

**NOTES**

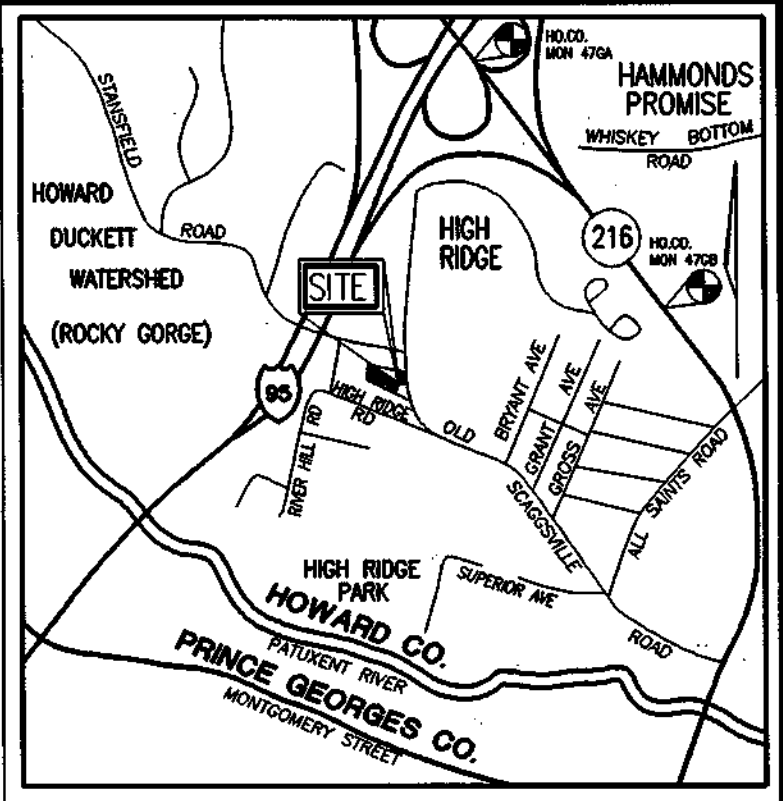
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST 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 OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS 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 (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE BETWEEN A LIGHT AND ANY TREE.
6. THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN SURVEY WITH 2 FEET CONTOUR INTERVALS PREPARED BY R.C. KELLY & ASSOCIATES INC., DATED AUGUST 12, 1996.
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. 47GA AND 47GB WERE USED FOR THE PROJECT.

**GENERAL NOTES**

1. OWNER/DEVELOPER - SPRINGLAND II LLC, 5570 STERRETT PLACE, SUITE 201, COLUMBIA, MD 21044, (410) 472-2993
2. PROPERTY ZONED - RSC, TAX MAP 47, GRID 19, PARCELS 760 AND 1018, SIXTH ELECTION DISTRICT
3. GROSS AREA = 2.049 AC +/-
4. NET AREA = 2.049 AC +/-
5. AREA OF PROPOSED LOTS = 2.049 AC +/-
6. TOTAL LOTS PROPOSED = 8 (INCLUDING 2 OPEN SPACE)
7. WATER AND SEWER TO BE PUBLIC. EX.W AND S CONTRACT NO. 24-3909-D
8. OPEN SPACE REQUIRED = 16,266 SF (20%)(NOT INCLUDING LOT 4 ACREAGE)
9. OPEN SPACE PROPOSED = 19,499 SF CREDITED OPEN SPACE, 2,768 SF NON-CREDITED OPEN SPACE
10. THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN SURVEY WITH 2 FEET CONTOUR INTERVALS PREPARED BY R.C. KELLY & ASSOCIATES INC., DATED AUGUST 12, 1996.
11. A FUTURE PROPOSED NOISE WALL WILL BE CONSTRUCTED BY MSHA ALONG THE EAST SIDE OF I-95. UPON COMPLETION OF THE I-95 NOISE WALL, LOT 13 MAY BE RESUBDIVIDED INTO A TOTAL OF 3 LOTS. NOISE STUDY, DATED JAN. 2001, HAS BEEN PREPARED BY CENTURY ENGINEERING INC.
12. THERE ARE NO CEMETERIES OR HISTORIC STRUCTURES ON SITE.
13. THERE ARE NO WETLANDS, STEEP SLOPES, FLOODPLAIN OR OTHER SENSITIVE ENVIRONMENTAL FEATURES OR CRITICAL HABITATS PER A FOREST STAND DELINEATION REPORT DATED MAY 19, 2000 BY WILLIAM T. BRIDGELAND, WILDLIFE BIOLOGIST.
14. FOREST STAND DELINEATION PROVIDED BY WILLIAM T. BRIDGELAND DATED MAY 19, 2000.
15. TRAFFIC STUDY PREPARED BY LEE CUNNINGHAM & ASSOCIATES INC. DATED MARCH, 2001.
16. SEDIMENT CONTROL SHALL BE PROVIDED FOR THIS PROJECT.
17. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
18. 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. 47GA AND 47GB WERE USED FOR THIS PROJECT.
19. EXISTING UTILITIES ARE BASED ON HOWARD COUNTY RECORDS.
20. OPEN SPACE LOTS TO BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION, PER SECTION 16.121(c)(1).
21. THE PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
22. OPEN SPACE LOT 14 WILL BE PLANTED TO MEET THE 0.3 AC. OBLIGATION FOR FOREST CONSERVATION.
23. WAIVER (WP-02-10) (S-01-25), DATED AUGUST 31, 2001, WAS GRANTED TO WAIVE OPEN SPACE ACCESS REQUIRED UNDER SECTION 16.121(E)(1).
24. DPZ FILE NUMBERS: F-01-20, WP-02-10, P-02-24, S-01-25
25. AS A RESULT OF THE SKETCH PLAN BEING SUBMITTED FOR REVIEW PRIOR TO NOVEMBER 15, 2001; THIS PLAN IS SUBJECT TO COMPLIANCE WITH THE FOURTH EDITION OF THE SUBDIVISION REGULATION. IN ADDITION, BECAUSE IT DID NOT HAVE PRELIMINARY PLAN APPROVAL PRIOR TO NOVEMBER 1, 2001, IT IS SUBJECT TO COMPLIANCE WITH COUNTY COUNCIL BILL 50-2001 WHICH AMENDS PORTIONS OF THE ZONING REGULATION.
26. OBSTRUCTIONS SHOWN HEREON ARE FOR THE CONVENIENCE OF THE CONTRACTOR. PRIOR TO BEGINNING CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATION OF ALL EXISTING UTILITIES AND TIE-IN ELEVATIONS FOR ALL PROPOSED GRADES AND PROPOSED UTILITIES.
27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATION FROM THE PLAN. IN THE EVENT OF DISCREPANCY BETWEEN THE PLAN AND FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY CENTURY ENGINEERING, INC.
28. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT (800) 257-7777.

# HILLTOP ESTATES SECTION II, LOTS 8-15

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

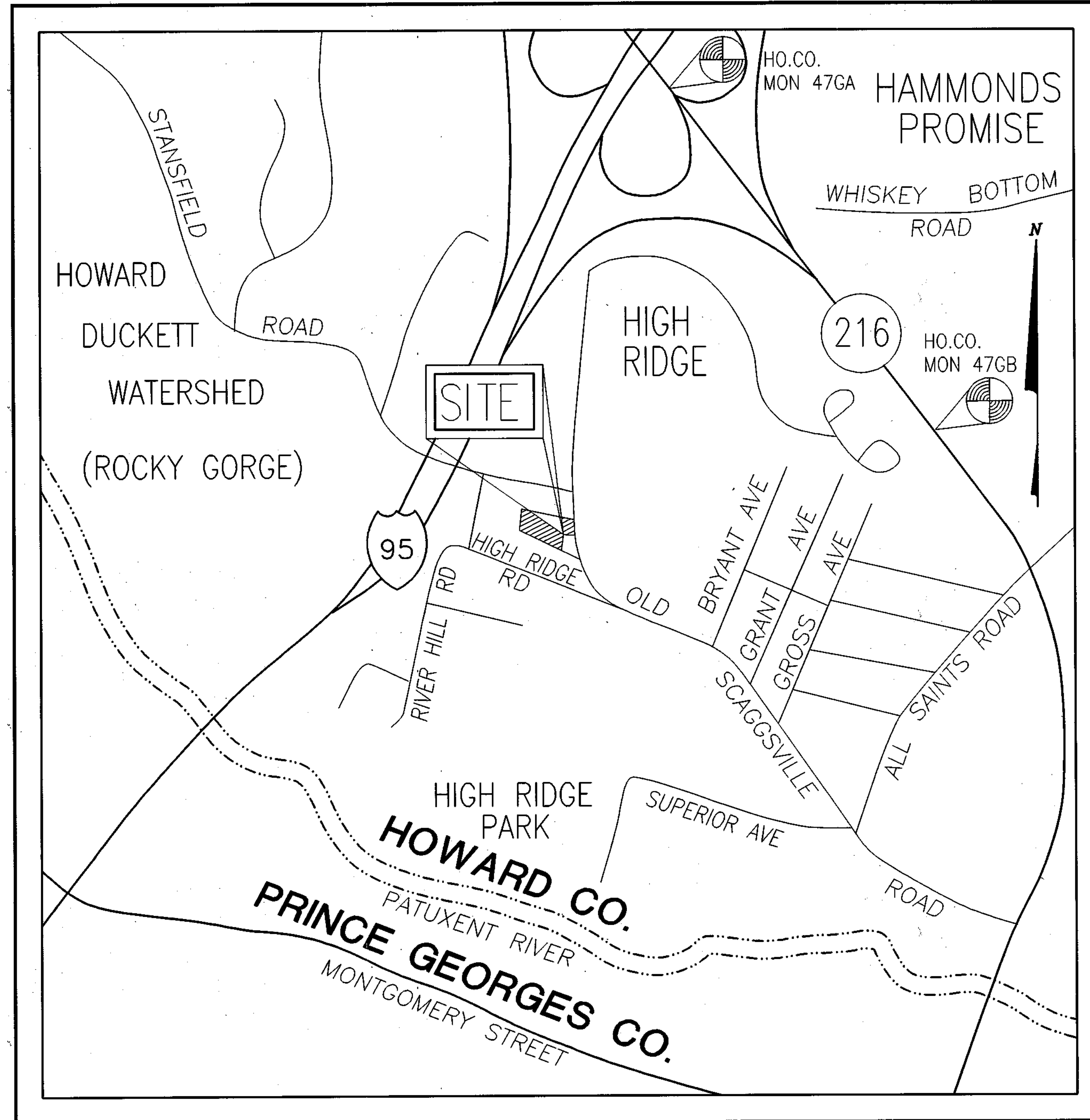


VICINITY MAP  
SCALE: 1"=2000'

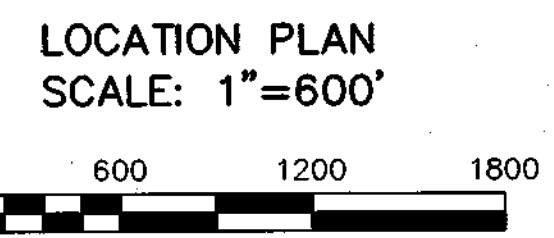
**BENCHMARKS**

47GA NORTHING: 532404.175 FT.  
EASTING: 1351627.338 FT.  
ELEVATION: 350.405 FT.

47GB NORTHING: 529917.204 FT.  
EASTING: 1353526.738 FT.  
ELEVATION: 259.195 FT.



DRAWING LIST	
NO.	
1 OF 7	COVER SHEET
2 OF 7	ROAD CONSTRUCTION PLAN, PROFILE AND DETAILS
3 OF 7	ROAD SECTIONS AND STORM DRAIN PROFILES
4 OF 7	EROSION AND SEDIMENT CONTROL PLAN
5 OF 7	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
6 OF 7	SWM PLAN AND DRAINAGE AREA MAP
7 OF 7	FOREST CONSERVATION AND LANDSCAPE PLAN



10/9/03  
Date

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
\_\_\_\_\_  
Chief, Development Engineering Division

10/29/03  
Date  
10/29/03  
Date

**CENTURY ENGINEERING, INC.**  
CONSULTING ENGINEERS, PLANNERS, SURVEYORS  
32 WEST ROAD  
TOWSON, MARYLAND 21204  
(410) 823-8070

DATE	REVISION	BY	APP'R.

