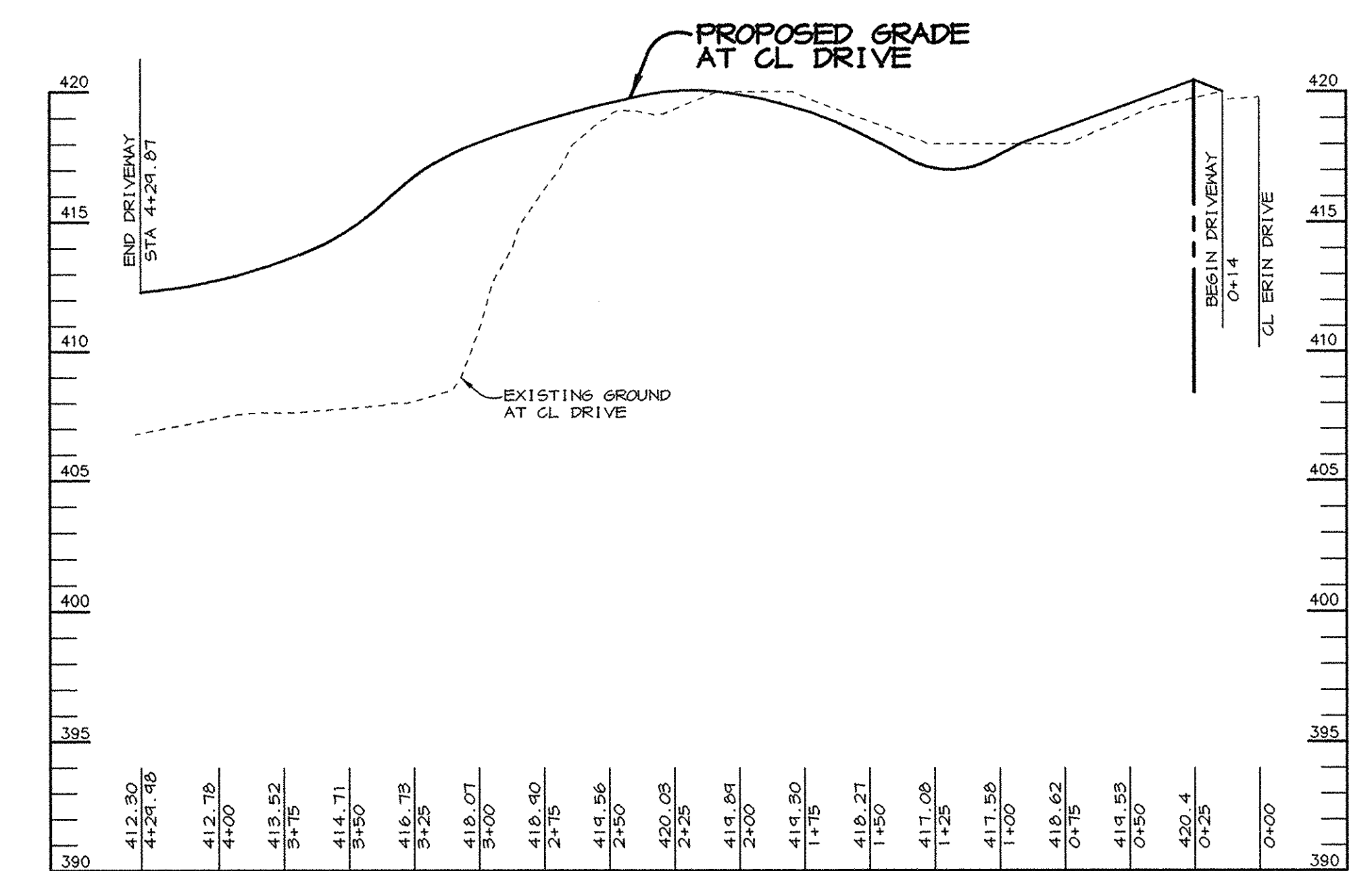
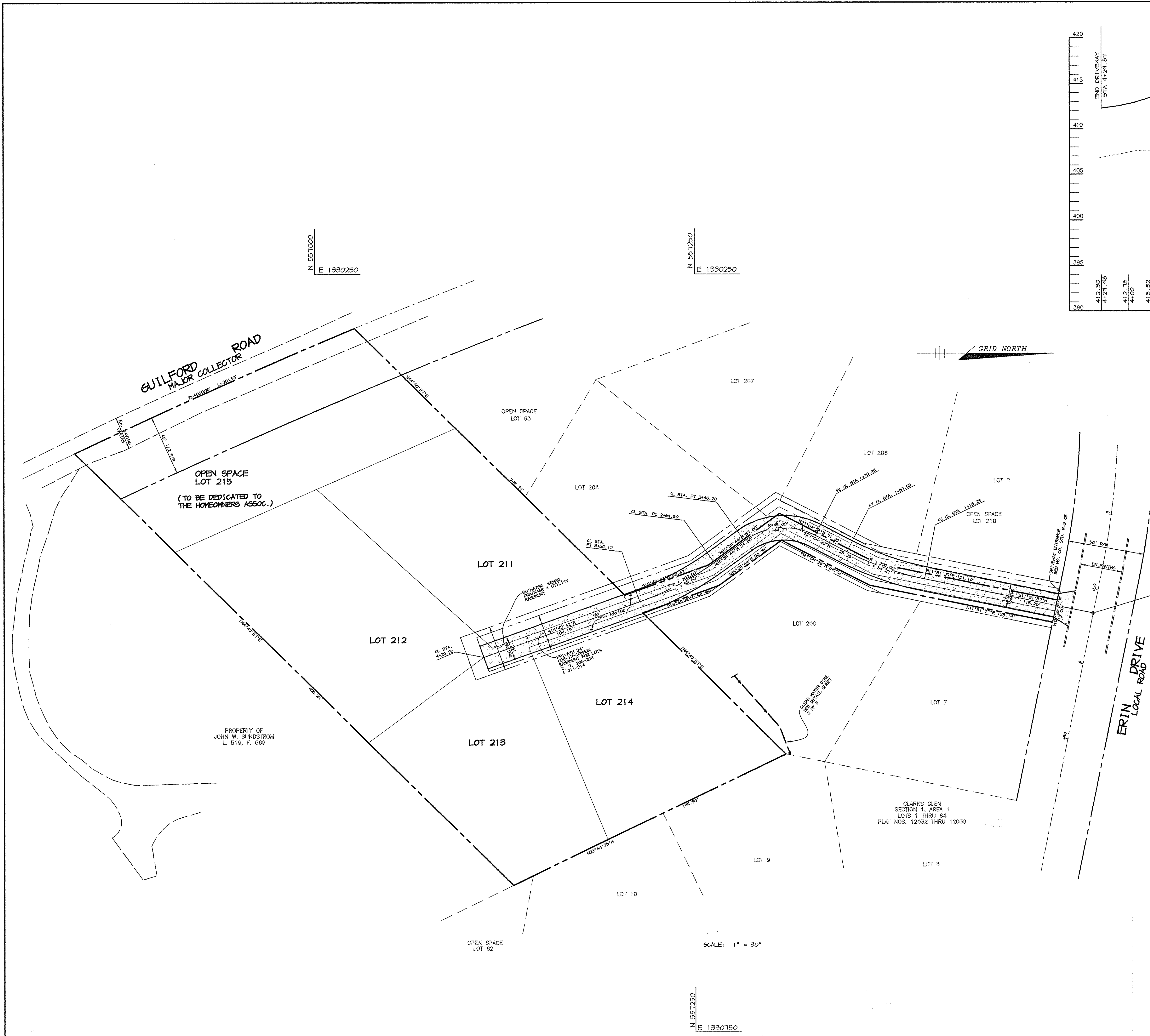
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Charles [Signature] 7/6/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 6/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE 1 - 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DATE NO.		REVISION
OWNER/DEVELOPER	MILBEN II LIMITED PARTNERSHIP C/O JOHN E. BITTNER, V.P. 1501 S. EDGEWOOD STREET SUITE K BALTIMORE, MARYLAND 21227 (410) 844-5603	
PROJECT	CLARKS GLEN SECTION 4, LOTS 211 THRU 215 PRIVATE ROAD	
AREA	PARCEL 205	ZONED R-12
TAX MAP	34, BLOCK 18	TAX MAP 35, BLOCK 13
	5th ELECTION DISTRICT	HOWARD COUNTY, MARYLAND
TITLE	DETAIL SHEET	

