

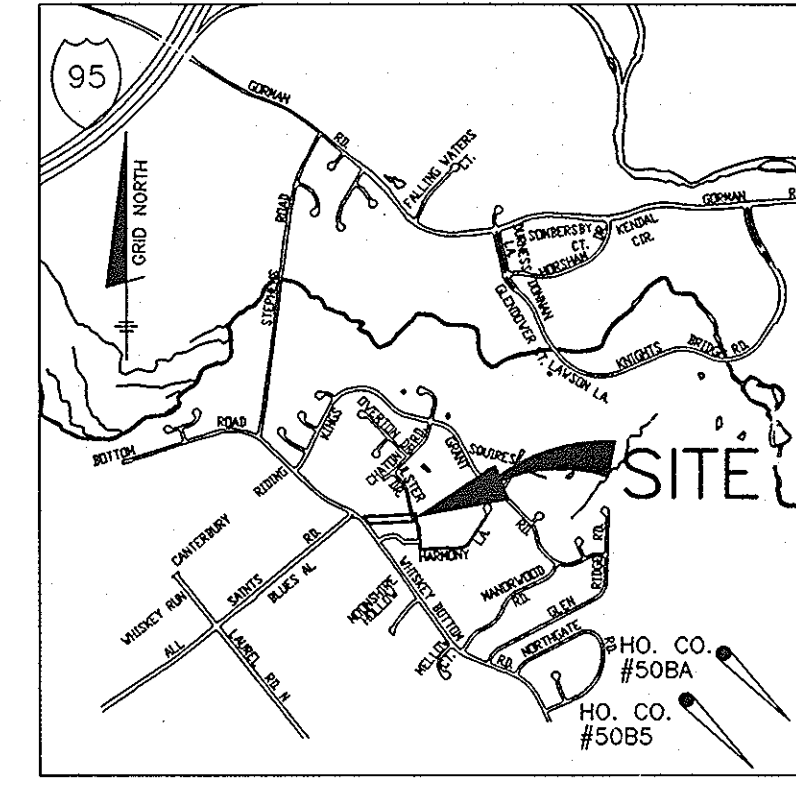
FINAL PLAN

KING'S ARMS, SECTION 3

6th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

BENCH MARKS--(NAD'83)	
HO. CO. #508A	EL. 249.380
STANDARD DISC ON CONC. MONUMENT	
N 527561.667'	E 1359772.6'
HO. CO. #508S	EL. 178.142'
STANDARD DISC ON CONC. MONUMENT	
N 524999.355'	E 1357925.68'

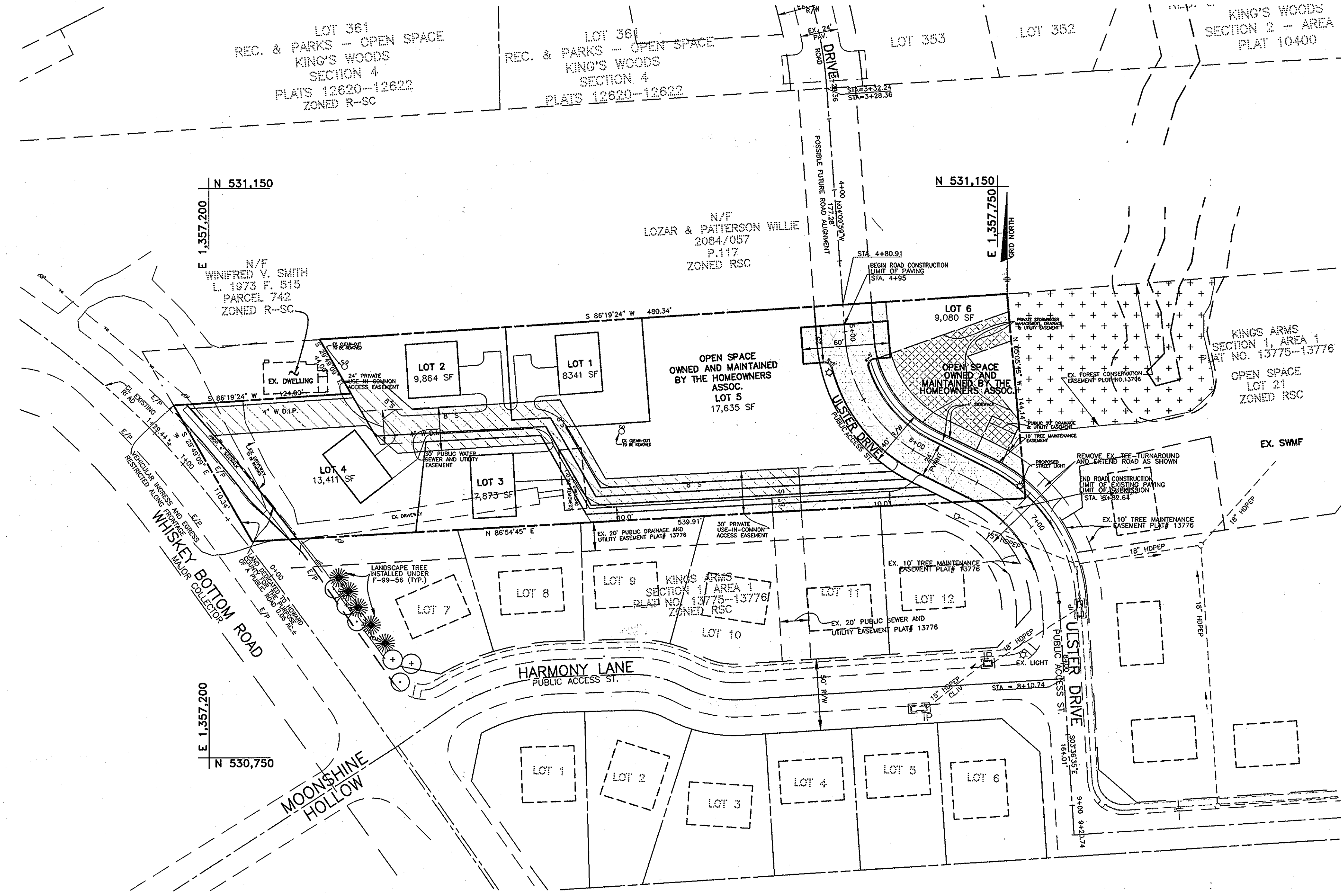


VICINITY MAP
SCALE: 1"=2000'
ADC MAP 19, GRID K9
ADC COORDINATES:
E 845,000 N 470,250

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	ROAD PLAN AND PROFILE, STORMDRAIN PROFILES AND DRAINAGE AREA MAP AND TRAFFIC CONTROL PLAN
3	GRADING, SEDIMENT AND EROSION CONTROL PLAN AND DETAILS
4	STORMWATER MANAGEMENT DESIGN AND DETAILS
5	LANDSCAPE PLAN
6	FOREST CONSERVATION PLAN

GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED R-SC PER THE 2-2-04 COMPREHENSIVE ZONING PLAN.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH TWO FOOT CONTOUR INTERVALS PREPARED BY BENCHMARK ENGINEERING, INC. DATED AUGUST, 2001. ALL VERTICAL CONTROLS ARE BASED ON NAVD83.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 508A AND 508S WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC AND DRAINAGE AREA IS IN THE PATUXENT WATERSHED, CONTRACT NO. 24-4176-D.
- SEWER IS PUBLIC AND DRAINAGE AREA IS IN THE PATUXENT WATERSHED, CONTRACT NO. 24-4176-D.
- STORMWATER MANAGEMENT QUALITY CONTROL IS BEING PROVIDED BY A POCKET POND AND DRY SWALE AS PART OF THIS SUBMISSION. THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. THE FACILITY IS TO BE A CLASS 'A' STRUCTURE.
- EXISTING UTILITIES SHOWN WERE LOCATED BY RECORD DRAWINGS AND FIELD LOCATIONS.
- THERE IS NO FLOODPLAIN ON THIS SITE.
- THERE ARE NO WETLANDS ON THIS SITE PER ECO-SCIENCE PROFESSIONALS, INC.
- AN ADEQUATE PUBLIC FACILITIES ORDINANCE TRAFFIC ANALYSIS WAS PREPARED BY THE MARS GROUP, INC. DATE: MAY, 2003 AND REVISED AUGUST 2003 AND WAS APPROVED UNDER SP-03-07.
- ALL LANDSCAPING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL AND SECTION 16.124(b)(3)(i), OF THE SUBDIVISION REGULATION.
- THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC., DATED JUNE 14, 2002.
- STREET LIGHTS PLACEMENT AND THE TYPE OF FIXTURE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (1993), AND AS MODIFIED BY GUIDELINES FOR RESIDENTIAL DEVELOPMENTS (JUNE 1993). A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
- UNLESS NOTED AS "PRIVATE", ALL EASEMENTS ARE PUBLIC.
- BRL INDICATES BUILDING RESTRICTION LINE.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON SITE.
- DEVELOPER SHALL PROPERLY ABANDON EXISTING WELL AND SEPTIC ON PARCEL 742 PER THE HEALTH DEPARTMENT REQUIREMENT AFTER INSTALLATION AND CONNECTION OF THE PUBLIC SEWER TO THE EXISTING STRUCTURE. WELL ABANDONMENT MUST BE DONE BY A LICENSED WELL DRILLER.
- NO NOISE STUDY IS REQUIRED FOR THIS PROJECT.
- MINIMUM BUILDABLE LOT SIZE SHALL BE 6,000 SQUARE FEET.
- TRACT BOUNDARY ESTABLISHED BY A FIELD RUN SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. AROUND AUGUST 2001.
- FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPE STEM AND ROAD RIGHT OF WAY LINE ONLY AND NOT ONTO THE FLAG OR PIPE STEM LOT DRIVEWAY.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (14' SERVING MORE THAN ONE RESIDENCE)
 - SURFACE - 8" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.)
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45' TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- WAIVER PETITION WP-03-81 WAS CONSIDERED AND DENIED ON FEBRUARY 26, 2003 TO WAIVE SECTION 15.121(e)(1) WHICH REQUIRES OPEN SPACE LOTS TO HAVE 40' OF FRONTAGE ON A PUBLIC ROAD.
- A WAIVER PETITION WAS APPROVED ON SEPTEMBER 18, 2003 FOR A WAIVER TO SECTIONS 5.2.4.1 AND 5.2.7.A.2 OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME 1, SECTION 5.2.4.1 PERTAINS TO THE MINIMUM DISTANCE FROM A POND EMBANKMENT TO A PROPERTY LINE AND SECTION 5.2.7.A.2 PERTAINS TO THE 12' SAFETY BENCH.
- A RAZING INSPECTION REPORT SHALL BE OBTAINED AND SUBMITTED TO HOWARD COUNTY FOR THE BUILDINGS BEING REMOVED ON-SITE PRIOR TO RECORDATION OF THE PLATS.
- TOTAL FOREST CONSERVATION OBLIGATION AMOUNT OF 0.82 ACRES WAS MET BY THE FEE-IN-LIEU PAYMENT OF \$50,744.00.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
- 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.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- LANDSCAPING FOR THIS SUBDIVISION IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN INCLUDED WITH THIS ROAD CONSTRUCTION PLAN SET IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL WITH A DWP, DEVELOPER'S AGREEMENT FOR 36 SHADE TREES, 13 EVERGREEN TREES AND 30 EVERGREEN SHRUBS WITH SURETY IN THE AMOUNT OF \$13,650.00.
- FILL WITHIN COUNTY RIGHT OF WAY SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR (AASHTO T-180).
- PROPER ABANDONMENT OF THE EXISTING HOLDING TANK, WHICH SUPPORTS THE ADJACENT HOUSE ON PARCEL 742 AND IS LOCATED ON THE SUBJECT PROPERTY SHALL BE PERFORMED IN ACCORDANCE WITH THE HEALTH DEPARTMENT REQUIREMENTS AFTER INSTALLATION AND CONNECTION OF THE PUBLIC SEWER TO THE EXISTING STRUCTURE.