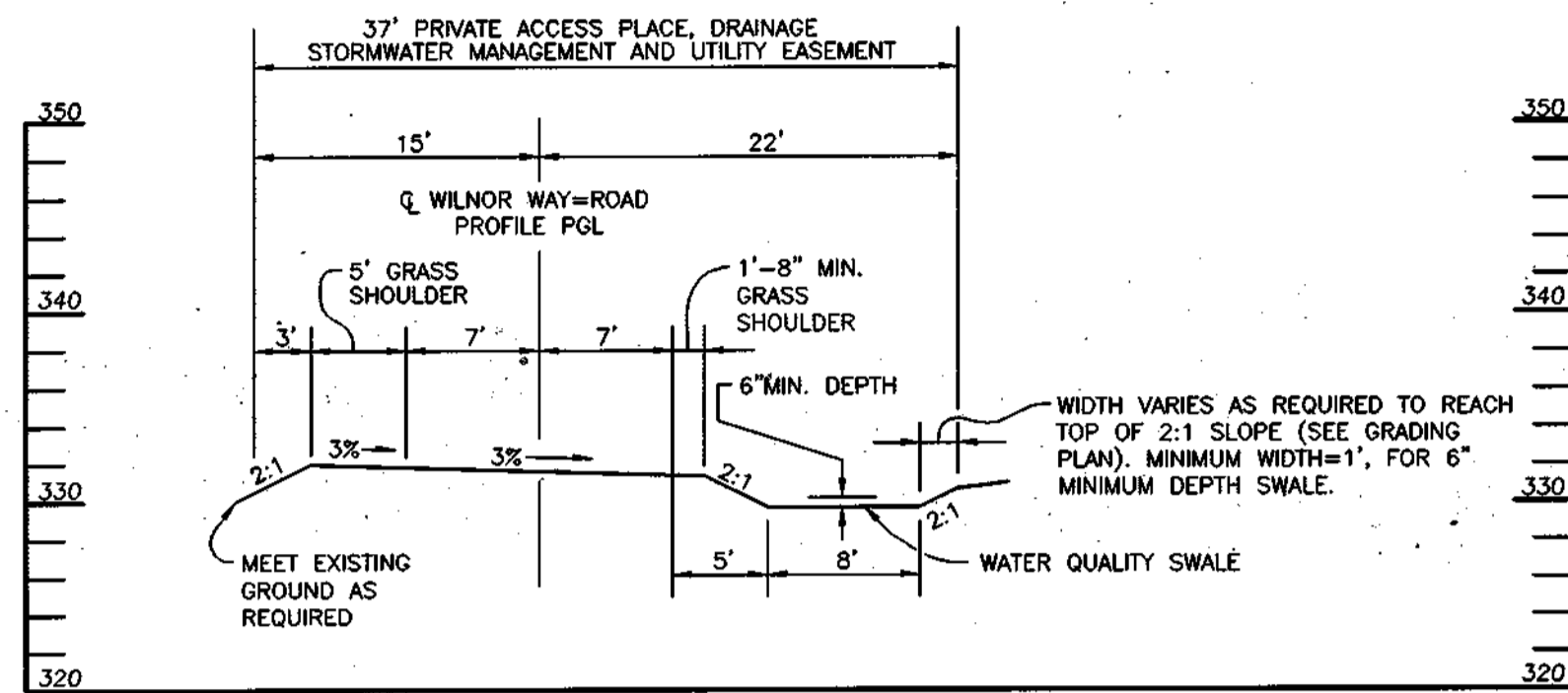
PREPARED FOR:  
SPRINGLAND II LLC  
5570 STERRETT PLACE, SUITE 201  
COLUMBIA, MARYLAND 21044  
(410) 472-2993

COVER SHEET  
**HILLTOP ESTATES**  
SECTION II, LOTS 8-15  
TAX MAP 47 P/O PARCEL 760 AND 1018, GRID 19  
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

SCALE	ZONING	C.E.I. FILE No.
AS SHOWN	RSC	20195.00
DATE	TAX MAP No.	SHEET
OCT., 2003	47	1 OF 7



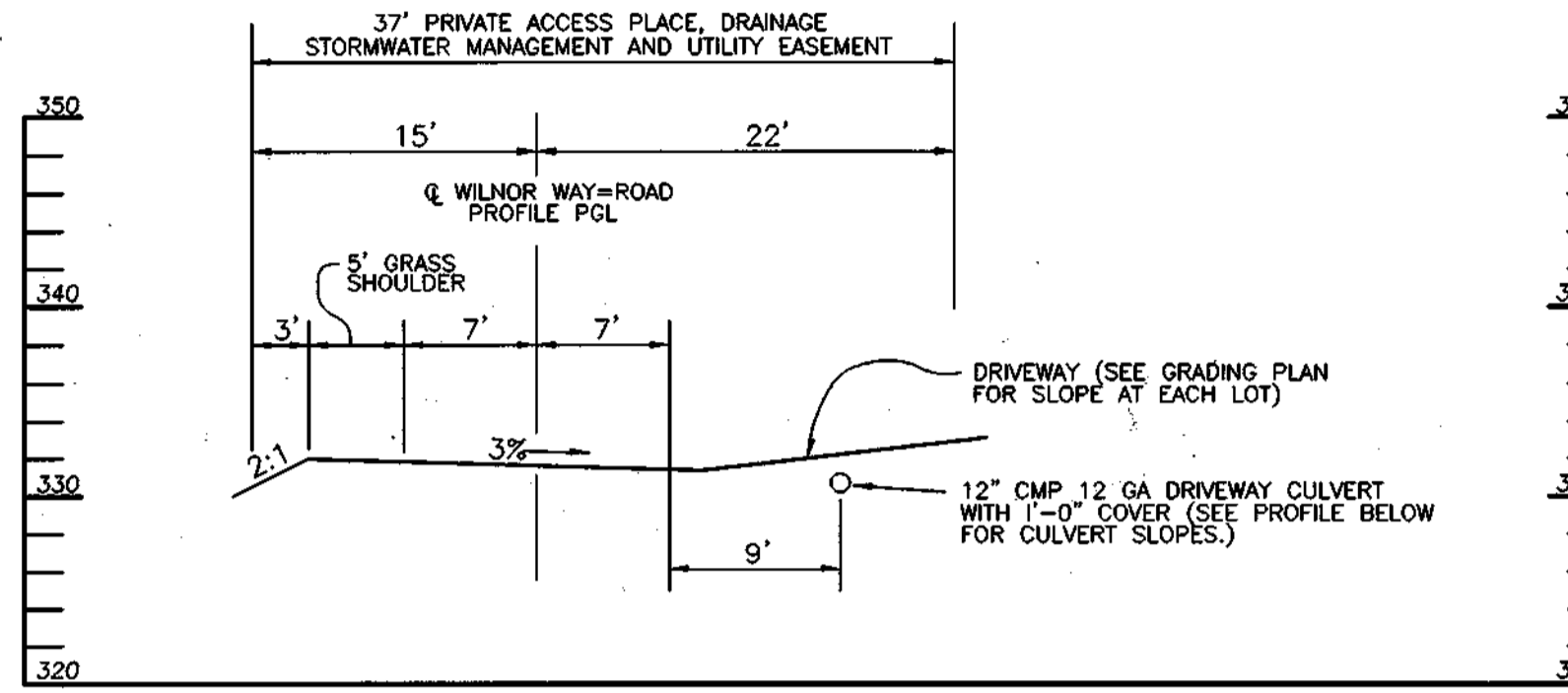
- NOTES: 1. SECTION BELOW DEPICTS THE NORMAL ROAD SECTION IN AREAS WHERE THE WATER QUALITY SWALE ABUTS THE ROAD, FROM STATION 0+50 TO END OF CONSTRUCTION AT STATION 1+86. ROAD TRANSITIONS FROM 3%± EXISTING CROSS SLOPE AT STATION 0+00 TO 0% CROSS SLOPE AT STATION 0+25. ROAD CROSS SLOPE TRANSITIONS FROM 0% AT STATION 0+25 TO 3% AT STATION 0+50, AS SHOWN BELOW.
2. THE 5' WIDE GRASS SHOULDER SHALL BE PROVIDED AT 3% CROSS SLOPE IN THE NORTH TURNAROUND AREA. GRADES IN THE SOUTH TURNAROUND AREA SHALL BE PER GRADING PLAN.
3. HORIZONTAL ALIGNMENT OF THE WATER QUALITY SWALE SHALL BE PER THE PLAN DEPICTION. BEYOND ROAD STATION 0+50, MAXIMUM DEPTH OF THE SWALE FROM THE EDGE OF THE GRASS SHOULDER SHALL BE 1.75', PER DIMENSIONAL CRITERIA BELOW. IN ALL AREAS, GRASS SHOULDER WIDTH INCREASES AS SWALE DEPTH DECREASES (SEE GRADING PLAN). MINIMUM SWALE DEPTH SHALL BE 6".



**WILNOR WAY SECTION AT WATER QUALITY SWALE**

SCALE: HORZ 1"=10'  
VERT 1"=10'

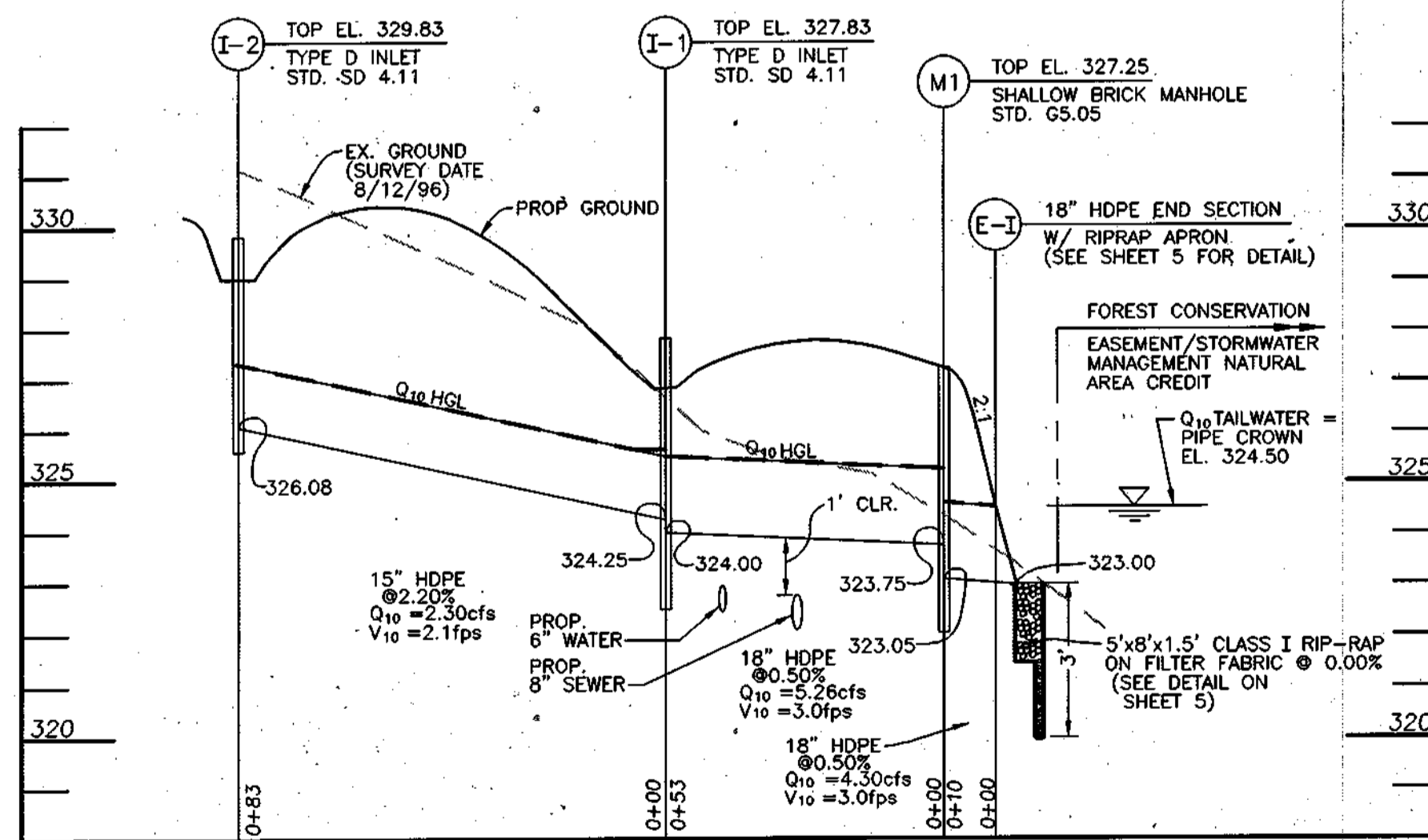
- NOTES: SECTION BELOW DEPICTS THE NORMAL ROAD SECTION IN AREA WHERE DRIVEWAYS ABUT THE ROAD, FROM STATION 0+50 TO END OF CONSTRUCTION AT STATION 1+86. ROAD TRANSITIONS FROM 3%± EXISTING CROSS SLOPE AT STATION 0+00 TO 0% CROSS SLOPE AT STATION 0+25. ROAD CROSS SLOPE TRANSITIONS FROM 0% AT STATION 0+25 TO 3% AT STATION 0+50, AS SHOWN BELOW.