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282
DATE: 6/15/98
DESIGNED BY: C.J.R.
DRAWN BY: DAM
PROJECT NO: 93213
RD2, DW6
DATE: AS SHOWN
SCALE: JUNE 15, 1998
DRAWING NO: 2 OF 5
Arthur E. Muegge #8707

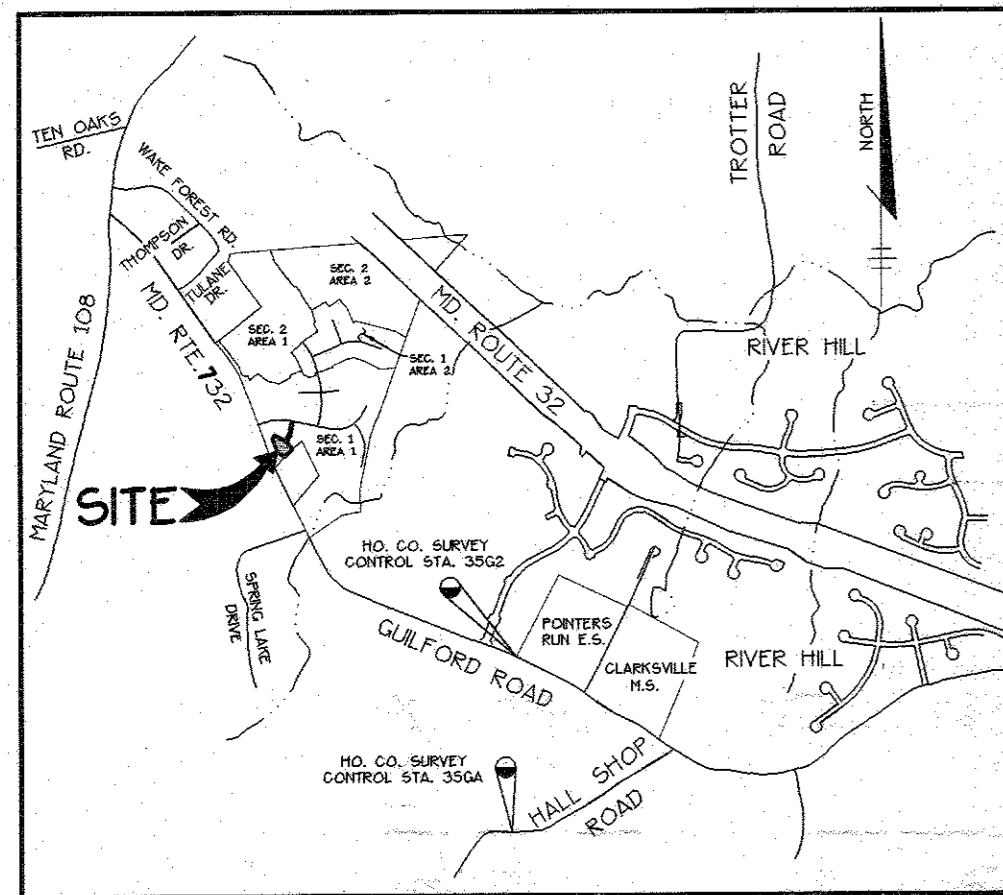


PROFILE OF USE-IN-COMMON DRIVEWAY

SCALE: HOR. - 1" = 50' VERT. - 1" = 5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	
<i>Howard Shick</i>	DATE 6/16/98
CHIEF, BUREAU OF HIGHWAYS	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Conde Hammit</i>	DATE 7/6/98
CHIEF, DIVISION OF LAND DEVELOPMENT	
<i>[Signature]</i>	DATE 6/24/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION	
DATE NO.	REVISION
OWNER/DEVELOPER MILLEN II LIMITED PARTNERSHIP C/O JOHN E. BITTNER, V.P. 1501 S. EDGEWOOD STREET SUITE K BALTIMORE, MARYLAND 21227 (410) 644-5603	
PROJECT CLARKS GLEN SECTION 4, LOTS 211 THRU 215 PRIVATE ROAD PLANS	
AREA PARCEL 205 ZONED R-12 TAX MAP 34, BLOCK 18 TAX MAP 35, BLOCK 13 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE DIMENSION AND PAVING PLAN	
RIEMER MUEGGE & ASSOCIATES, INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive, Columbia, Maryland 21045 tel 410.997.8900 fax 410.997.9282	
DATE 6-16-98	DESIGNED BY: C.J.R.
	DRAWN BY: DAM
	PROJECT NO: 93213 RDS_DWG
	DATE: JUNE 15, 1998
	SCALE: AS SHOWN
ARTHUR E. MUEGGE #8707	DRAWING NO. 3 OF 5

M:\PROJECT\93213\1003 Mon Jun 15 10:35:04 1998 RIEMER MUEGGE & ASSOCIATES



VICINITY MAP
SCALE: 1" = 2000'

NOTE: L.O.D. WITHIN EXISTING FOREST CONSERVATION AREA = 1,756 SQ. FT. (0.04 AC.) THIS AREA OF FOREST IS TO BE REMOVED FOR GRADING NECESSARY FOR THE WIDENING OF GUILFORD ROAD AND REPLACED UPON COMPLETION. SURETY FOR REPLACEMENT PLANTING IS \$978.00 (1,756 sq.ft. x \$0.50).

