

# ROAD CONSTRUCTION PLANS

## ELM STREET ESTATES, LOTS 1-18

BRITTEN/BRADY PROPERTY PHASE TWO  
SUBDIVISION OF TAX MAP 31, PARCEL 147  
AND A RESUBDIVISION OF BRITTEN/BRADY LOT 46

FIRST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

### GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTIONS DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS PRIOR TO ANY EXCAVATION WORK:
 

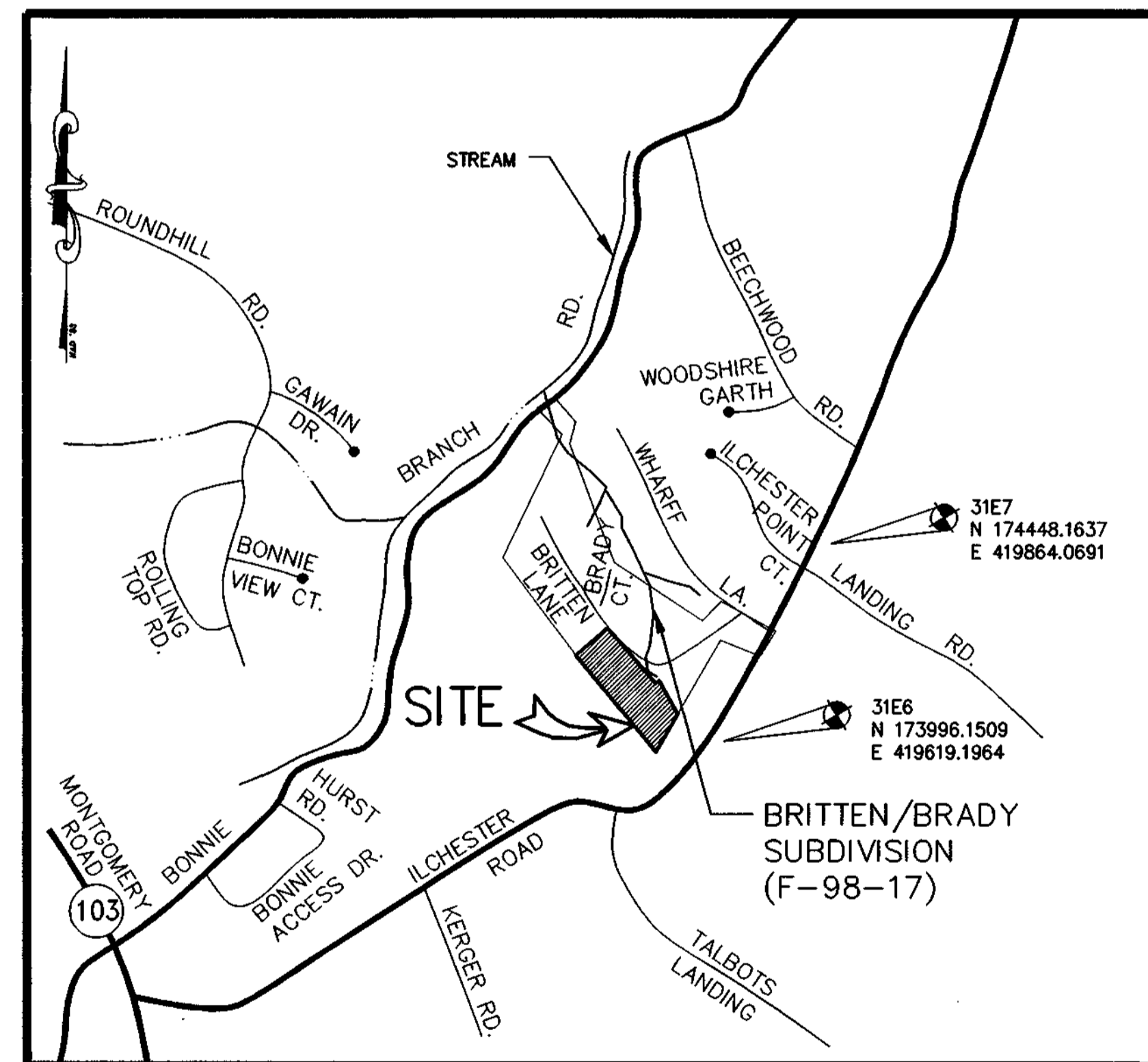
MISS UTILITY	1-800-257-7777
C&P TELEPHONE COMPANY	(410) 725-9976
HOWARD COUNTY BUREAU OF UTILITIES	(410) 313-4900
AT&T CABLE LOCATION DIVISION	(410) 393-3533
BALTIMORE GAS & ELECTRIC	(410) 685-0123
STATE HIGHWAY ADMINISTRATION	(410) 531-5533
HOWARD COUNTY DEPT. OF PUBLIC WORKS/ CONSTRUCTION INSPECTION DIVISION	(410) 313-1880
- PROJECT BACKGROUND:  
LOCATION: FIRST ELECTION DISTRICT - TAX MAP 31 - SUBDIVISION OF PARCELS 147 AND RESUBDIVISION OF LOT 46, BRITTEN/BRADY.

ZONING: R-20  
LIBER 431/FOLIO 358  
TOTAL TRACT AREA : 7.36 ACRES ±  
NUMBER OF PROPOSED LOTS: 18 (18 BUILDABLE)  
MINIMUM SIZE OF PROPOSED LOTS : 16,000 SQ.FT. ±  
OPEN SPACE REQUIRED : PROVIDED UNDER F-96-17  
RECREATIONAL OPEN SPACE REQUIRED: PROVIDED UNDER F-96-17  
AREA OF RIGHT OF WAY: 0.58 ACRES±  
DPZ REFERENCE #:  
- S-97-14  
- P-98-28  
- F-96-17, 14-3503-D (BRITTEN/BRADY)  
- WP99-09

- TOPO BASED ON FIELD RUN TOPO PERFORMED BY W.S. MEEKINS, IN FEBRUARY 1997, AND TOPO OF LOT 46, BRITTEN BRADY I, PERFORMED BY MILDENBERG, BOENDER & ASSOCIATES, INC., IN FEBRUARY 1998.
- HORIZONTAL AND VERTICAL DATUMS BASED ON (NAD'83) MARYLAND STATE COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NUMBERS 31E7 AND 31E6.
 

STA No. 31E7	N 174448.1637	EL= 371.43
	E 419864.0691	
STA No. 31E6	N 173996.1509	EL= 375.75
	E 419619.1964	
- STREET LIGHTS 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 STREET LIGHT AND ANY TREE.
- WATER AND SEWER ARE PUBLIC, CONTRACT #14-3730-D.
- STORM WATER MANAGEMENT FOR THIS SUBDIVISION IS PROVIDED UNDER F-96-17, BRITTEN/BRADY (PHASE 1)
- 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.
- COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-180.
- CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES ON SITE PRIOR TO COMMENCING CONSTRUCTION.
- FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.200 OF HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OR CONSERVATION EASEMENT ARE ALLOWED.
- FOREST CONSERVATION REQUIREMENTS HAVE BEEN SATISFIED IN PART BY THE PAYMENT OF FEE-IN-LIEU OF FOREST CONSERVATION IN THE AMOUNT OF \$ 28,152.
- WETLANDS WERE DELINEATED BY BILL BRIDGEMAN, MARCH 3, 1997.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- ALL EXISTING STRUCTURES AND PAVING TO BE REMOVED.
- WP 99-09 WAS A WAIVER TO SECTION 16.123(A)(2). THE WAIVER WAS DENIED ON 9-10-98.

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VICINITY MAP

SCALE: 1" = 1000'

OWNER / DEVELOPER

CRESTWOOD L.C.  
6820 ELM STREET  
MCLEAN, VA 22101  
(703) 734-9730



BY THE DEVELOPER:

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

*Russell J. Dilleus* 2/28/99  
SIGNATURE OF DEVELOPER DATE  
RUSSELL J. DILLEUS  
PRINTED NAME OF DEVELOPER

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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*R. Jacob Hilmat* 2/28/99  
SIGNATURE OF ENGINEER DATE  
R. JACOB HILMAT  
PRINTED NAME OF ENGINEER

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*Cheryl Simon* 3/3/99  
USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE

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

*Mark* 3/3/99  
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

*Richard M. Daulton* 3-8-99  
CHIEF BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Cindy Hamilton* 3/14/99  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

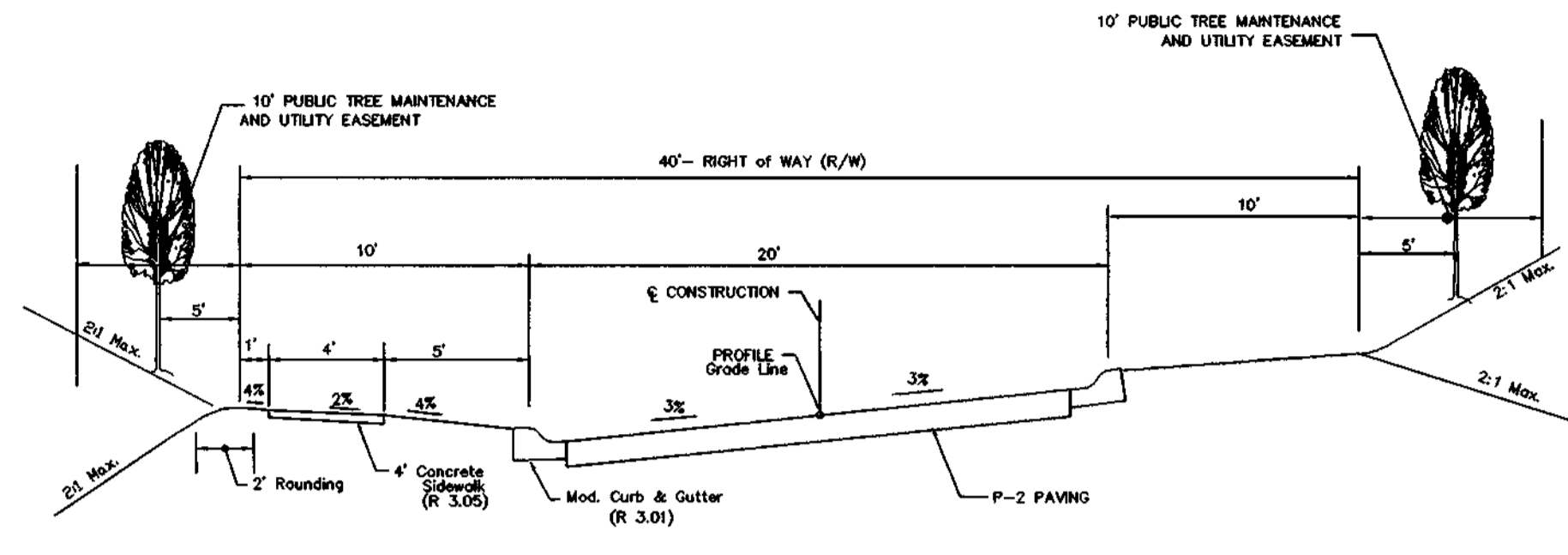
*Mark* 3/10/99  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

date	FEB. 1999
project	97111
illustration	SA
scale	AS SHOWN
approval	SD

no.	description	revisions	date

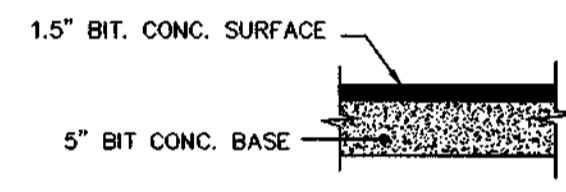
ELM STREET ESTATES, LOTS 1-18  
BRITTEN/BRADY PROPERTY, PHASE TWO  
TAX MAP 31, PARCEL 147 AND BRITTEN/BRADY PROPERTY LOT 46  
FIRST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
COVER SHEET

MILDENBERG, BOENDER & ASSOC., INC.  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0286 Fax: (410) 621-5521 Wash. (410) 997-0288 Fax.

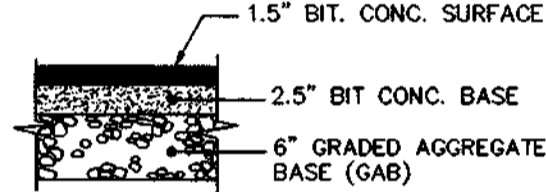


**TYPICAL ROADWAY SECTION**

DESIGN SPEED : 15 MPH  
 PUBLIC ACCESS PLACE  
 ROAD: "BORDEAUX COVE"  
 SECTION NOT TO SCALE  
 P-2 PAVING



ALTERNATE - A

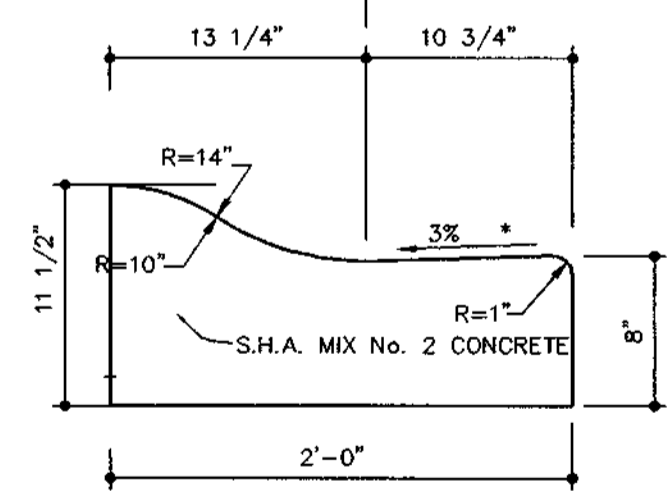


ALTERNATE - B

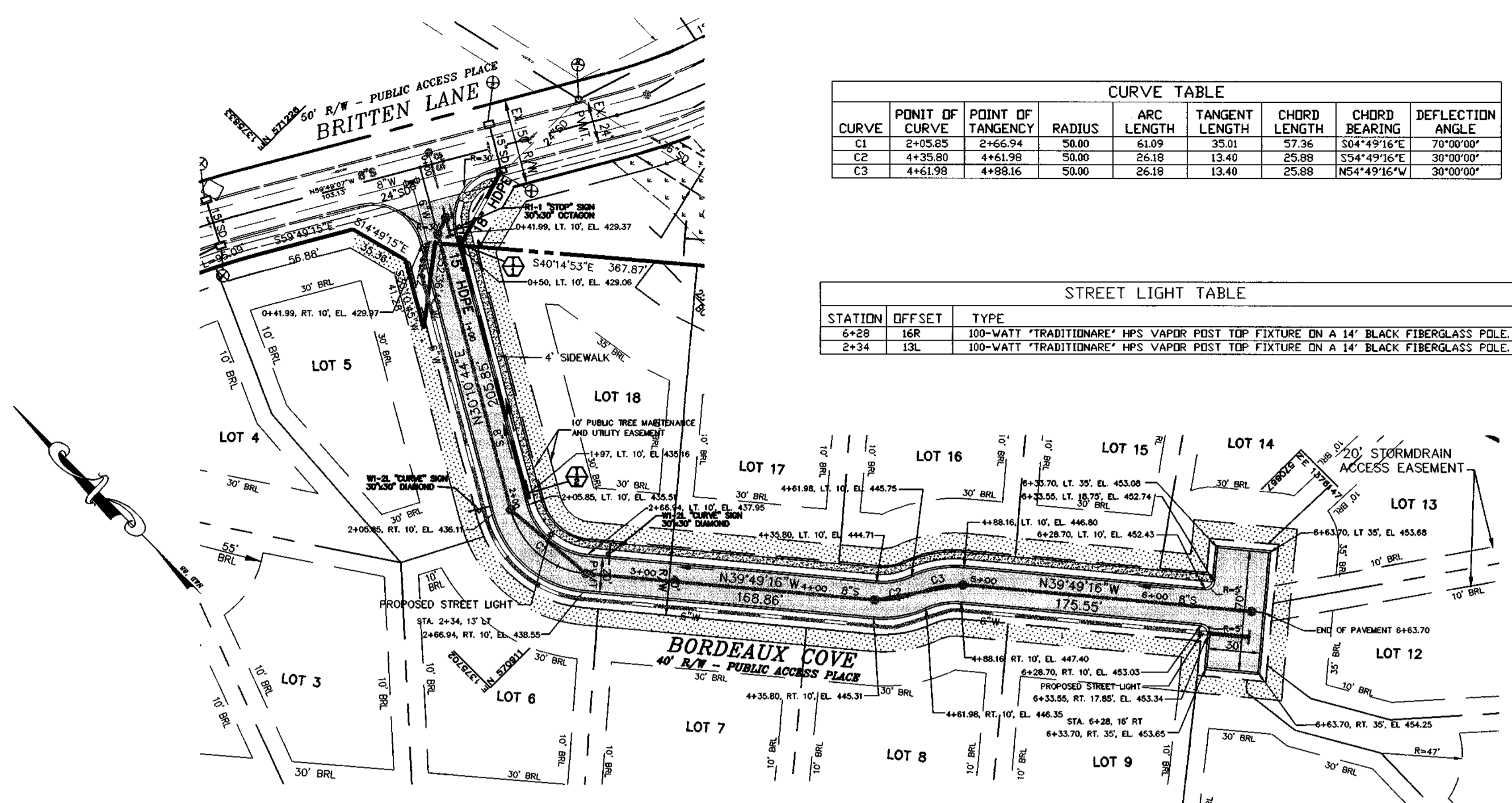
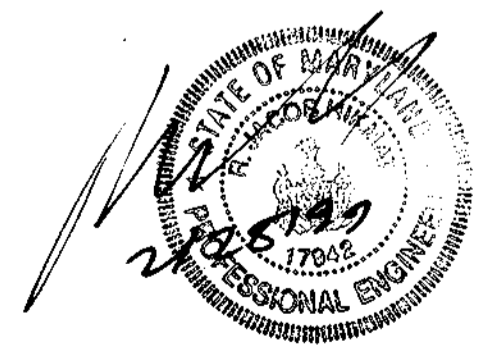
**PAVING SECTION P-2**

STANDARD DETAIL R 2.01  
 NOT TO SCALE

NOTE:  
 MODIFIED COMBINATION CURB & GUTTER ARE TO BE USED ONLY ON CUL-DE-SAC STREETS, LOCAL ROADS OR MINOR COLLECTOR ROADS.  
 PAVING WIDTH INDICATED ON TYPICAL STREET SECTION TO BE MEASURED TO THIS POINT (FLOW LINE).