**WILNOR WAY SECTION AT DRIVEWAY**

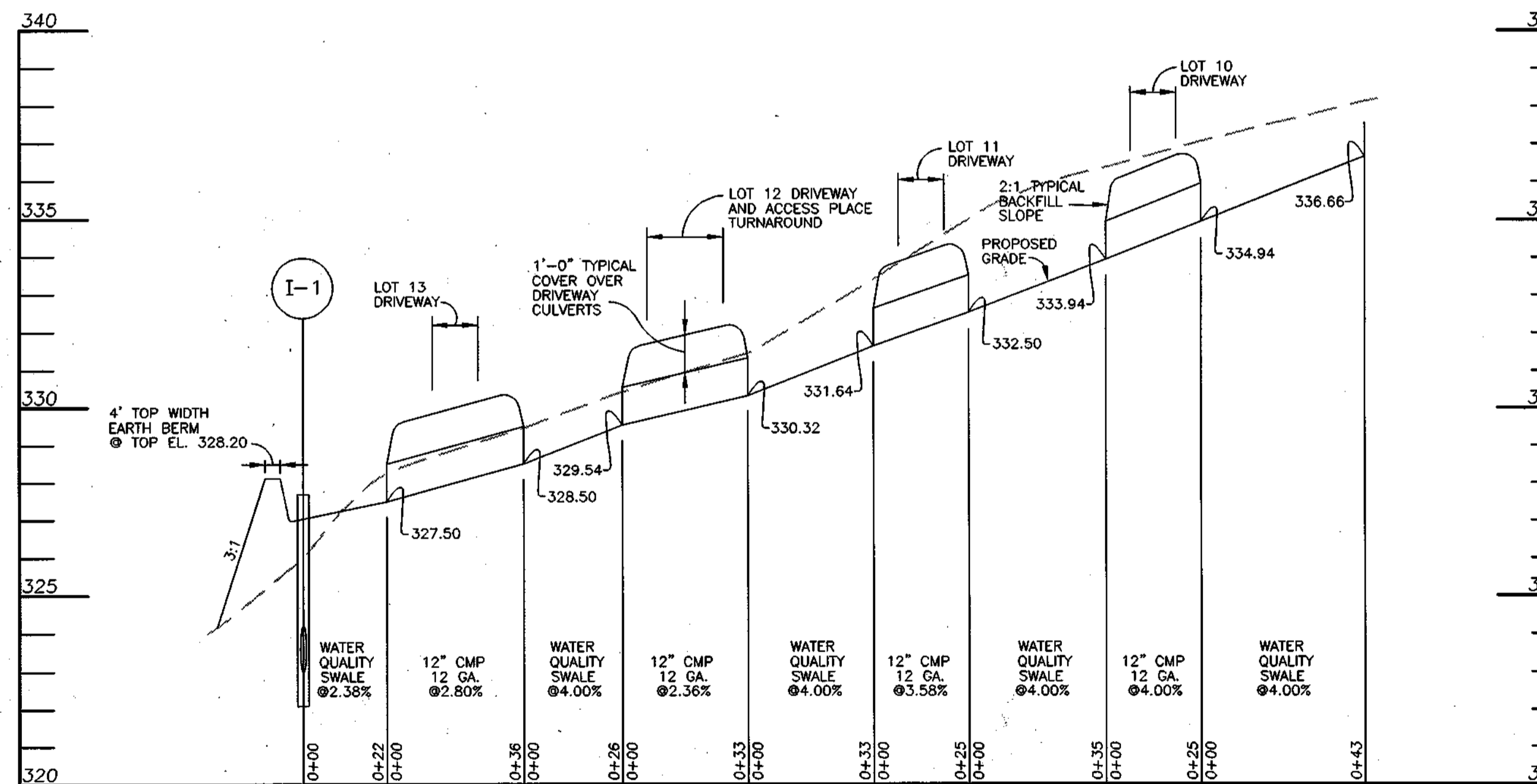
SCALE: HORZ 1"=10'  
VERT 1"=10'

PIPE SCHEDULE	
TYPE	LENGTH
15" HDPE	83 L.F.
18" HDPE	63 L.F.
12" CMP	119 L.F.



**STORM DRAIN PROFILE**

SCALE: HORIZONTAL - 1"=30'  
VERTICAL - 1"=3'



**WATER QUALITY SWALE AND DRIVEWAY CULVERT PROFILE**

SCALE: HORIZONTAL - 1"=30'  
VERTICAL - 1"=3'

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development

Chief, Development Engineering Division

Date: 10/29/03

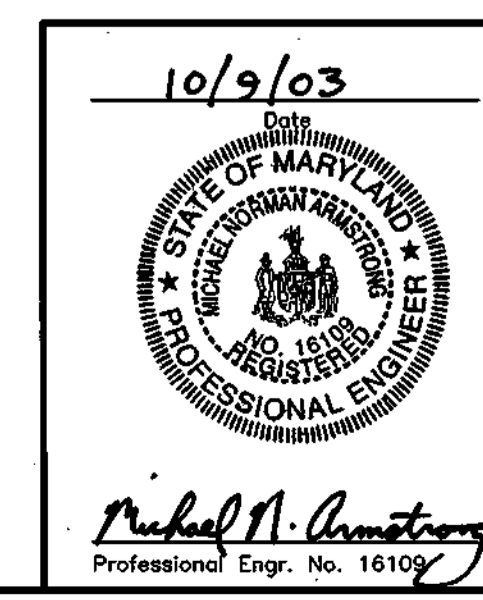
**ROAD SECTIONS AND STORM DRAIN PROFILES**  
**HILLTOP ESTATES - SECTION II**  
**LOTS 8-15**  
SUBDIVISION OF PARCELS 760 & 1018  
RESUBDIVISION OF LOT 4, SECTION I  
HOWARD COUNTY, MARYLAND

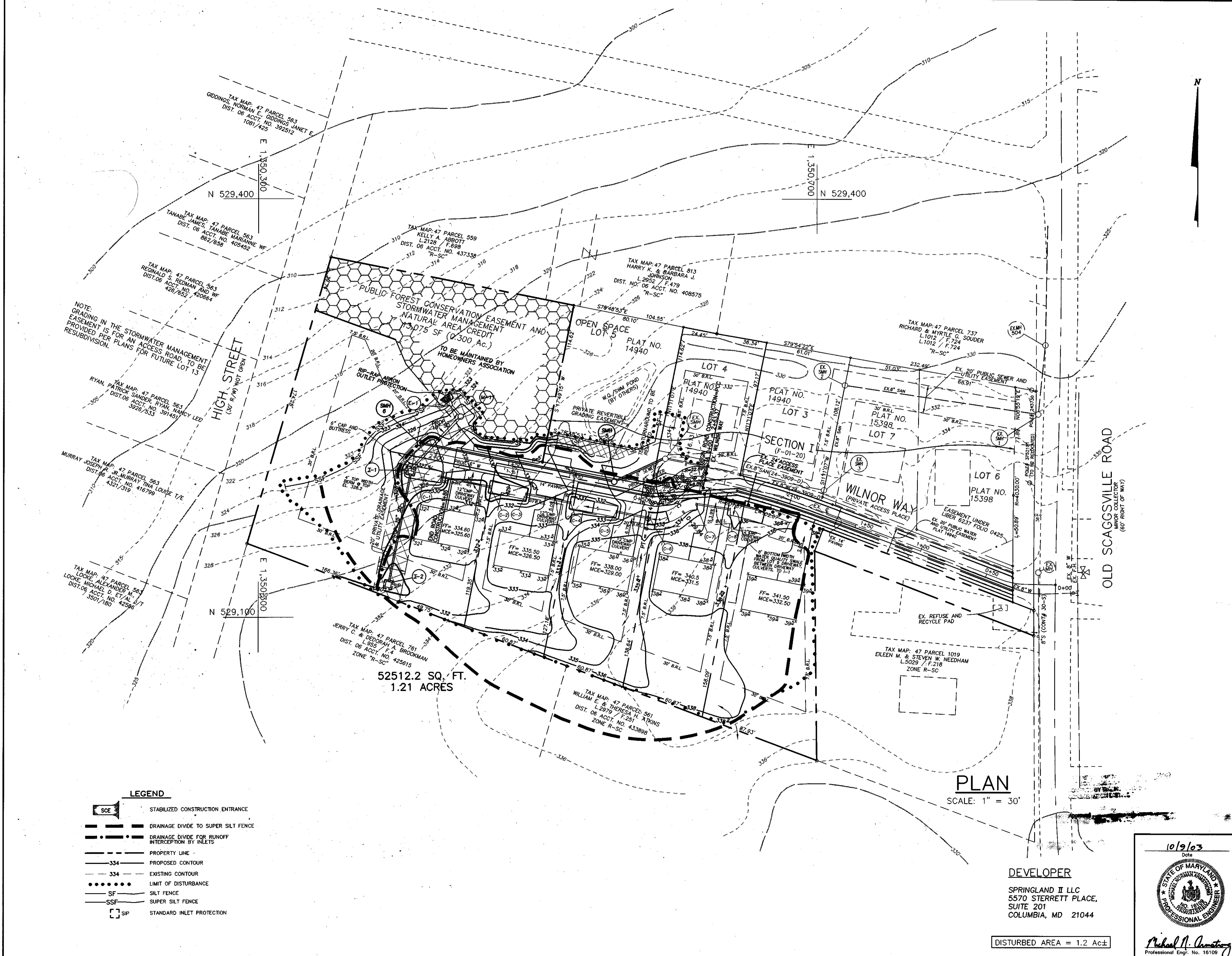
**CENTURY ENGINEERING, INC.**  
CONSULTING ENGINEERS, PLANNERS  
32 WEST ROAD  
TOWSON, MARYLAND 21204  
(410) 823-8070 FAX (410) 823-2184

SIXTH ELECTION DISTRICT

TAX MAP 47, PARCELS 760 and 1018, GRID 19

Des By	M.N.A.	Scale	AS SHOWN	Proj No	20195.00
Drn By	M.L.A.	Date	OCT., 2003	DRAWING NO	3 OF 7
Chk By		Approved			





**GENERAL NOTES**

1. ALL STOCKPILES SHALL BE WITHIN THE LIMIT OF DISTURBANCE.
2. SEE SHEET 4 FOR SEQUENCE OF CONSTRUCTION.

Date	No	Revision Description

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.

*Michael N. Armstrong* 10/9/03  
 SIGNATURE OF ENGINEER DATE

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 INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*St. Jim* 10/9/03  
 SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS.

*Jim Myers* 10-16-03  
 U.S. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John R. Robertson* 10-16-03  
 HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

~~CHIEF BUREAU OF HIGHWAYS~~

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Andy Hamilton* 10/29/03  
 Chief, Design and Development  
*Michael J. Dorman* 10/29/03  
 Chief, Development Engineering Division

Date	No	Revision Description

**EROSION AND SEDIMENT CONTROL PLAN**

SUBDIVISION OF PARCELS 760 & 1018  
 RESUBDIVISION OF LOT 4, SECTION I  
 HOWARD COUNTY, MARYLAND

**CENTURY ENGINEERING, INC.**  
 CONSULTING ENGINEERS, PLANNERS  
 32 WEST ROAD  
 TOWSON, MARYLAND 21204  
 (410) 823-8070 FAX (410) 823-2184

1ST ELECTION DISTRICT

TAX MAP 47, PARCELS 760 and 1018, GRID 19

Des By	M.N.A.	Scale	1"=30'	Proj No	20195.00
Dwn By	M.L.A.	Date	OCT., 2003	DRAWING NO	
Okd By		Approved			4 OF 7

10/9/03  
 State of Maryland Professional Engineer Seal  
 Michael N. Armstrong  
 Professional Engr. No. 16109

DEVELOPER  
 SPRINGLAND II LLC  
 5570 STERRETT PLACE,  
 SUITE 201  
 COLUMBIA, MD 21044

DISTURBED AREA = 1.2 Ac±

PLAN  
 SCALE: 1" = 30'

**LEGEND**

- SCE STABILIZED CONSTRUCTION ENTRANCE
- DRAINAGE DIVIDE TO SUPER SILT FENCE
- DRAINAGE DIVIDE FOR RUNOFF INTERCEPTION BY INLETS
- PROPERTY LINE
- 334 PROPOSED CONTOUR
- 334 EXISTING CONTOUR
- LIMIT OF DISTURBANCE
- SF SILT FENCE
- SSF SUPER SILT FENCE
- SIP STANDARD INLET PROTECTION

NOTE:  
 GRADING IN THE STORMWATER MANAGEMENT EASEMENT IS FOR AN ACCESS ROAD, TO BE PROVIDED PER PLANS FOR FUTURE LOT 13

52512.2 SQ. FT.  
 1.21 ACRES

**210 STANDARD AND SPECIFICATIONS**

**FOR TOPSOIL DEFINITION**

PLACEMENT OF TOPOSOIL 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**

- THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
  - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETABLE GROWTH.
  - 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.
  - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
  - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- 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**

- 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 TOPOSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
- TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPOSOIL MUST MEET THE FOLLOWING:
  - OTHER 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, TOPOSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CHALKS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
  - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE OR OTHERS AS SPECIFIED.
  - 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 TOPOSOIL. 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:
  - PLACE TOPOSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
  - ON SOIL MEETING TOPOSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
    - PH FOR TOPOSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PERSCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
    - ORGANIC CONTENT OF TOPOSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
    - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
    - NO SOD 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 PHYTO-TOXIC MATERIALS.
  - NOTE: TOPOSOIL 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 TOPOSOIL.
  - PLACE TOPOSOIL (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 TOPOSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 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 SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPOSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
  - TOPSOIL SHALL NOT BE PLACED WHILE THE TOPOSOIL 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 SEEDBED PREPARATION.