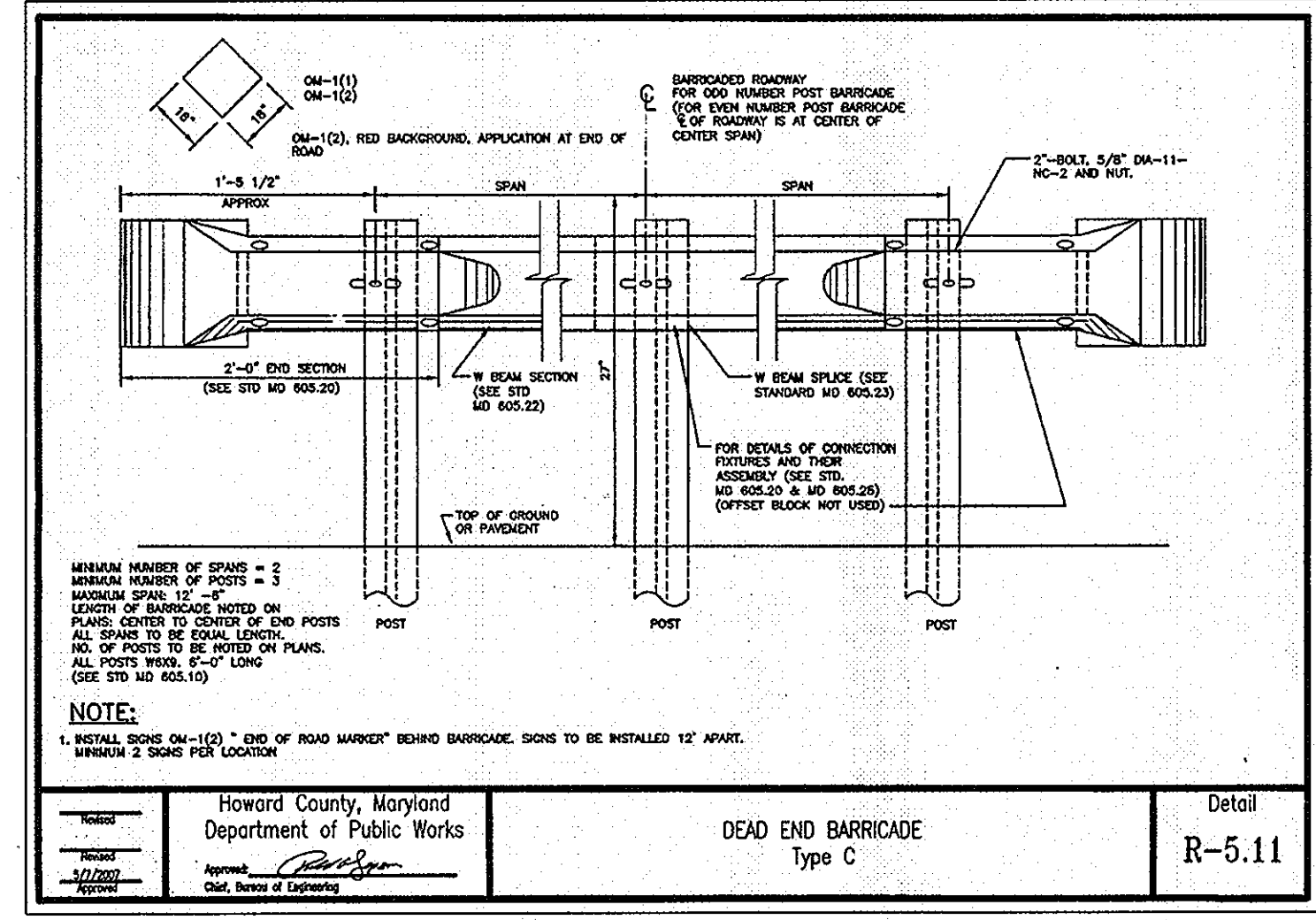


R/W PT. NO.	DISCRIPTION	ELEVATION
100	REBAR # CAP	303.99'
112	REBAR # CAP	283.05'
113	REBAR # CAP	280.83'
200	REBAR # CAP	301.08'
201	REBAR # CAP	301.20'
202	REBAR # CAP	301.61'
203	REBAR # CAP	303.38'
204	REBAR # CAP	279.45'
205	MAGNAIL	279.45'
206	REBAR # CAP	281.50'
207	REBAR # CAP	282.36'
208	MAGNAIL	283.13'
209	MAGNAIL	283.99'
210	REBAR # CAP	281.01'

SITE DATA TABULATION

1) GENERAL SITE DATA		3) LOT TABULATION	
a. PRESENT ZONING:	R-SC	a. TOTAL NUMBER OF RESIDENTIAL LOTS PROPOSED ON THIS SUBMISSION.....	4
b. APPLICABLE DPZ FILE REFERENCES:	F-03-107, F-03-106, WP-03-81	b. TOTAL NUMBER OF OPEN SPACE LOTS PROPOSED.....	2
c. DEED REFERENCES:	L5879 F0592 & L5879 F602		
d. PROPOSED USE OF SITE:	4 SFD HOMES		
e. PROPOSED WATER AND SEWER SYSTEMS:	PUBLIC		
2) AREA TABULATION		4) OPEN SPACE DATA	
a. TOTAL AREA OF SITE.....	1.74 AC.	1) MINIMUM RESIDENTIAL LOT SIZE.....	6,000 S.F.
b. AREA OF 100 YEAR FLOODPLAIN.....	N/A	2) OPEN SPACE REQUIRED.....	0.44 AC. (25% OF 1.74 AC.)
c. AREA OF STEEP SLOPES ON SITE.....	N/A	3) TOTAL CREDITED OPEN SPACE PROVIDED.....	0.61 AC.
d. NET AREA OF SITE.....	1.74 AC.	4) TOTAL NON-CREDITED OPEN SPACE PROVIDED.....	0.0 AC.
e. AREA OF THIS PLAN SUBMISSION.....	1.74 AC.	5) TOTAL OPEN SPACE PROVIDED.....	0.61 AC.
f. AREA OF PROPOSED BUILDABLE LOTS.....	0.91 AC.	6) AREA OF RECREATIONAL OPEN SPACE REQUIRED.....	N/A
g. AREA OF PROPOSED OPEN SPACE LOTS.....	0.61 AC.		
h. AREA OF PROPOSED PUBLIC ROAD R/W.....	0.22 AC. (INCLUDING WIDENING STRIPS)		

PLAN
SCALE: 1" = 50'



NO.	DATE	REVISION

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE A SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
E-MAIL: bs@bci-engineering.com
WEB: www.bci-engineering.com

OWNER:	PROJECT:
SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 (410) 465-4244	KING'S ARMS SECTION 3
LOCATION:	TITLE:
TAX MAP-47, GRID NO. 22 PARCEL 741 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE SHEET
DATE:	PROJECT NO.
OCT. 2006 JUL. 2007	1486
DES: AAM	DRAFT: MAN
CHECK: CAM	SCALE: AS SHOWN
DRAWING 1 OF 6	

APPROVED: DEPARTMENT OF PUBLIC WORKS

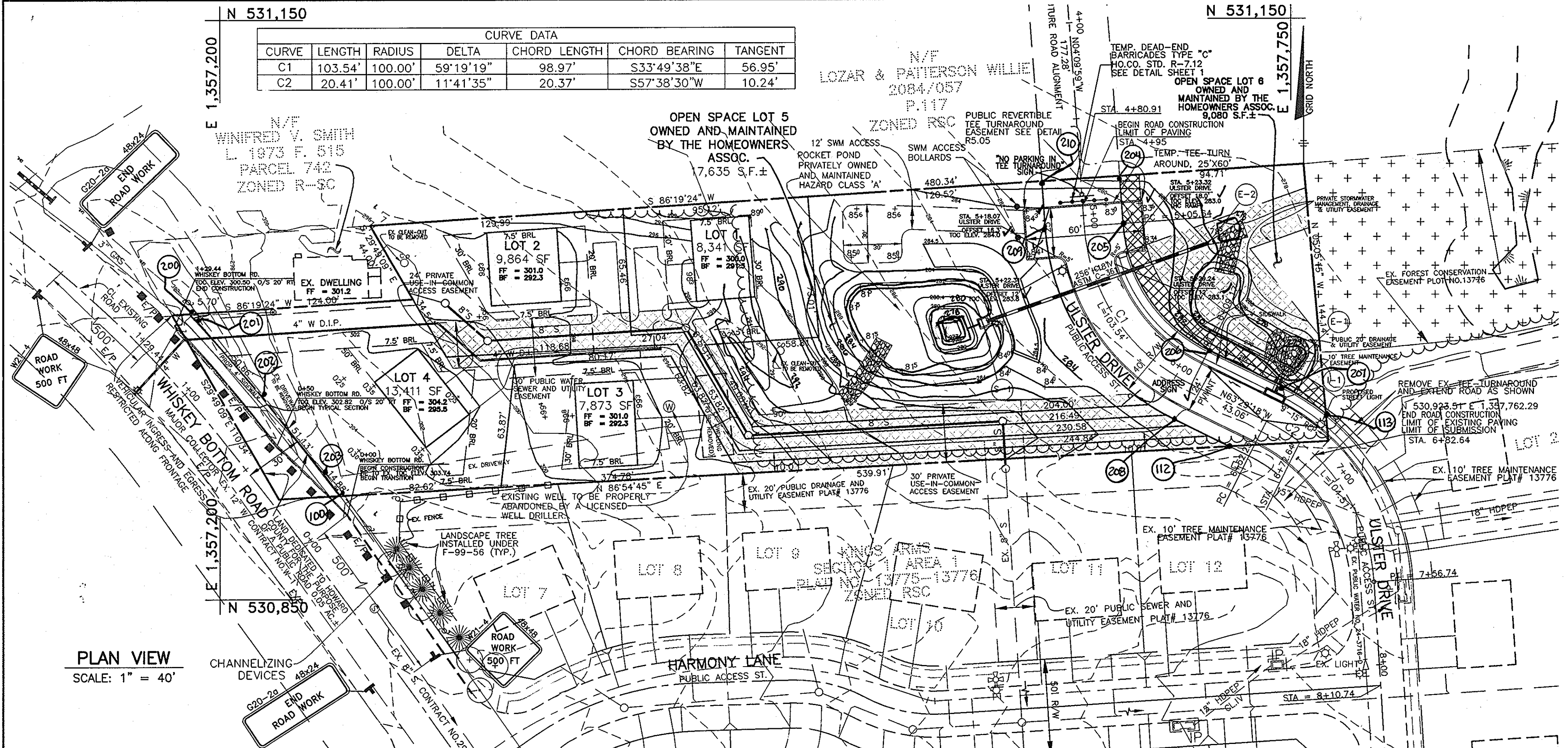
Michael DeLuca 7/27/07
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