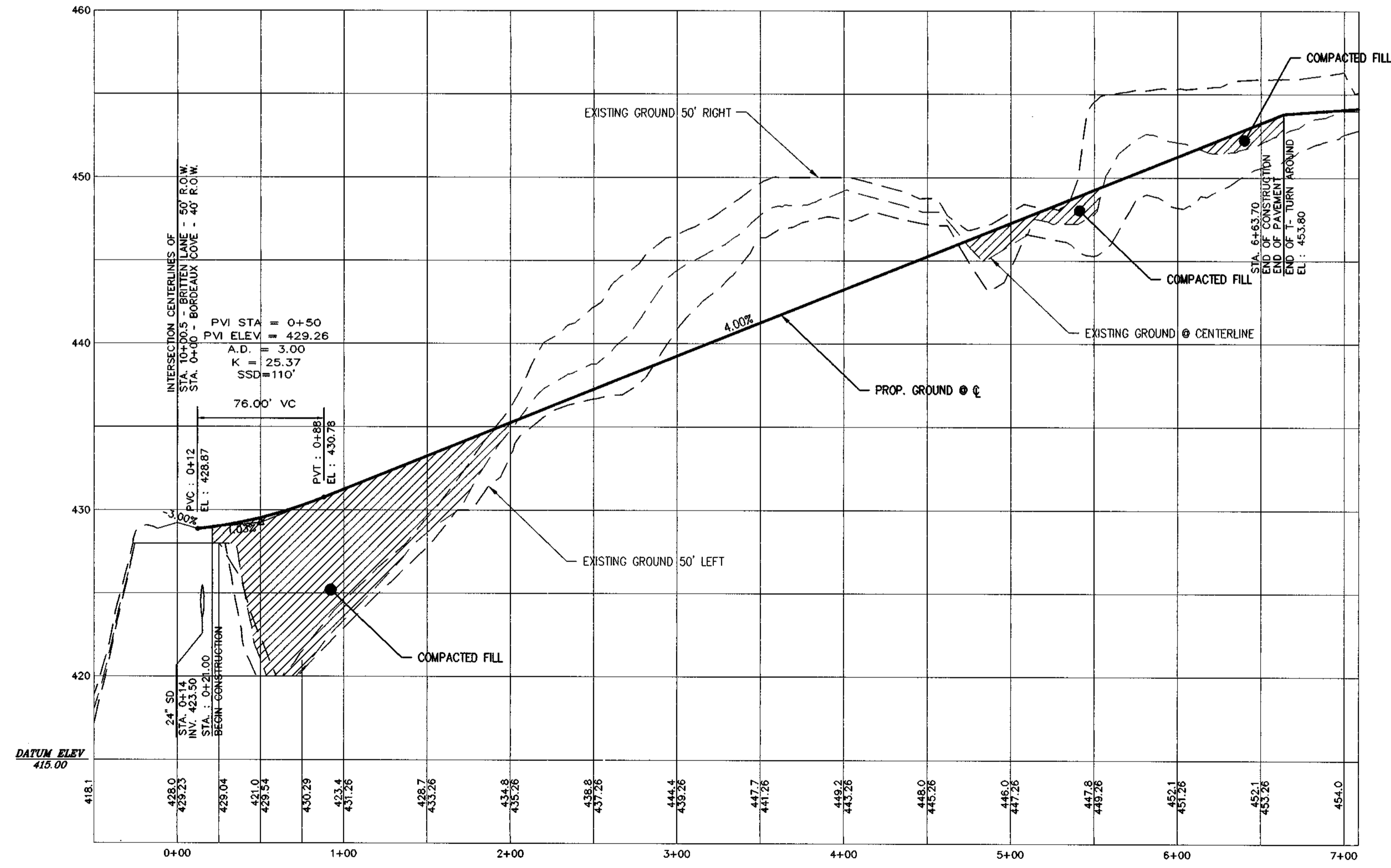


**MODIFIED 7" COMBINATION CURB AND GUTTER**  
 NOT TO SCALE



CURVE TABLE								
CURVE	POINT OF CURVE	POINT OF TANGENCY	RADIUS	ARC LENGTH	TANGENT LENGTH	CHORD LENGTH	CHORD BEARING	DEFLECTION ANGLE
C1	2+05.85	2+66.94	50.00	61.09	35.01	57.36	S04°49'16"E	70°00'00"
C2	4+35.80	4+61.98	50.00	26.18	13.40	25.88	S54°49'16"E	30°00'00"
C3	4+61.98	4+88.16	50.00	26.18	13.40	25.88	N54°49'16"W	30°00'00"

STREET LIGHT TABLE		
STATION	OFFSET	TYPE
6+28	16R	100-WATT "TRADITIONARE" HPS VAPOR POST TOP FIXTURE ON A 14' BLACK FIBERGLASS POLE.
8+34	13L	100-WATT "TRADITIONARE" HPS VAPOR POST TOP FIXTURE ON A 14' BLACK FIBERGLASS POLE.



**BORDEAUX COVE DRIVE**  
 HORIZONTAL SCALE 1"=50'  
 VERTICAL SCALE 1"=5'  
 DESIGN SPEED : 25 MPH (MINIMUM)  
 PUBLIC ACCESS PLACE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Andrew M. D'Amico* 3-8-99  
 CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cindy Hamilton* 3/10/99  
 CHIEF, DIVISION OF LAND DEVELOPMENT

*William J. ...* 3/10/99  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

project	date	description	scale	approval
97111	FEB. 1999	illustration	SA/SD	AS SHOWN

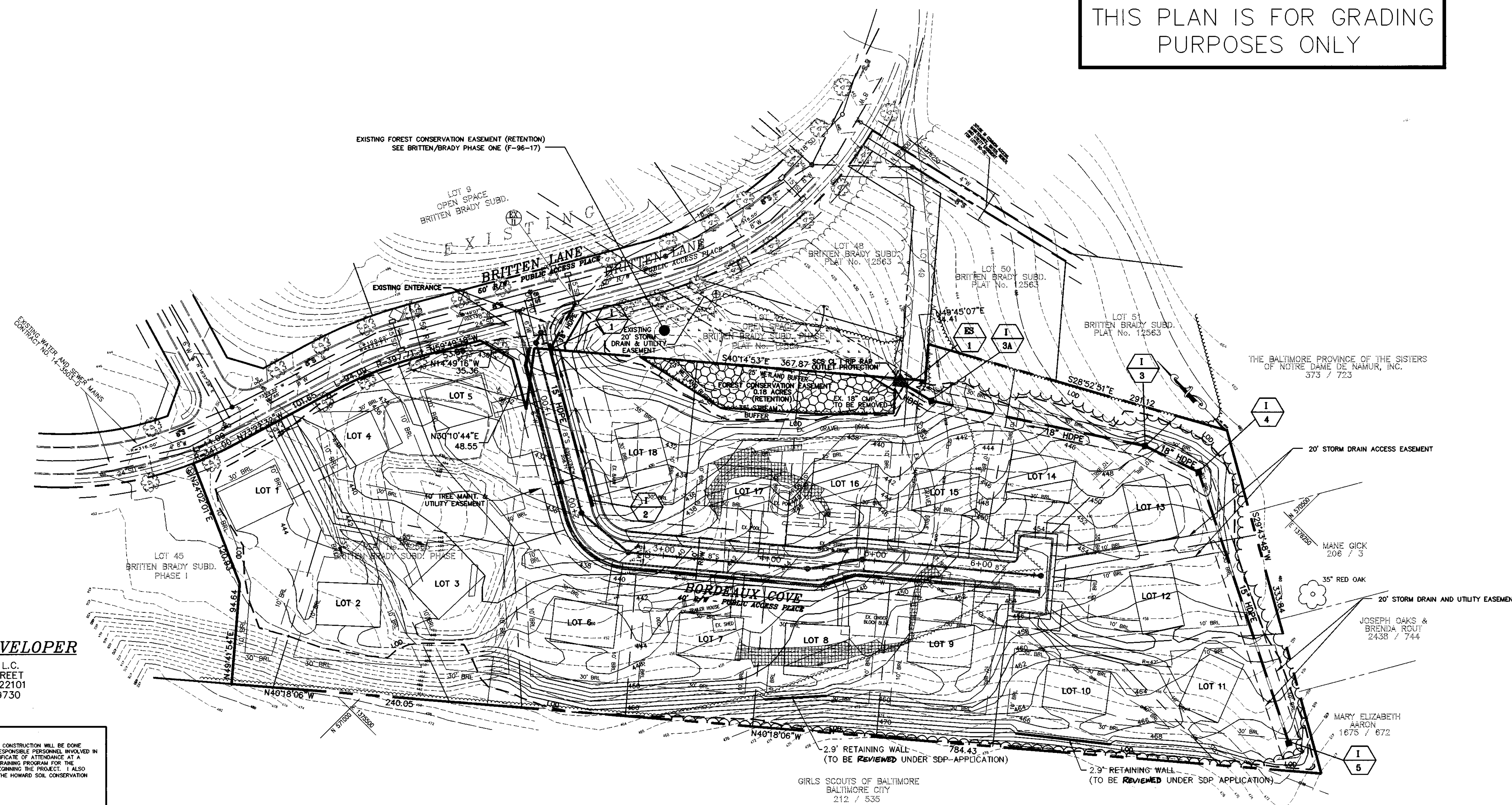
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**ELM STREET ESTATES, LOTS 1-18**  
 BRITIAN/BRADY PROPERTY, PHASE TWO  
 TAX MAP 31, PARCEL 147 AND BRITTEN/BRADY PROPERTY LOT 46  
 HOWARD COUNTY, MARYLAND  
 FIRST ELECTION DISTRICT

**ROAD PLAN AND PROFILES**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0236 Balt. (301) 621-5521 Wash. (410) 997-0238 Fax

THIS PLAN IS FOR GRADING PURPOSES ONLY



**OWNER / DEVELOPER**  
 CRESTWOOD L.C.  
 6820 ELM STREET  
 MCLEAN, VA 22101  
 (703) 734-9730

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

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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE

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HOWARD SOIL CONSERVATION DISTRICT DATE

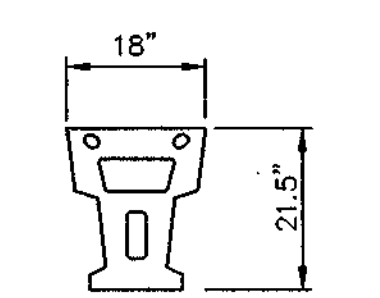
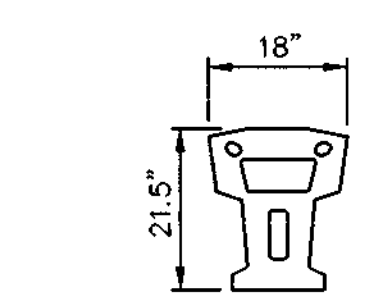
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 3-8-99  
 CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 3/10/99  
 CHIEF, DIVISION OF LAND DEVELOPMENT

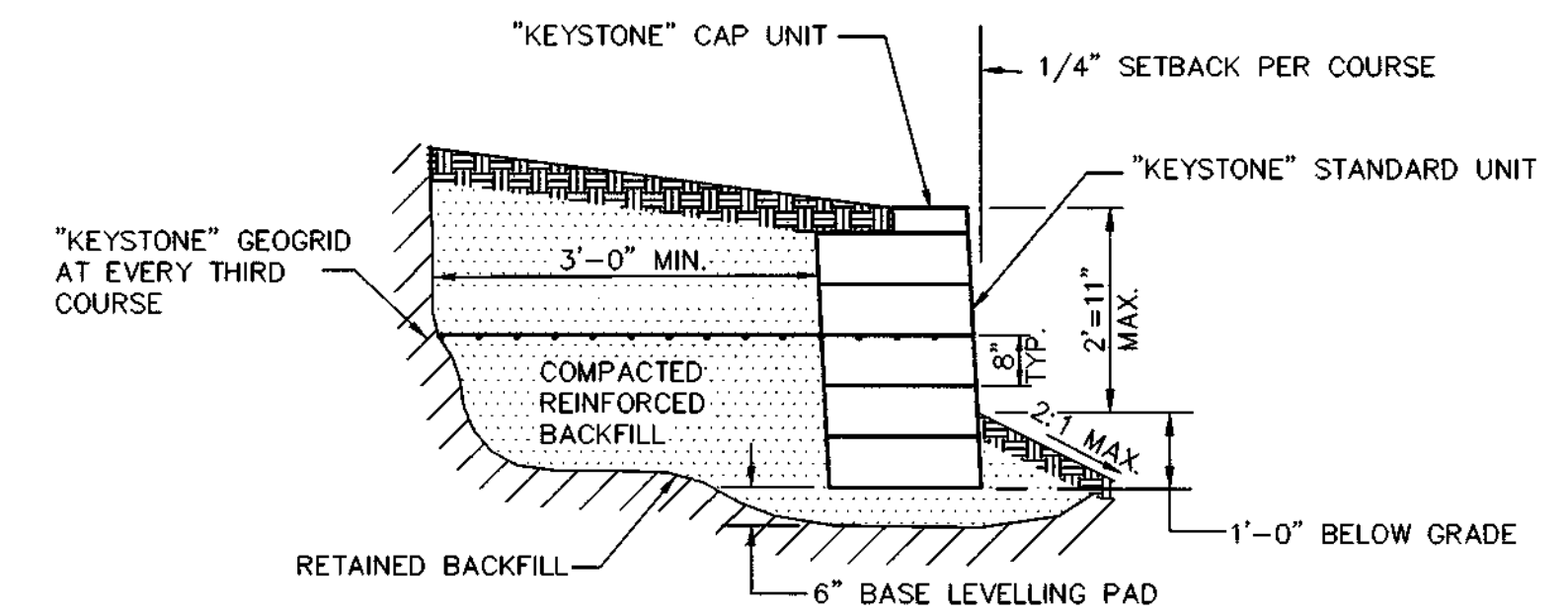
APPROVED: [Signature] 3/10/99  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



**RETAINING WALL DETAILS**  
 N.T.S.



"KEYSTONE" STANDARD UNIT  
 N.T.S.