**DUST CONTROL SPECIFICATIONS**

- TEMPORARY METHODS:**
- MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE COMPE OR TACKED TO PREVENT BLOWING.
  - VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
  - TILLAGE - TO ROUGHEN SURFACE AND BRING CLOPS TO THE SURFACE THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN FLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE FLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR FLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
  - IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THE RUNOFF BEGINS TO FLOW.
  - BARRIERS - SOLID BOARD FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
  - CALCIUM CHLORIDE - APPLY AT A RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.
- PERMANENT METHODS:**
- PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD, EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
  - TOPSOILING - COVERING WITH LESS EROSION SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
  - STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

**Dust Control Specifications**

Not To Scale

**HOWARD SOIL CONSERVATION DISTRICT PERMANENT SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

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:

- PREFERRED - APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92,000 LBS/1000 SQ. FT.) AND 600 LBS/ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS/ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ. FT.).
- 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. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 - APRIL 30 AND AUGUST 1 - OCTOBER 15, SEED WITH 60 LBS/ACRE (14 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 - JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS/ACRE (0.5 LBS/1000 SQ. FT.) OF WEEPING LOVEGRASS DURING THE PERIOD OF OCTOBER 16 - FEBRUARY 28. PROTECT SITE BY: OPTION 1 - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION 2 - USE SOD. OPTION 3 - SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

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

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

**TEMPORARY SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

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

SOIL AMENDMENTS - APPLY 600 LBS/ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.).

SEEDING - FOR PERIOD MARCH 1 - APRIL 30 AND AUGUST 15 - OCTOBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ. FT.). FOR THE PERIOD MAY 1 - AUGUST 14, SEED WITH 3 LBS/ACRE OF WEEPING LOVEGRASS (0.7 LBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 - FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING - APPLY 1 1/2 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. ON SLOPE 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

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

**HOWARD COUNTY SEDIMENT CONTROL GENERAL NOTES**

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- 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.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
  - SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1.
  - FOURTEEN 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. CHAPTER 12, OF THE "HOWARD COUNTY DESIGN MANUAL" STORM DRAINAGE.
- 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 SEEDINGS (SEC. 51), SODS (SEC. 54), 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	2.05 ACRES +/-
AREA DISTURBED	1.20 ACRES +/-
AREA TO BE ROOFED OR PAVED	0.30 ACRES +/-
AREA TO BE VEGETATIVELY STABILIZED	0.90 ACRES +/-
TOTAL CUT	3100 C.Y. +/-
TOTAL FILL	3100 C.Y. +/-
OFF-SITE WASTE/BORROW AREA LOCATION WASTE*	N/A

**NOTE:**

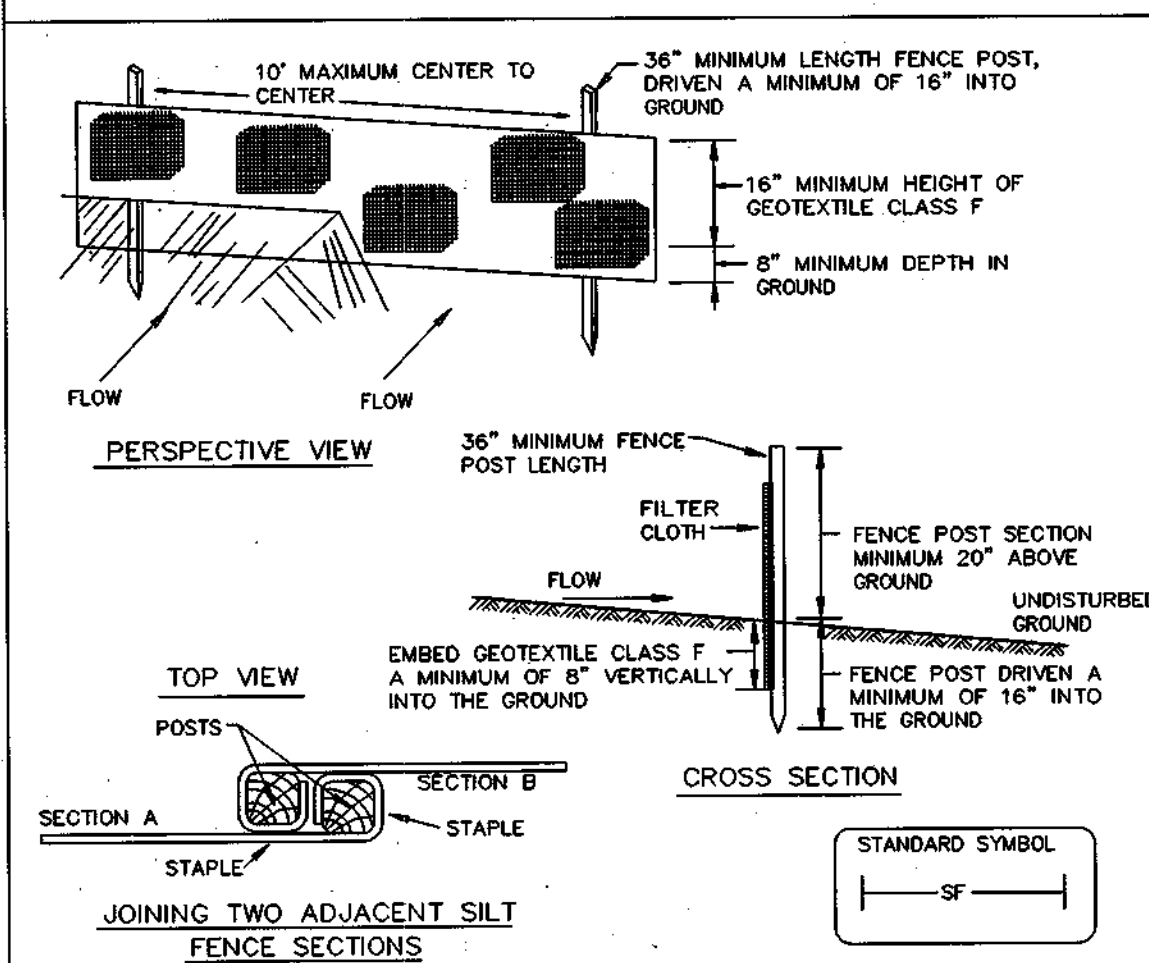
ALL QUANTITIES PROVIDED ARE FOR THE REVIEWING AGENCY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES TO HIS/HER OWN SATISFACTION.

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

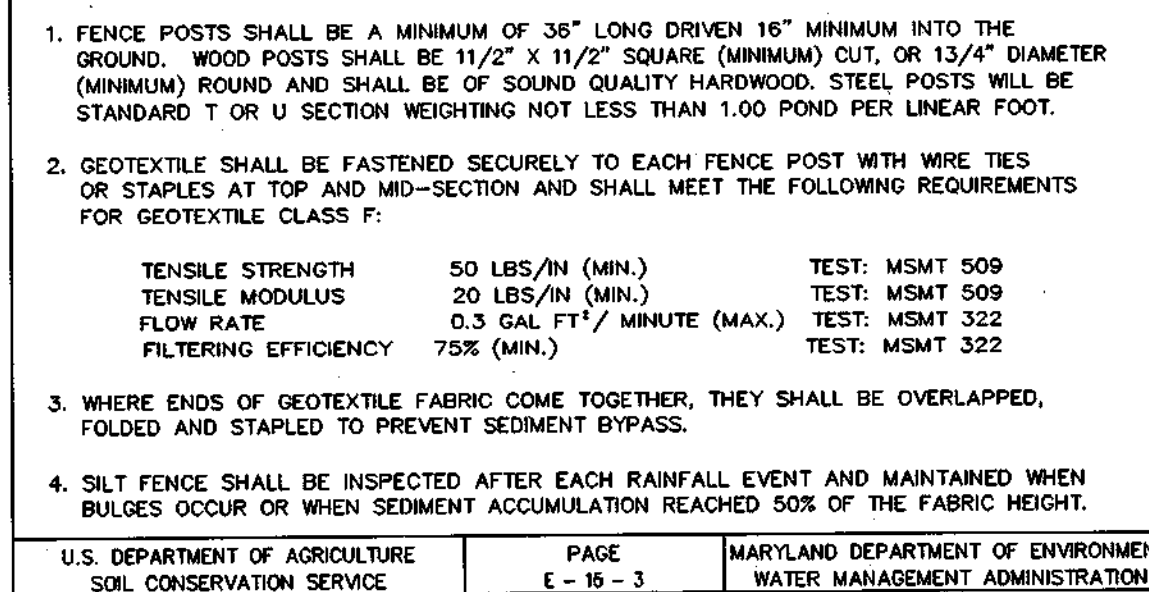
**SEQUENCE OF CONSTRUCTION**

- OBTAIN GRADING PERMIT. 2 DAYS
- NOTIFY HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENSES, GRADING AND SEDIMENT CONTROL INSPECTIONS @ 410-313-1855 AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. 1 DAY
- CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES. 7 DAYS
- INSTALL THE STABILIZED CONSTRUCTION ENTRANCE. 1 DAY
- INSTALL SILT FENCE AND SUPER SILT FENCE. 7 DAYS
- AFTER OBTAINING PERMISSION TO PROCEED FROM THE SEDIMENT CONTROL INSPECTOR, GRADE THE SITE, AND INSTALL THE STORM DRAIN SYSTEM (WITH INLET PROTECTION). MAINTAIN POSITIVE FLOW OF ALL SEDIMENT LADEN RUNOFF TO ESC DEVICES. 60 DAYS
- INSTALL OTHER UTILITIES, PAVE THE ACCESS ROAD AND STABILIZE SITE. 60 DAYS
- WITH THE APPROVAL OF THE ESC INSPECTOR, REMOVE ESC DEVICES. 10 DAYS

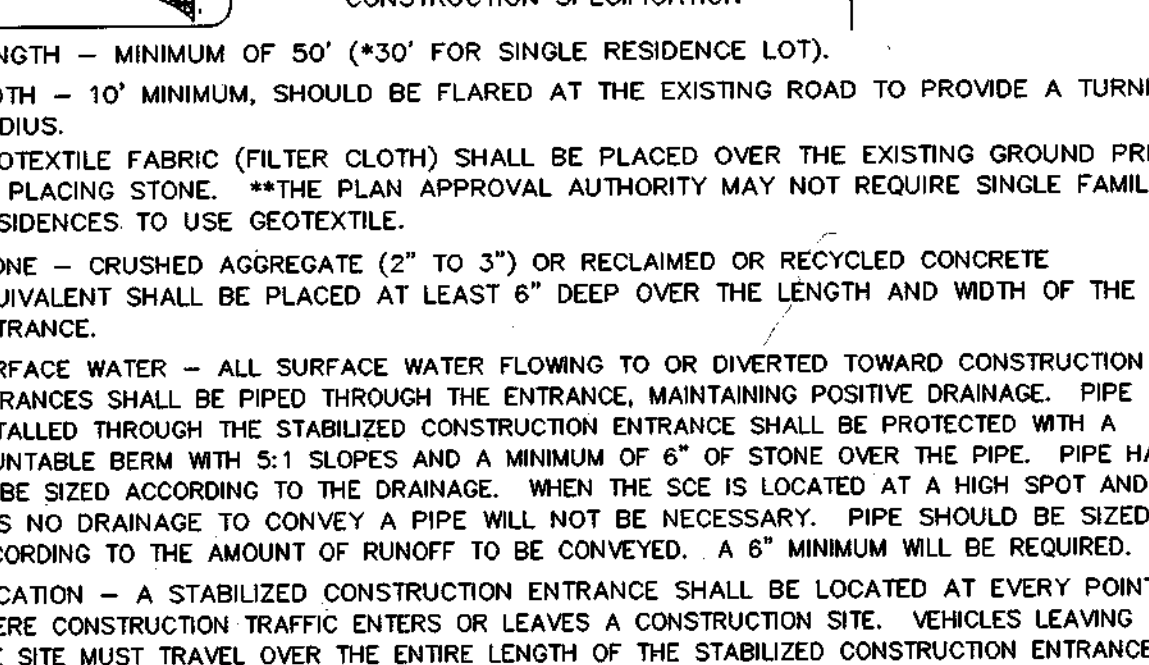
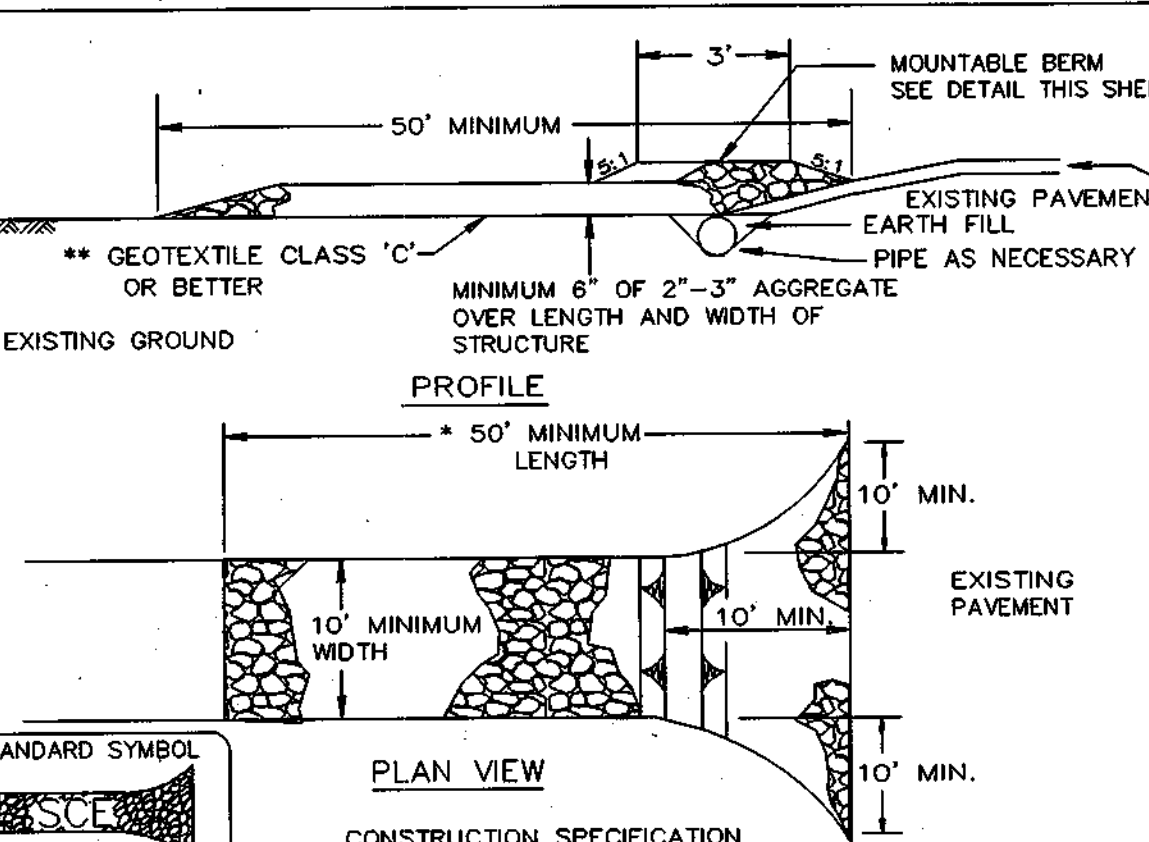
**DETAIL 22 - SILT FENCE**