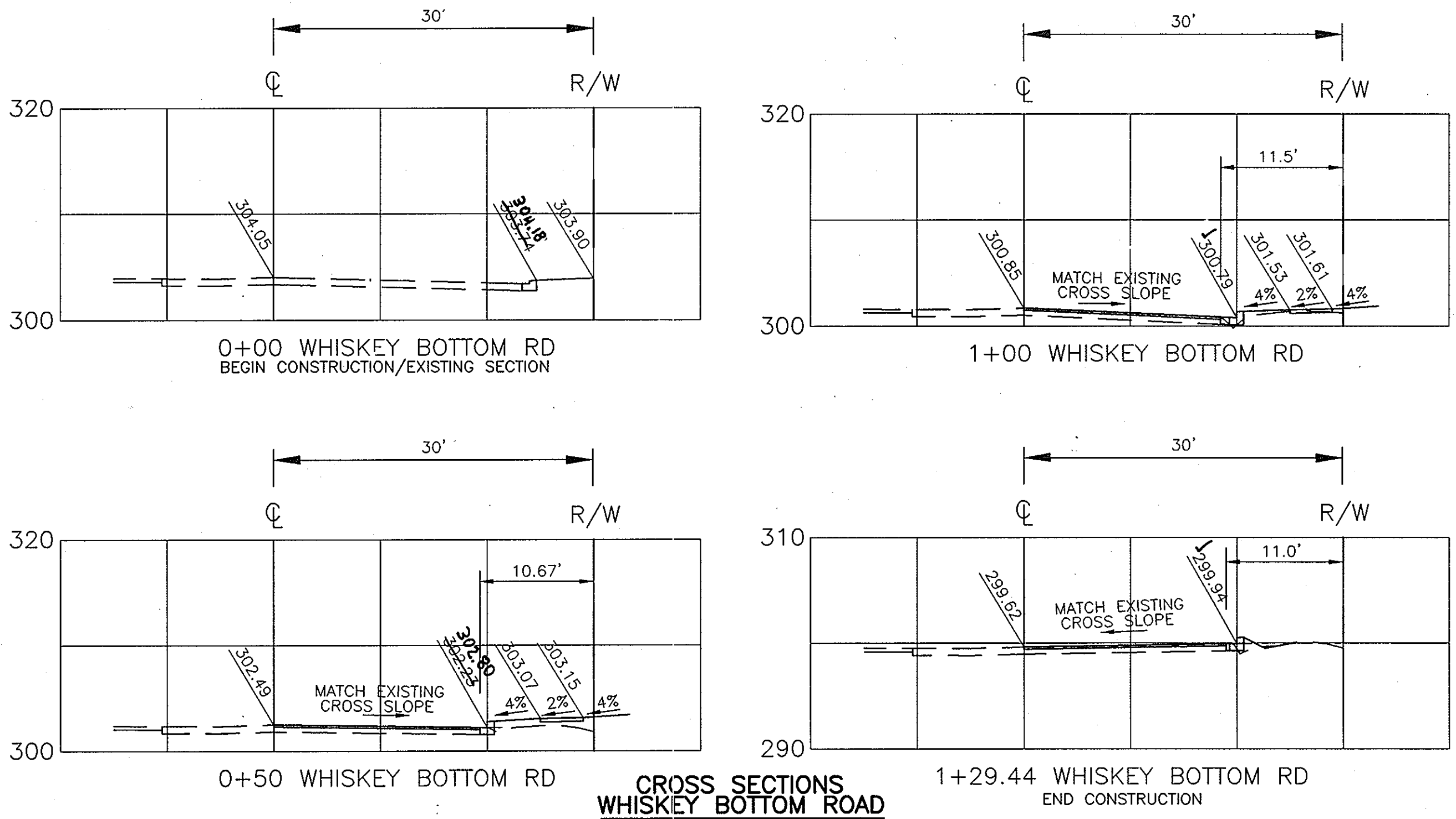
Kat DeLuca 8/06/07
CHIEF, DIVISION OF LAND DEVELOPMENT

William DeLuca 7/20/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION

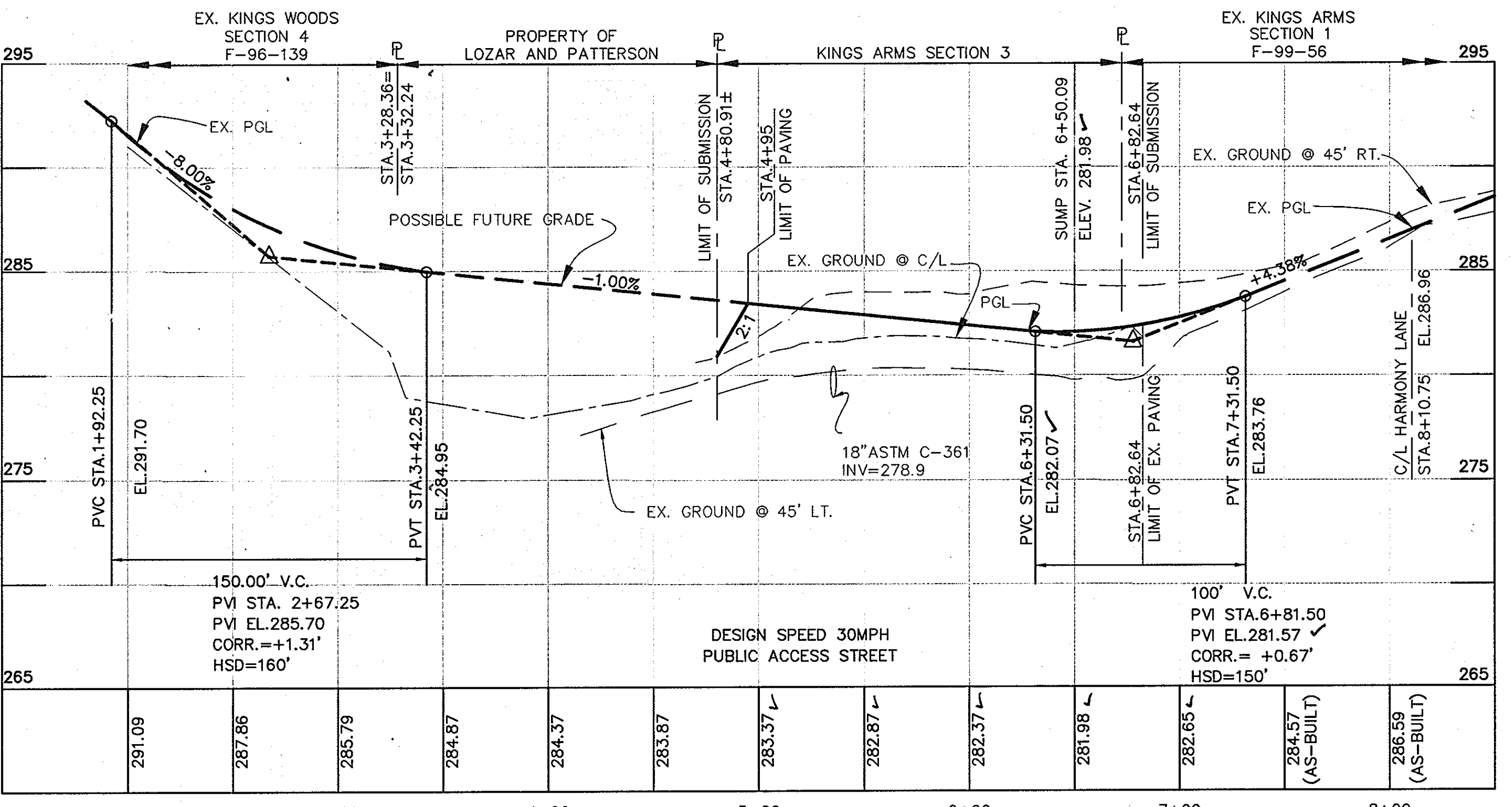
CURVE DATA						
CURVE	LENGTH	RADIUS	DELTA	CHORD LENGTH	CHORD BEARING	TANGENT
C1	103.54'	100.00'	59°19'19"	98.97'	S33°49'38"E	56.95'
C2	20.41'	100.00'	11°41'35"	20.37'	S57°38'30"W	10.24'



PLAN VIEW
SCALE: 1" = 40'



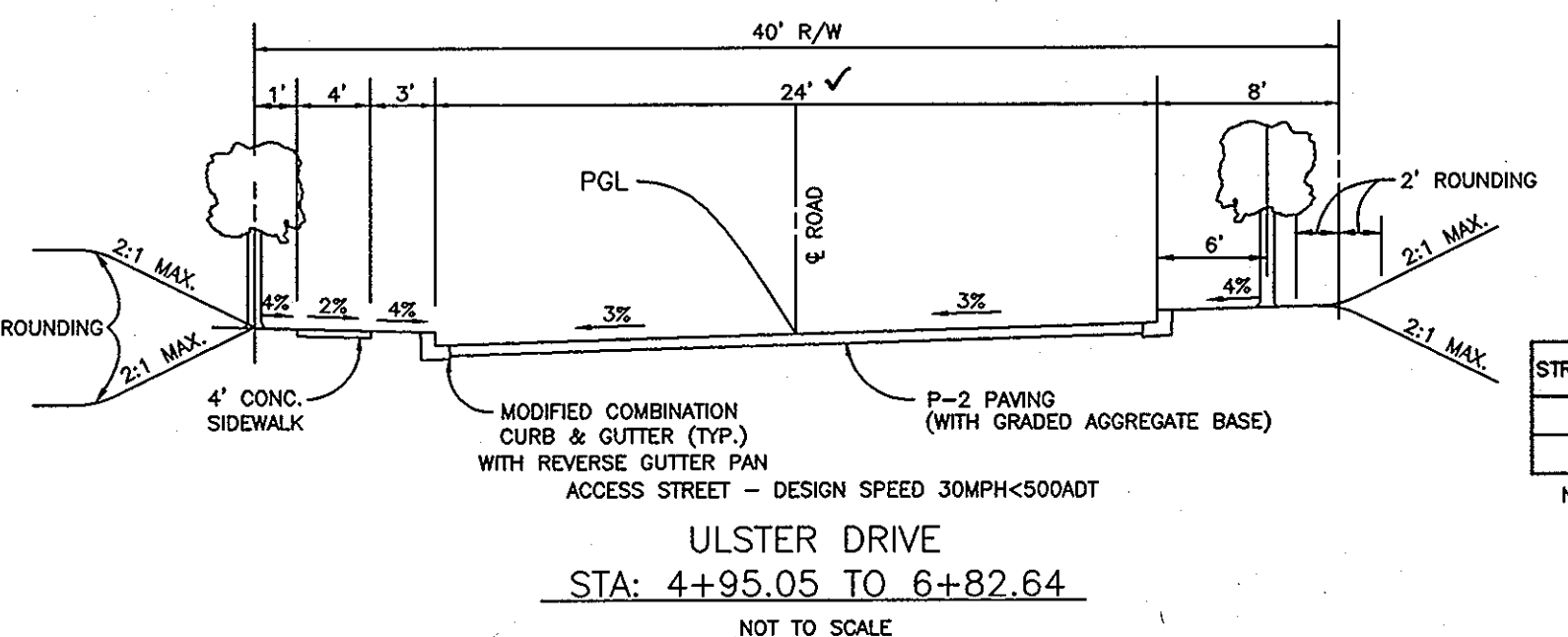
CROSS SECTIONS
WHISKEY BOTTOM ROAD
SCALE: 1"=10'