**LEGEND**

- PROPOSED TREELINE
- LIMIT OF DISTURBANCE
- STEEP SLOPES >25%

date	FEB. 1999
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illustration	SA
scale	AS SHOWN
approval	SA/SD

no.		description	revisions	date

**ELM STREET ESTATES, LOTS 1-18**  
 BRITAN/BRADY PROPERTY, PHASE TWO  
 TAX MAP 31, PARCEL 147 AND BRITTEN/BRADY PROPERTY LOT 46  
 FIRST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

GRADING PLAN

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hill Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 397-0236 Fax: (301) 621-5521 Wash. (410) 397-0236 Fax

**THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY**

**SEDIMENT CONTROL NOTES:**

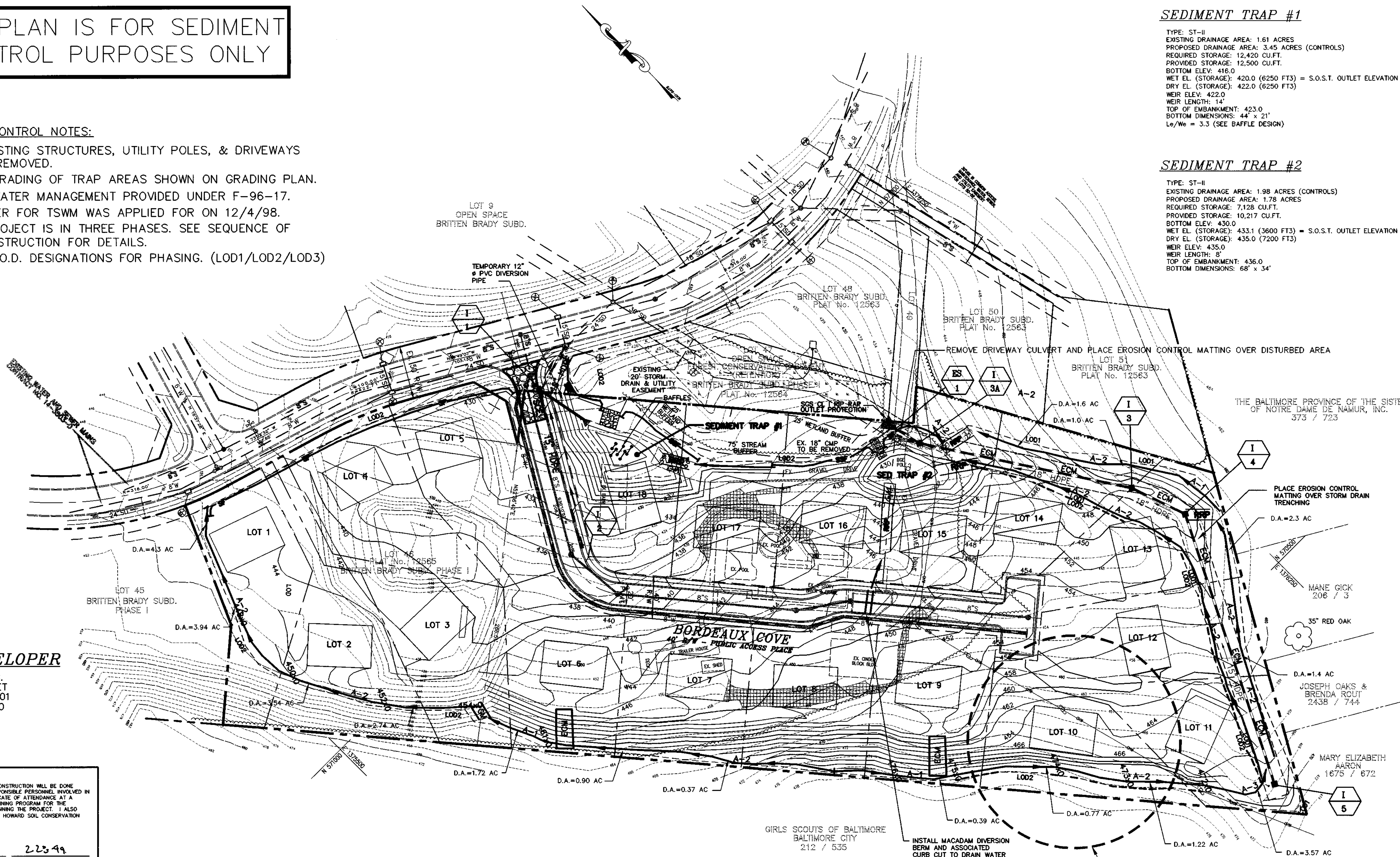
1. ALL EXISTING STRUCTURES, UTILITY POLES, & DRIVEWAYS TO BE REMOVED.
2. FINAL GRADING OF TRAP AREAS SHOWN ON GRADING PLAN.
3. STORMWATER MANAGEMENT PROVIDED UNDER F-96-17.
4. THIS PROJECT IS IN THREE PHASES. SEE SEQUENCE OF CONSTRUCTION FOR DETAILS.
5. NOTE L.O.D. DESIGNATIONS FOR PHASING. (LOD1/LOD2/LOD3)

**SEDIMENT TRAP #1**

TYPE: ST-II  
 EXISTING DRAINAGE AREA: 1.61 ACRES  
 PROPOSED DRAINAGE AREA: 3.45 ACRES (CONTROLS)  
 REQUIRED STORAGE: 12,420 CU.FT.  
 PROVIDED STORAGE: 12,500 CU.FT.  
 BOTTOM ELEV: 416.0  
 WET EL. (STORAGE): 420.0 (6250 FT3) = S.O.S.T. OUTLET ELEVATION  
 DRY EL. (STORAGE): 422.0 (6250 FT3)  
 WEIR ELEV: 422.0  
 WEIR LENGTH: 14'  
 TOP OF EMBANKMENT: 423.0  
 BOTTOM DIMENSIONS: 44' x 21'  
 L<sub>w</sub>/W<sub>e</sub> = 3.3 (SEE BAFFLE DESIGN)

**SEDIMENT TRAP #2**

TYPE: ST-II  
 EXISTING DRAINAGE AREA: 1.98 ACRES (CONTROLS)  
 PROPOSED DRAINAGE AREA: 1.78 ACRES  
 REQUIRED STORAGE: 7,128 CU.FT.  
 PROVIDED STORAGE: 10,217 CU.FT.  
 BOTTOM ELEV: 430.0  
 WET EL. (STORAGE): 433.1 (3600 FT3) = S.O.S.T. OUTLET ELEVATION  
 DRY EL. (STORAGE): 435.0 (7200 FT3)  
 WEIR ELEV: 435.0  
 WEIR LENGTH: 8'  
 TOP OF EMBANKMENT: 436.0  
 BOTTOM DIMENSIONS: 68' x 34'



**OWNER / DEVELOPER**

CRESTWOOD L.C.  
 6820 ELM STREET  
 MCLEAN, VA 22101  
 (703) 734-9730

BY THE DEVELOPER:

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*[Signature]* 2/23/99  
 SIGNATURE OF DEVELOPER DATE  
 RUSSELL J. DICKEY  
 PRINTED NAME OF DEVELOPER

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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 2/28/99  
 SIGNATURE OF ENGINEER DATE  
 R. JACOB HIKMAT  
 PRINTED NAME OF ENGINEER

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*[Signature]* 2/23/99  
 CHIEF, NATURAL RESOURCE CONSERVATION SERVICE

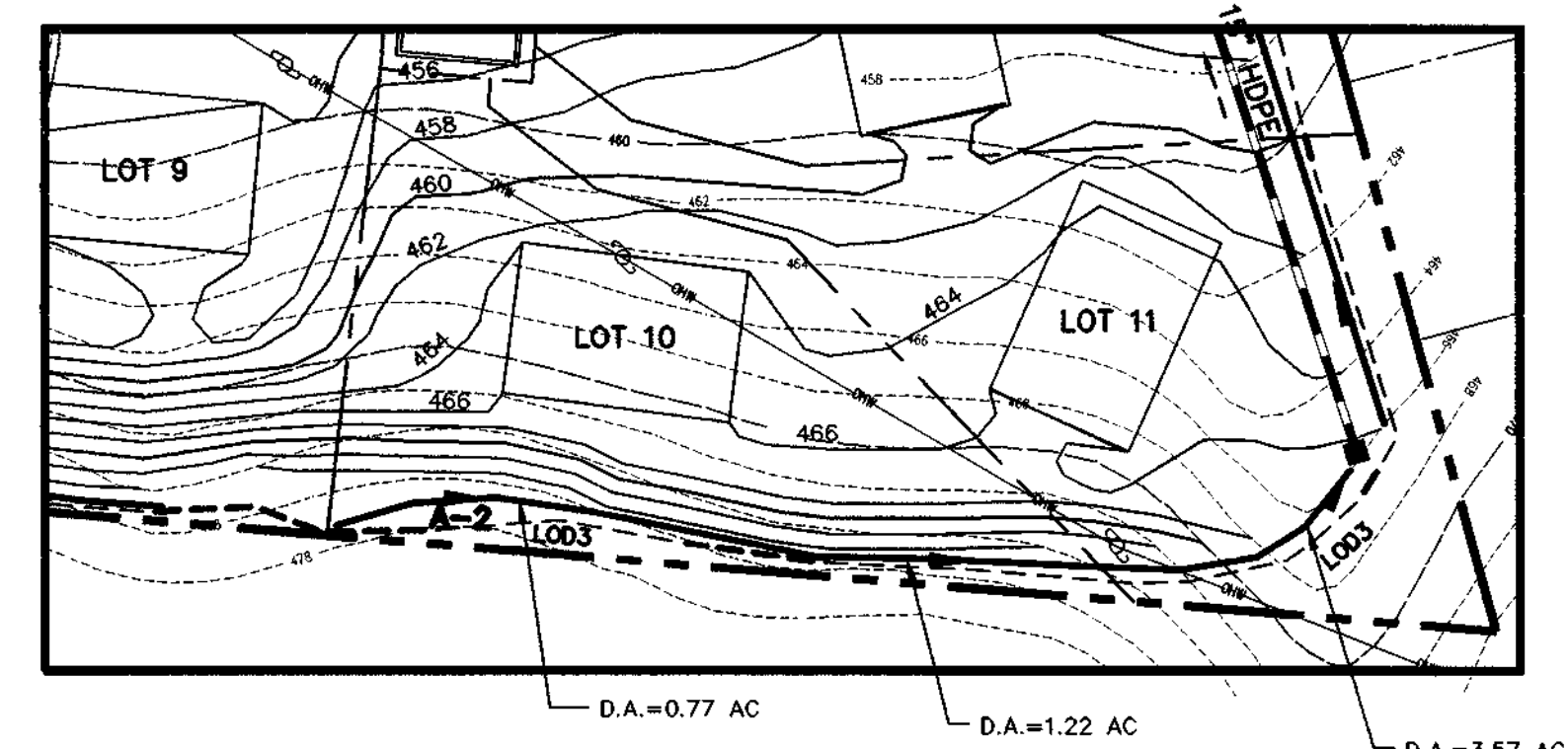
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*[Signature]* 2/23/99  
 CHIEF, SOIL CONSERVATION DISTRICT

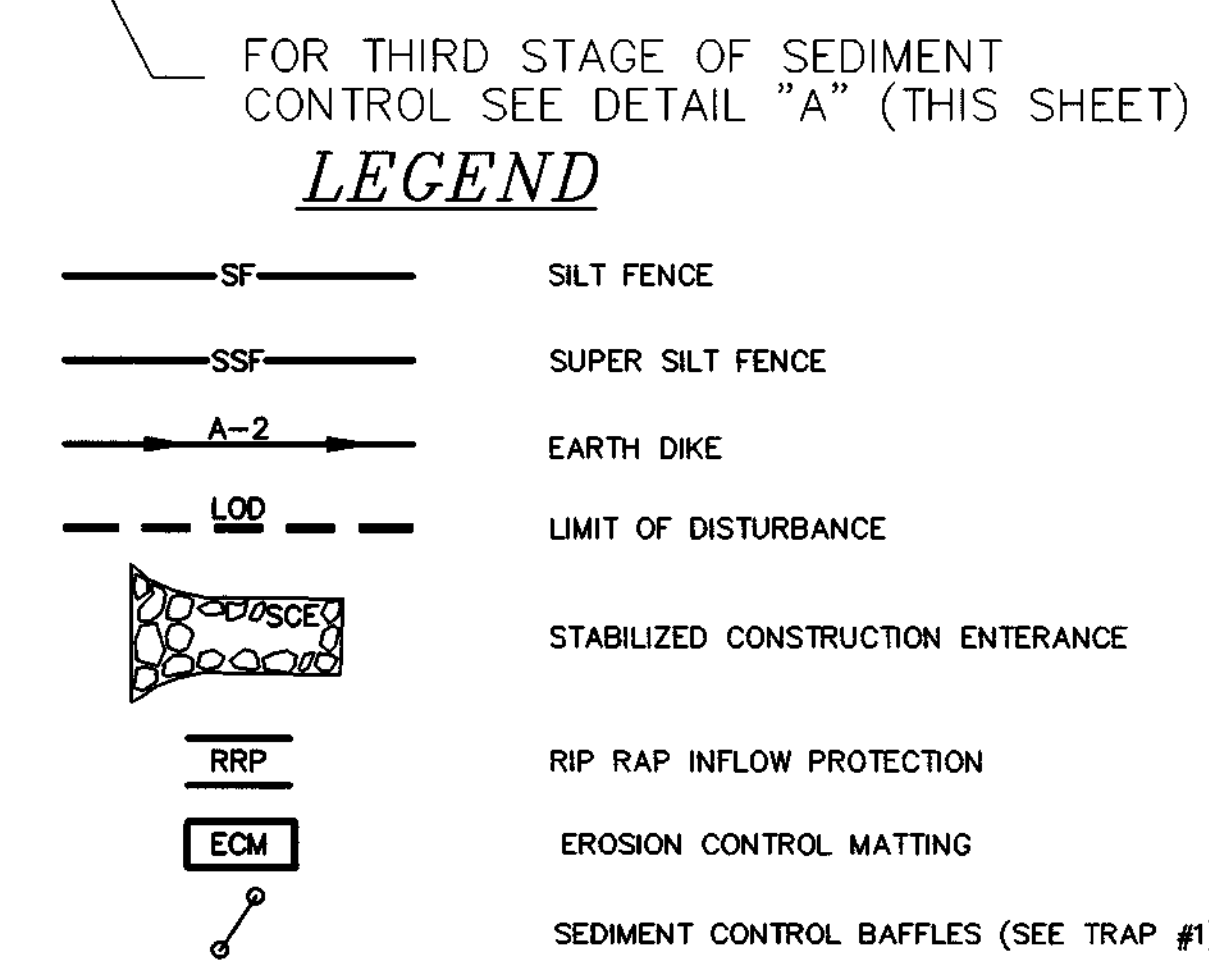
APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 3-8-99  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 2/10/99  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 3/10/99  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



**DETAIL A**  
 THIRD STAGE SEDIMENT CONTROL  
 SCALE: 1"=50'



date	FEB. 1999
project	97111
illustration	SD
scale	1"=50'
approval	SD

no.		description	revisions	date

**ELM STREET ESTATES, LOTS 1-18**  
 TAX MAP 31  
 SUBDIVISION OF PARCEL 147 AND RESUBDIVISION OF LOT 46, BRITTEN/BRADY  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
**SEDIMENT CONTROL PLAN**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0296 Fax (301) 621-5521 Wash.

# HOWARD SOIL CONSERVATION DISTRICT PERMANENT SEEDING NOTES

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

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

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

1. PREPARED - APPLY 2 TONS PER ACRE LIME (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO THREE INCHES OF SOIL. AT TIME OF SEEDING - APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.).
2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIME (23 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE CRYSTALINE LIME (92 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) FOR THE PERIOD NOVEMBER 1 THRU NOVEMBER 30, SEED WITH 60 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) FOR THE PERIOD DECEMBER 1 THRU DECEMBER 31. PROJECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOIL. OPTION (3) - SEED WITH 60 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) AND 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTATED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 216 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF DICALSIUM ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

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

## TEMPORARY SEEDING NOTES

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

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

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WHEAT (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD NOVEMBER 1 THRU NOVEMBER 30. PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. AREAS UNLIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTATED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 216 GAL PER ACRE (5 GAL./1000 SQ.FT.) OF DICALSIUM ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GAL PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL STANDARDS AND METHODS NOT COVERED.

# HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THEREOF.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DICES, FENCELINES, AND ALL SLOPES GREATER THAN 3:1, BY 14 DAYS AS ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHALL BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 27, 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 EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 50) AND MULCHING (SEC. 54). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS.
7. SITE ANALYSIS:
 

TOTAL AREA OF SITE:	7.364 ACRES
AREA TO BE ROOFED OR PAVED:	0.231 ACRES
TOTAL AREA TO BE VEGETATIVELY STABILIZED:	4.82 ACRES
TOTAL FILL:	19,000 CU. YDS.
TOTAL WASTE/BORROW AREA LOCATION:	N/A
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF NEEDED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL, BUT BEFORE PROCEEDING WITH ANY OTHER GRADING OR CONSTRUCTION. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

# 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 CERTAIN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

**CONDITIONS WHERE PRACTICE APPLIES**

1. 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.
2. 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

1. TOPSOIL, SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. 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 EXPERIMENTAL STATION.
  2. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
    - a. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SANDY CLAY LOAM, LOAMY SAND, OR OTHER SOILS MAY BE USED IF RECOMMENDED BY SOIL SCIENTIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF COMBINING REFINED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CONCRETES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
    - b. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONSON GRASS, NUTSGRASS, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
    - c. 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 PROVISIONS.
  3. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
    - a. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
  4. 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 TOPSOILS 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. CHEMICALS USED FOR PEST CONTROL ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR PEST CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
    - b. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
  5. TOPSOIL APPLICATION
    - a. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DICES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
    - b. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 5" HIGHER IN ELEVATION.
    - c. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SOILING OR SEEDING 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.
    - d. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDING PREPARATION.
  6. 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:
    - a. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
      - i. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
      - ii. 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.
      - iii. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
    - b. 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.
- REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SOILING, MD-VL, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES, REVISED 1973.

## SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT. (1 DAY)
2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE. (1 DAY)
3. INSTALL STORM DRAIN FROM IS TO ES3, PROVIDING APPROPRIATE SEDIMENT CONTROL FOR TRENCHING. PLACE SILT FENCE DOWNHILL OF TRENCH AND SPOOLS UPHILL OF TRENCH. TRENCH ONLY WHAT CAN BE BACKFILLED IN THE SAME WORKING DAY. PLACE EARTH OVER DISTURBED GROUND. RECEIVE PERMISSION FROM INSPECTOR TO PROCEED TO PHASE 2. (5 DAYS)
4. CONSTRUCT REMAINING CLEAN WATER DIVERSION DICES. (2 DAYS)
5. CONSTRUCT ALL REMAINING SEDIMENT CONTROL MEASURES. (3 DAYS)
6. INSTALL ALL REMAINING UTILITIES. (40 DAYS)
7. PROVIDE TREE PROTECTIVE FENCING AS INDICATED AROUND REFORESTATION AREAS. INSTALL PLANT MATERIAL IN REFORESTATION AREAS AS SPECIFIED. (3 DAYS)
8. BRING SITE TO PROPOSED GRADE. (30 DAYS)
9. ANY SEDIMENT CONTROL DEVICES DISTURBED BY THE INSTALLATION OF UTILITIES ARE TO BE REPAIRED IMMEDIATELY.
10. CONSTRUCT AND PAVE THE ROAD. PLACE MACADAM BERM AND CURB CUT AT APPROXIMATELY 5+25 TO DIVERT WATER TO SEDIMENT TRAP #2. BERM TO REMAIN UNTIL ALL CONTRIBUTING AREA TO TRAP #2 HAS BEEN STABILIZED. (25 DAYS)
11. CONSTRUCT NEW DIKE ON LOT #10 (SEE THIRD STAGE SEDIMENT CONTROL INSERT) AND MAKE ASSOCIATED CHANGES TO GRADING. (5 DAYS)
12. WHEN ALL CONTRIBUTING AREA TO SEDIMENT TRAP #1 & #2 HAS BEEN STABILIZED AND WITH APPROVAL OF THE SEDIMENT CONTROL INSPECTOR REMOVE SEDIMENT TRAP #2 AND ASSOCIATED EARTH DIKE & MACADAM BERM. (3 DAYS)
13. REMOVE REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS. (5 DAYS)

BY THE DEVELOPER:

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

DATE: 2/28/99

PRINTED NAME OF DEVELOPER: R. JACOBI HIKMA7

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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DATE: 2/28/99