NOTE: PROPOSED WIDENING, GRADING & SEDIMENT CONTROL CAN BE FOUND IN THE F-15-110 PLAN SET.

MAINTENANCE OF PLANTINGS

1. MAINTENANCE OF PLANTINGS SHALL LAST FOR A PERIOD OF 26 MONTHS.
2. ALL PLANT MATERIAL SHALL BE GENERALLY WATERED TWICE A MONTH DURING THE 1ST GROWING SEASON. WATERING MAY BE MORE OR LESS FREQUENT DEPENDING ON WEATHER CONDITIONS.
3. DURING THE 2ND GROWING SEASON, PLANT MATERIAL SHALL BE WATERED ONCE A MONTH FROM MAY TO SEPTEMBER, AS NEEDED.
4. INVASIVE EXOTICS AND NOXIOUS WEEDS SHALL BE REMOVED FROM THE REFORESTATION AREA(S). OLD FIELD SUCCESSIONAL SPECIES SHALL BE RETAINED.
5. PLANTS SHALL BE EXAMINED A MINIMUM OF TWO (2) TIMES DURING THE GROWING SEASON FOR SERIOUS PLANT PESTS AND DISEASES WITH THE APPROPRIATE AGENT.
6. DEAD BRANCHED SHALL BE PRUNED FROM THE PLANTINGS.

GUARANTEE REQUIREMENTS

A 75% SURVIVAL RATE FOR THE REFORESTATION PLANTINGS IS REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 75% THRESHOLD IS REQUIRED TO BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.

NOTES:

1. ALL UTILITY RIGHTS-OF-WAY SHALL BE REPLANTED UP TO THE LIMIT OF DISTURBANCE TO REPLACE FOREST CANOPY LOST DURING CONSTRUCTION.
2. SEE SHEET 9 FOR REFORESTATION NOTES, DETAILS AND PLANTING LISTS.
3. REFORESTATION PLANT INSTALLATIONS:
 - A. RANDOMLY SPACE NEW TREE & SHRUB INSTALLATIONS TO ALLOW NO MORE THAN (5) 1" CALIPER OR (7) 1/4" - 1/2" CAL. TREE WHIPS OR (4) SHRUBS OF ANY PARTICULAR SPECIES TO BE PLANTED IN SUCCESSION. USE SUGGESTED SPACING AS A GENERAL GUIDE. TAKE CARE NOT TO PLANT IN PERFECT ROWS OR GRIDS.
 - B. LANDSCAPE PLANT LOCATIONS TAKE PRECEDENCE OVER REFORESTATION PLANTINGS. REFORESTATION PLANT MATERIAL SHOULD BE USED TO INFILL AREAS AROUND THE LANDSCAPE PLANT MATERIAL.
 - C. "LOW LAND PLANT MIX IS TO BE USED WHEN INSTALLING PLANTS INSIDE THE STREAM BUFFER. SEE LEGEND. UPLAND PLANT MIX SHALL BE USED FOR ALL OTHER PLANTING WITHIN THE REFORESTATION AREAS.
4. OFF SITE REFORESTATION FEE:
 - A. THE REQUEST TO FULFILL FOREST CONSERVATION OBLIGATIONS FOR THIS SITE BY PAYMENT OF A FEE-IN-LIEU OF \$705.00 IS APPROVED.

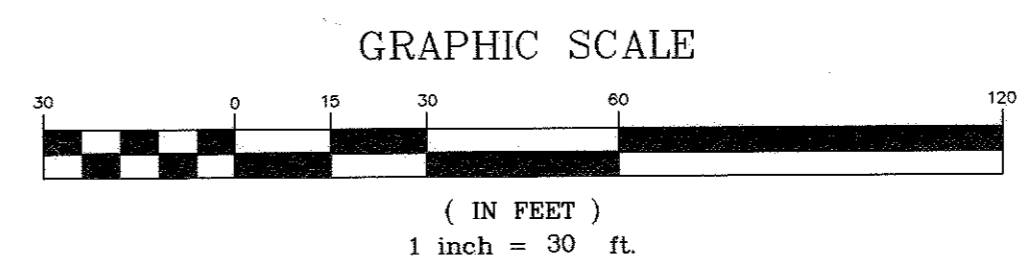
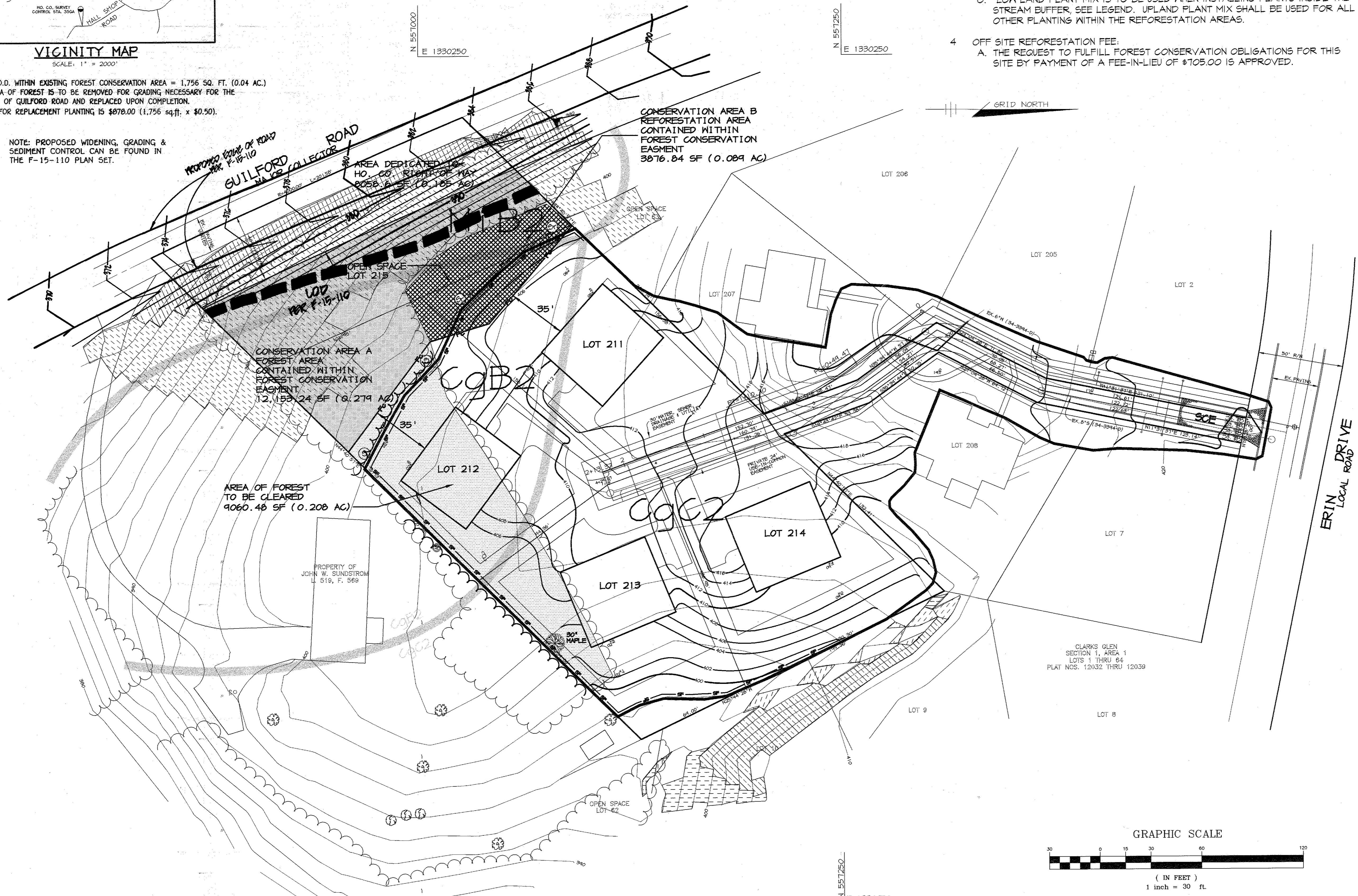
GENERAL LEGEND:

- EXISTING TREE LINE
- PROPOSED TREE LINE
- 75' STREAM BUFFER
- TREES 30" DBH OR GREATER
- TREE PROTECTION FENCE
- FOREST CONSERVATION EASEMENT
- L.O.D.
- FOREST CONSERVATION SIGNAGE
- REFORESTATION SIGNAGE
- FOREST RETAINED WITHIN FOREST CONSERVATION EASEMENT
- EXISTING FOREST TO BE CLEARED
- REFORESTATION AREA (SEE REFORESTATION LEGEND)

- SLOPES:**
- SLOPES GREATER THAN 25%
 - SLOPES 15% - 24.9%

REFORESTATION LEGEND:

- (SEE REFORESTATION NOTES AND DETAILS, DWS. NO. 2 OF 2 FOR PLANT LISTS)
- ON-SITE REFORESTATION WITHIN FOREST CONSERVATION EASEMENT UPLAND PLANTING AREAS
 - OFF-SITE REFORESTATION FEE IN LIEU (SEE NOTE 4)



THIS PLAN IS FOR LIMITS OF FOREST CONSERVATION & REFORESTATION. SEE SHEET 1 FOR FINAL GRADING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	
<i>Handwritten signature</i>	DATE: 6/16/98
CHIEF, BUREAU OF HIGHWAYS	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Handwritten signature</i>	DATE: 7/6/98
CHIEF, DIVISION OF LAND DEVELOPMENT	
<i>Handwritten signature</i>	DATE: 6/23/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION	
6/6/10	REVISION
OWNER/DEVELOPER WILBEN II LIMITED PARTNERSHIP C/O JOHN E. BITTNER, V.P. 1501 S. EDGEWOOD STREET SUITE K BALTIMORE, MARYLAND 21227 (410) 644-5603	
PROJECT CLARKS GLEN SECTION 4, LOTS 211 THRU 215 PRIVATE ROAD PLANS	
AREA PARCEL 205 ZONED R-12 TAX MAP 34, BLOCK 18 TAX MAP 35, BLOCK 13 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE REFORESTATION PLAN	
RIEMER MUEGGE & ASSOCIATES, INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive, Columbia, Maryland 21045 tel 410.997.8900 fax 410.997.9282	
6-15-98	
DESIGNED BY:	
DRAWN BY: A.J.L.	
PROJECT NO: 93213 REFOR1	
DATE: JUNE 15, 1998	
SCALE: 1" = 30'	
DRAWING NO. 4 OF 5	
DAVID DOWS #830	

M:\PROJECT\93213\REFOR1 Mon Jun 15 10:46:59 1998 RIEMER MUEGGE & ASSOCIATES

REFORESTATION PLANTING LISTS

UPLAND PLANT LIST				
QUANTITIES	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
9	ACER RUBRUM / RED MAPLE	1/4" - 1/2" CAL.	WHIP	PLANT HT. MIN. 3'-4', MIN. ROOT LENGTH: 8" PLANT 11' O.C.
10	QUERCUS ALBA / WHITE OAK			
12	FAGUS GRANDIFOLIA / AMERICAN BEECH			

Δ FCE 'A' REPLACEMENT PLANTING AREA - 0.04 ACRES

PLANTING UNITS REQUIRED: 28 (14 WHIPS)
PLANTING UNITS PROVIDED: 28 (8 TREES)

QTY.	SPECIES	SIZE	SPACING	TOTAL FCA UNITS
4	ACER RUBRUM - RED MAPLE	1" CAL.	15' O.C.	
4	QUERCUS ALBA - WHITE OAK	1" CAL.	15' O.C.	
8 TOTAL TREE PLANTINGS (3.5 PLANTING UNITS PER TREE) = 28 TOTAL FCA UNIT CREDIT				

WHIPS W/SHELTERS = 350/ACRE 1" CAL. TREES = 200/ACRE = 200 X 0.04 = 8 TREES
2 PLANTING UNITS = 1 WHIP 3.5 PLANTING UNITS = 1 - 1" CAL. TREE

SEQUENCE OF OPERATIONS

- PRE-CONSTRUCTION SITE PREPARATION**
- INSTALL TREE PROTECTION FENCE AND IMPLEMENT TREE PROTECTION METHODS AS SHOWN.
 - MOW OR BRUSH HOG THE SITE WITHIN THE LIMITS OF THE PROPOSED REFORESTATION AREA. DO NOT REMOVE OR DAMAGE ANY EXISTING TREES OR SAPLINGS UNLESS OTHERWISE INDICATED.
 - *THERE SHALL BE NO STAGING, STORAGE, OR STOCKPILING OF MATERIALS WITHIN THE NONTIDAL WETLANDS OR 25' NONTIDAL WETLANDS BUFFER.
 - REMOVE OR TREAT WITH AN ACCEPTABLE METHOD, NOXIOUS PLANT MATERIAL SUCH AS MULTIFLORA ROSE, TEARthumb, AND JOHNSON GRASS BEFORE INSTALLING REFORESTATION PLANTS.
 - INSTALL TREE PROTECTION SIGNAGE.
 - STABILIZE ANY DISTURBED AREAS USING THE SPECIFIED STABILIZATION MIXTURE WHICH ALLOWS FOR NATURAL REVEGETATION OF FOREST COMMUNITIES.