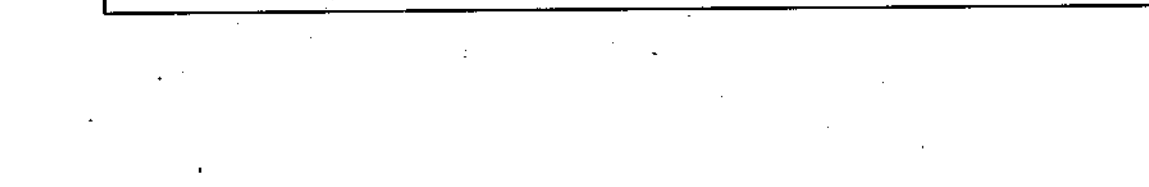
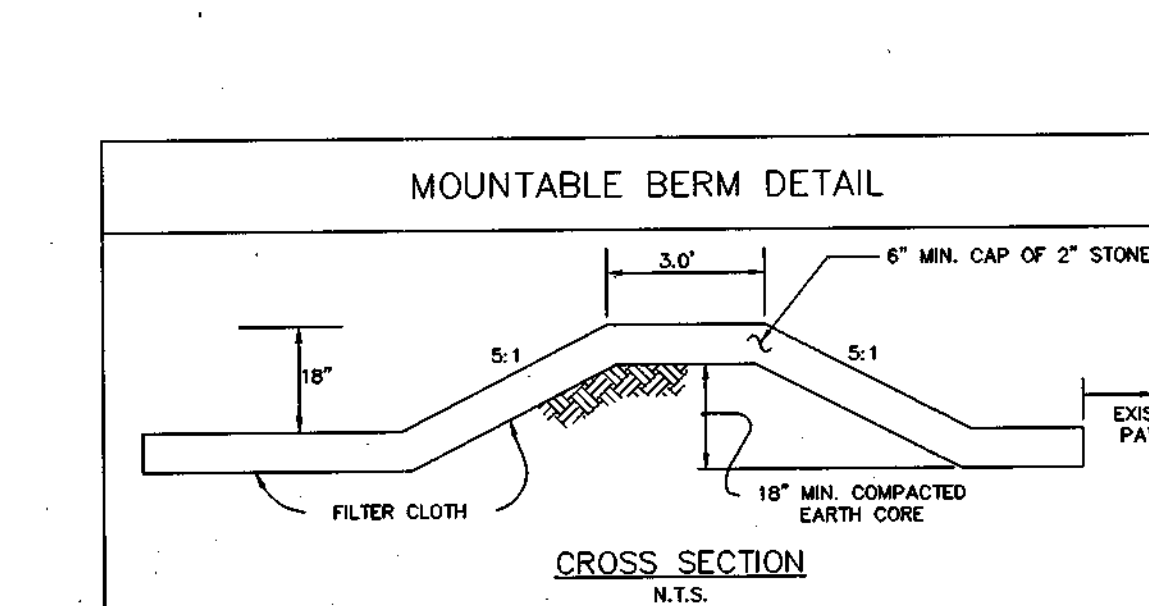
**CONSTRUCTION SPECIFICATIONS**



**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**

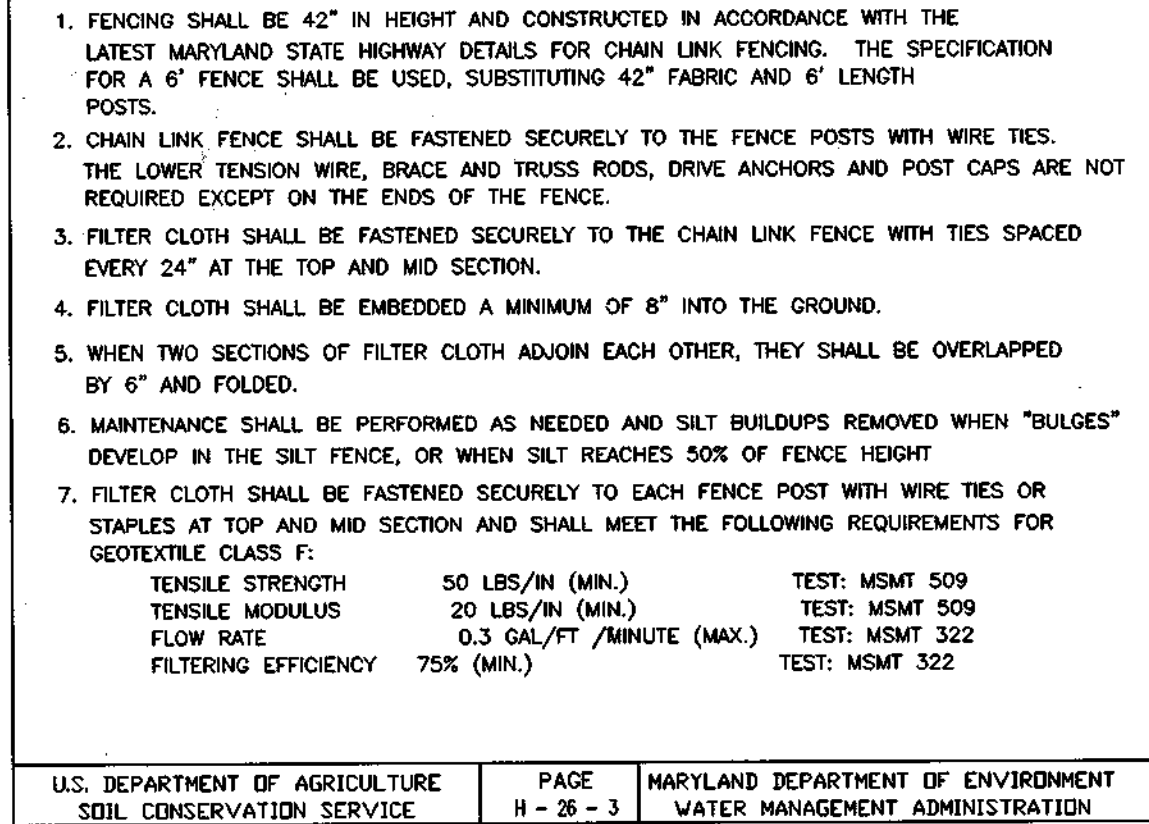
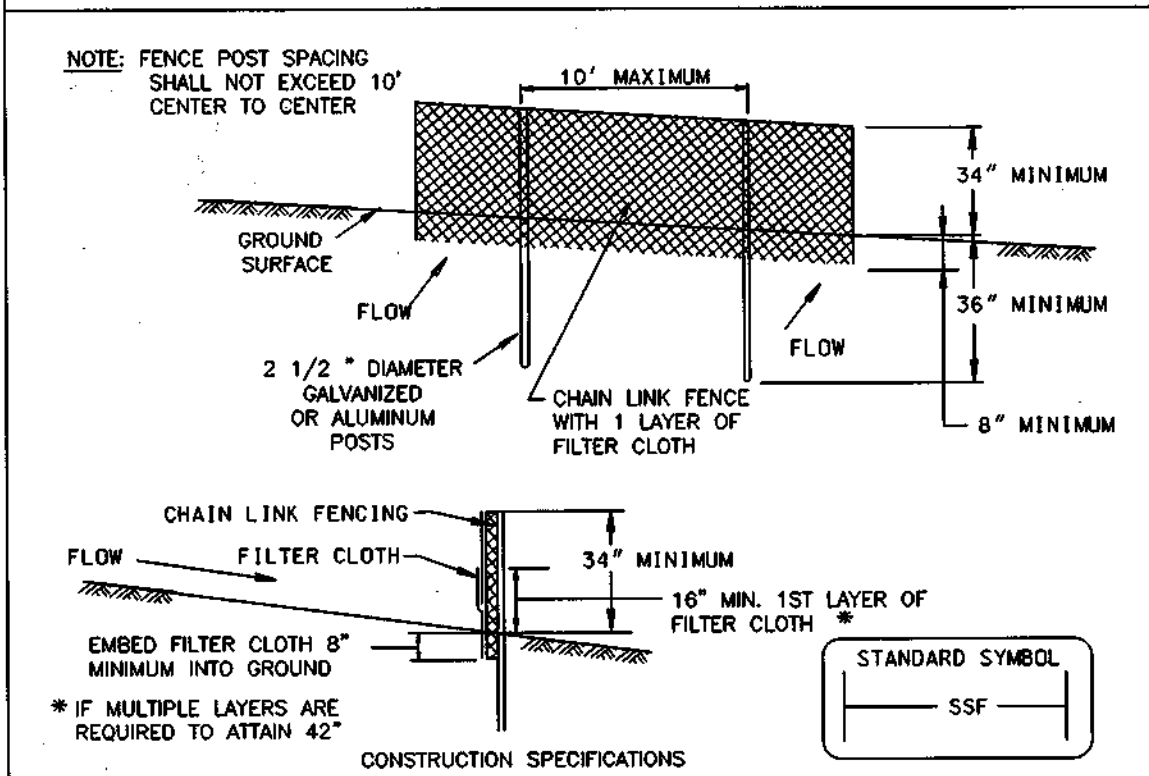