PRINTED NAME OF ENGINEER: R. JACOBI HIKMA7

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

DATE: 3/2/99

PRINTED NAME OF ENGINEER: R. JACOBI HIKMA7

USDA - NATURAL RESOURCE CONSERVATION SERVICE

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

DATE: 3/2/99

PRINTED NAME OF ENGINEER: R. JACOBI HIKMA7

APPROVED: DEPARTMENT OF PUBLIC WORKS

DATE: 3-8-99

PRINTED NAME OF ENGINEER: R. JACOBI HIKMA7

CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DATE: 3/10/99

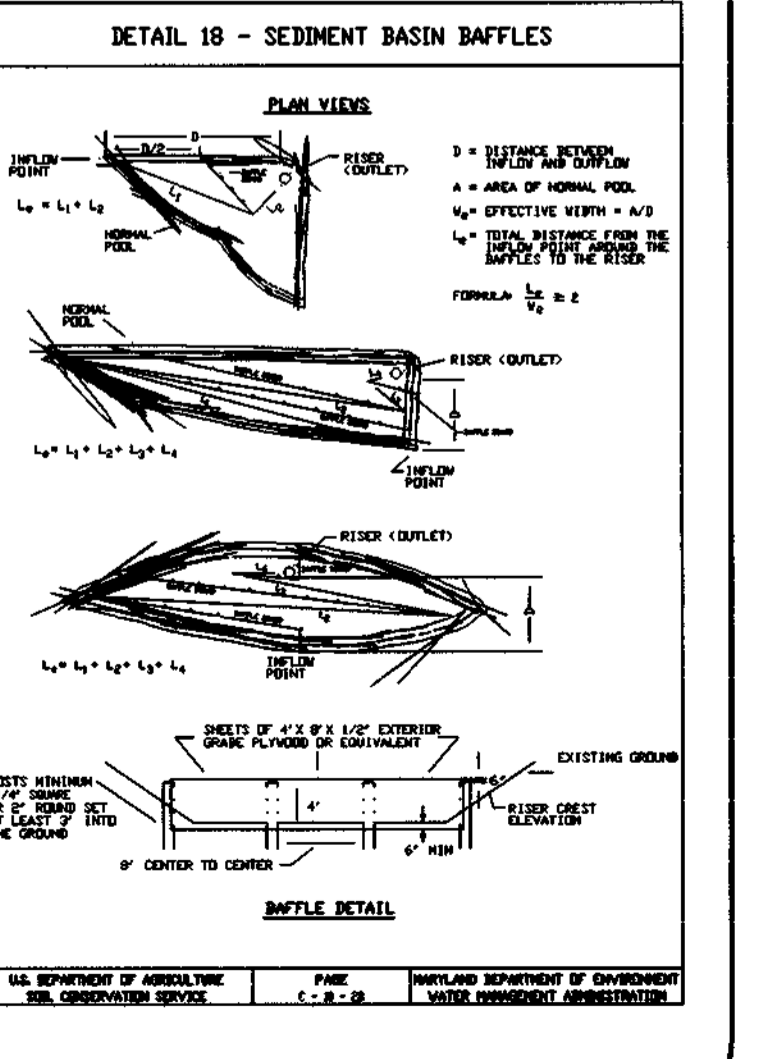
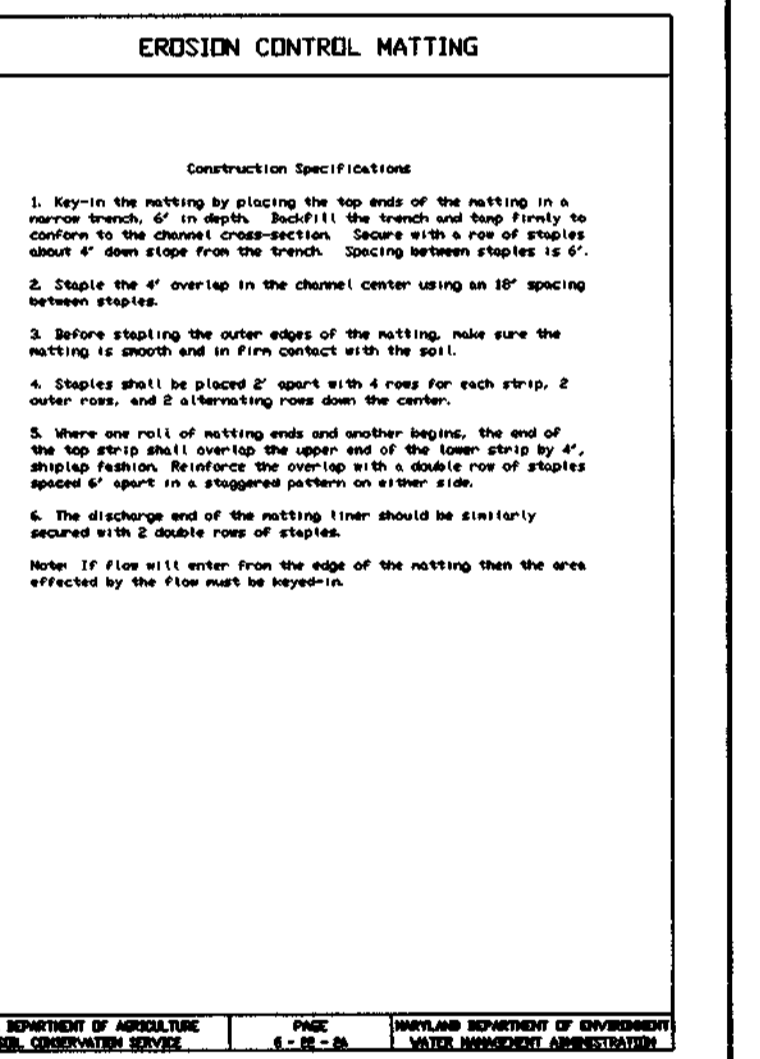
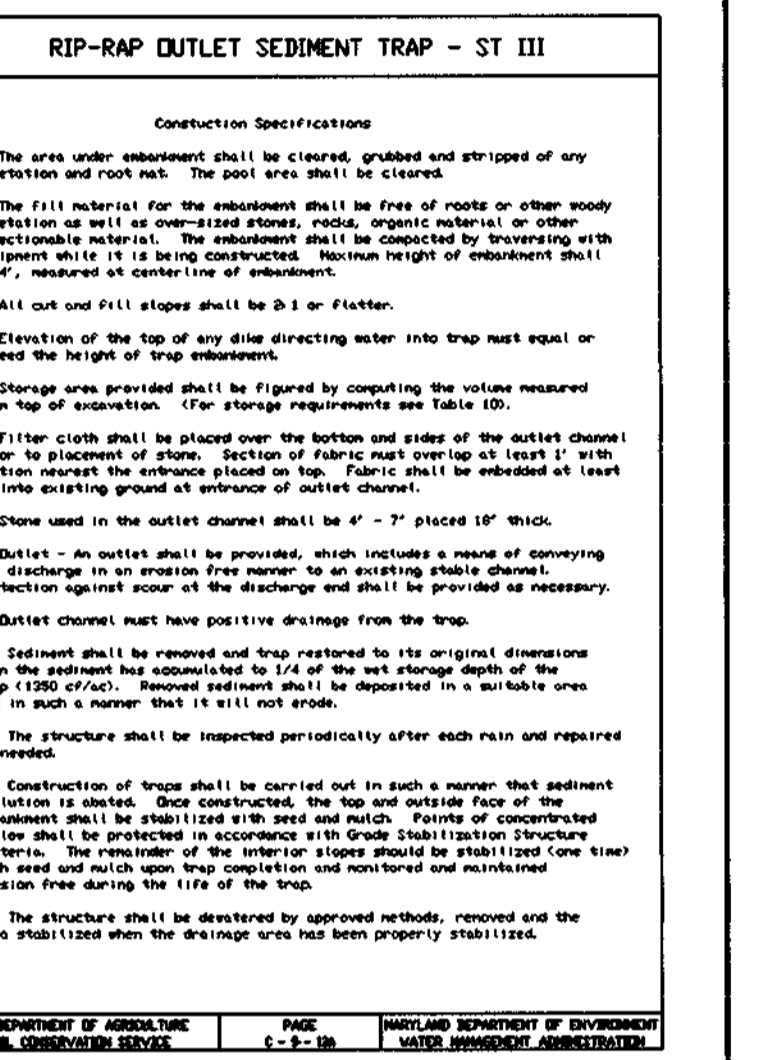
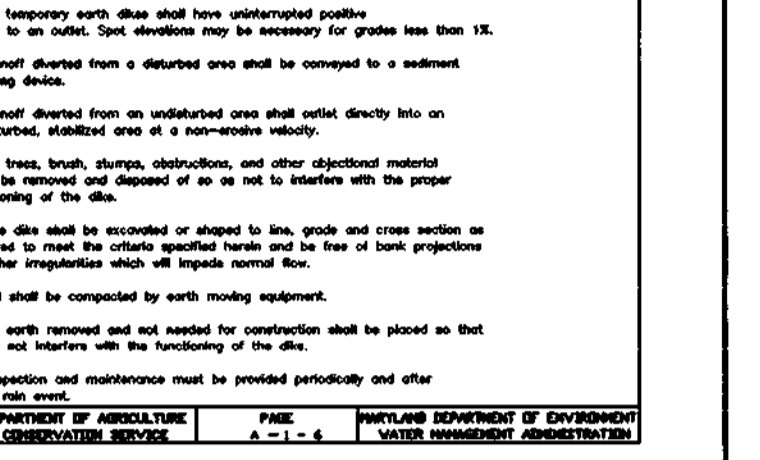
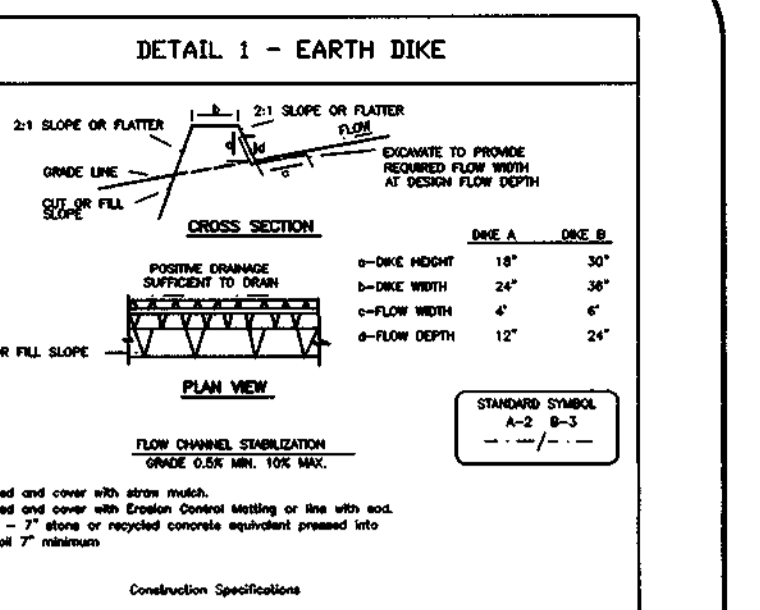
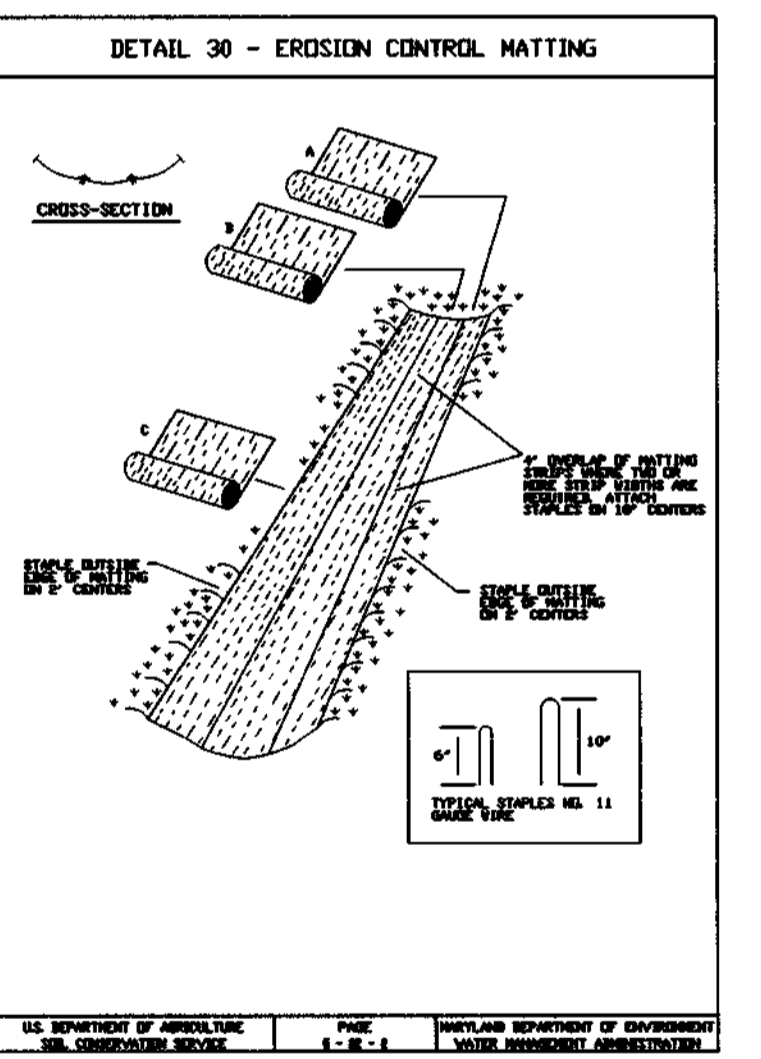
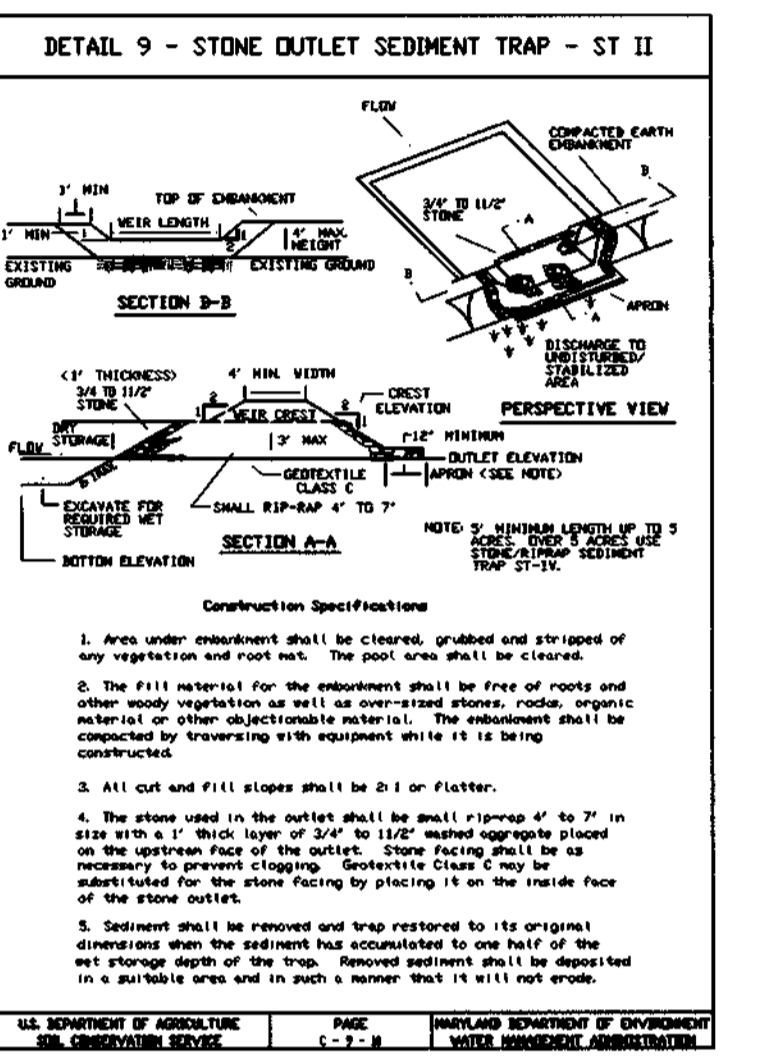
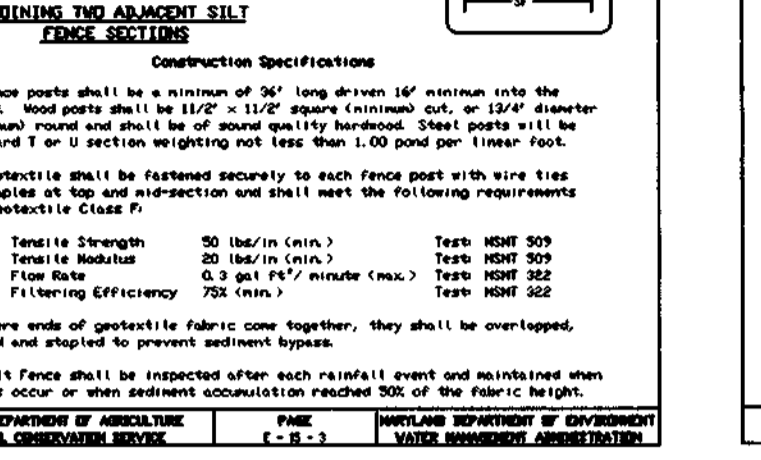
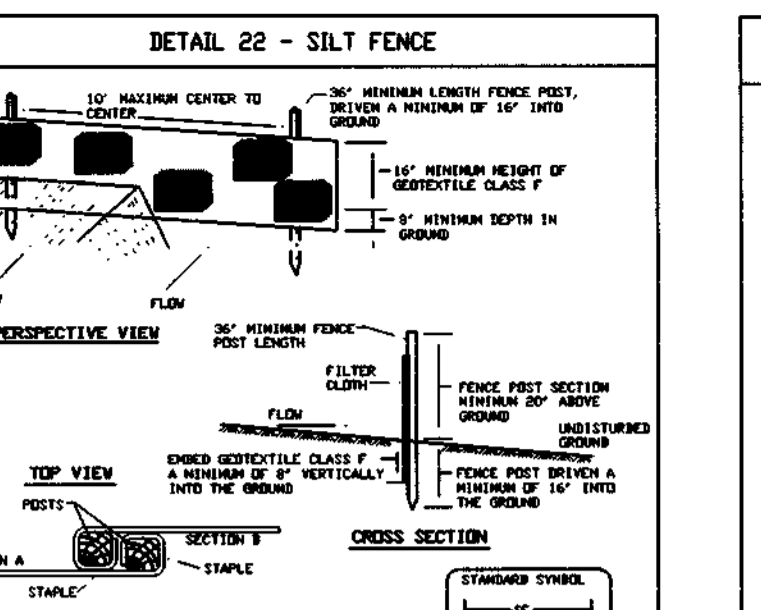
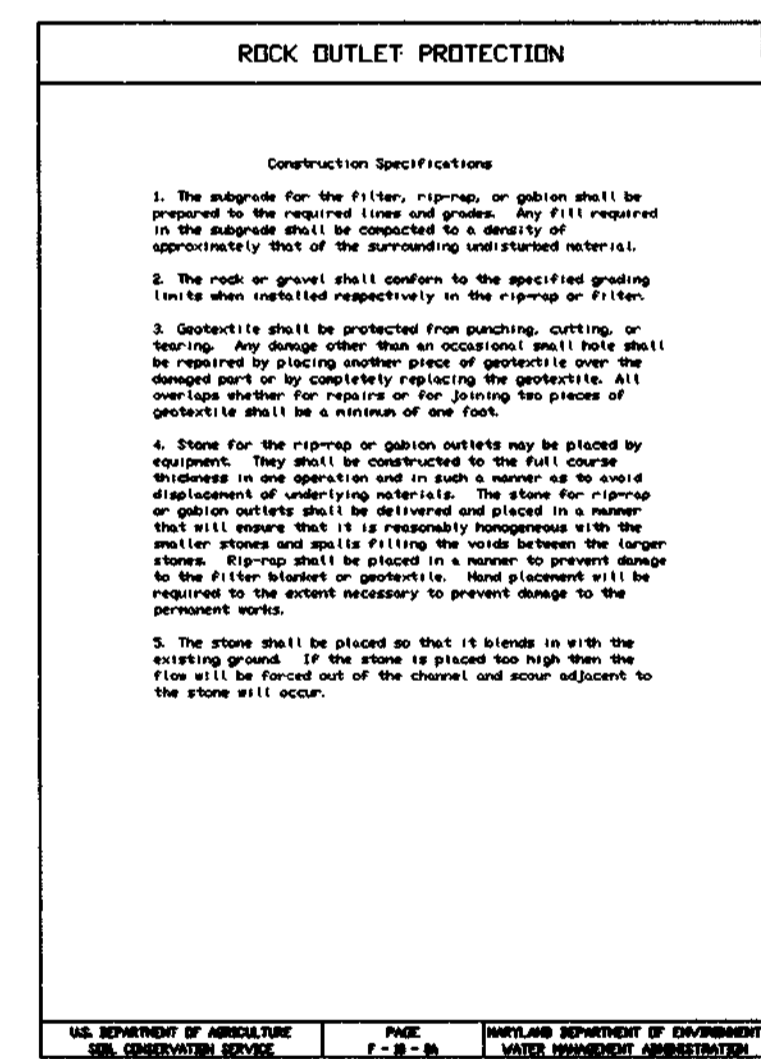
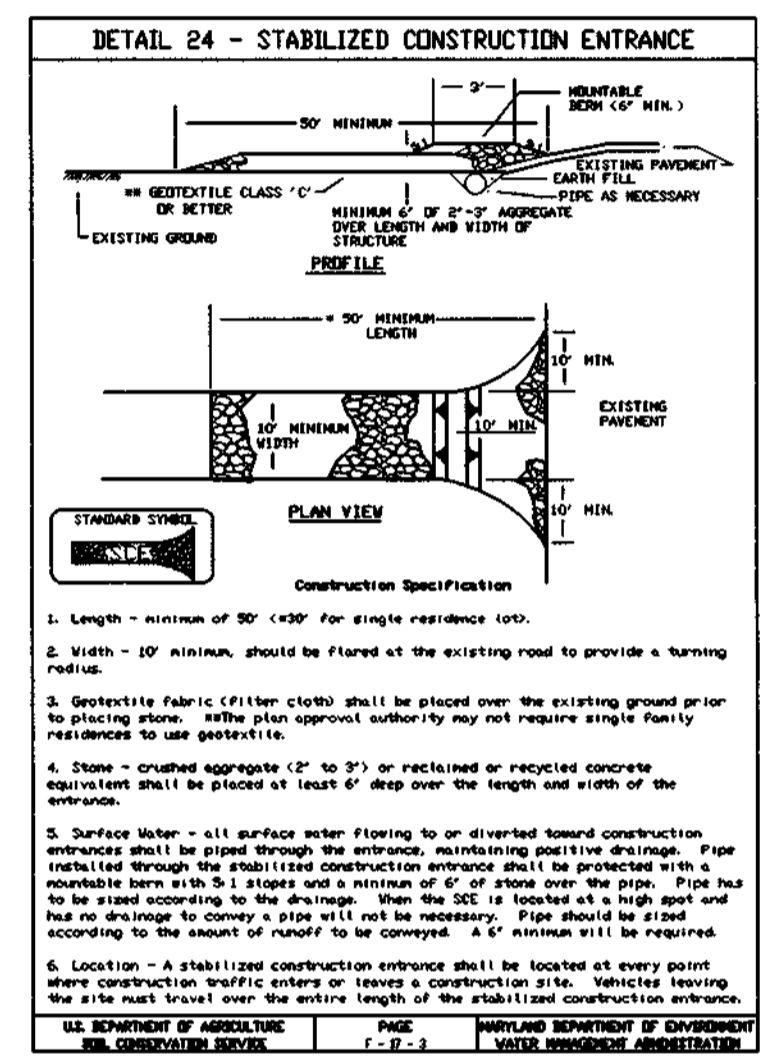
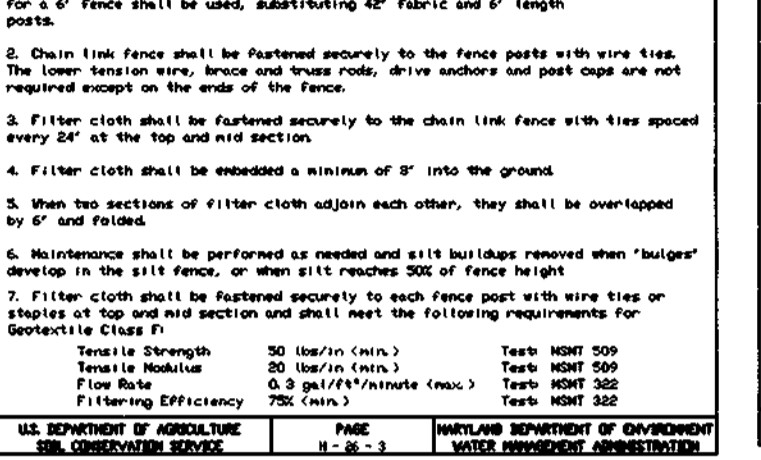
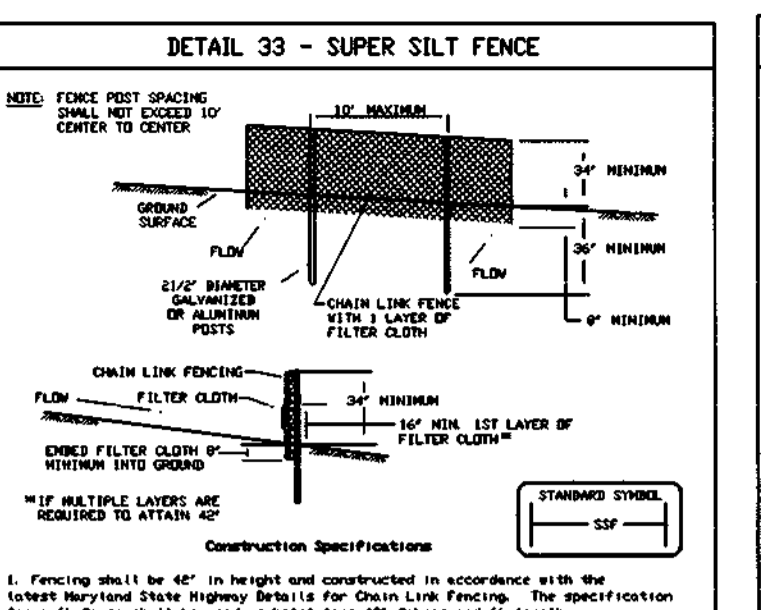
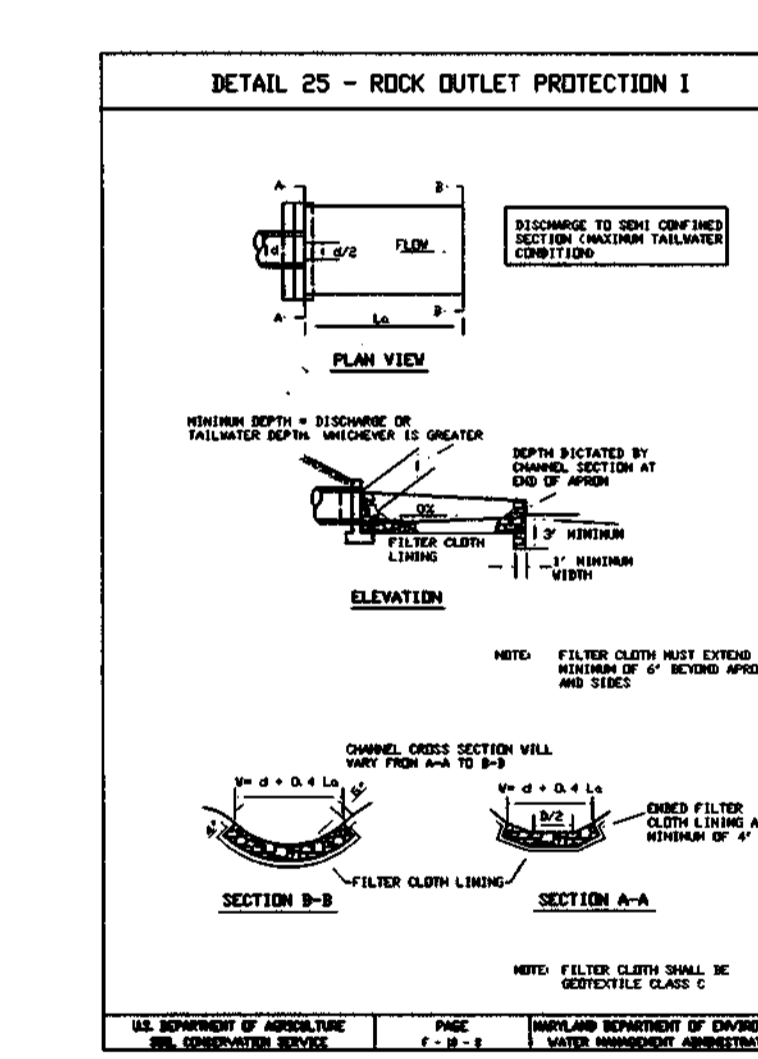
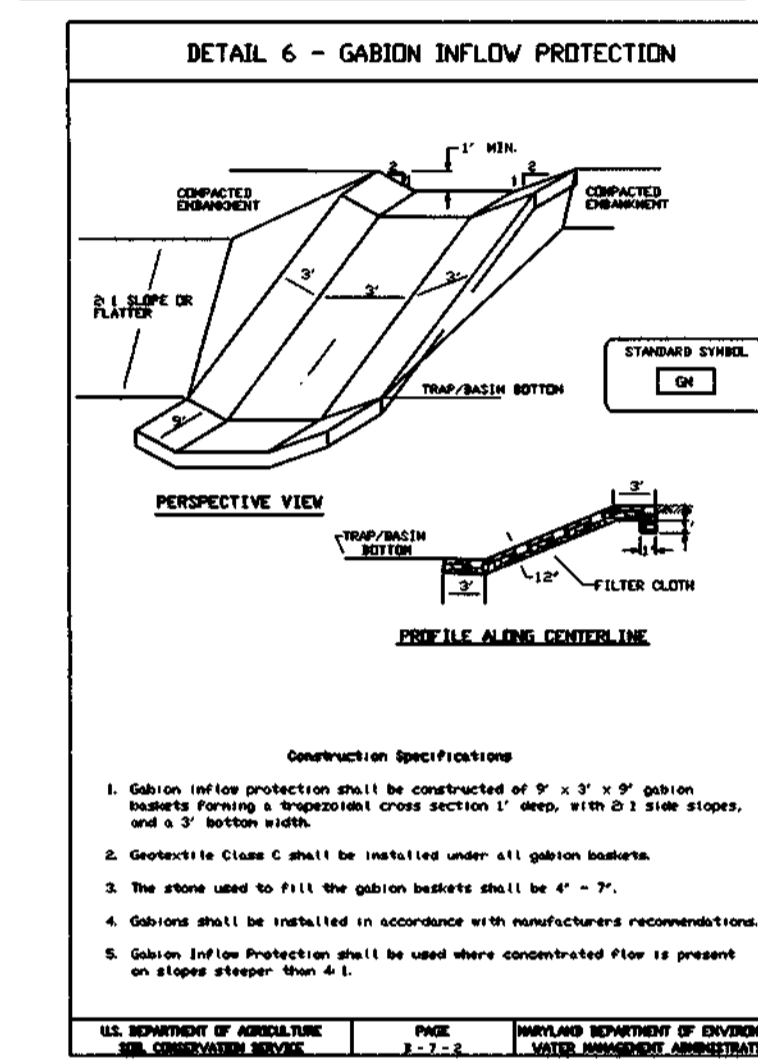
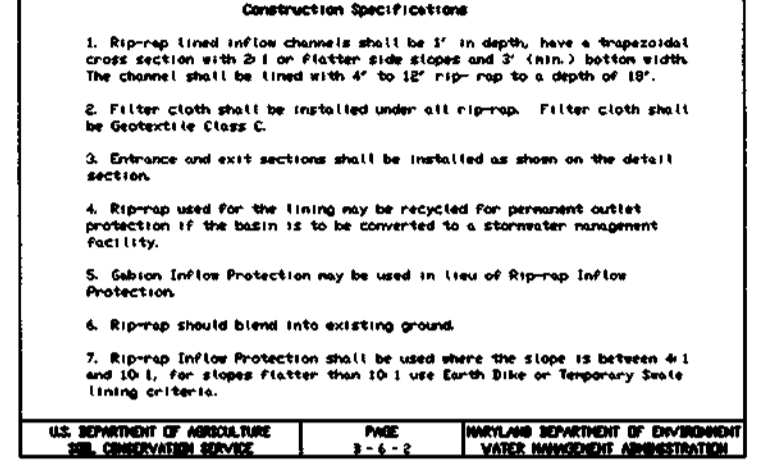
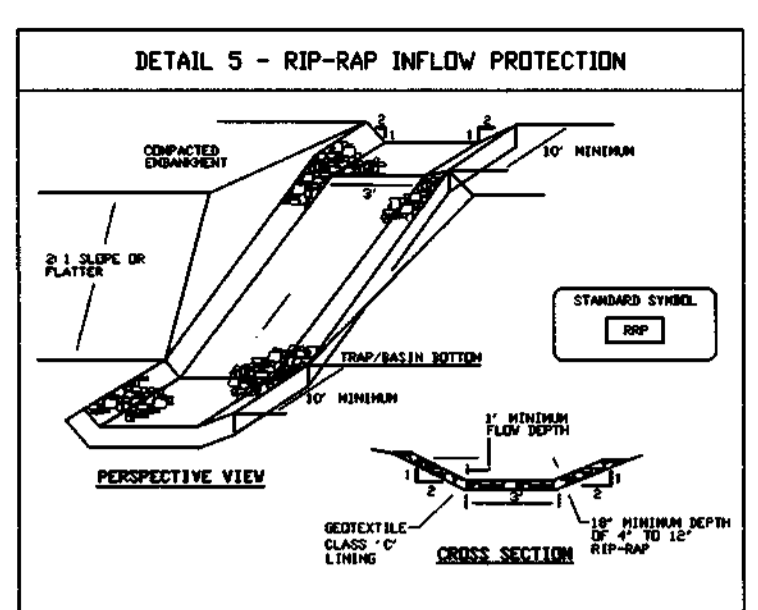
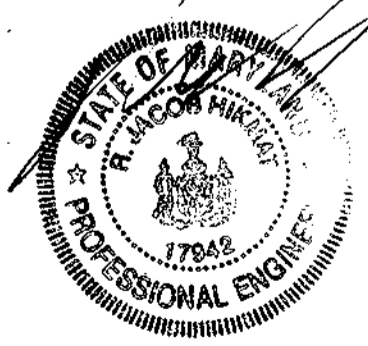
PRINTED NAME OF ENGINEER: R. JACOBI HIKMA7