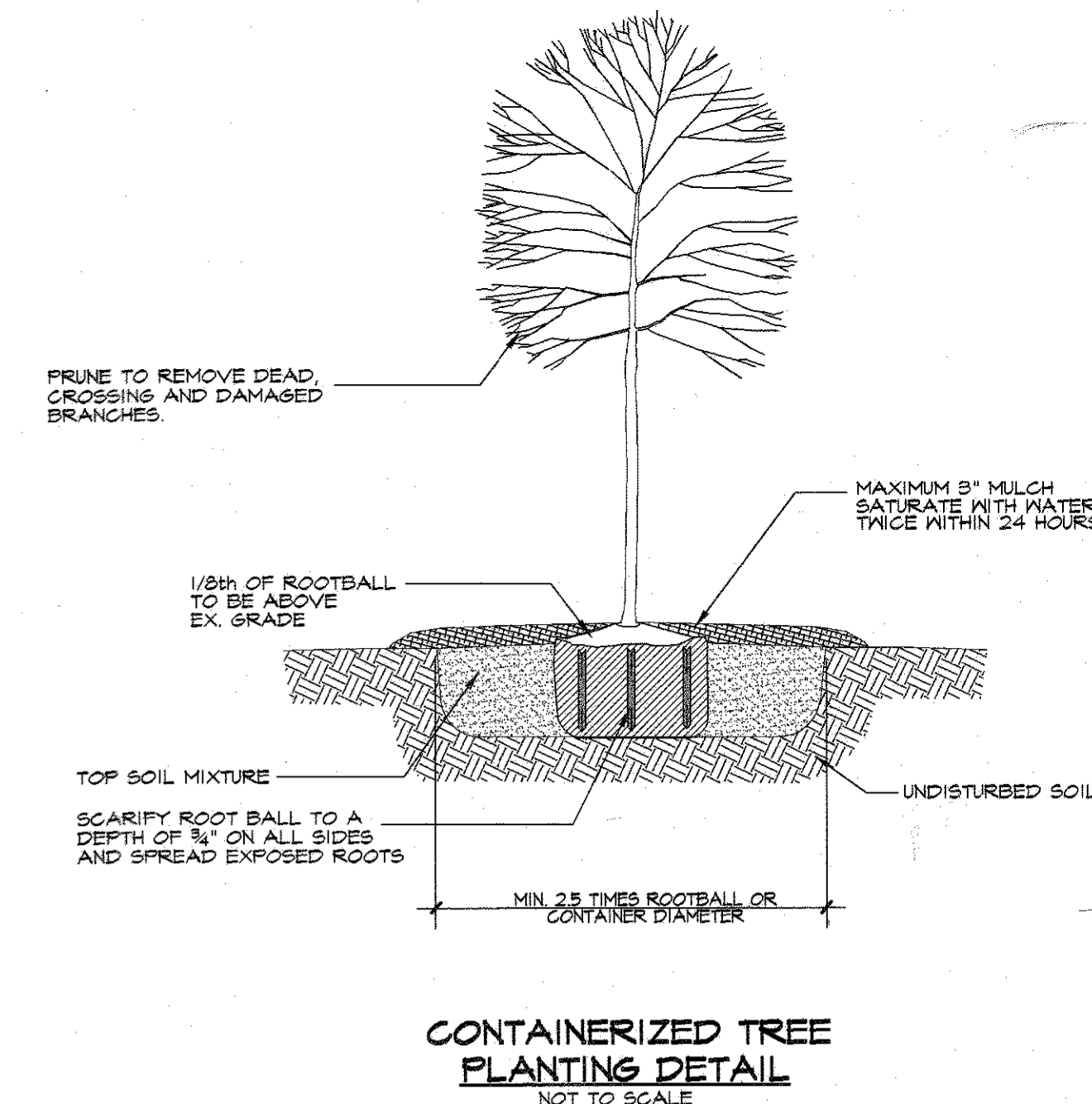
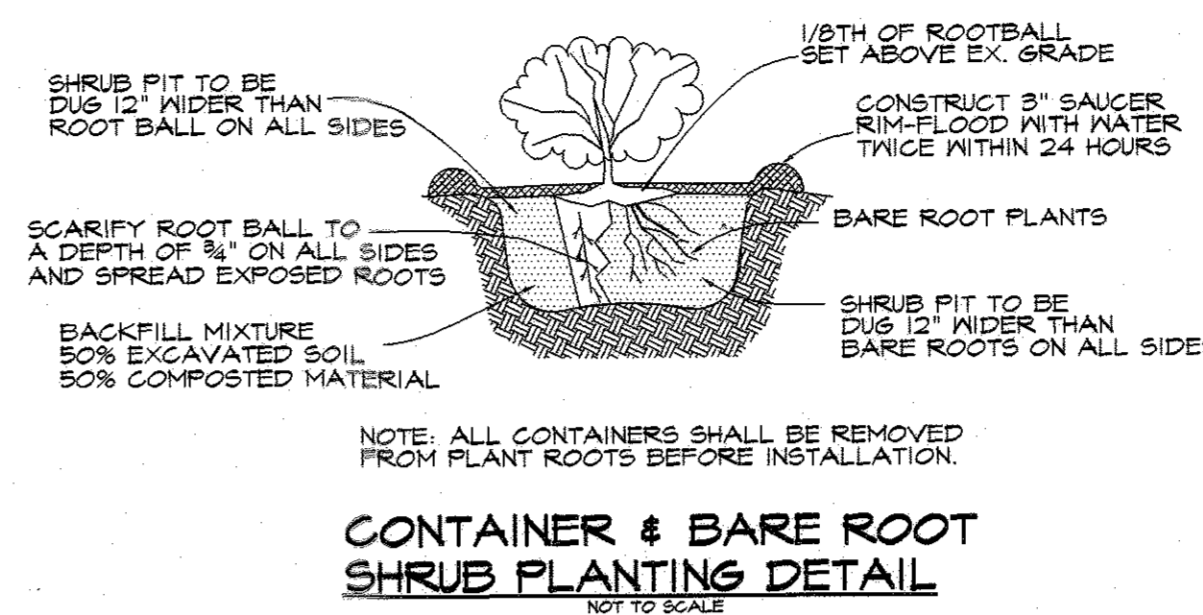
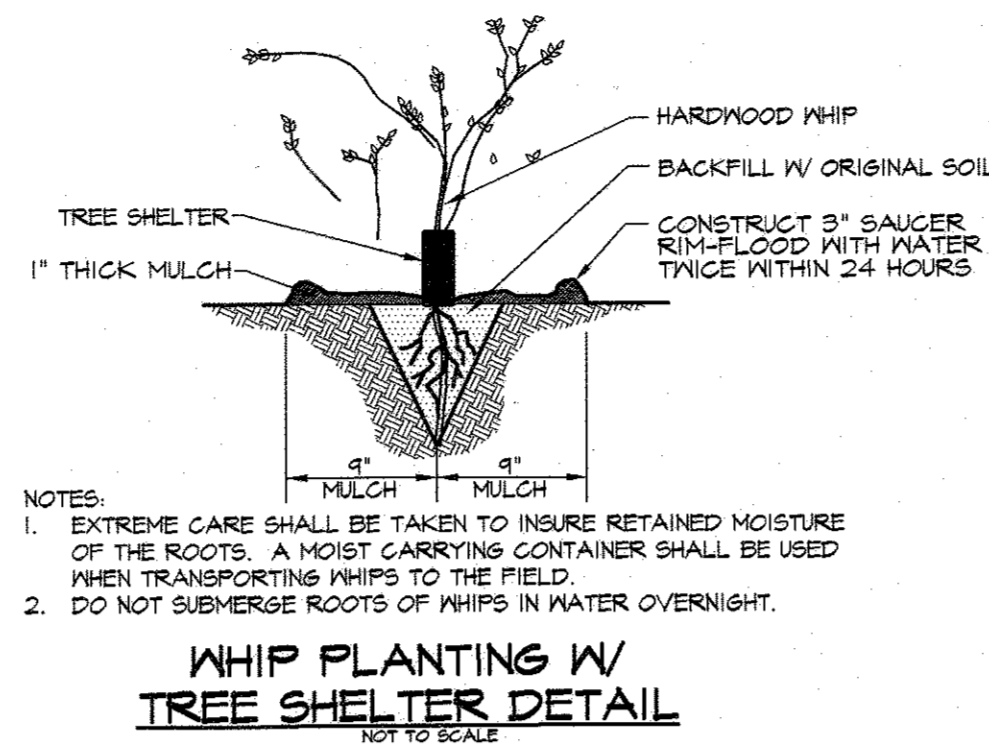
FOREST CONSERVATION SEQUENCE OF OPERATIONS