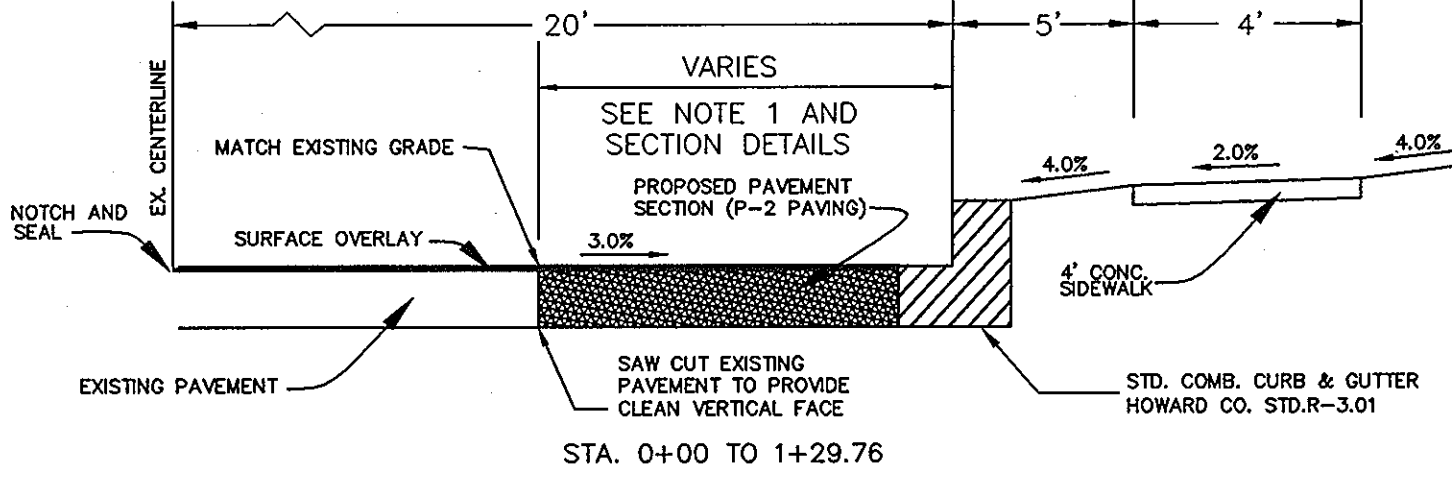
ROAD PROFILE
ULSTER DRIVE
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

- NOTE:
- STREETLIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
 - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2 1/2" GALVANIZED STEEL, PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE	COMMENTS
ULSTER DRIVE	5+26	15'L	100 WATT HPS VAPOR "FIREWALL" MOUNTED ON A 14" BLACK FRIBGLASS POLE	
ULSTER DRIVE	6+75	14'L		

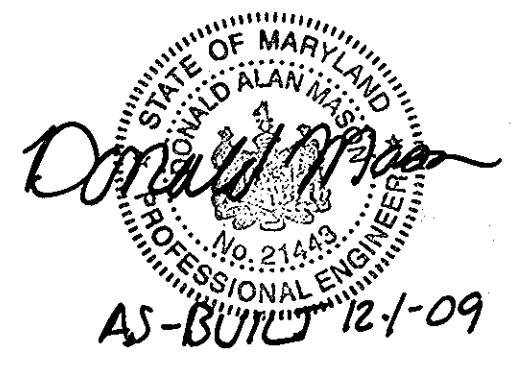


OUTLET PROTECTION DETAIL
NOT TO SCALE



HALF SECTION DETAIL FOR WHISKEY BOTTOM ROAD WIDENING TO BE IN ACCORDANCE WITH STANDARD DETAIL R-10.01

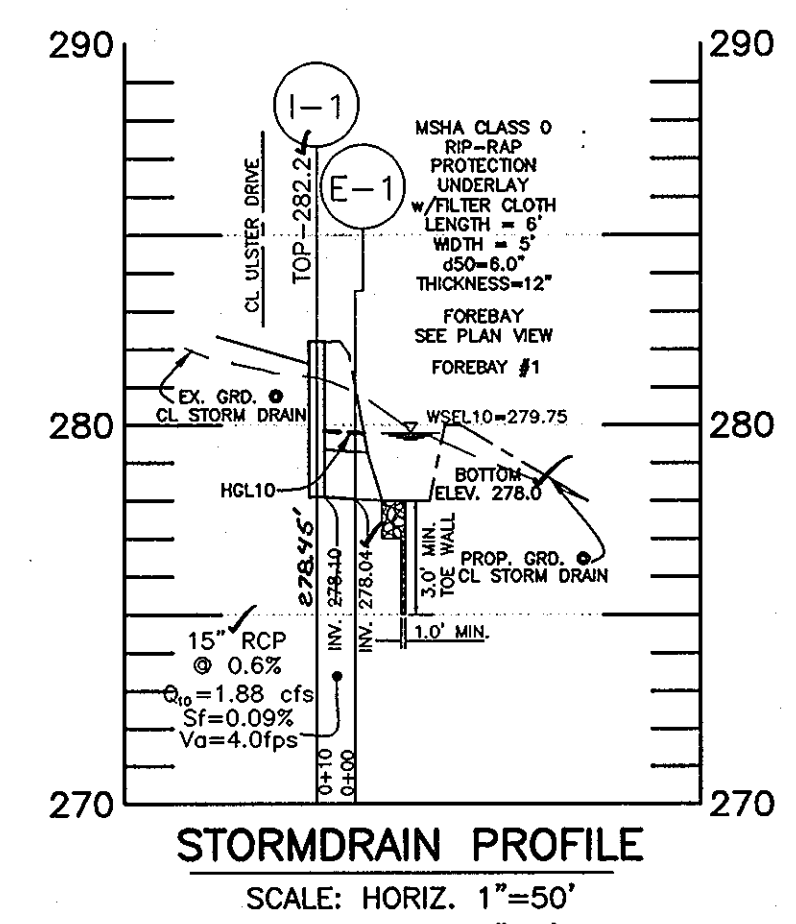
- NOTES:
- WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE CONTRACTOR SHALL REMOVE ENOUGH OF THE EXISTING ROAD BED TO PROVIDE A MINIMUM BASE WIDENING OF 4'.
 - THE SURFACE OVERLAY SHALL BE CARRIED TO THE CENTERLINE OF THE ROAD AND NOTCHED AND SEALED.
 - SURFACE OVERLAY COURSE TO BE EQUAL TO SURFACE COURSE OF TYPICAL PAVING SECTION OF EXISTING ROAD.
 - CENTERLINE OF ROAD TO BE MILLED AT DEPTH OF 1 1/2" X 1' WIDE USING A MILLING MACHINE.



- CONSTRUCTION SPECIFICATIONS
- THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
 - THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
 - GEOTEXTILE CLASS C28 OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE PREPARED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE FABRIC. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
 - STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT THAT SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR THE RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE Voids BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
 - THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

SIZE	LENGTH	TYPE & CLASS	OWNER
18"	120 LF	ASTM C-361	PRIVATE
15"	10 LF	RCP CLASS III	PUBLIC

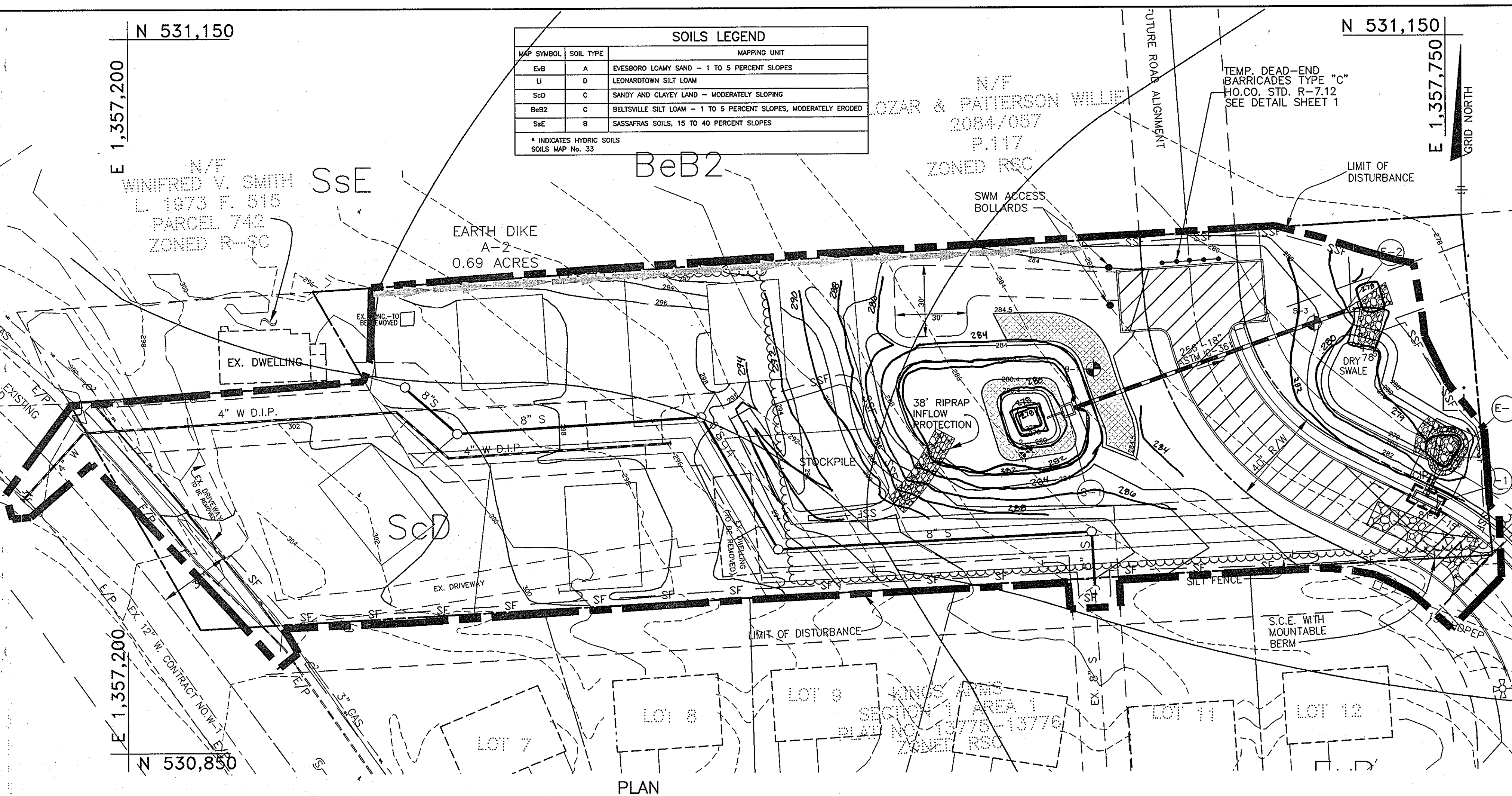
NO	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.	OWNER
I-1	CL STA. 6+50.09 ULSTER DRIVE OFFSET 12'L	-	278.10	282.20	S.D. 4.01 OR 4.40	PUBLIC
S-1	E 1357589.8340 N 530991.9115	279.30	279.30	285.06	284.65	DETAIL SHEET 4 PRIVATE
E-1	E 1357745.7639 N 530963.9683	-	278.00	-	-	S.D. 5.52 PUBLIC
E-2	E 1357705.4103 N 531032.8581	-	278.50	-	-	S.D. 5.52 PRIVATE



STORM DRAIN PROFILE
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

BENCHMARK ENGINEERING, INC.
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PHONE: 410-465-6105 FAX: 410-465-6844
E-MAIL: be@benchmark-engineering.com
WEB: www.benchmark-engineering.com

OWNER:	PROJECT:
SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410) 465-4244	KINGS ARMS SECTION 3
DES: AAM	DRAFT: MAN
CHECK: CAM	SCALE: AS SHOWN
DATE: OCT 2006 JUL 2007	PROJECT NO. 1486 DRAWING 2 OF 6