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 3/10/99

PRINTED NAME OF ENGINEER: R. JACOBI HIKMA7

CHIEF, DEVELOPMENT ENGINEERING DIVISION



date	FEB. 1999	approval	N.T.S.
project	97111	scale	
illustration		description	
SD		revisions	
SD		NO.	

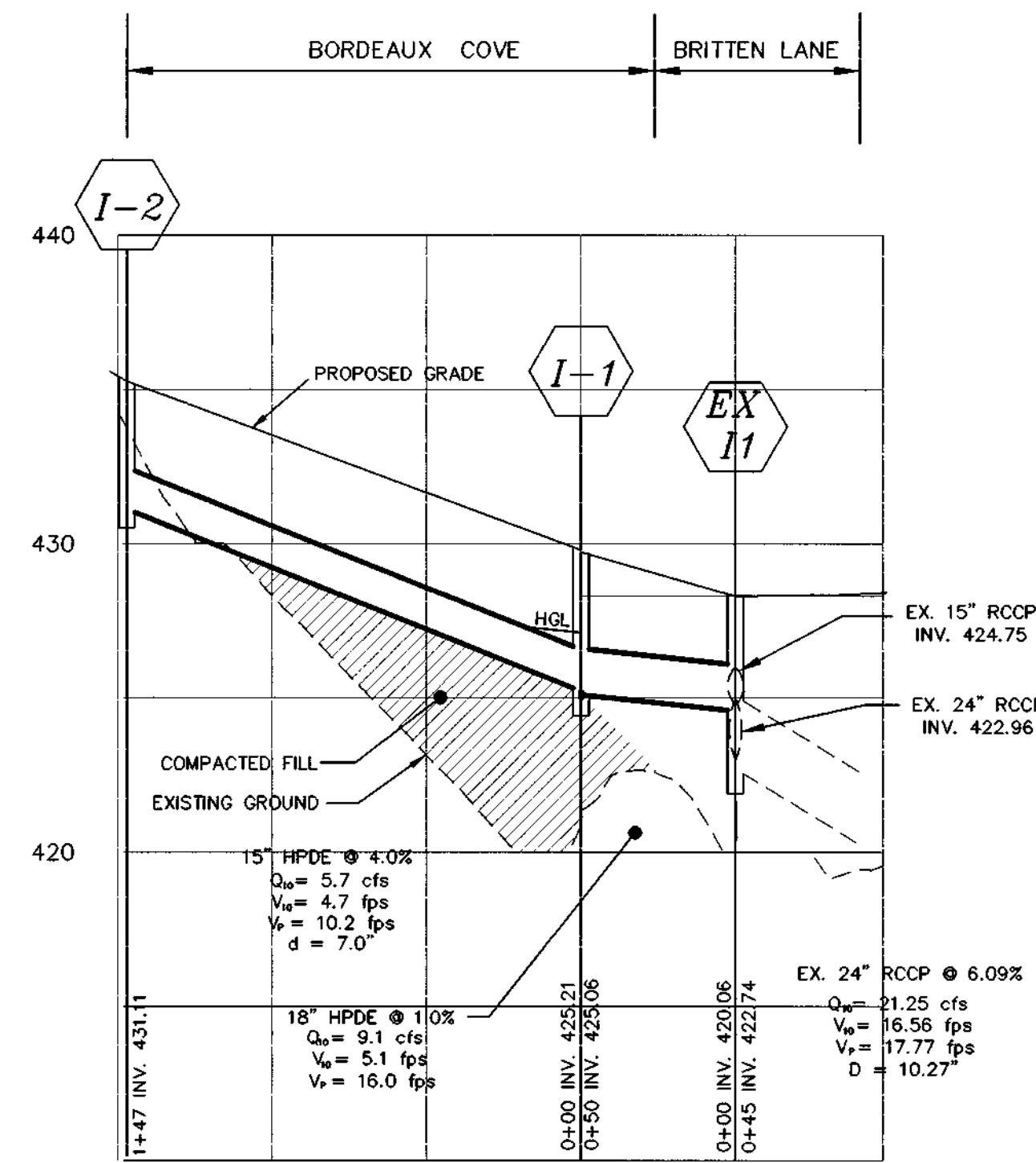
date		description	
NO.		revisions	

ELM STREET ESTATES, LOTS 1-18  
SUBDIVISION OF PARCEL 147 AND RESUBDIVISION OF LOT 46, BRITTEN/BRADY TAX MAP 31  
FIRST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SEDIMENT CONTROL NOTES & DETAILS

MILDENBERG & ASSOC., INC.  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Beltsville, Maryland 21042  
(410) 997-0296 Fax

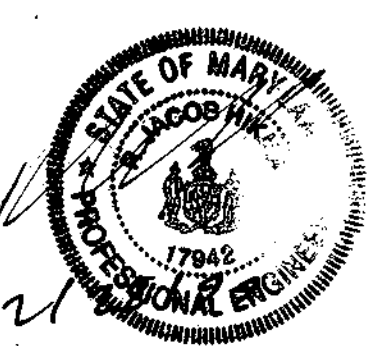
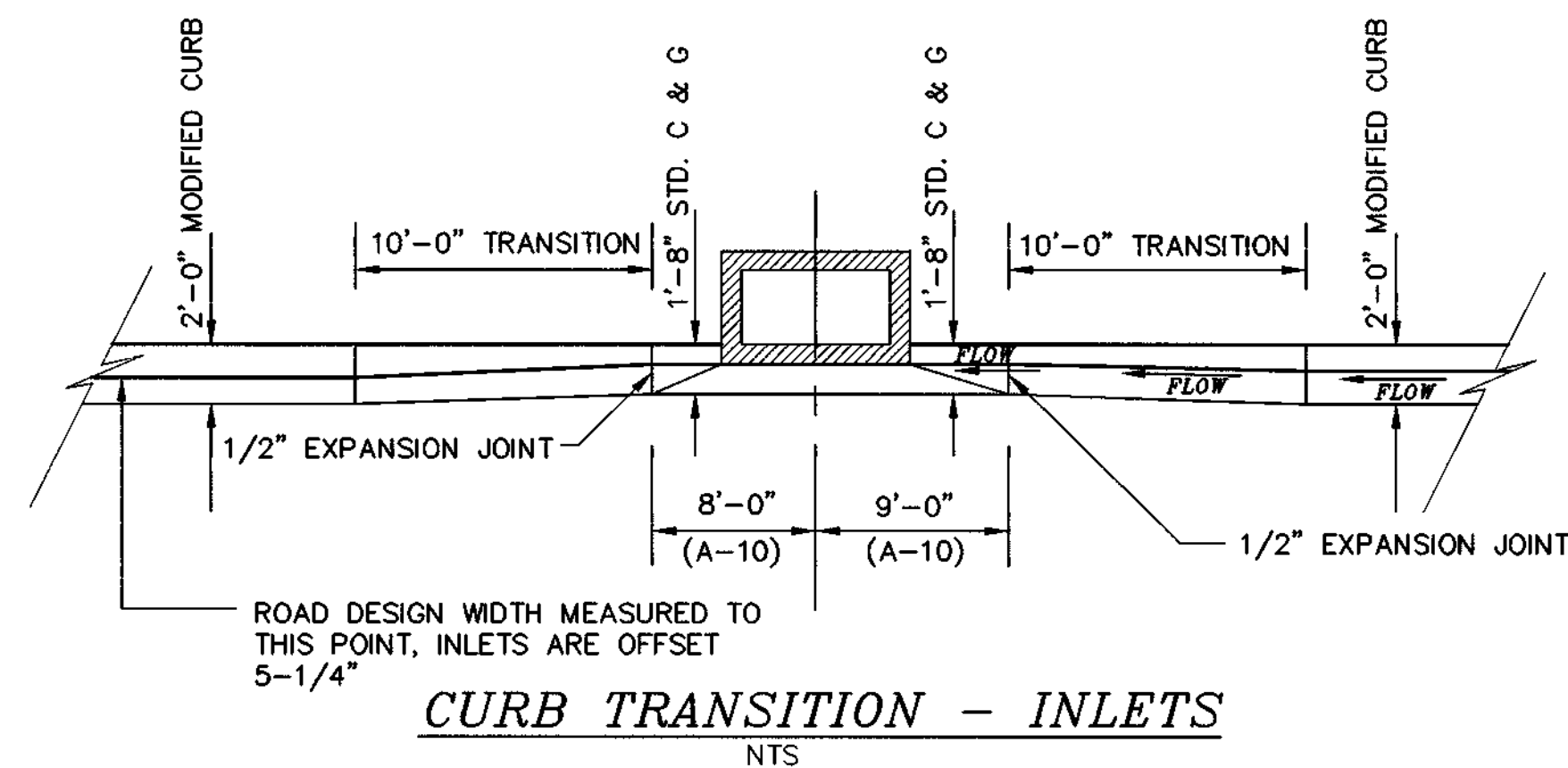
## OWNER / DEVELOPER

CRESTWOOD L.C.  
6820 ELM STREET  
MCLEAN, VA 22101  
(703) 734-9730



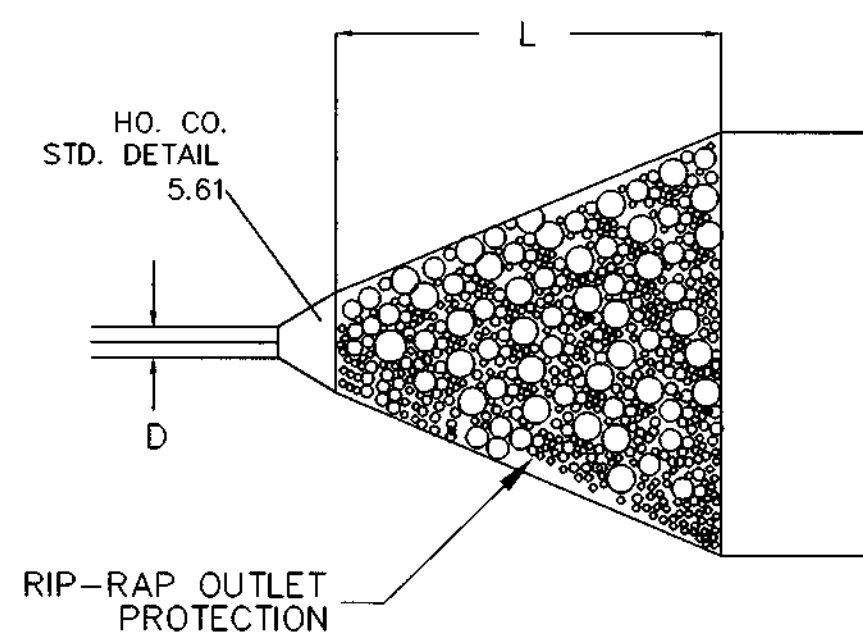
STORM DRAIN PROFILE I-2 TO EX-11

\*UNLESS NOTED HGL = TOP OF PIPE  
 HORIZONTAL SCALE : 1" = 50'  
 VERTICAL SCALE : 1" = 5'



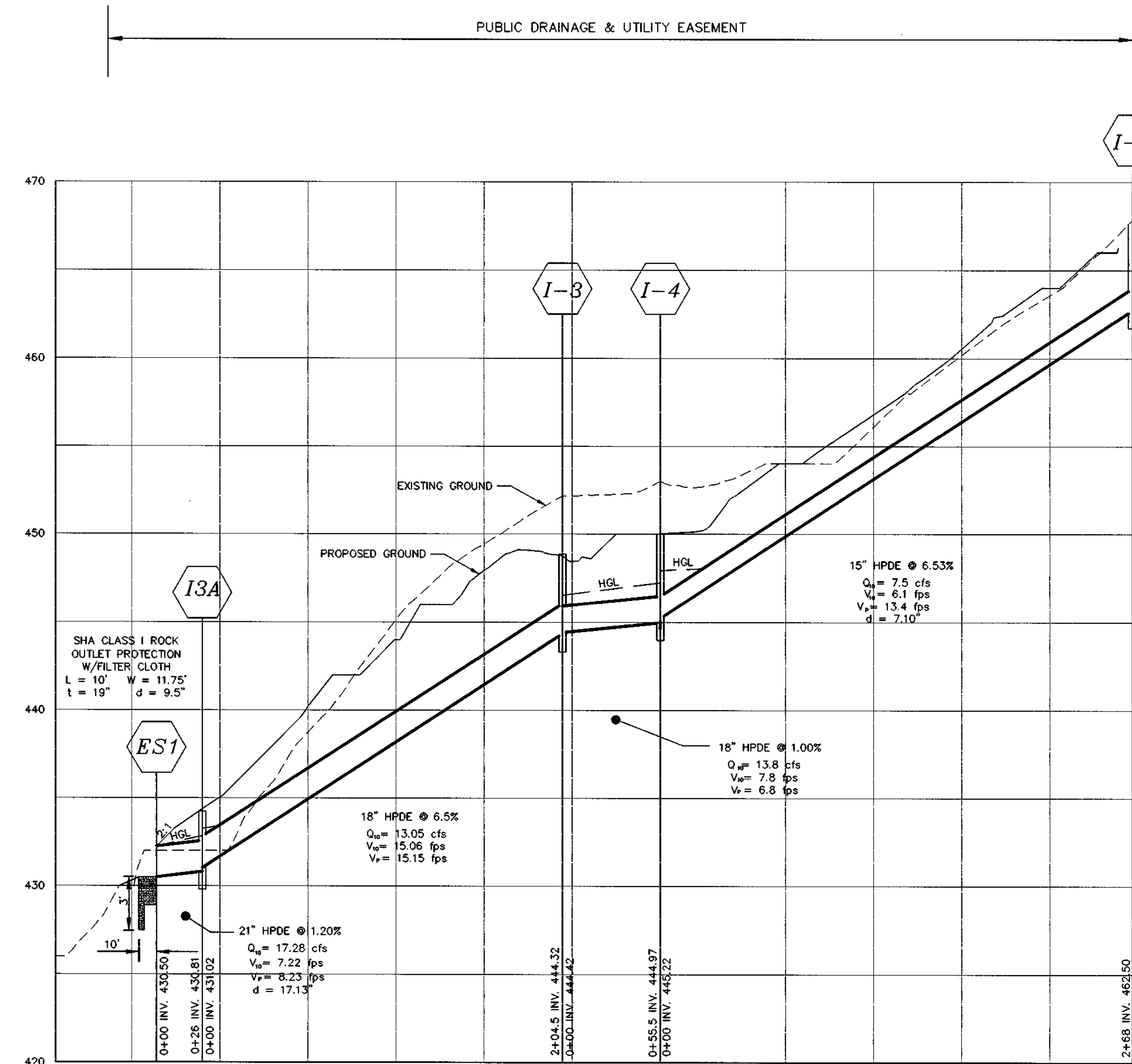
STRUCTURE SCHEDULE

NO.	LOCATION*	TOP**	INV. IN	INV. OUT	COMMENTS
I-1	BORDEAUX COVE 0+50 - 10' LT.	429.56	425.21	424.96	INLET TYPE A-10 (HO. CO. STD SD 4.02)
I-2	BORDEAUX COVE 1+97 - 10' LT.	435.16	-----	431.11	INLET TYPE A-10 (HO. CO. STD SD 4.02)
ES-1	N570843.6 E1376084.4	-----	430.50	430.50	18" $\phi$ END SECTION (HO. CO. STD. SD 5.61)
I-3A	N570818.9, E1376090.5	433.9	430.38	430.13	YARD INLET (HO. CO. STD SD 4.14) - SUMP
I-3	N570847.2 E1376202.1	444.24	444.32	444.42	YARD INLET (HO. CO. STD SD 4.14) - SUMP
I-4	N570594.4 E1376220.3	450.00	444.97	445.22	YARD INLET (HO. CO. STD SD 4.14) - SUMP
I-5	N570355.0 E1376099.8	467.86	-----	462.50	YARD INLET (HO. CO. STD SD 4.14) - SUMP



LOCATION	D	W	L
ES 1	1.75'	11.75'	10'

RIP-RAP OUTLET PROTECTION SCHEDULE



STORM DRAIN PROFILE I-4 TO ES-1

\*UNLESS NOTED HGL = TOP OF PIPE  
 HORIZONTAL SCALE : 1" = 50'  
 VERTICAL SCALE : 1" = 5'

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Donolo* 3-8-99  
 CHIEF BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Andy Hamilton* 3/10/99  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*William D. ...* 3/10/99  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Project 97111  
 Illustration SA  
 date FEB. 1999  
 engineering SA  
 approval AS SHOWN

description  
 revisions  
 inc.  
 date

ELM STREET ESTATES, LOTS 1-18  
 TAX MAP 31  
 SUBDIVISION OF PARCEL 147 AND RESUBDIVISION OF LOT 48, BRITTEN/BRADY  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 STORM DRAIN PROFILES

MILDENBERG, BOENDER & ASSOC., INC.  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0236 Fax (301) 621-5521 Wash.

**LANDSCAPE PLANTING SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
16		ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2 1/2" - 3" CAL.
5		PINUS STROBUS	WHITE PINE	6" - 8" HT.
44		PYRUS CALLERYANA 'REDSPIRE'	REDSPIRE PEAR	2 1/2" - 3" CAL.
<b>TOTAL</b>				
65 TREES (34 STREET TREES, 26 SHADE TREES, & 5 EVERGREENS)				

**STREET TREE CALCULATIONS**

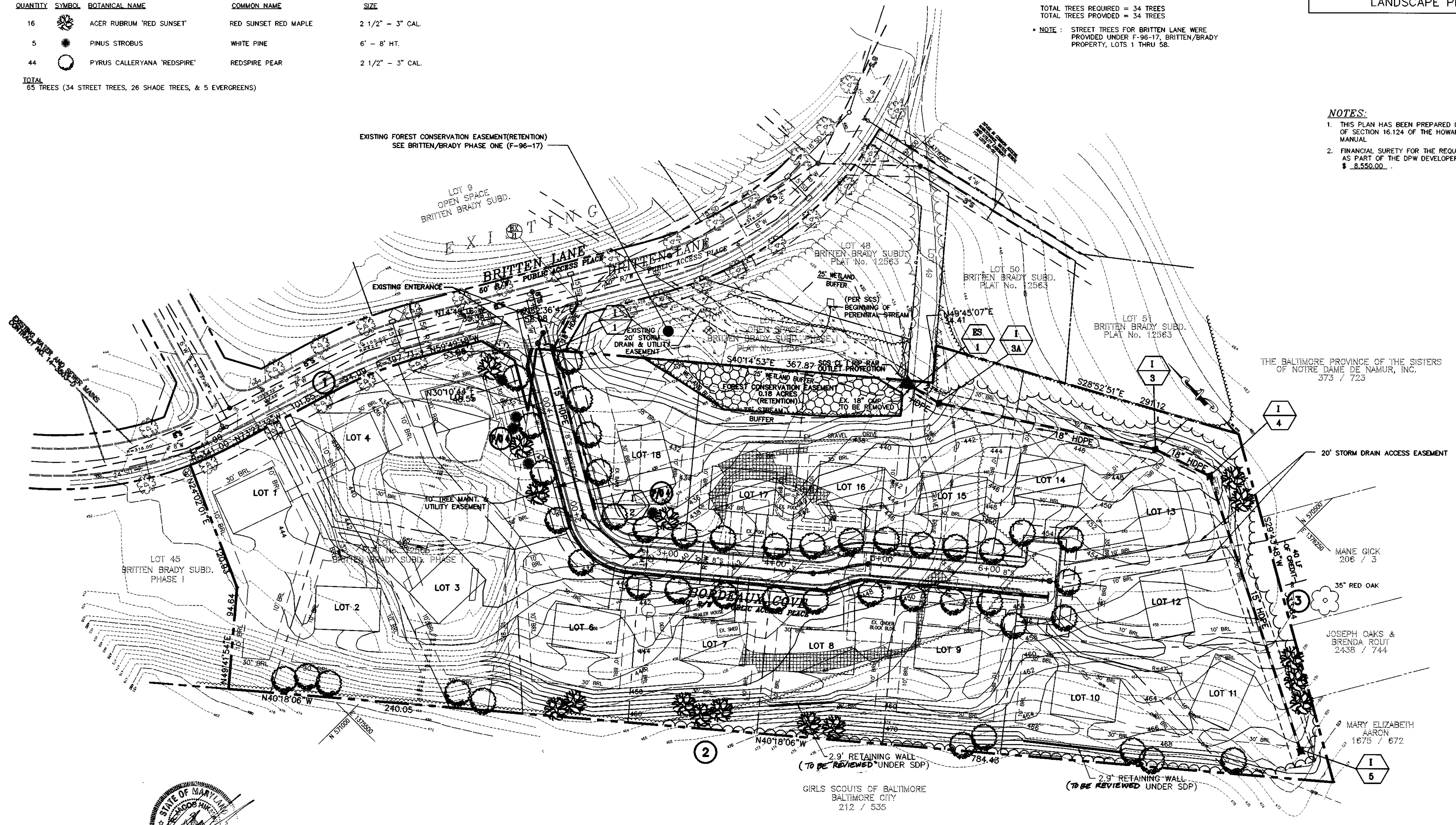
BORDEAUX COVE - 1344 / 40 = 34  
 TOTAL TREES REQUIRED = 34 TREES  
 TOTAL TREES PROVIDED = 34 TREES

NOTE: STREET TREES FOR BRITTEN LANE WERE PROVIDED UNDER F-96-17, BRITTEN/BRADY PROPERTY, LOTS 1 THRU 58.

NOTE: THIS DRAWING IS TO BE USED FOR LANDSCAPE PLAN PURPOSES ONLY.

**NOTES:**

- 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 THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$ 8,550.00.



**DEVELOPER'S/OWNER'S CERTIFICATE**

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

*[Signature]* DATE 2.28.99

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* DATE 3-8-99  
 CHIEF BUREAU OF HIGHWAYS

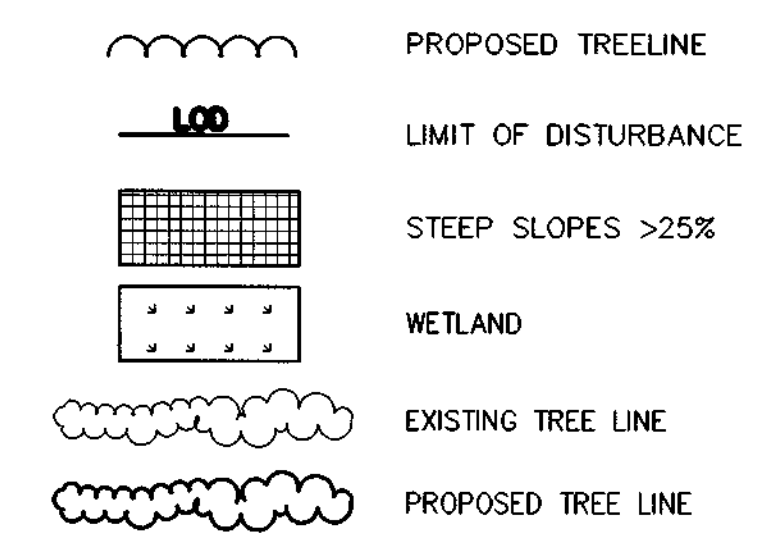
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* DATE 3/10/99  
 CHIEF, DIVISION OF LAND DEVELOPMENT

**OWNER / DEVELOPER**

CRESTWOOD L.C.  
 6820 ELM STREET  
 MCLEAN, VA 22101  
 (703) 734-9730

**SCHEDULE A : PERIMETER LANDSCAPED EDGE**

PERIMETER #	PERIMETER 1	PERIMETER 2	PERIMETER 3	PERIMETER 4
LANDSCAPE TYPE	N/A	A	A	B
LINEAR FEET OF PERIMETER	293.71 LF	1024.48 LF	333.84 LF	209 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	NO	YES, 40 LF OF EXISTING TREES	NO
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	17 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	5 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	4 SHADE TREES 5 EVERGREEN TREES 0 SHRUBS
NUMBER OF PLANTS PROVIDED	0 SHADE TREES 0 EVERGREEN TREES 0 OTHER TREES (2:1 SUBSTITUTION) 0 SHRUBS (10:1 SUBSTITUTION)	17 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	5 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	4 SHADE TREES 5 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS



Project	date	approval
97111	FEB. 1999	SA
Illustration	engineering	SJD
SA	scale	1"=50'

no.	description	date
	revisions	

**ELM STREET ESTATES, LOTS 1-18**  
 BRITTEN/BRADY PROPERTY, PHASE TWO  
 TAX MAP 31, PARCEL 147 AND BRITTEN/BRADY PROPERTY LOT 46  
 FIRST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

LANDSCAPE PLAN

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsy Hall Drive, Suite 202, Ellicott City, Maryland, 21042  
 (410) 997-0296 Ext. (301) 621-5521 Wash. (410) 997-0298 Fax

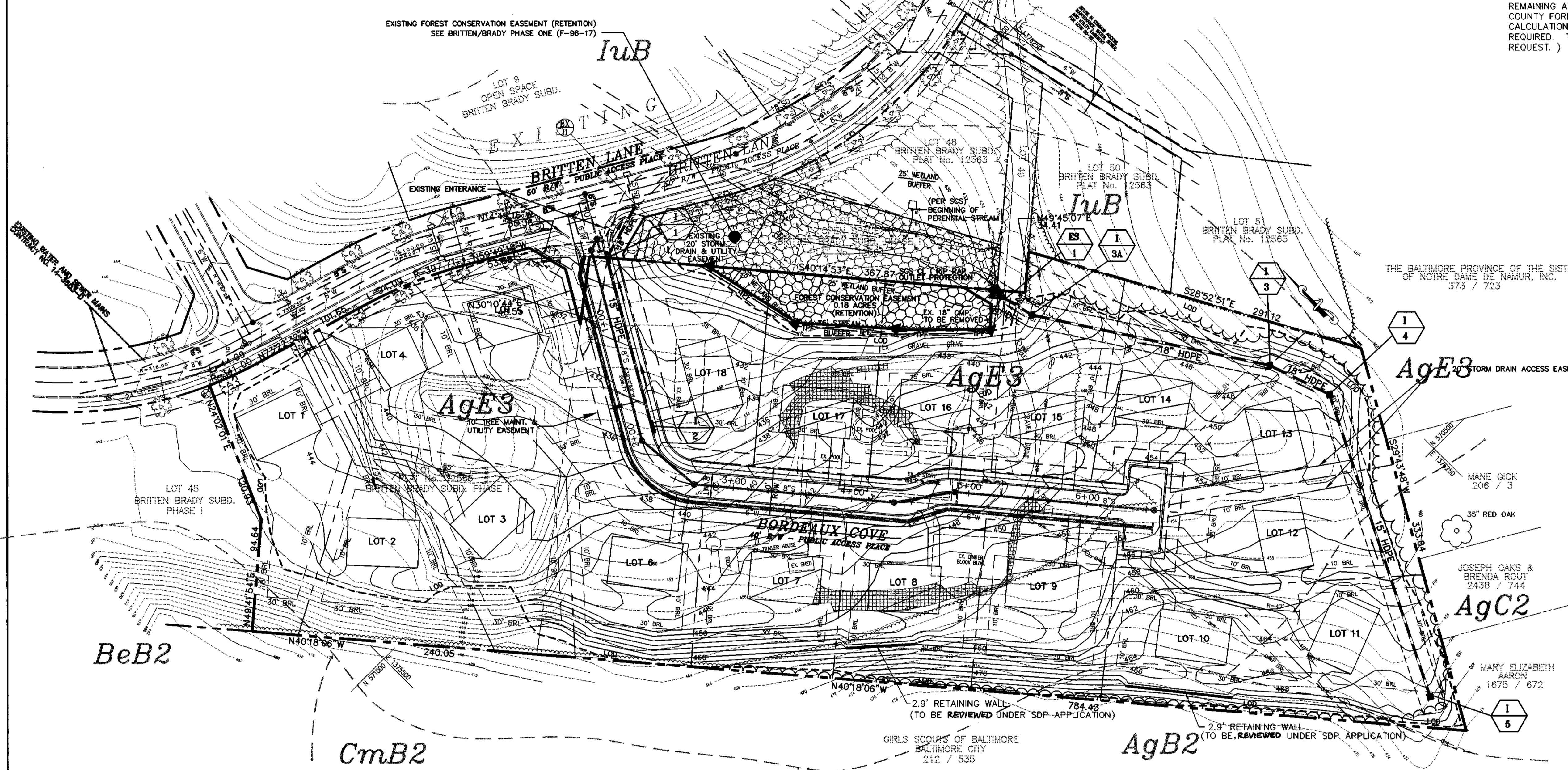
**SOILS DESCRIPTION**

SYMBOL	SOIL DESCRIPTION	HYDROLOGIC GROUP
BeB2	Beltville silt loam, 1 - 5 % slopes, moderately eroded	C
CmB2	Chillum silt loam, 1 - 5 % slopes, moderately eroded	B
AgE3	Auro gravelly loam, 10 - 30 % slopes, severely eroded	B
AgC2	Auro gravelly loam, 5 - 10 % slopes, moderately eroded	B
AgB2	Auro gravelly loam, 1 - 5 % slopes, moderately eroded	B
IuB	Iuka loam, local alluvium, 1 - 5 % slopes	C

EXISTING FOREST CONSERVATION EASEMENT (RETENTION)  
SEE BRITTEN/GRADY PHASE ONE (F-96-17)

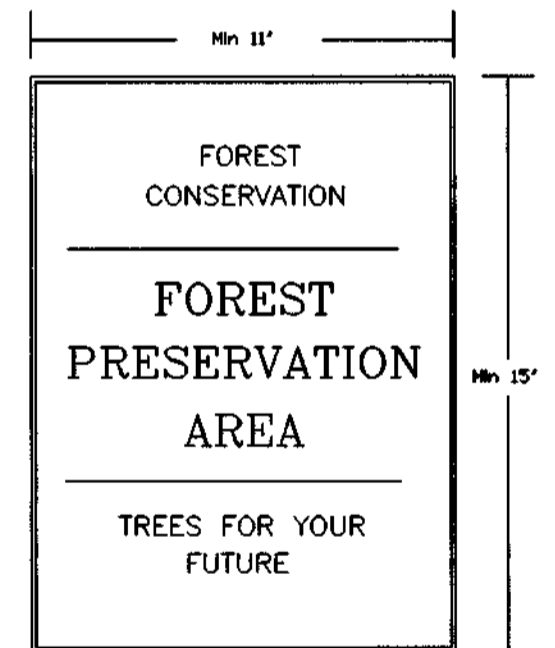
NOTE: THIS PLAN IS TO BE USED FOR FOREST CONSERVATION PURPOSES ONLY.

NOTE:  
- FEE-IN-LIEU OF REFORESTATION HAS BEEN REQUESTED FOR THE REMAINING AREA REQUIRED TO BE REFORESTED BY THE HOWARD COUNTY FOREST CONSERVATION MANUAL, SEE FOREST CONSERVATION CALCULATIONS THIS SHEET. ( 2.23 ACRES OF REFORESTATION IS REQUIRED. THIS 2.23 ACRES WILL BE A PART OF THE FEE-IN-LIEU REQUEST. )

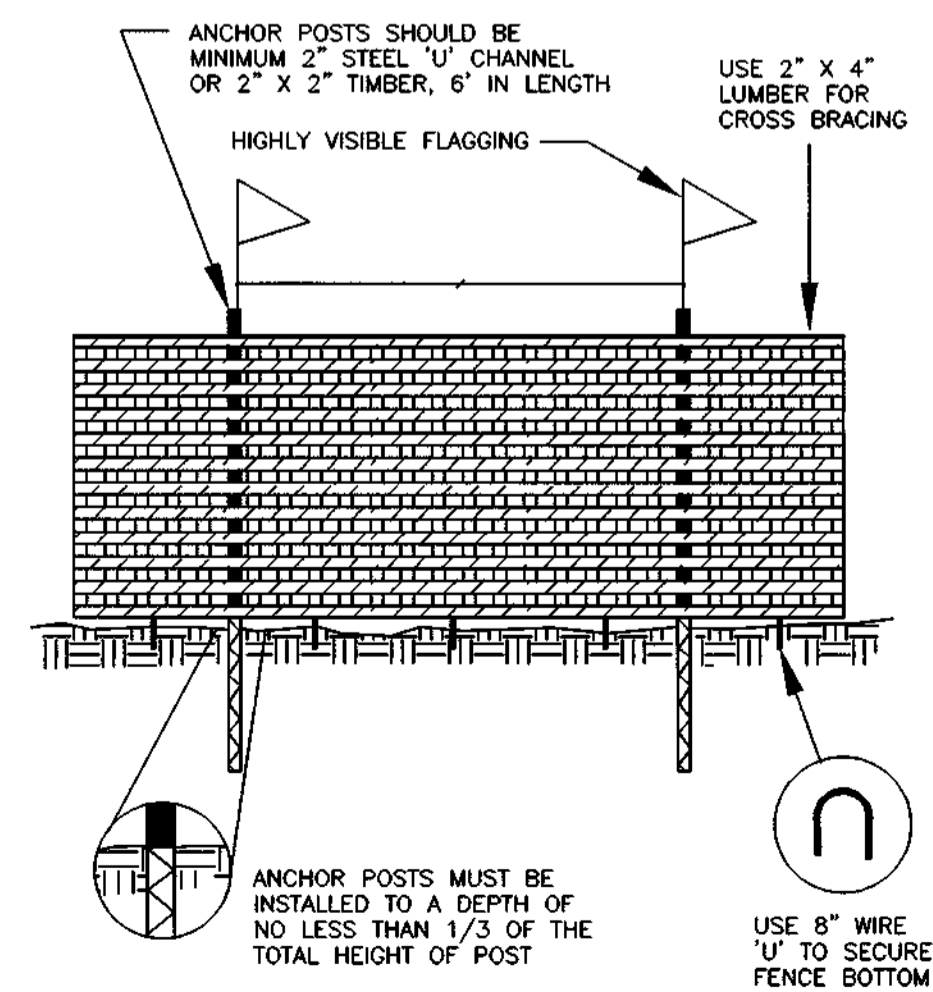


**LEGEND**

- PROPOSED TREELINE
- LIMIT OF DISTURBANCE
- STEEP SLOPES >25%
- WETLAND
- EXISTING TREE LINE
- PROPOSED TREE LINE
- TREE PROTECTIVE FENCE
- FOREST CONSERVATION SIGNAGE
- FOREST CONSERVATION EASEMENT



**PROTECTIVE FENCE DETAIL**  
BLAZE ORANGE PLASTIC MESH



**SIGNAGE DETAIL**  
NOT TO SCALE

MD DNR QUALIFIED PROFESSIONAL  
*Stephanie Demchik*  
STEPHANIE DEMCHIK

**OWNER/DEVELOPER**  
CRESTWOOD, L.C.  
6820 ELM STREET  
MCLEAN, VIRGINIA 22101  
(703)734-9730

**FOREST CONSERVATION DATA**

DESCRIPTION	ACRES
I. BASIC SITE DATA	
GROSS SITE AREA	5.57
AREA WITHIN 100 YEAR FLOODPLAIN	0.00
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL	0.00
NET TRACT AREA	5.57
LAND USE CATEGORY	RESIDENTIAL - SUBURBAN
II. FOREST CONSERVATION WORKSHEET DATA SUMMARY	
B. REFORESTATION THRESHOLD (15%)	1.11
C. AFFORESTATION MINIMUM (15%)	0.84
D. EXISTING FOREST ON NET TRACT AREA	2.60
E. FOREST AREAS TO BE CLEARED	2.42
F. FOREST AREAS TO BE RETAINED	0.18
IV. REFORESTATION CALCULATIONS	
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	1.49
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0.93
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.00
REFORESTATION FOR CLEARING ABOVE THRESHOLD	0.37
REFORESTATION FOR CLEARING BELOW THRESHOLD	1.86
TOTAL REFORESTATION REQUIRED	2.23
TOTAL REFORESTATION PROVIDED	0.00
TOTAL FEE-IN-LIEU OF REFORESTATION	2.23

**GENERAL NOTES**

- FOREST PROTECTION**
- ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
  - THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES.
  - ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
  - ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
  - INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
  - THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF GARTH WITHIN FOREST CONSERVATION EASEMENTS. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
  - THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

**CONSTRUCTION MONITORING**

- THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS.
- ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
- THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

NOTE:  
THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENTS EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, SOIL COMPACTION, OR EXCAVATION, INTRODUCTION OF TOXIC CHEMICALS OR OTHER DISTURBANCES DETRIMENTAL TO THE LIVE SPECIMEN TREES OR CRITICAL ROOT ZONES FOR THESE TREES EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

**PRE-CONSTRUCTION MEETING**

- AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
  - TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
  - INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
  - MAKE ALL NECESSARY ADJUSTMENTS;
  - ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Richard M. Davelle* 3-8-99  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Camille Kramlich* 3/16/99  
CHIEF, DIVISION OF LAND DEVELOPMENT

*William J. ...* 3/10/99  
CHIEF, DEVELOPMENT ENGINEERING DIVISION



date	FEB. 1999
project	97111
illustration	SA
scale	1" = 60'
approval	SID

no.	description	date

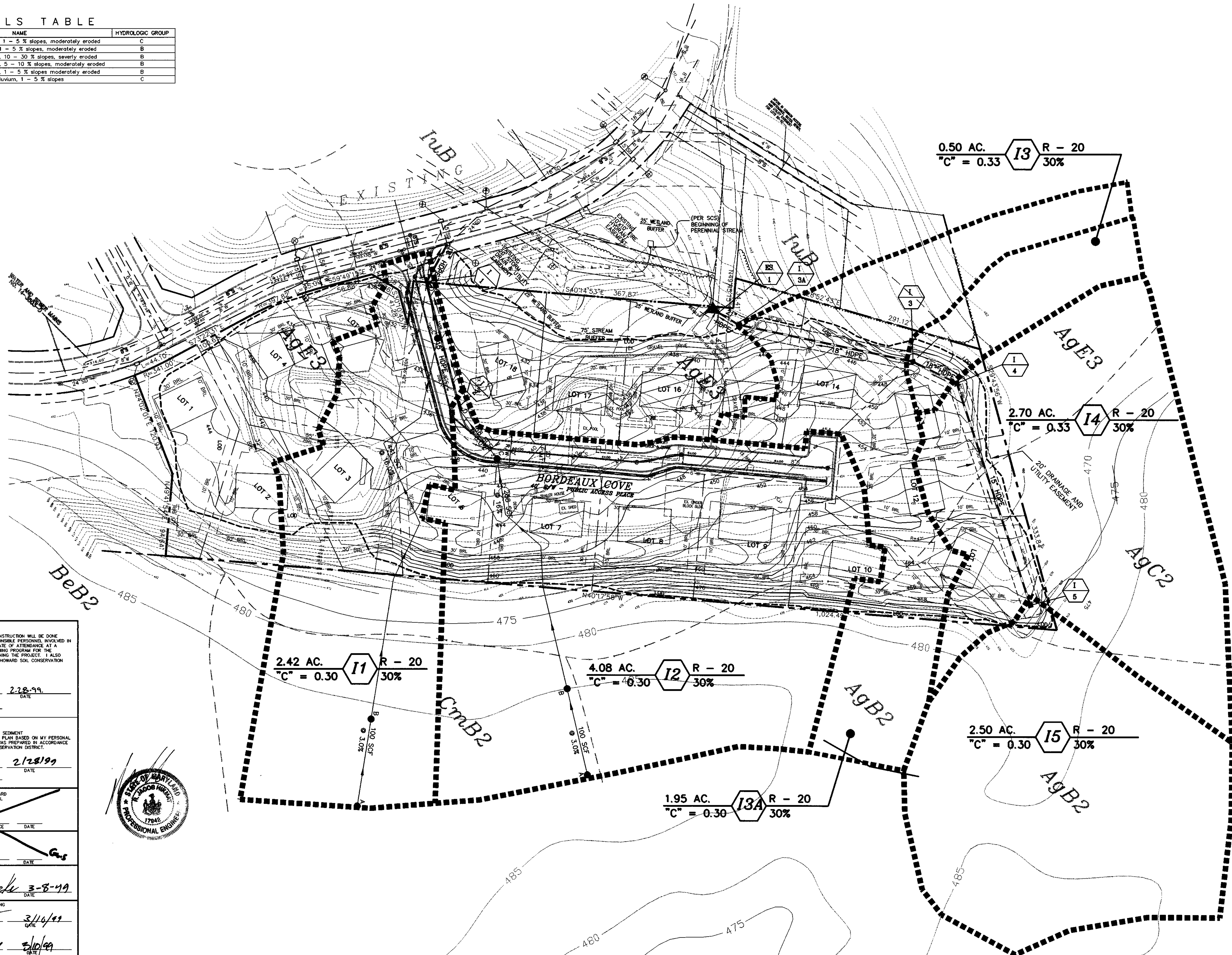
**ELM STREET ESTATES, LOTS 1-18**  
BRITTEN/GRADY PROPERTY, PHASE TWO  
TAX MAP 31, PARCEL 147 AND BRITTEN/GRADY PROPERTY LOT 46  
FIRST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
**FOREST CONSERVATION PLAN**

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Beltsville, Maryland 21042  
(410) 997-0296 Fax: (301) 621-5521 Wash. (410) 997-0298 Fax.



SOILS TABLE

SOIL SYMBOL	NAME	HYDROLOGIC GROUP
BeB2	Beltville silt loam, 1 - 5 % slopes, moderately eroded	C
CmB2	Chillum silt loam, 1 - 5 % slopes, moderately eroded	B
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AgC2	Auro gravelly loam, 5 - 10 % slopes, moderately eroded	B
AgB2	Auro gravelly loam, 1 - 5 % slopes moderately eroded	B
IuB	Iuka loam, local alluvium, 1 - 5 % slopes	C



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

*Russell J. Dickens* 2/28/99  
 SIGNATURE OF DEVELOPER DATE  
 PRINTED NAME OF DEVELOPER

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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*R. J. HIKMAT* 2/28/99  
 SIGNATURE OF ENGINEER DATE  
 PRINTED NAME OF ENGINEER

PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT DATE  
 APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Daniels* 3-8-99  
 CHIEF BUREAU OF HIGHWAYS DATE  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Chris Hamata* 3/16/99  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*John Dammann* 5/10/99  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



project	97111	date	FEB. 1999
illustration	SA	engineering	SA/SD
scale	1" = 50'	approval	

no.	description	date
	revisions	

ELM STREET ESTATES, LOTS 1-18  
 BRITTON/BRADY PROPERTY, PHASE TWO  
 TAX MAP 31, PARCEL 147 AND BRITTON/BRADY PROPERTY LOT 46  
 FIRST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DRAINAGE AREA MAP

MILDENBERG, BOENDER & ASSOC., INC.  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0296 Ext. (301) 621-5521 Wash. (410) 997-0298 Fax.