- Prior to beginning any grading operations on this site or on a respective lot, there shall be a preconstruction meeting held at the site which is to include the Contractor and representatives from Riemer Muegge & Associates, Inc. (RMA), The Howard County Department of Planning and Zoning (DPZ) and the owner will be notified by the Contractor as to the time and place of the field meeting, should they wish to send a representative. The purpose of this meeting will be to review the approved FCP and to field verify the correct Limits of Disturbance (LOD).
- The Limits of Disturbance (LOD) pertinent to the preservation of wooded areas shall be staked in the field with final adjustments being made as necessary to insure adequate protection of the Critical Root Zone of trees designated for retention. Stakes to be used shall be those specified for the "TREE PROTECTION DEVICES" to which approved protective material will be attached. Alternate means of defining the LOD may be used if approved by the DPZ.
- All forest retention areas shall be protected by highly visible, well anchored temporary protection devices (see detail), which shall be securely in place prior to any clearing or grading operations.
- Grading operations or other construction operations which could dislodge or otherwise damage the protective devices shall be avoided along the edges of the LOD lines if possible. Any protective devices which are damaged during site construction operations shall be properly repaired immediately by the Contractor.
- After site grading, utility access road, and driveway construction have been completed, all trees adjacent to the LOD line shall be inspected for indications of crown die-back (summer indicator), damage within respective critical root zones or any dead wood or other conditions which might be hazardous to pedestrians, buildings, utility lines, vehicular access ways or parked vehicles.
- Should there be evidence of any damage to tree trunks, branches or the critical root zone of trees within the protected areas, or to isolated specimen trees to be preserved, the damage shall be examined within a period of two (2) days from the date of observation by a licensed tree care professional. Exposed roots should be covered immediately to a depth of 6 - 8 inches with soil, preferably mixed with 50% peat moss or leaf mold.
- Remove damaged, dead or dying trees or limbs only if the trees or limbs pose an immediate safety hazard to buildings, utility lines, vehicles, or access and egress drives or pedestrian areas. Trees designated for pruning or removal shall be pruned or removed using equipment and methods which will not damage or destroy adjacent large trees or understory trees or shrubs designated for retention.
- All temporary forest protection devices will be carefully removed after all general construction, necessary tree surgery, removal of debris, etc., regrading and reseeded of sediment and erosion control disturbance have been completed and acceptance and approval of the work and site conditions have been given by the DPZ.

AFFORESTATION/REFORESTATION PLANTING SEQUENCE OF OPERATIONS

- The Contractor(s) shall inform the Howard County Department of Planning and Zoning (DPZ) when planting operations are to begin.
- Determine storage areas for materials and equipment. Obtain approval of location from Owner and the DPZ.
- Prior to beginning any planting the soils within the area(s) designated for Afforestation or Reforestation shall be analyzed regarding the following factors: nutrient content, organic matter, structure, pH and cation exchange capacity. Soils that have been actively farmed may require evaluation for pesticide or herbicide contamination. Such analysis may be performed by the local Soil Conservation Service or Agricultural Extension Service. A minimum of three random samples should be collected for the analysis. An assessment of soil moisture should also be made at this time. Corrective measures shall be made in accordance with analysis results and recommendations.
- The Contractor, assisted by a Representative of Riemer Muegge & Associates, shall stake (or wire-flag) planting area limits and plant locations in accordance with the plan and details.
- Provide and plant all trees of the species and sizes specified and in accordance with the detail(s) shown on the Forest Conservation Plans, unless otherwise directed by the DPZ.
- At the completion of planting, remove all excess materials and miscellaneous debris from the respective area(s) of work.
- Protection Devices - to prevent damage within planted areas, all reforestation and/or afforestation sites must be posted with appropriate signs and the area(s) delineated with appropriate protective fencing. No construction equipment nor storage of materials shall be permitted within the planted areas. Details are shown on the Forest Conservation Plans regarding typical sign size and wording. No pedestrian traffic shall be allowed within the protected areas.
- Attachment of signs or any other objects to trees within the protected areas is prohibited.

PLANTING DETAILS



PLANTING SPECIFICATIONS

AFFORESTATION OR REFORESTATION MAINTENANCE AND REPLACEMENT REQUIREMENTS

A two year (24) month maintenance and replacement warranty period is required for all newly planted materials. The maintenance and replacement warranty period shall commence upon the date of the written acceptance by the Owner of the planted areas. A written warranty will be delivered to the Owner upon acceptance of the planted areas. Maintenance and replacement shall be provided by the Contractor responsible for the initial planting operations and related work. All landscape plant material included as forest conservation credits shall be covered under this maintenance and replacement warranty period.