**CONSTRUCTION SPECIFICATIONS**

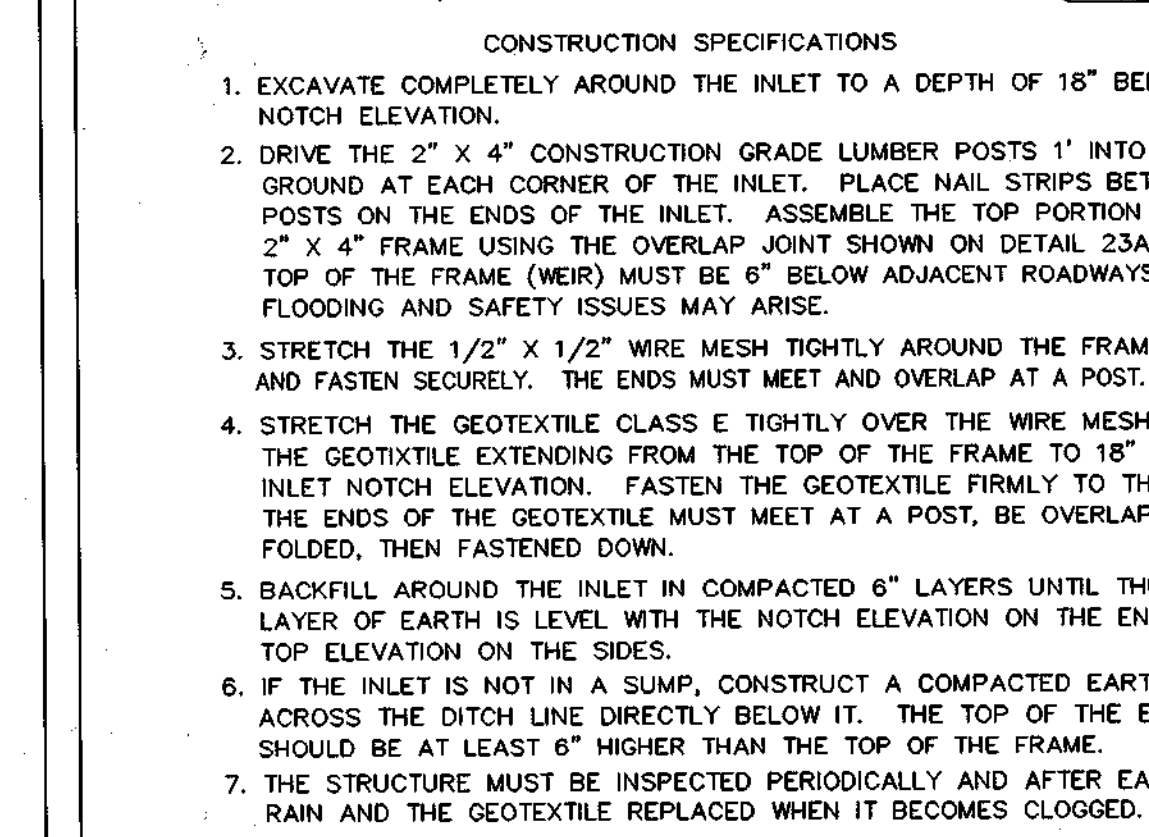
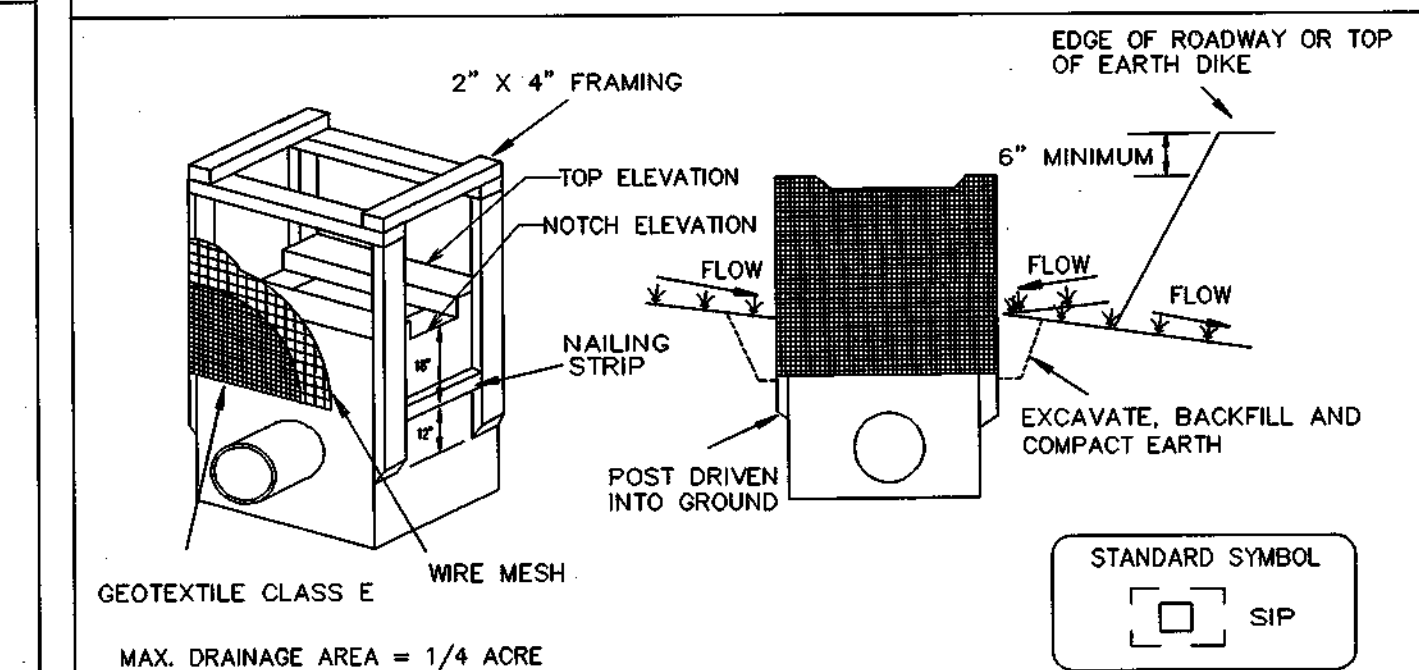


CONTRACTOR SHALL NOTIFY MISS UTILITY AT LEAST 48 HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS: MISS UTILITY (800) 257-7777

**DETAIL 33 - SUPER SILT FENCE**



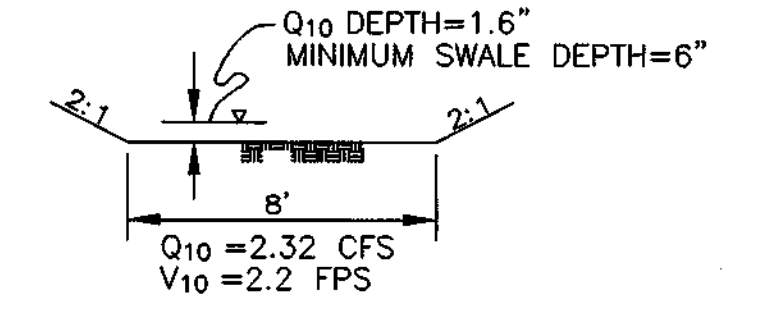
**DETAIL 23A - STANDARD INLET PROTECTION**



OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED OPEN CHANNEL SYSTEMS (0-1 AND 0-2)

1. THE OPEN CHANNEL SYSTEM SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. THE OPEN CHANNEL SHALL BE MOWED A MINIMUM OF AS NEEDED DURING THE GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 6 INCHES.
3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE OPEN CHANNEL SYSTEM SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
5. REMOVE SILT IN THE OPEN CHANNEL SYSTEM WHEN IT EXCEEDS 25% OF THE ORIGINAL WOV.

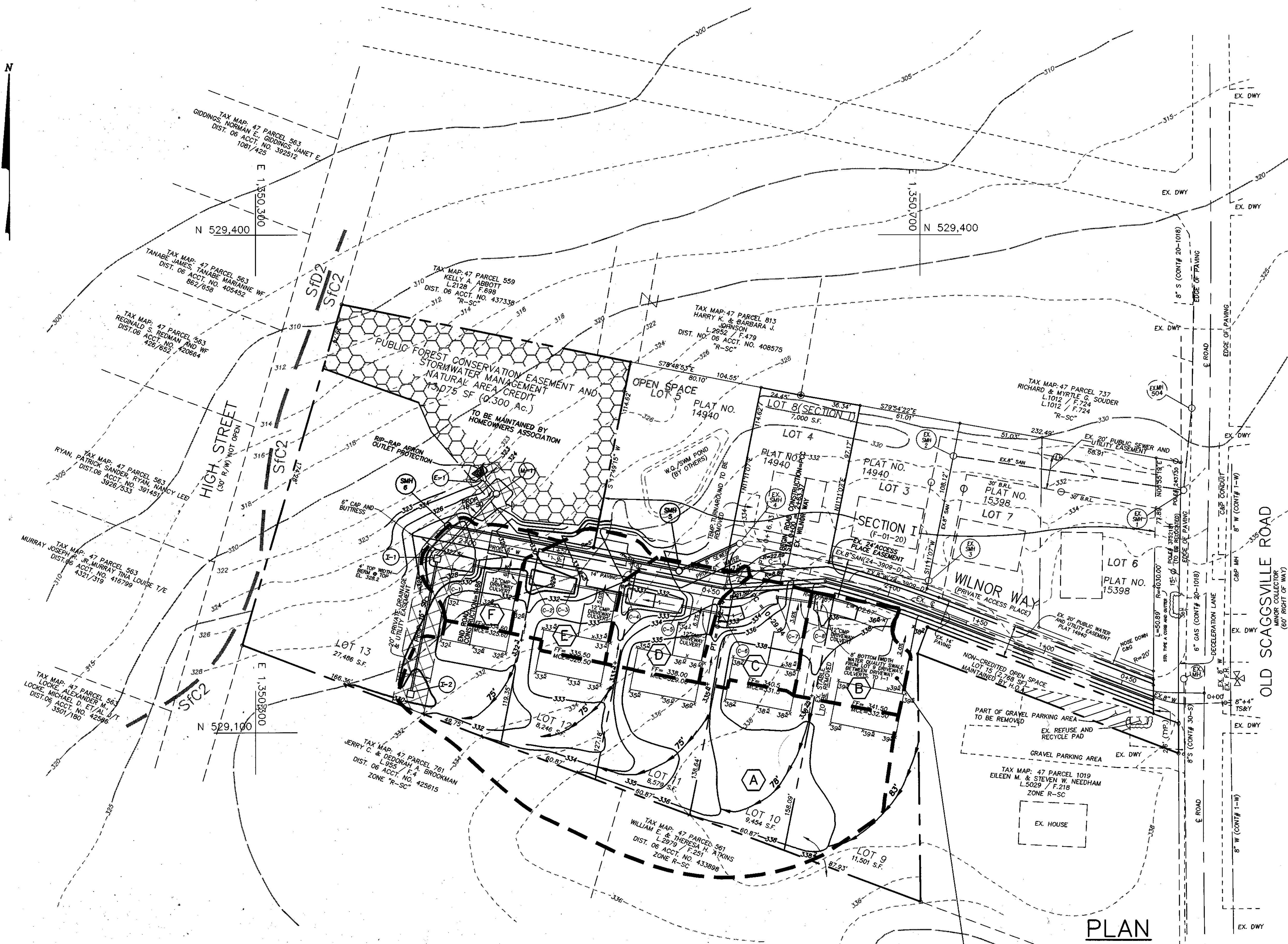
NOTE: SEE "WILNOR WAY SECTION AT WATER QUALITY SWALE" ON SHEET 3 FOR DETAIL REGARDING SWALE CONSTRUCTION.



WATER QUALITY SWALE DETAIL  
SCALE: 1"=5'

LEGEND

- DRAINAGE DIVIDE
- SfC2- SOILS LINE
- - - - - 332 EXISTING CONTOUR
- - - - - 330 EXISTING CONTOUR
- - - - - 332 PROPOSED CONTOUR
- FOREST CONSERVATION EASEMENT



PLAN  
SCALE: 1" = 30'

DRAINAGE AREA FOR WATER QUALITY SWALE  
A = 0.48 Ac.  
RCN = 72  
IMP. AREA TO SWALE = 0.25 Ac.  
SWALE DIMENSION = 8" BOTTOM W/ 2:1 SIDE SLOPES

STORM DRAIN TABULATION

LOCATION		AREA		ACRES	COEFF.	CA	Σ CA	TIME CONC.-MIN.		INTENSITY 1" T	INTENSITY 10 YEAR	Q=C.I.A.	PIPE n= 0.014 (HDPE) 0.024 (BCCMP)				REMARKS
FROM	TO	SUB.	TOTAL					INLET	DRAIN				TOTAL	ADJUSTED	SIZE	SLOPE	
I-2	I-1	A	0.67	0.40	0.27	5.0	5.0	9.80	2.65	15"	0.18%	2.1 FPS	83'	25YR ADJUSTMENT			
C-8	C-7	B	0.09	0.41	0.04	5.0	5.0	8.50	0.34	12"	0.03%	0.4 FPS					
	C-6	C	0.09	0.62	0.06	5.0	5.0	8.50	0.51								
C-6	C-5	B-C	0.18	0.65	0.07	5.0	5.0	8.40	0.84	12"	0.18%	1.0 FPS					
	C-4	D	0.10	0.62	0.07	5.0	5.0	8.50	0.60								
C-4	C-3	B-D	0.28	0.62	0.07	5.0	5.0	8.30	1.41	12"	0.50%	1.8 FPS					
	C-2	E	0.11	0.62	0.07	5.0	5.0	8.50	0.60								
C-2	C-1	F	0.39	0.55	0.05	5.0	5.0	8.10	1.94	12"	0.95%	2.5 FPS					
C-1	I-1	B-F	0.48	0.55	0.05	5.0	5.0	8.50	2.83					25YR ADJUSTMENT			
I-1	E-1	A-F	1.15	0.56		5.0	5.0	8.00	2.32					25YR ADJUSTMENT (THROUGH M-1)			

DEVELOPER  
SPRINGLAND LLC,  
5570 STERRETT PLACE,  
SUITE 201  
COLUMBIA, MD 21044

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
*[Signature]* DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*[Signature]* DATE

Chief, Development Engineering Division

Date	No.	Revision Description

SWM PLAN AND DRAINAGE AREA MAP  
HILLTOP ESTATES - SECTION II  
LOTS 8-15  
SUBDIVISION OF PARCELS 760 & 1018  
RESUBDIVISION OF LOT 4, SECTION I  
HOWARD COUNTY, MARYLAND