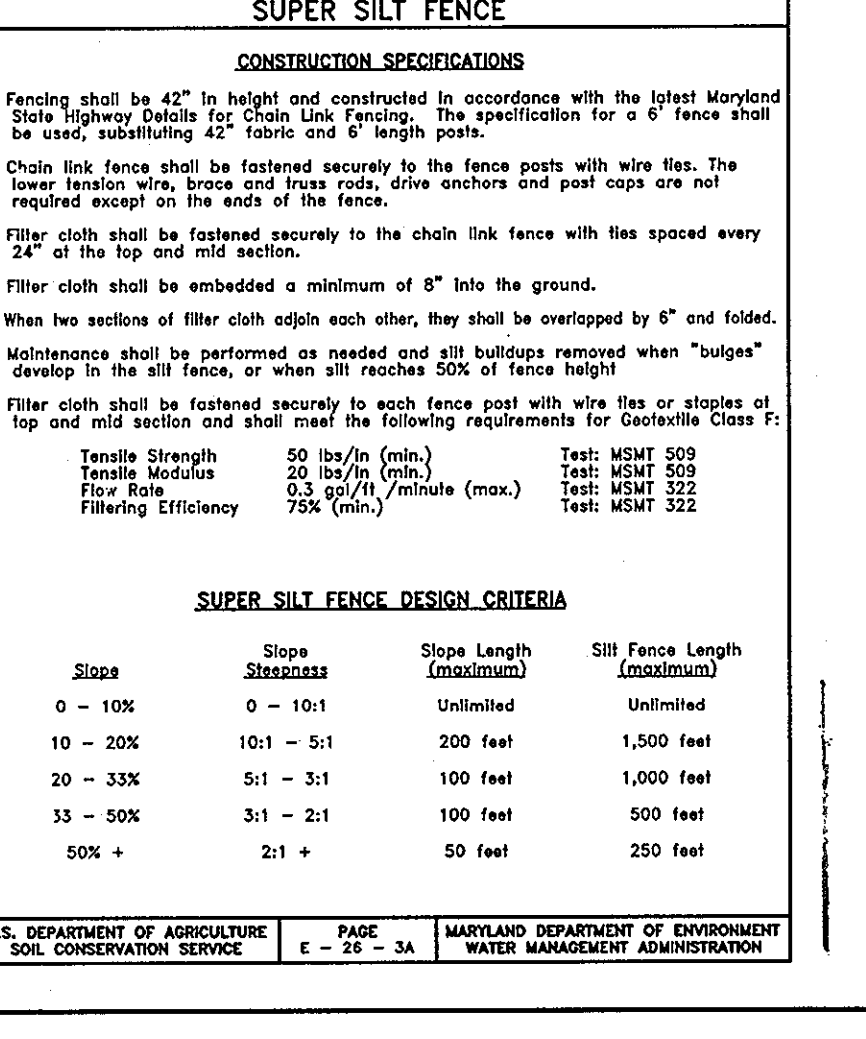
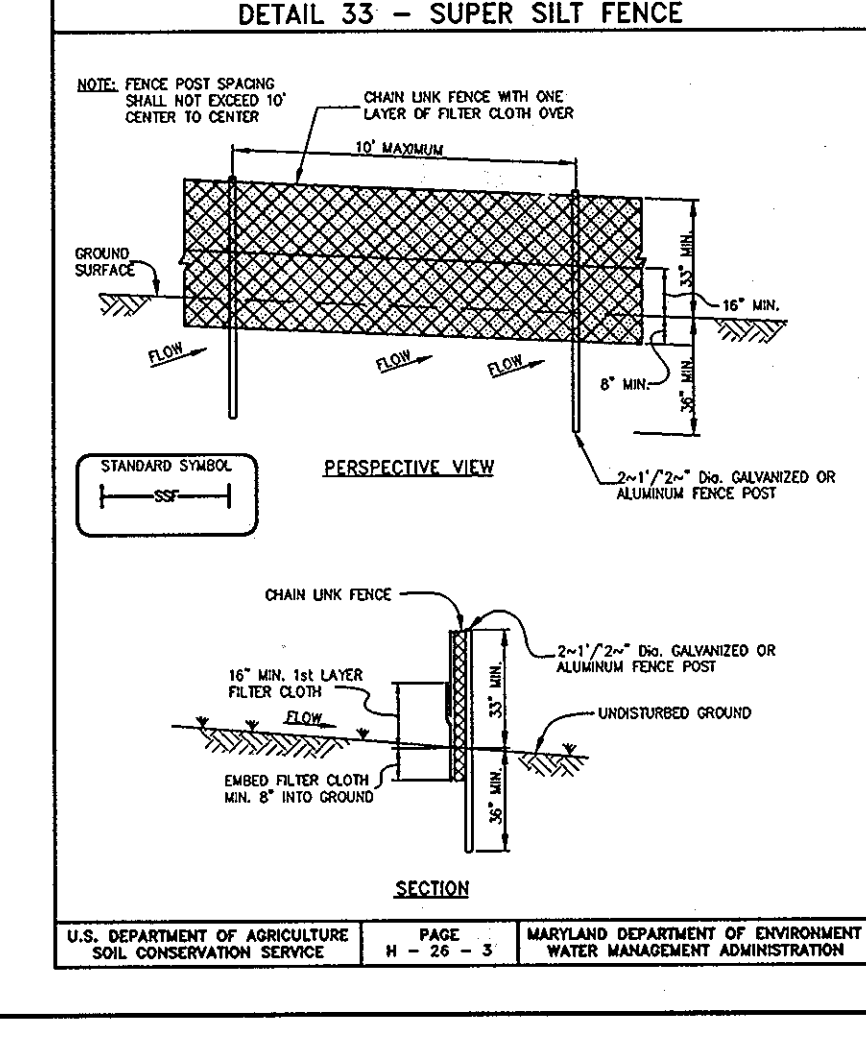
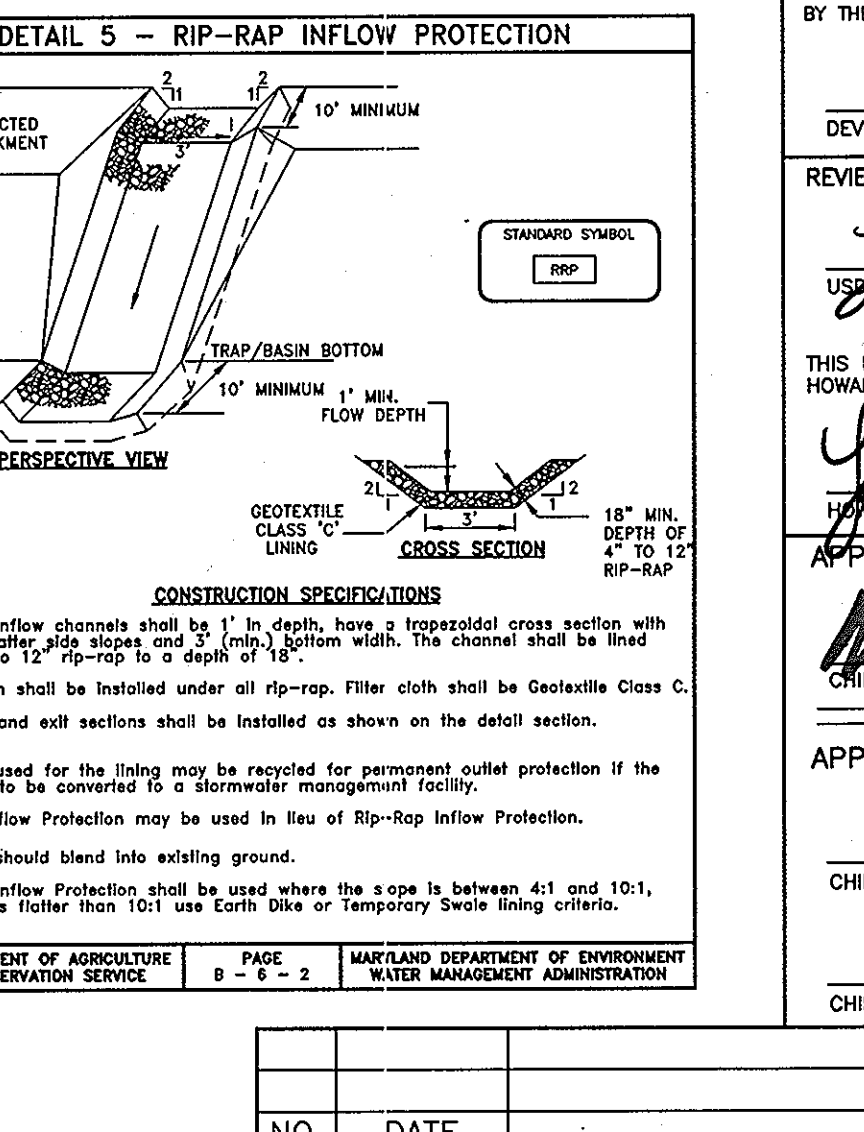
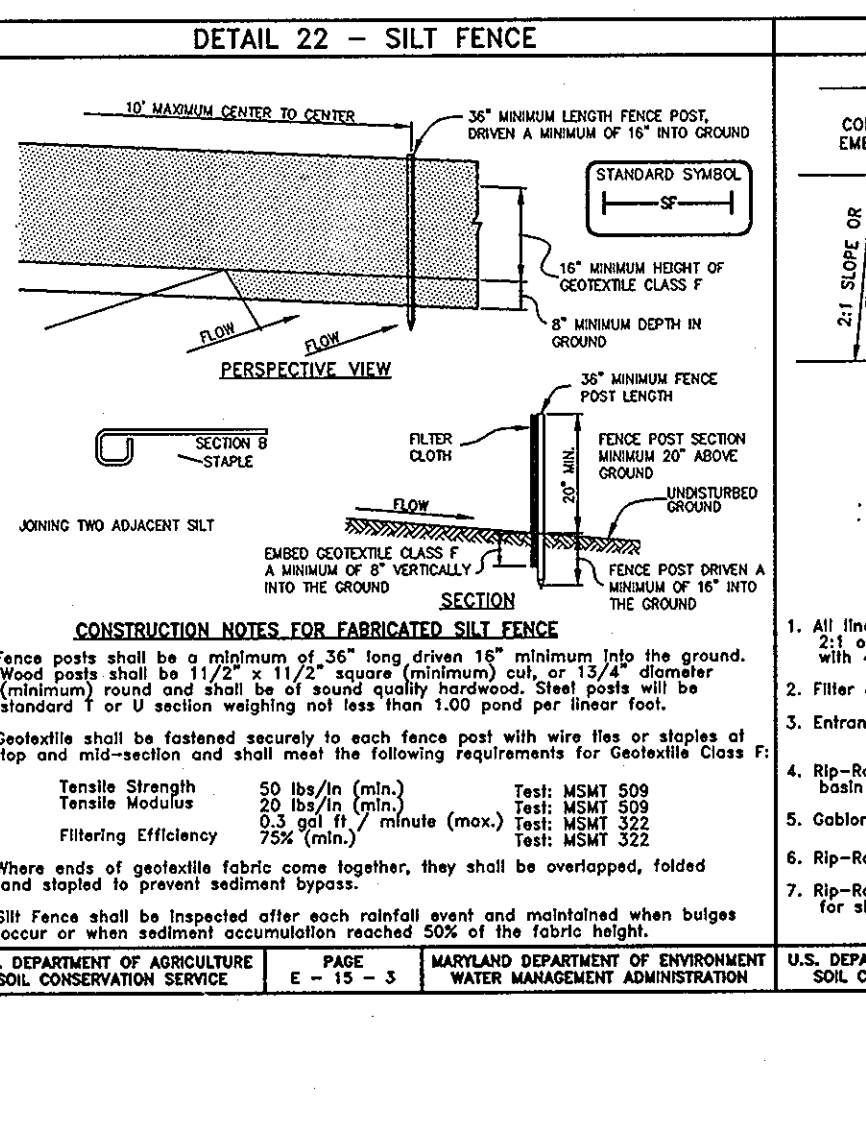
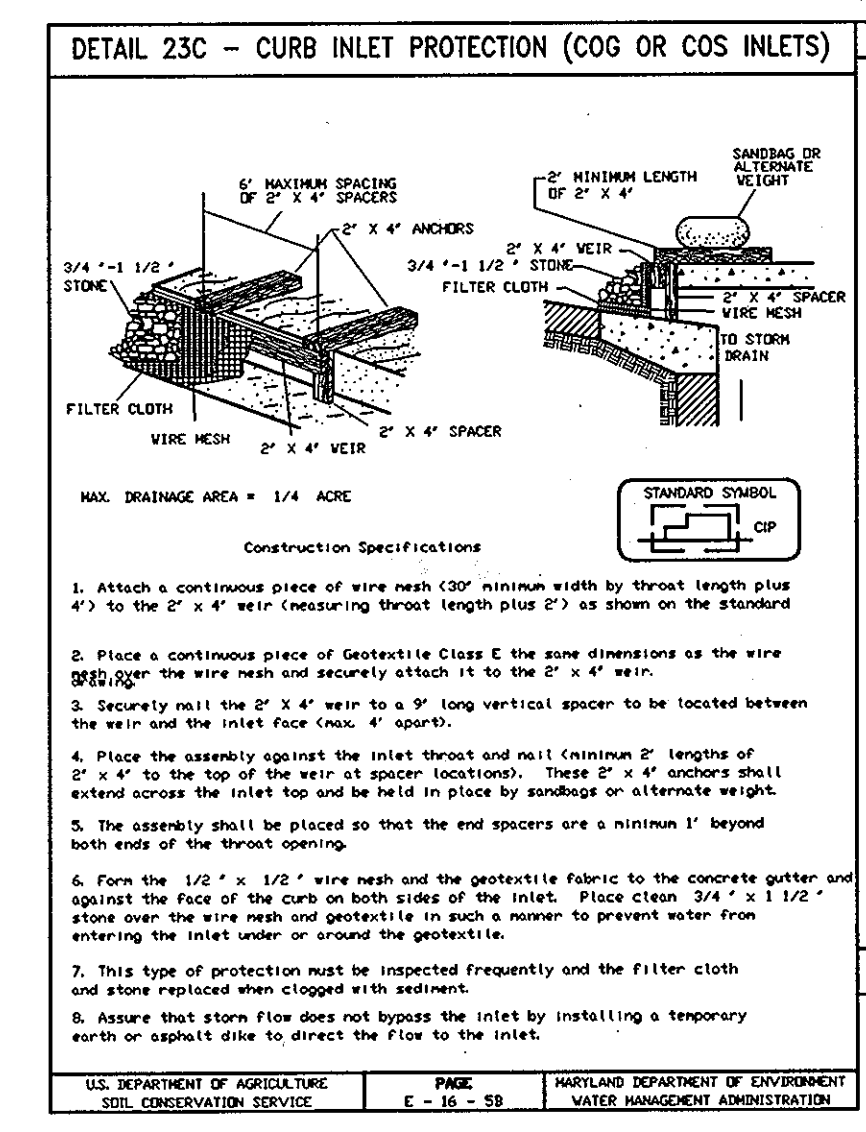
MAP SYMBOL	SOIL TYPE	MAPPING UNIT
EvB	A	EVESBORO LOAMY SAND - 1 TO 5 PERCENT SLOPES
Li	D	LEONARDTOWN SILT LOAM
ScD	C	SANDY AND CLAYEY LAND - MODERATELY SLOPING
BhB2	C	BELTSVILLE SILT LOAM - 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
SsE	B	SASSAFRAS SOILS, 15 TO 40 PERCENT SLOPES