I. MAINTENANCE:

The Contractor shall field check the newly planted area(s) and shall provide the following maintenance items in accordance with the following schedule which shall begin after the completion and acceptance of the initial Afforestation or Reforestation planting.

II. MAINTENANCE ITEMS:

- Watering:** Watering of all newly planted materials once per week as weather permits during the entire initial growing season. Following the initial growing season, watering shall be done on an "as needed" basis depending on the frequency of natural rainfall. During the months of July and August and periods of severe drought, all newly planted materials shall be watered thoroughly once every week. Watering shall be done deeply and slowly using an open end hose or watering probe, at low pressure, allowing the water to be absorbed into the soil until thoroughly saturated. The watered area shall include the whole root zone as the tree becomes more established.
- Fertilizing:** Fertilizing shall be applied only after the soil has been tested to determine its needs. Organic fertilizer should be applied in accordance with the amounts recommended in the soil analysis report. No fertilizing of newly planted trees shall be done within the first growing season after initial planting. Following the first growing season, apply fertilizer as recommended either in late fall or early spring.
- Supplemental Mulch:** To control undesirable vegetation adjacent to the newly planted materials and to prevent tree roots from drying out, additional mulch shall be placed over the existing mulch where required. Carefully remove any invasive plants (including the root system) within the mulch fields. Do not damage trees in any way during removal of invasive plants or remodeling operations.
- Pruning:** Remove dead, diseased, dying and broken branches from all plant materials. Pruning shall be done cleanly leaving no ragged ends.

III. REPLACEMENT OF DEAD OR DYING MATERIALS:

- Replacement:** Any plant materials which are 25% dead or more shall be replaced during the appropriate spring or fall planting seasons in accordance with the methods indicated in the Planting Specifications. A tree shall be considered dead when the main leader has died back.
- All replacements shall be plants of the same genus, species and size as specified on the plant list.
- Contractor shall schedule an inspection of the Afforestation or Reforestation area(s) by a qualified representative of the DPZ and by the qualified professional who prepared the plan, at the beginning and at the end of the growing season to observe any problems, monitor survival rate and specify necessary remedial actions needed to correct existing problems. The inspection should focus on the following items when determining survival potential:
 - Vigor and threat of competing vegetation
 - Plant structure
 - Growth rate
 - Crown development
 - Trunk conditions and health

IV. PLANT CONDITION CHECK SHEETS

The Contractor shall maintain accurate records on appropriate field data check sheets which shall include all conditions observed relative to the health and potential survival of the plant materials. Such check sheets shall be completed during each scheduled maintenance session during the 24 month management and maintenance program. One copy of the check sheets shall be sent to the Client, one copy to RMA, and one copy shall be sent to the Howard County Department of Planning and Zoning.

V. SURVIVAL REQUIREMENT:

The survival rate for Afforestation and Reforestation areas shall be a minimum of seventy-five percent (75%) of the total number of trees required to be planted per acre under the approved plan.