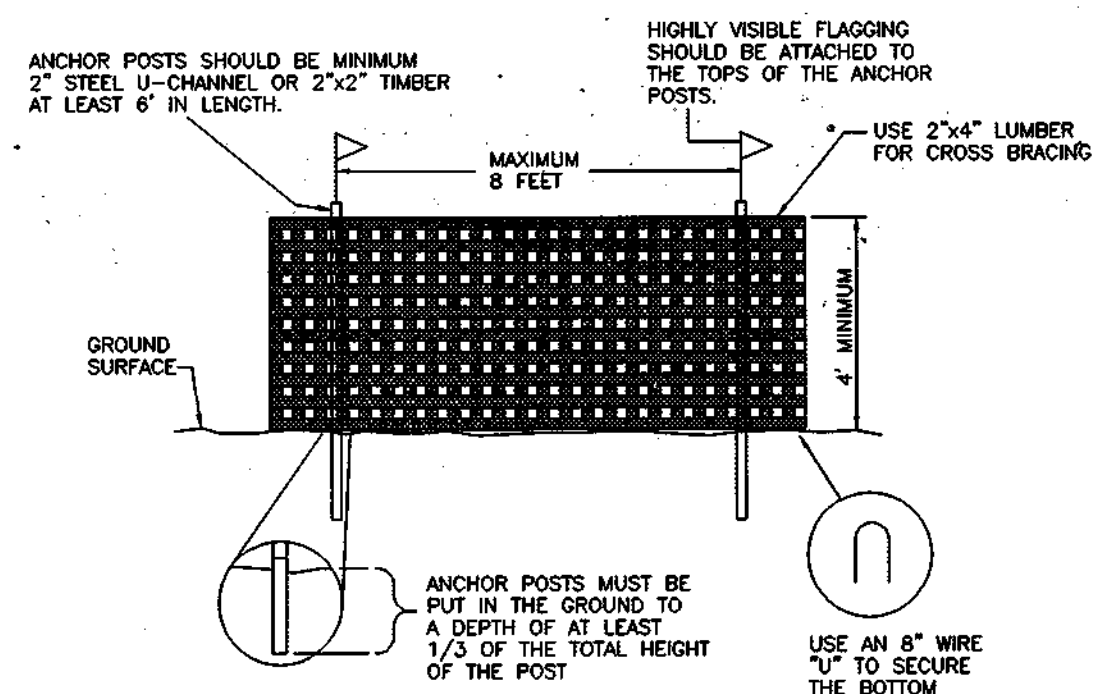
CENTURY ENGINEERING, INC.  
CONSULTING ENGINEERS, PLANNERS  
32 WEST ROAD  
TOWSON, MARYLAND 21204  
(410) 823-8070 FAX (410) 823-2184

1ST ELECTION DISTRICT

TAX MAP 47, PARCELS 760 and 1018, GRID 19

10/9/03  
Date  
Professional Engineer  
*[Signature]*  
Professional Eng. No. 16109

Des By	M.N.A.	Scale	1"=30'	Proj No	20195.00
Drn By	M.L.A.	Date	OCT., 2003	DRAWING NO	6 OF 7
Chk By		Approved			

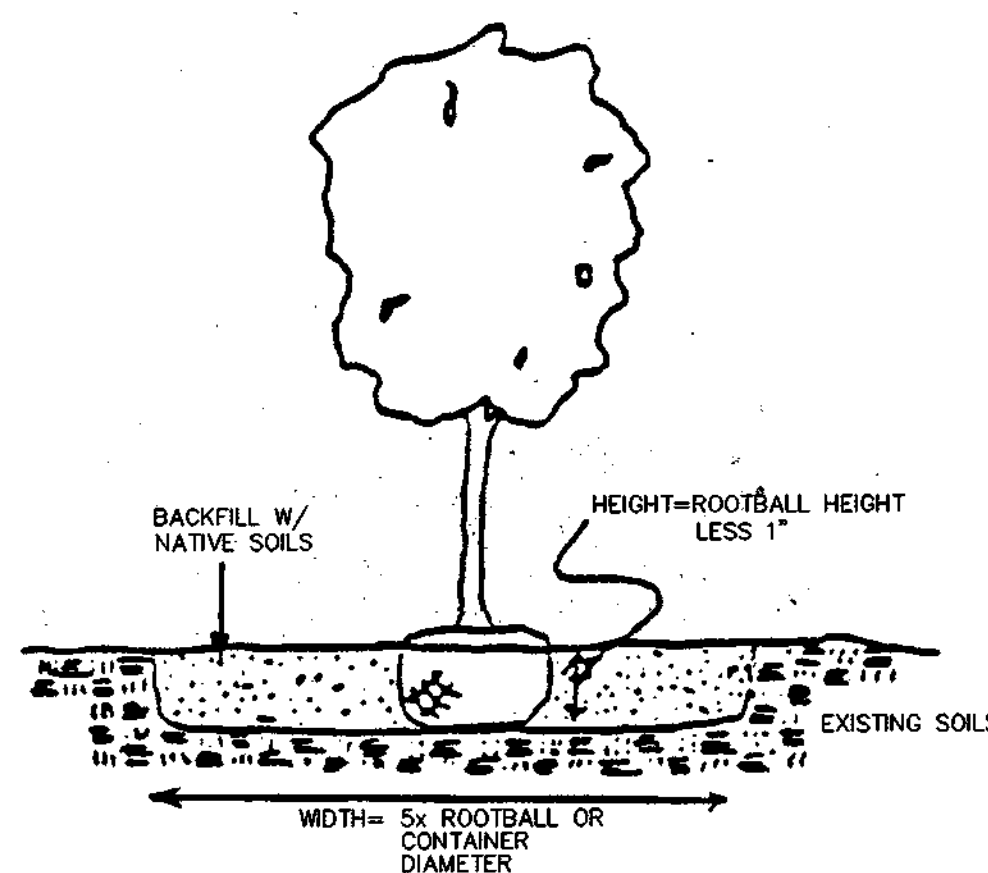


- NOTES
- FOREST PROTECTION DEVICE ONLY.
  - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS PRIOR TO INSTALLING DEVICE.
  - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED. ROOT DAMAGE SHOULD BE AVOIDED.
  - PROTECTIVE SIGNAGE MAY ALSO BE USED.
  - DEVICE SHOULD BE MAINTAINED THROUGHOUT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

**BLAZE ORANGE PLASTIC MESH FENCE**

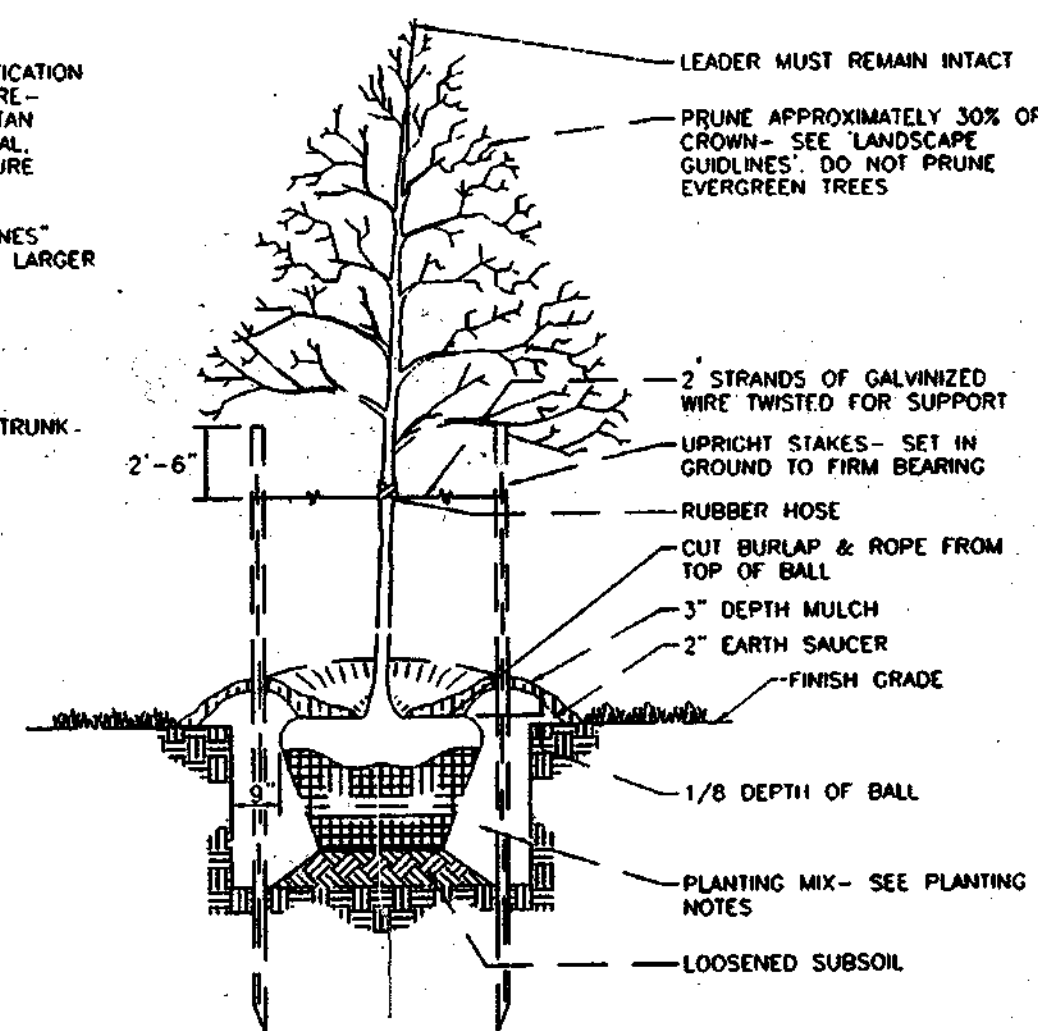
NOT TO SCALE

**Planting Specifications:  
Container Grown and Balled and Burlapped Stock**



**NOTES**

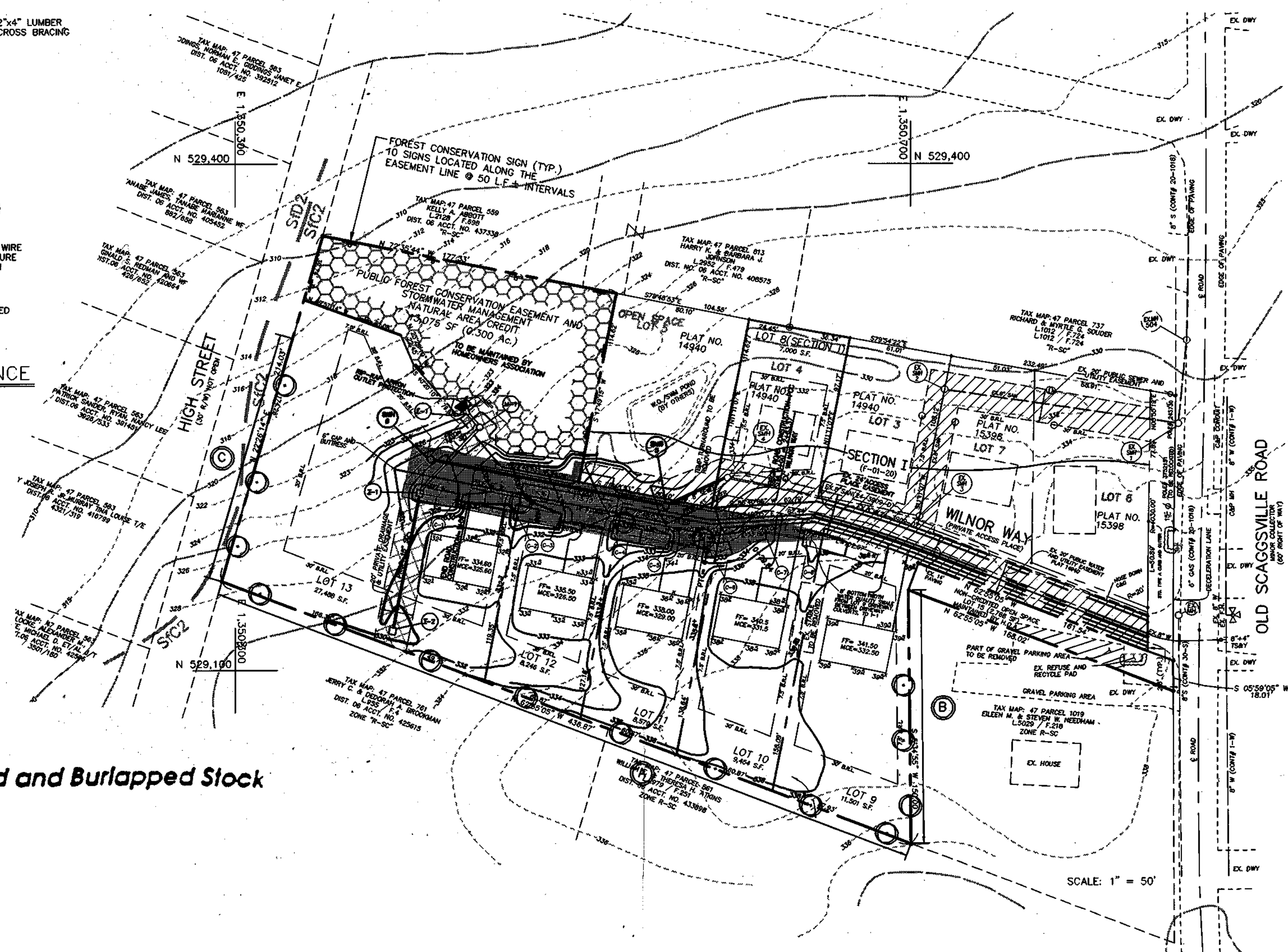
- SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
- SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
- PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.