- ### SEDIMENT CONTROL NOTES
- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1850).
 - ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, REVISIONS THERETO.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 - ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
 - ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 52) AND MULCHING (SEC. 53). 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 THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 - SITE ANALYSIS:

TOTAL AREA OF SITE	1.74	ACRES
AREA DISTURBED	1.73	ACRES
AREA TO BE ROOFED OR PAVED	0.73	ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.01	ACRES
TOTAL CUT	1,402	CY*
TOTAL FILL	2,310	CY*
OFFSITE WASTE AREA LOCATION	N/A	
 - CUT/FILL QUANTITIES ARE FOR SEDIMENT CONTROL PURPOSES ONLY. CONTRACTOR SHALL PERFORM THEIR OWN EARTHWORK CALCULATIONS FOR SITE BALANCING.
 - 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 CONTROL MUST BE PROVIDED, IF DEMED 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 CONSTRUCTION. GRADING 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 CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

- ### TOPSOIL SPECIFICATIONS
- Topsoil salvaged from the existing site may be used provided that it meets that standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
 - Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand, other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate authority. Regardless, topsoil shall not be a mixture of contrasting texture subsoils and soil content less than 85% by volume of clods, roots, coarse fragments, gravel, sticks, rocks, trash, or other materials larger than 1-1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutgrass, poison ivy, hickory, 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 topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
 - For sites having disturbed areas over 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 2.00 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
 - On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.0 or higher.
 - Organic content or topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No soil or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate authority, may be used in lieu of natural topsoil.
 - Place topsoil (if required) and apply soil amendments as specified in 2.00 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
 - Topsoil Application
 - When topsoiling, maintain needed erosion and sediment control practices such as the HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, unless otherwise specified, at the same elevation.
 - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that seeding or sodding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
 - Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
 - Composted Sludge Material for use on a soil conditioner for sites having distributed areas over 5 acres shall be tested to preserve amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - Composted sludge shall be supplied by, or originate from, a person or persons who shall be permitted to use the same in lieu of the compost by the Maryland Department of the Environment under COMAR 26.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

- ### 30.0 DUST CONTROL
- Controlling dust blowing and movement on construction sites and roads.
- Definition**
To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.
- Purpose**
This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.
- Conditions Where Practice Applies**
This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.
- Specifications**
- Temporary Methods**
- Mulches - See standards for vegetative stabilization with mulches only. Mulch should be applied or treated to prevent blowing.
 - Vegetative Cover - See standards for temporary vegetative cover.
 - Tillage - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Changing tillage spacing about 12' apart, spring-toothed hoes, and similar plows 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 that runoff begins to flow.
 - Barriers - Solid board fences, all fences, snow 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 rates that will keep surface moist. May need reapplication.
- 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 erosive soil materials. See standards for topsoiling.
 - Stone - Cover surface with crushed stone or coarse gravel.
- References**
- Agriculture Handbook 346. Wind Erosion Factors in the United States and Their Use in Predicting Soil Loss.
 - Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.



WELLS - GARDNER ENGINEERING ASSOCIATES, INC.

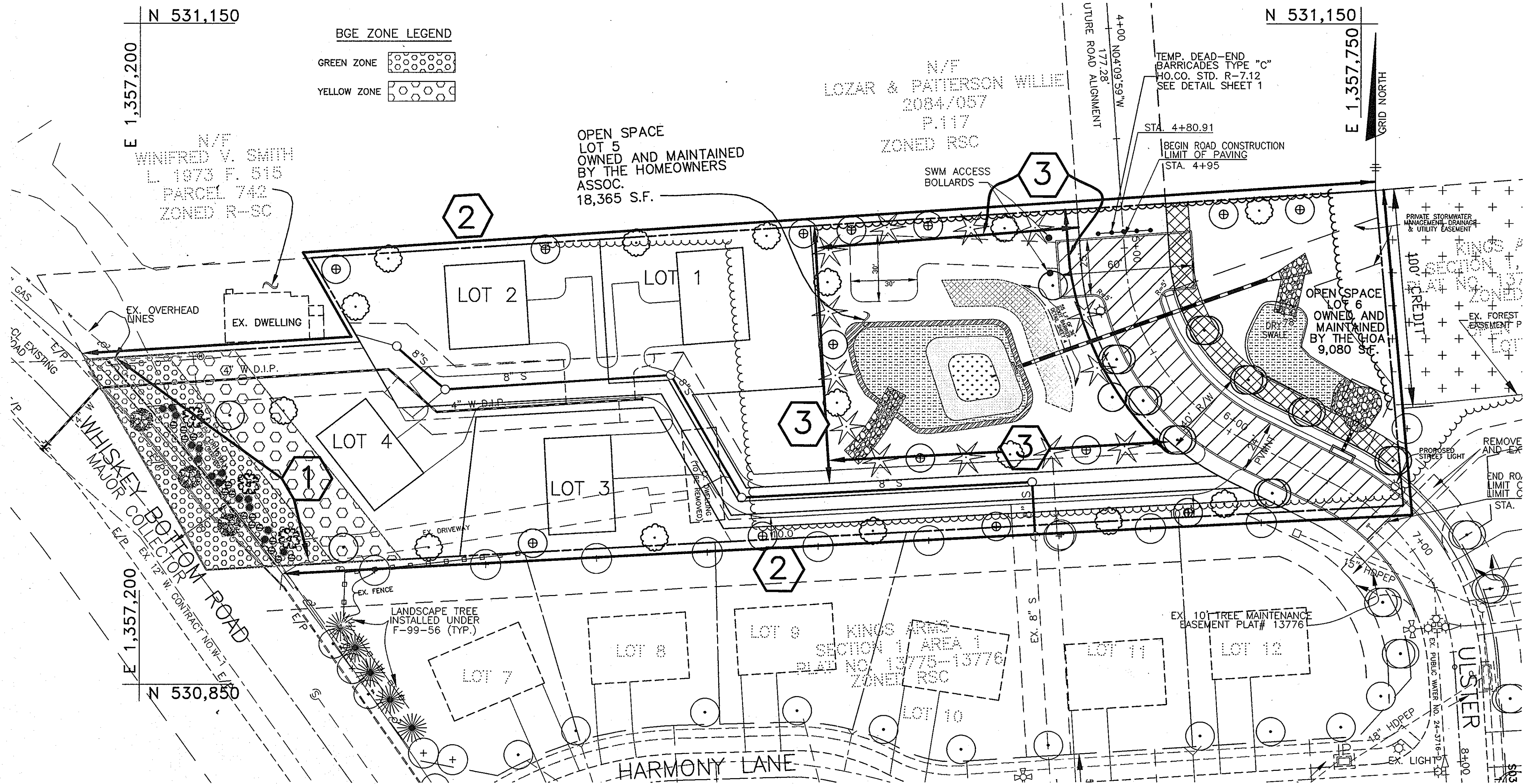
RECORD OF SOIL EXPLORATION

DATE	WELL NO.	DEPTH (FEET)	SOIL TYPE	WATER TABLE DEPTH (FEET)	GROUND WATER DEPTH (FEET)	WATER TABLE DEPTH (FEET)	GROUND WATER DEPTH (FEET)	WATER TABLE DEPTH (FEET)	GROUND WATER DEPTH (FEET)
08/14/07	W-1	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-2	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-3	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-4	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-5	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-6	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-7	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-8	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-9	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-10	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-11	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-12	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-13	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-14	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-15	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-16	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-17	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-18	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-19	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-20	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-21	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-22	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-23	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-24	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-25	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-26	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-27	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-28	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-29	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
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08/14/07	W-31	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-32	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-33	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-34	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-35	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-36	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-37	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-38	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-39	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-40	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-41	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
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08/14/07	W-43	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-44	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-45	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-46	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-47	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-48	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-49	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-50	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0

WELLS - GARDNER ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

DATE	WELL NO.	DEPTH (FEET)	SOIL TYPE	WATER TABLE DEPTH (FEET)	GROUND WATER DEPTH (FEET)	WATER TABLE DEPTH (FEET)	GROUND WATER DEPTH (FEET)	WATER TABLE DEPTH (FEET)	GROUND WATER DEPTH (FEET)
08/14/07	W-51	10.0	ScD	8.0	8.0	8.0	8.0	8.0	8.0
08/14/07	W-52	10.0	ScD	8.0	8.0	8.0			



BGE ZONE LEGEND

GREEN ZONE	
YELLOW ZONE	

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADS (1) B	ADJACENT TO PERIMETER PROP. (2) A
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	120'	1292'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES, 100'
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES	120 L.F. 3 3	1292 L.F. 22 -
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES (EVERGREEN SHRUBS* (10:1))	3 - 30	22 - -

*BGE HEIGHT RESTRICTIONS ELIMINATE MOST EVERGREEN TREES.