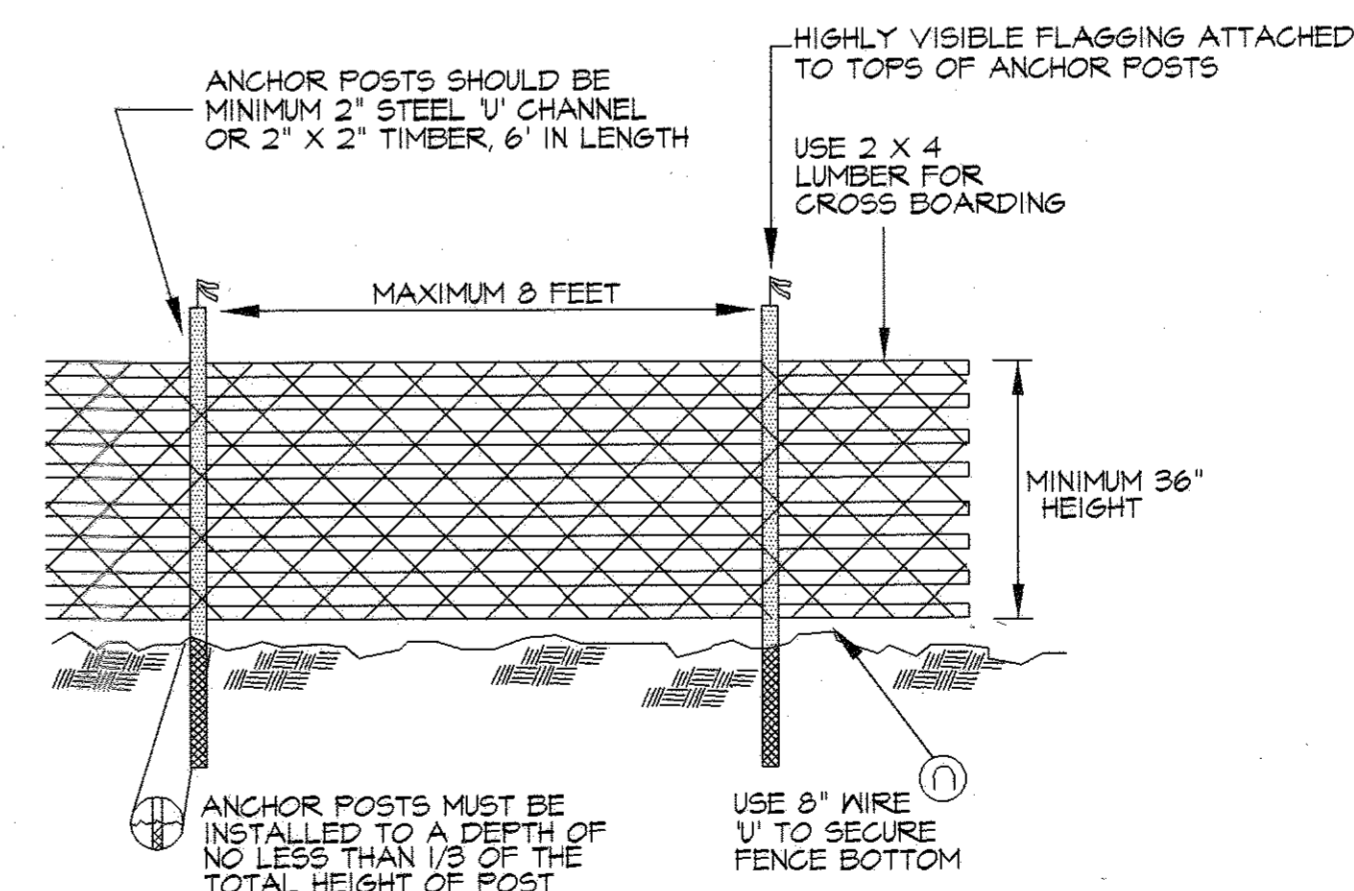
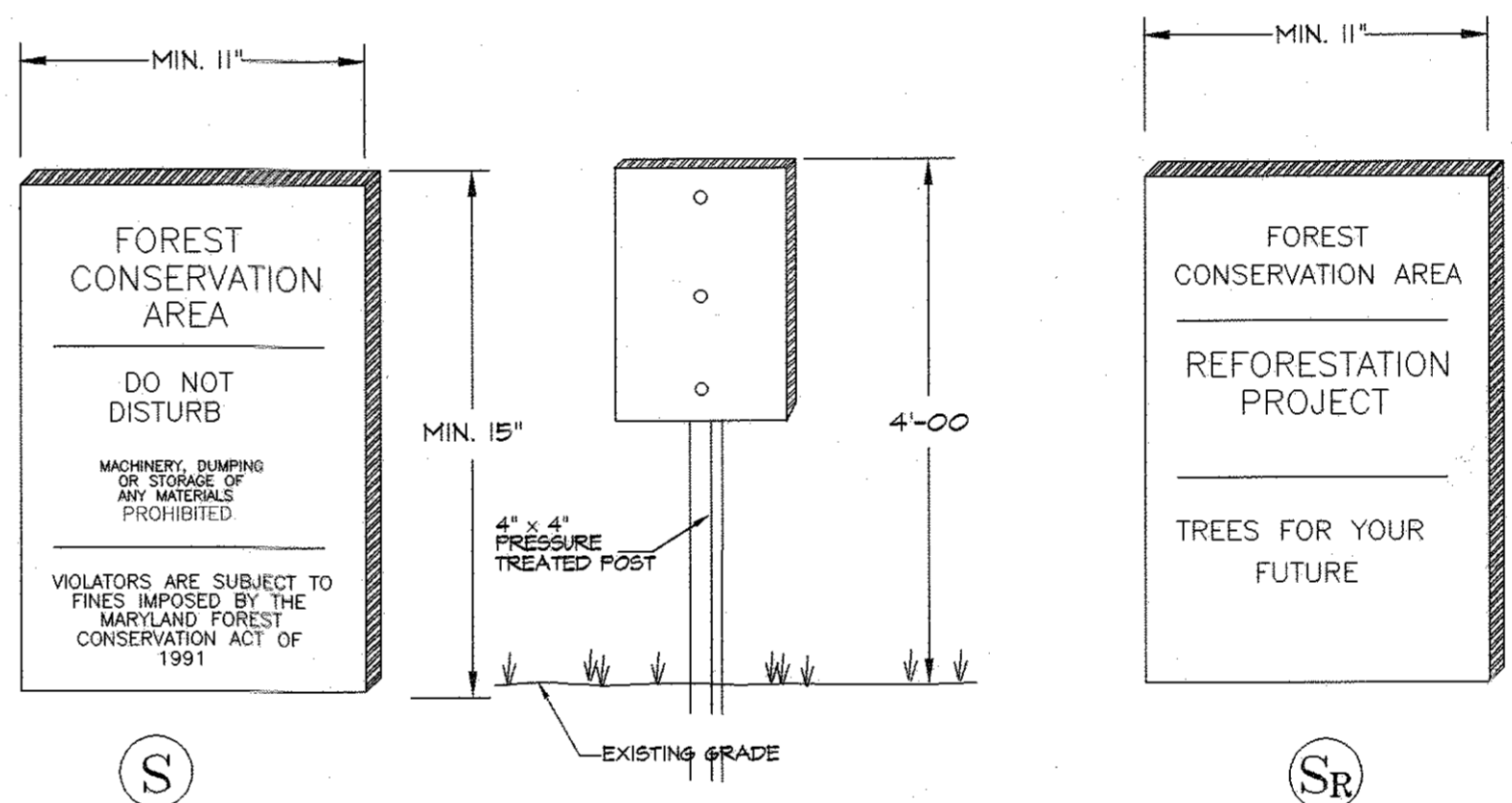
VI. INSPECTION/CERTIFICATION SCHEDULE:

The Contractor shall submit with his bid, a schedule for the work which shall include inspections by RMA at the conclusion of installation and at the start and conclusion of each growing season during the two-year warranty period.

VII. PENALTY FOR VIOLATION:

A site inspection by the Contractor and a representative of RMA shall take place at the end of the 24 month management and maintenance agreement period. The Contractor shall contact RMA at least one (1) month in advance of such inspection for coordination. If the survival rate of the Afforestation or Reforestation area(s) falls below the established survival requirements by the end of the 24-month management and maintenance agreement, the remaining amount of the cash bond or other surety may be subject to forfeiture, or other penalties may be imposed.

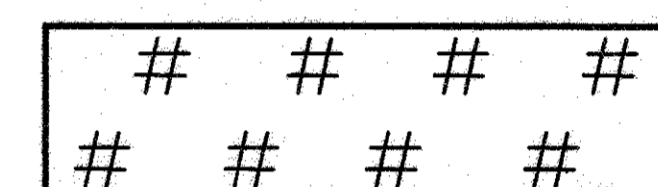
TREE PROTECTION SIGNAGE & FENCING



NOTES:

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

Δ PATTERN SPACING DIAGRAM



- 1" CALIPER TREE 15' ON CENTER SPACING
SPECIES SHALL BE RANDOMLY INTERSPERSED,
ROWS SHOULD BE PLANTING ALONG CONTOURS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Howard Shild 6/28/98
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Clayton Harvath 7/6/98
CHIEF, DIVISION OF LAND DEVELOPMENT 68 DATE

[Signature] 6/30/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

6/16/98 Δ FCE 'A' REPLACEMENT PLANTING AREA CHECKED BY RMA

DATE NO. REVISION

OWNER/DEVELOPER
MILBEN II LIMITED PARTNERSHIP
C/O JOHN E. BITTNER, V.P.
1501 S. EDGEWOOD STREET
SUITE K
BALTIMORE, MARYLAND 21227
(410) 644-5603

PROJECT
CLARKS GLEN
SECTION 4, LOTS 211 THRU 215
PRIVATE ROAD PLANS

AREA PARCEL 205 ZONED R-12
TAX MAP 34, BLOCK 18 TAX MAP 35, BLOCK 13
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
REFORESTATION
NOTES AND DETAILS

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

6-15-98

DESIGNED BY: D.T.D.

DRAWN BY: A.J.L.

PROJECT NO: 93213
REFOR2

DATE: JUNE 15, 1998
SCALE: 1"=30'
DRAWING NO. 5 OF 5

DAVID T. DOWS #830
F-98-79