**TREE PLANTING AND STAKING**

DECIDUOUS TREE 2 1/2" TO 3" CALIPER

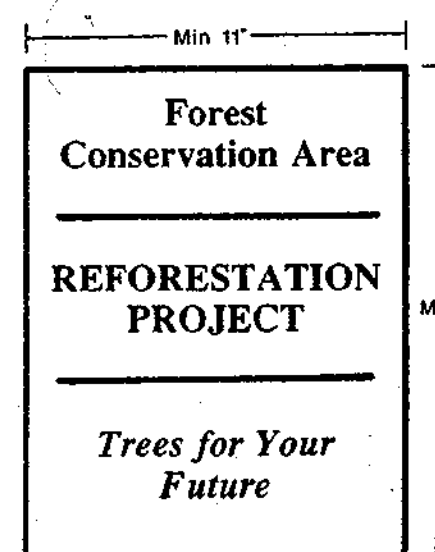
NOT TO SCALE



**NOTES**

- THE PROPERTY LINES SHOWN HEREON ARE BASED ON A BOUNDARY SURVEY VERIFIED BY VOGEL & ASSOCIATES, INC. IN APRIL, 2000.
- THE EXISTING FEATURES AND CONTOURS SHOWN HEREON ARE BASED ON FIELD RUN TOPOGRAPHY PERFORMED BY OTHERS.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$4,200.00 FOR THE 14 SHADE TREES.
- THERE ARE NO EXISTING STRUCTURES AND DRIVEWAYS LOCATED ON SITE.
- 1/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY LANDSCAPE MANUAL. 1/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
- THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE PLANTING OF 0.30 ACRE OF AFFORESTATION AND THE POST OF A BOND IN THE AMOUNT OF \$6,534.00.

**Reforestation and Afforestation Area Protection Signage**

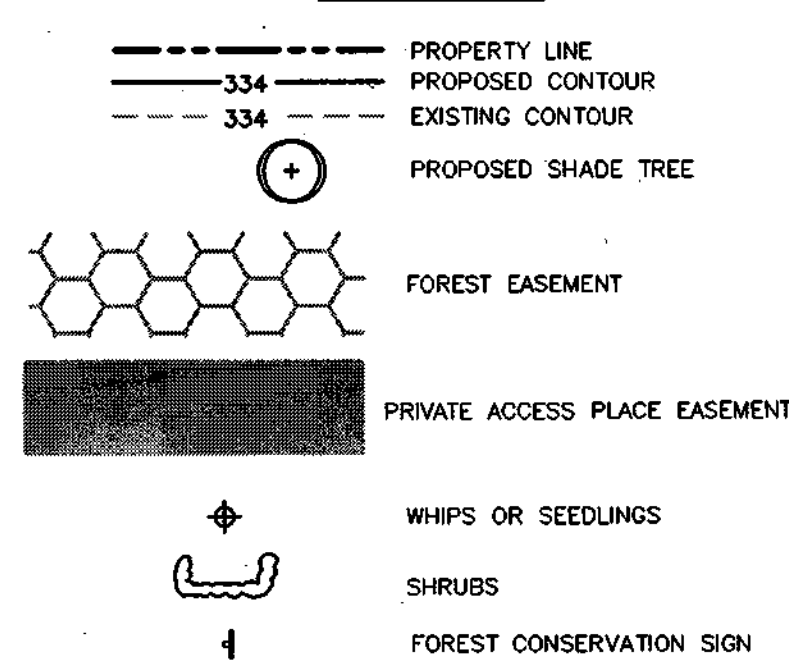


SIGNS WILL BE POSTED EVERY 50' TO 100'

**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	NONE REQUIRED	TYPE 'A'	TYPE 'A'	TYPE 'A'
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	0	435' (A)	150' (B)	150' (C)
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NA	NO	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NA	NO	NO	NO
NUMBER OF PLANTS REQUIRED	NA	8	3	3
SHADE TREES	NA	0	0	0
EVERGREEN TREES	NA	0	0	0
SHRUBS	NA	0	0	0
NUMBER OF PLANTS PROVIDED	NA	8	3	3
SHADE TREES	NA	0	0	0
EVERGREEN TREES	NA	0	0	0
OTHER TREES (2:1 SUBSTITUTION)	NA	0	0	0
SHRUBS (10:1 SUBSTITUTION)	NA	0	0	0
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)				

**LEGEND**



**PLANTING PLAN**

The tree species selected are consistent with the mixed upland oak association native to the soils. The County Manual recommends a planting density of 200 stems per acre if 1" stock is planted, and the schedule below meets that recommendation. Species will be randomly mixed and planted approximately 15' apart from other plantings. Straight rows should be avoided to simulate a more natural arrangement.

SPECIES	SIZE	QUANTITY
Tulip poplar ( <i>Liriodendron tulipifera</i> )	1" CAL	15
White oak ( <i>Quercus alba</i> )	1" CAL	10
Red maple ( <i>Acer rubrum</i> )	1" CAL	10
Black cherry ( <i>Prunus serotina</i> )	1" CAL	10
Black gum ( <i>Nyssa sylvatica</i> )	1" CAL	5
Sassafras ( <i>Sassafras alba</i> )	1" CAL	5
Dogwood ( <i>Cornus florida</i> )	1" CAL	5

**OTHER PLANTING INSTRUCTIONS**

Plant material should be obtained from a reputable nursery and ordered 3 to 6 months before desired delivery. Delivery should be arranged to occur as close to planting time as possible, and stock should be protected from direct sun and drying until planting. Planting dates are October through May, with spring months preferred. (Suggested supplier: Silva Native Nursery & Seed Co., New Freedom, PA, (717) 227-0486)

Stock should be inspected before planting for signs of damage, disease, or insect infestation, vigor, and size. Damaged or inferior plants should be replaced.

Upon planting container grown stock, plants should be removed from the container and the soil gently loosened from the roots. If roots encircle the root ball, or are J-shaped or kninked, consider replacement. Do not trim roots on-site.

The planting field should be dug and backfilled with the native soil. Rake the surface and cover the disturbed area with approximately 4 inches of mulch, but avoid burying the base of the stem to prevent fungal rot. Water immediately to settle the soil around the roots.

**MAINTENANCE AND PROTECTION OF PLANTED AREA**

Soils should be tested to determine the need for fertilizer. If fertilizer is needed, it should be applied at the testing lab's recommended rates after the first growing season (late fall or early spring). Organic or slow-release fertilizers are preferred.

Watering should be planned to compensate for deficient rainfall. New plantings need water once a week for the first growing season. The second year, watering may only be necessary in July and August, and in subsequent years only water during drought periods. Watering should be done slowly enough to permit deep soaking of the root zone.

Monitor the young trees for several years for health, insect damage, and invasive vines. Replace dead and dying trees. The survival rate shall be a minimum of 90% of the plantings after the first growing season, and 75% after the second season. Do not spray insecticides unless it has been determined that an infestation with the potential to threaten the survival of the trees is present. Control invasive vines manually, or by careful and selective use of appropriate herbicide.

Post protective signage that states that this area is a Forest Conservation Area and trees have been planted for reforestation. An effort should be made to inform and gain the cooperation of the adjacent residents to monitor and protect the plantings.

**FOREST PROTECTION PLAN**

The forest conservation and reforestation areas will need to be protected from injury during the land clearing and construction process, and from any future land use changes. Long-term protection will require placing the forest in a permanent, recorded, non-developable open space or conservation easement. The legal document establishing this protection will be required for final FCP approval.

**CONSTRUCTION PHASE**

Protective measures during the construction stage will focus on protecting the critical root zone of the retained trees along the new forest edge. The final LOD line will be staked in the field by a qualified professional who will determine which individual trees will be saved, and the extent of the critical root zone based on trees species and size. The resulting boundary will be fenced with approved fencing and posted as a tree preservation area, and no disturbance to the vegetation within the retention area will be allowed, except that which may be necessary to manage the health of the trees, such as thinning, pruning, or vine control. Any grading and construction that will occur uphill from the forest will require sediment control measures such as a silt fence or other device that will prevent siltation in the critical root zone of retained trees.

**TWO-YEAR POST-CONSTRUCTION MANAGEMENT PROGRAM**

Howard County requires the developer to commit to a minimum of two years of responsibility for the management of the Forest Conservation Area. The program must be supervised by a qualified professional. The obligations include: periodic (beginning and end of growing season) inspection of the condition of the forest; necessary management such as maintenance of fencing and signage, treatment or removal of damaged or dying trees, or invasive plant control; education of new land owners or occupants about allowable activities and future responsibilities for the forest; and a final inspection and certification that the forest is intact and the conditions of the FCP have been met submitted to the County. Upon review of the final certification, the County will notify the developer of release from all future obligations, and their transferal to the owner.

Prepared by: William Bridgeland  
MD DNR Qualified Professional

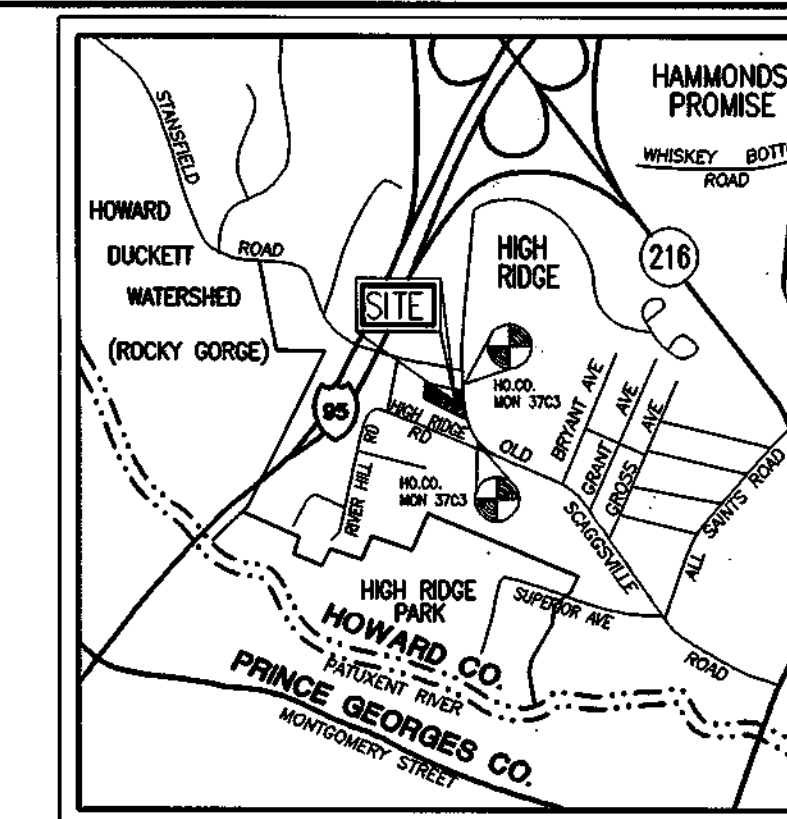
**PLANT LIST**

QTY	BOTANICAL/COMMON NAME	SIZE	ROOT
14	ACER RUBRUM/RED MAPLE	2-1/2"	B&B

**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	TYPE
SIC2	SASSAFRAS GRAVELLY SANDY LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED	B

NOTE: HOWARD SOIL SURVEY, MAP NUMBER 33



**VICINITY MAP**  
SCALE: 1"=2000'

**FOREST CONSERVATION WORKSHEET**

**NET TRACT AREA:**

A. TOTAL TRACT AREA	1.80 AC.
B. AREA WITHIN 100 YEAR FLOODPLAIN	0.00 AC.
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0.00 AC.
D. NET TRACT AREA	1.80 AC.

**LAND USE CATEGORY (FROM TABLE 3.2.1, PAGE 40, MANUAL)**

INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONE ENTRY.

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

E. AFFOREST THRESHOLD	15% X D = 0.27 AC
F. CONSERVATION THRESHOLD	20% X D = 0.36 AC

**EXISTING FOREST COVER:**

G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	=	0.00 AC
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD	=	0.00 AC
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	=	0.00 AC

**BREAK EVEN POINT:**

J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	=	0.00 AC
K. CLEARING PERMITTED WITHOUT MITIGATION	=	0.00 AC

**PROPOSED FOREST CLEARING:**

L. TOTAL AREA OF FOREST TO BE CLEARED	=	0.00 AC
M. TOTAL AREA OF FOREST TO BE RETAINED	=	0.00 AC

**PLANTING REQUIREMENTS:**

N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	=	0.00 AC
P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	=	0.00 AC
Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	=	0.00 AC
R. TOTAL REFORESTATION REQUIRED	=	0.00 AC
S. TOTAL AFFORESTATION REQUIRED	=	0.27 AC
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED	=	0.27 AC (11,761 SF)

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development 11/29/03  
Chief, Development Engineering Division 10/20/03

Date No Revision Description

**FOREST CONSERVATION AND LANDSCAPE PLAN  
HILLTOP ESTATES SECTION II  
HOWARD COUNTY, MARYLAND**

**CENTURY ENGINEERING, INC.**  
CONSULTING ENGINEERS, PLANNERS  
32 WEST ROAD  
TOWSON, MARYLAND 21204  
(410) 823-8070 FAX (410) 823-2184

1st ELECTION DISTRICT

TAX MAP 47 PARCELS 760 AND 1018

Des By: KD Scale: 1"=50' Proj No: 20195.00  
Dwn By: MA Date: OCT., 2003 DRAWING NO:  
Chk By: GK Approved: 7 OF 7

F-03-143