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

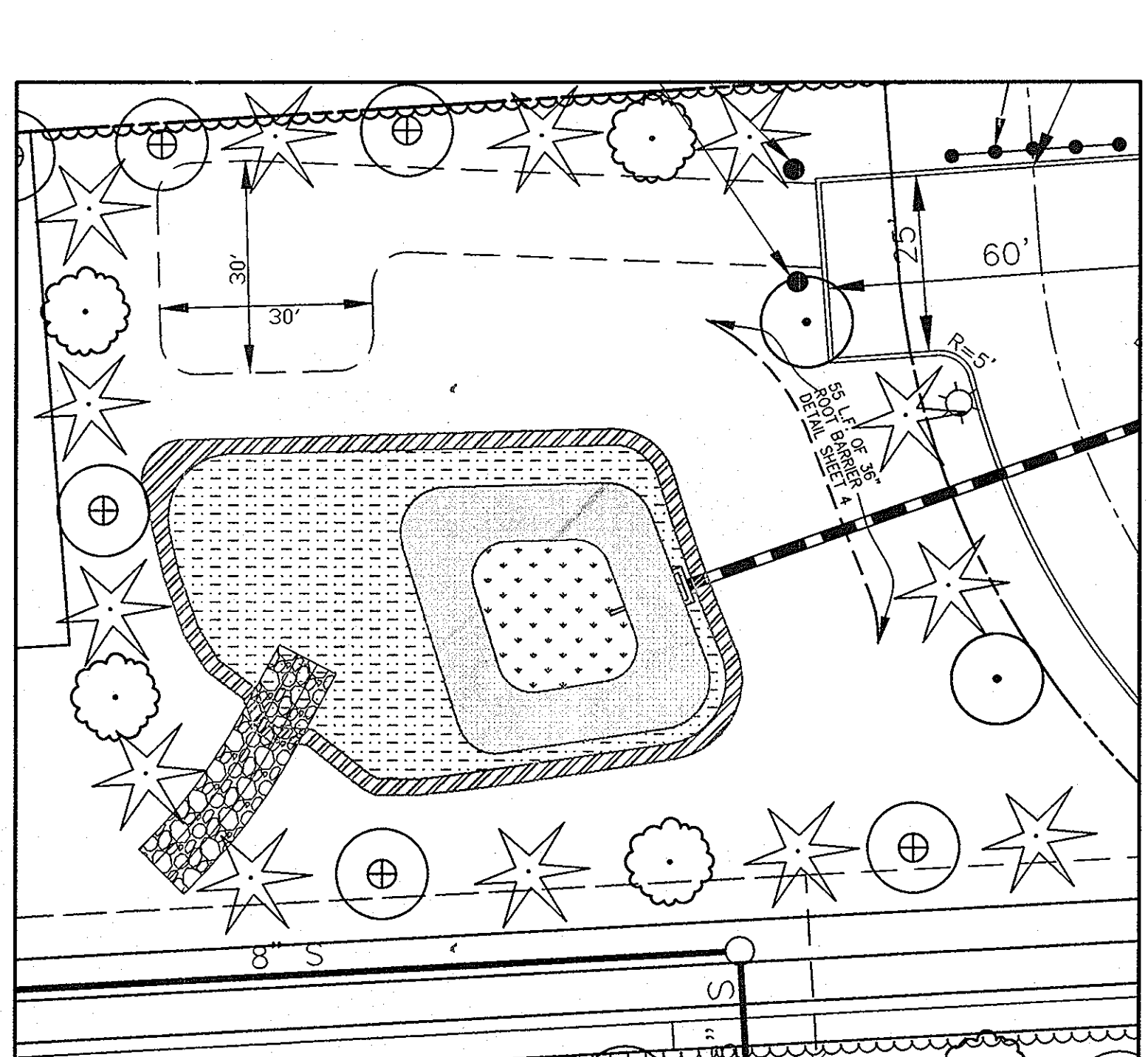
LINEAR FEET OF PERIMETER	514' TYPE 'B'
CREDIT FOR EXISTING VEGETATION (NO, YES AND X)	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND LINEAR FEET)	NO
NUMBER OF TREES REQUIRED SHADE TREES (1:50) EVERGREEN TREES (1:40)	11 13
NUMBER OF TREES PROVIDED SHADE TREES EVERGREEN TREES	11 13

LANDSCAPE PLANTING LIST

SYMBOL	QUANTITY	NAME	REMARKS
	15	PLANTANUS ACERIFOLIA "BLOODWOOD" (Bloodwood London Plane)	2 1/2" MIN. CAL. B&B FULL HEAD
	14	QUERUS COCAINEA SCARLET OAK	2 1/2" MIN. CAL. B&B FULL HEAD
	4	ACER GRISEUM (PAPERBACK MAPLE)	1 1/2" MIN. CAL. FULL HEAD
	13	PINUS STROBUS (Eastern White Pine)	6'-8" Ht. UNSHEARED
	3	PRINUS CERASIFERA ATROPURPUREA THUNDERCLOUD PURPLELEAF PLUM	2" MIN. CAL. B&B FULL HEAD
	15	TAXUS MEDIA "HICKSI" HICKS YEW	2 1/2" MIN. HT. B&B
	15	ILEX CORNUTA (CHINESE HOLLY)	3' MIN. HT. B&B

STREET TREE PLANTING LIST

SYMBOL	QUANTITY	NAME	REMARKS
	8	ACER RUBRUM (RED MAPLE)	2 1/2" MIN. CAL. B & B FULL HEAD
	3	CRATAEGUS LAEVIGATA (CRIMSON CLOUD HAWTHORNE)	2 1/2" MIN. CAL. B & B FULL HEAD



PLAN VIEW
SCALE: 1" = 30'

LEGEND

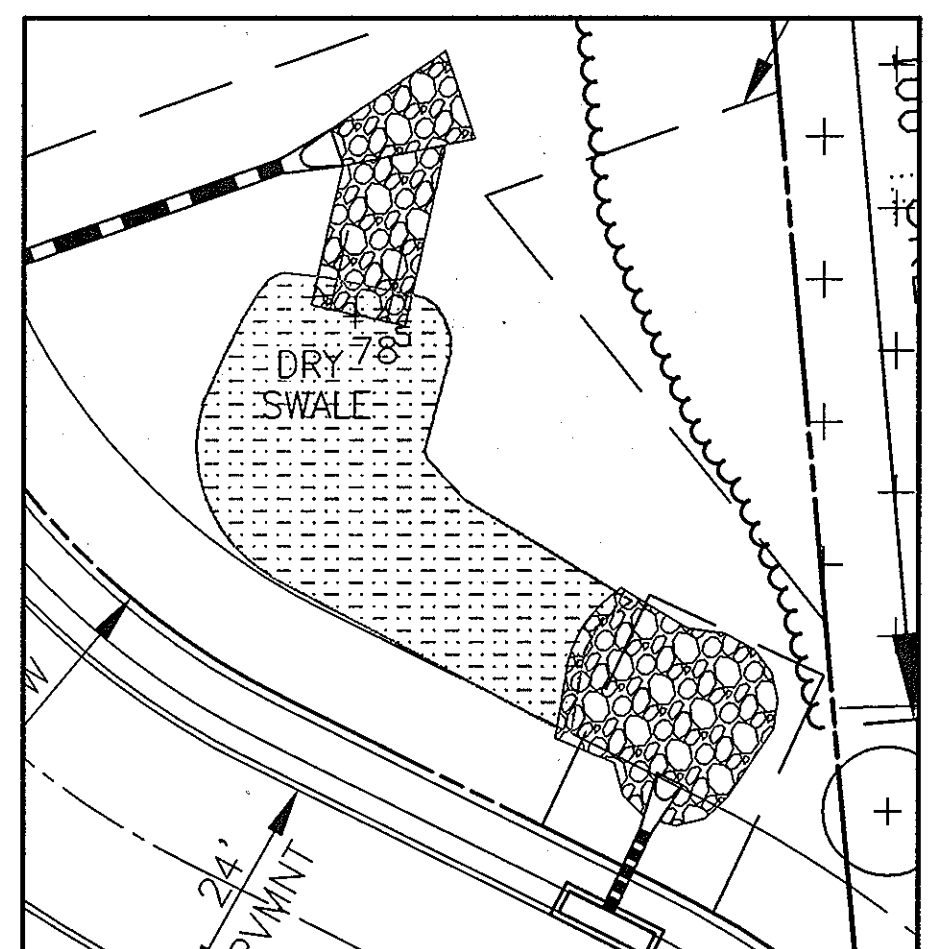
ZONE 1	
ZONE 2	
ZONE 3	
ZONE 4	

- NOTES:**
1. LOOSEN SOIL IN PLANTING ZONES TO A DEPTH OF THREE TO FIVE INCHES BEFORE PLANTING.
 2. PLANTING HOLES TO HAVE A DIAMETER 6" GREATER THAN THE ROOT BALL BEING PLANTED IN THEM.
 3. NO WOODY VEGETATION IS PERMITTED WITHIN 15' OF THE TOE OF SLOPE OR 25' OF THE SPILLWAY.

PLANTING SCHEDULE FOR POCKET POND

ZONE	AREA (SF)	ELEVATION RANGE	PLANT MIX	QUANTITIES
1	393	277.0 - 280.4	100% WATER LILY	44
2	904	280.4 - 281.0	50% BROAD WATER WEED 25% DUCK POTATO 25% ARROW ARUM	50 26 26
3	1685	281.0 - 282.4	50% CUTGRASS, RICE 50% SWITCHGRASS	94 94
4	520	282.4 - 283.7	50% LOVEGRASS-MEADOW 25% VIOLETS, COMMON BLUE 25% CONEFLOWER, CUT-LEAF	29 15 15
5	0	N/A	N/A	0
6	0	N/A	N/A	0

ALL PLANTINGS TO BE QUART BULBS AND SPACED AT 3' O.C.

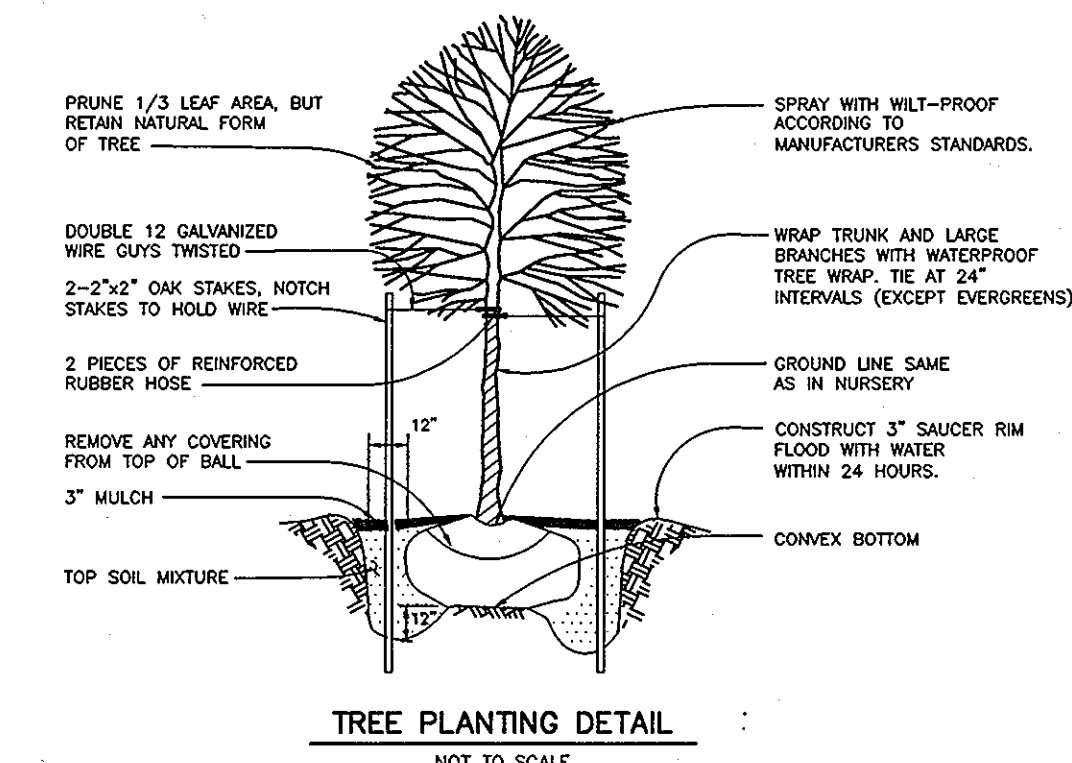


INTERNAL LANDSCAPING FOR DRY SWALE
SCALE: 1" = 20'

PLANTING SCHEDULE FOR DRY SWALE

ZONE	AREA (SF)	ELEVATION RANGE	PLANT MIX	QUANTITIES
3	1,070	278.5 - 279.7	50% CUTGRASS, RICE 50% SWITCHGRASS	60 60

ALL PLANTINGS TO BE QUART BULBS AND SPACED AT 3' O.C.



TREE PLANTING DETAIL
NOT TO SCALE

- NOTES:**
- 1.) TREES MUST BE A MINIMUM OF FOUR (4) FEET FROM THE CURB OR SIDEWALK AND MUST BE A MINIMUM OF FIVE (5) FEET FROM ANY STORM DRAIN.
 - 2.) TREES MUST BE PLANTED A MINIMUM OF FIVE (5) FEET FROM AN OPEN SPACE ACCESS STRIP AND TEN (10) FEET FROM A DRIVEWAY.
 - 3.) SEE PLANTING LIST, THIS SHEET.

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL, 1/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Steve Breen 7-11-07
STEVE BREEDEN
SECURITY DEVELOPMENT LLC

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS 7/27/07
Mark...

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT 8/06/07
...

APPROVED: DEPARTMENT OF ENGINEERING
CHIEF, DEVELOPMENT ENGINEERING DIVISION 7/30/07
...

NOTES:

1. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.
2. LANDSCAPING FOR THIS SUBMISSION IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL WITH A DPW DEVELOPER'S AGREEMENT FOR 36 SHADE TREES, 13 EVERGREEN TREES AND 30 EVERGREEN SHRUBS WITH SURETY IN THE AMOUNT OF \$13,650.00.
3. IN THE BGE GREEN ZONE, ONLY TREES WITH A MATURE HEIGHT OF LESS THAN 25 FEET SHALL BE ALLOWED.
4. IN THE BGE YELLOW ZONE, ONLY TREES WITH A MATURE HEIGHT OF LESS THAN 40 FEET SHALL BE ALLOWED.

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
E-MAIL: bel@bel-civilengineering.com
WEB: www.bel-civilengineering.com

OWNER: SECURITY DEVELOPMENT, LLC
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT: KINGS ARMS SECTION 3

LOCATION: TAX MAP-47, GRID NO. 22
PARCEL 741
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: FINAL LANDSCAPE PLAN

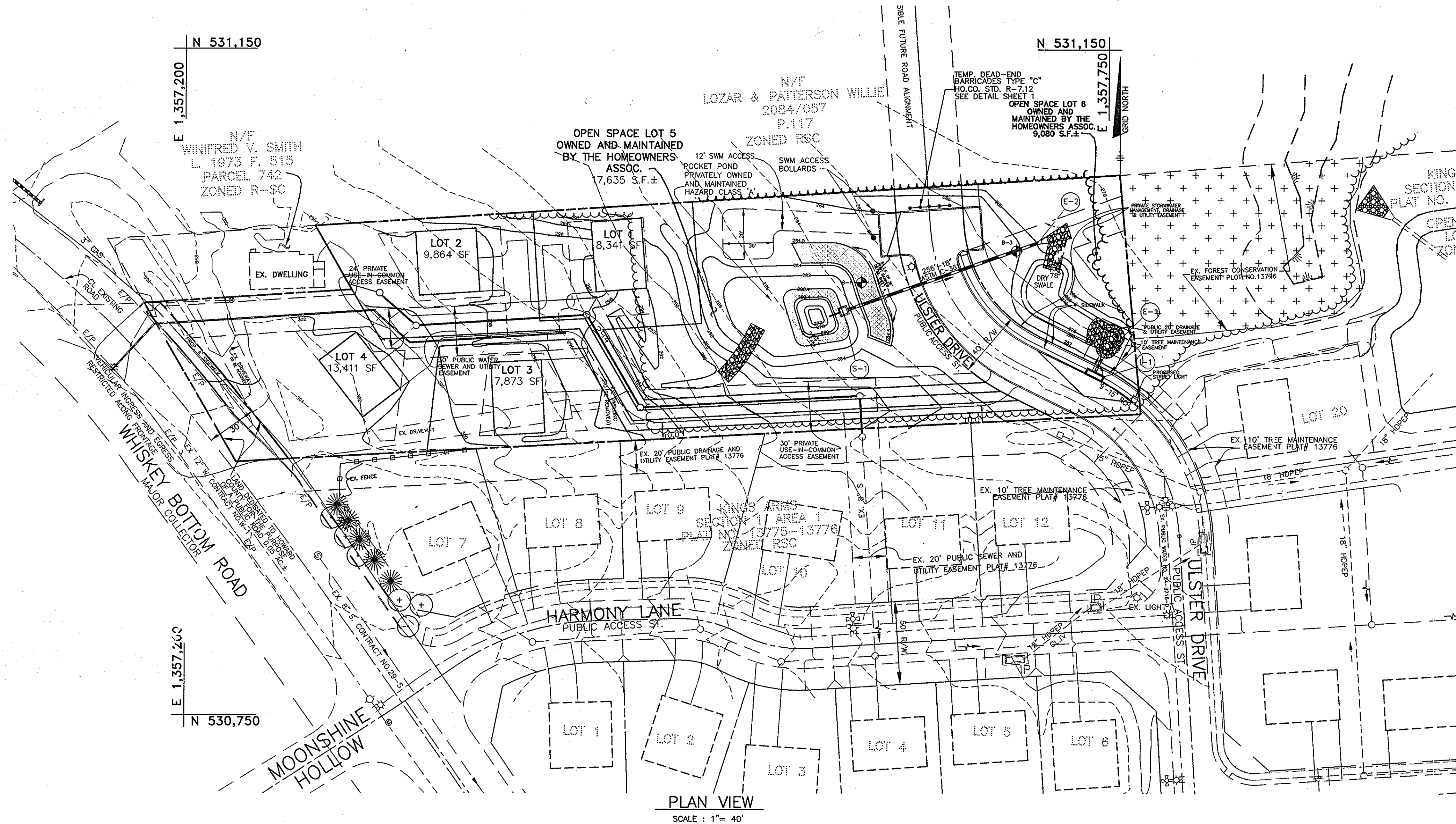
DATE: OCT. 2006	PROJECT NO. 1486
JUL. 2007	

DES: AAM DRAFT: MAN CHECK: CAM SCALE: AS SHOWN DRAWING 5 OF 6

THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY

FOREST DATA	
	ACRES
GROSS AREA:	1.7
FLOODPLAIN/UNFORESTED PRESERVATION PARCEL:	0.4
NET TRACT AREA (NTA):	1.7
EXISTING FOREST (NTA):	0.9
AFFORESTATION THRESHOLD:	0.26
CONSERVATION THRESHOLD:	0.34
BREAK-EVEN POINT:	0.45
FOREST TO BE CLEARED (NTA):	0.9
FOREST TO BE RETAINED (NTA):	0
FOREST OBLIGATION:	0.82

FOREST OBLIGATION WILL BE PROVIDED BY FEE-IN-LIEU IN THE AMOUNT OF \$20,790.00.



SOILS LEGEND		
MAP SYMBOL	SOIL TYPE	MAINTENANCE UNIT
EvB	A	EVESBORO LOAMY SAND - 1 TO 5 PERCENT SLOPES
U	D	LEONARDTOWN SILT LOAM
SdD	C	SANDY AND CLAYEY LAND - MODERATELY SLOPING
B4B2	C	BELTSVILLE SILT LOAM - 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
S4E	B	SASSAFRAS SOILS, 15 TO 40 PERCENT SLOPES

* INDICATES HYDRIC SOILS
SOILS MAP No. 33

FOREST CONSERVATION WORKSHEET VERSION 1.0			
NET TRACT AREA			
A. TOTAL TRACT AREA	1.70	AC.±	
B. AREA WITHIN 100 YEAR FLOOD PLAIN	0.00	AC.±	
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0.00	AC.±	
D. NET TRACT AREA	1.70	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 ONLY ONE ENTRY.			
ARA	MDR	IDA	HDR MPD CIA
0	0	0	1 0 0
E. AFFORESTATION THRESHOLD (15% x D =)	0.26	AC.±	
F. CONSERVATION THRESHOLD (20% x D =)	0.34	AC.±	
EXISTING FOREST COVER			
G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	0.90	AC.±	
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD	0.65	AC.±	
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	0.56	AC.±	
BREAK EVEN POINT			
J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	0.14	AC.±	
K. CLEARING PERMITTED WITHOUT MITIGATION	0.45	AC.±	
PROPOSED FOREST CLEARING			
L. TOTAL AREA OF FOREST TO BE CLEARED (CANNOT EXCEED EXIST.)	0.90	AC.±	
M. TOTAL AREA OF FOREST TO BE RETAINED	0.00	AC.±	
PLANTING REQUIREMENTS			
N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	0.45	AC.±	1.0 0.0
P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	0.68	AC.±	0.00 0.00
Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	0.00	AC.±	0.00 0.00
R. TOTAL REFORESTATION REQUIRED	0.82	AC.±	1.0 1.0
S. TOTAL AFFORESTATION REQUIRED	0.00	AC.±	
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED	0.82	AC.±	

Eco-Science Professionals, Inc.
Consulting Ecologists
P.O. Box 5006 Glen Arm, Maryland 21157 Telephone (410) 592-4752 Fax (410) 832-2488

MD DNR Qualified Professional
USACOE Wetland Delimitator
Certification # WD0933MD061004412
John P. Canoles

NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6844
E-MAIL: info@ben-engineering.com
WEB: www.ben-engineering.com

OWNER:	PROJECT:
SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 (410) 465-4244	KINGS ARMS SECTION 3
DATE: OCT. 2006 MAR. 2007	PROJECT NO. 1488
DES: AAM DRAFT: MAN CHECK: CAM	SCALE: AS SHOWN DRAWING 6 OF 6

APPROVED: DEPARTMENT OF PUBLIC WORKS
Mark ... 7/20/07
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Karl ... 8/06/07
CHIEF, DIVISION OF LAND DEVELOPMENT

... 7/20/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION