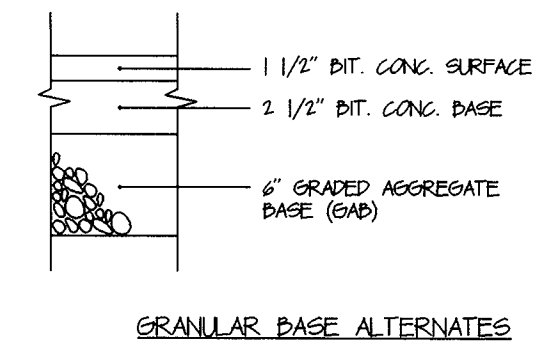
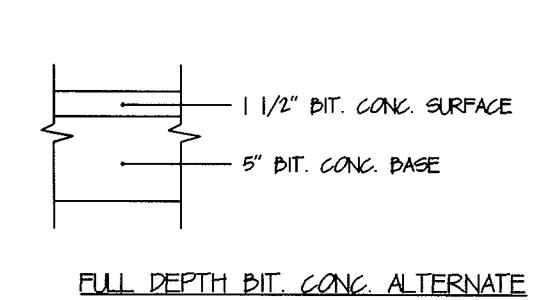
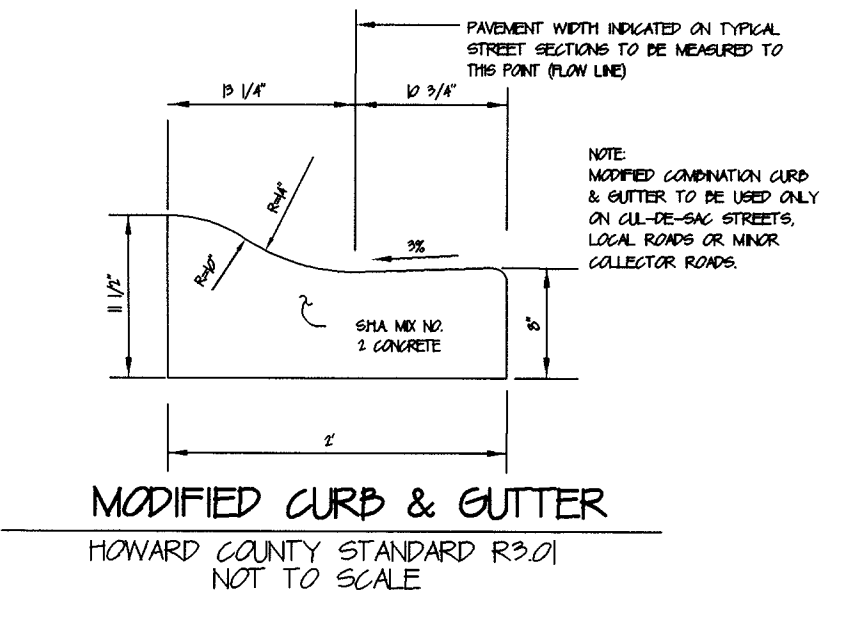
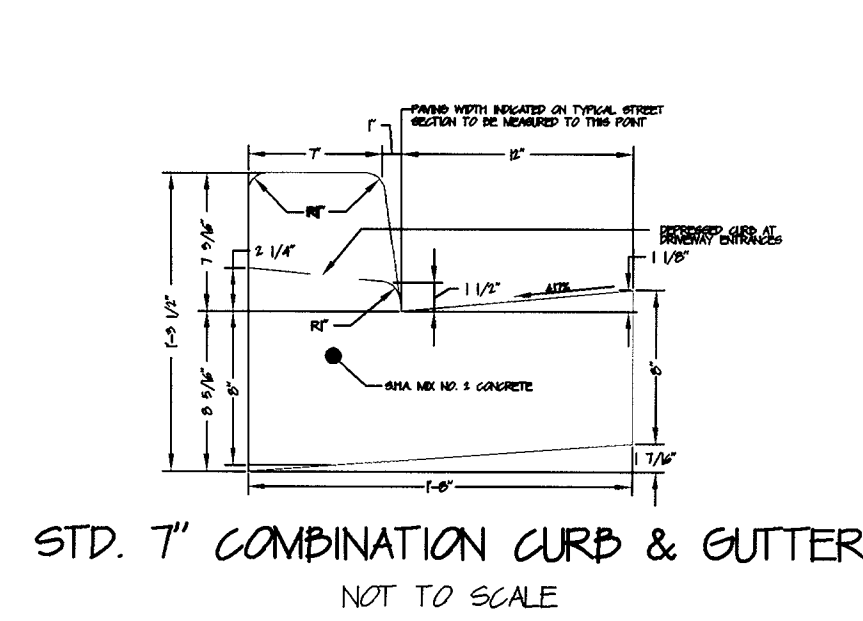
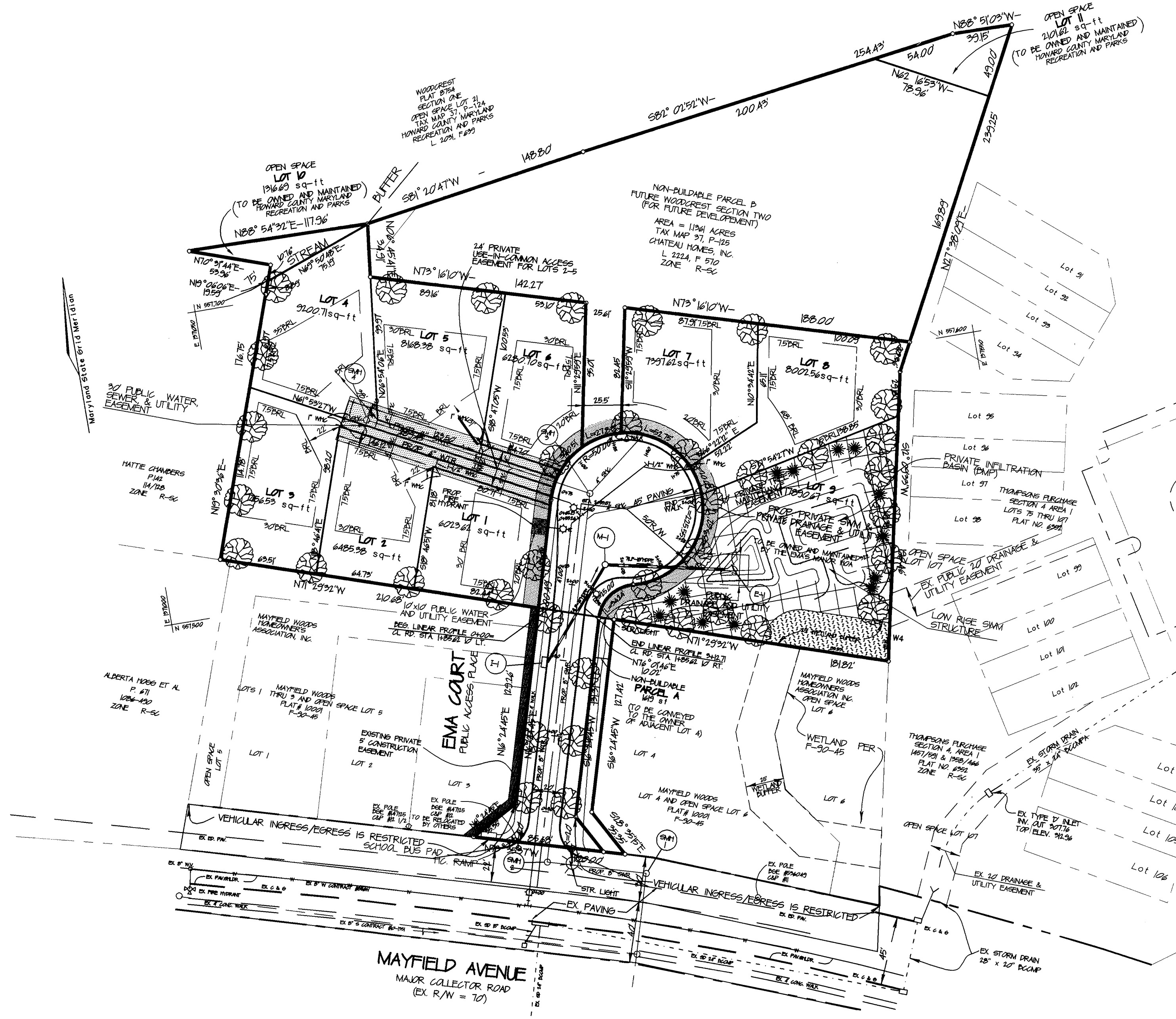




**STREET LIGHTS**

- SYMBOL DESCRIPTION**
- 360 - WATER TIPS VAPOR PREDOMINANT FUTURE (GOLF) MOUNTED ON A 30' BRONZE ALUMINUM POLE USING 1/2" DIA.
  - 360 - WATER TRANSLUCENT TIPS VAPOR PREDOMINANT FUTURE ON A BLACK PREDOMINANT POLE

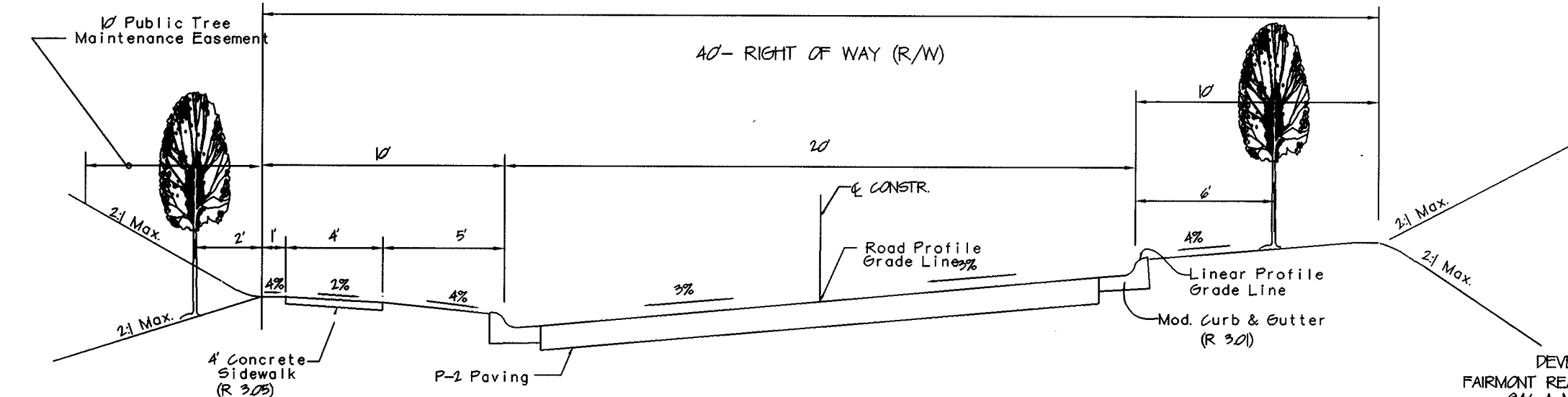
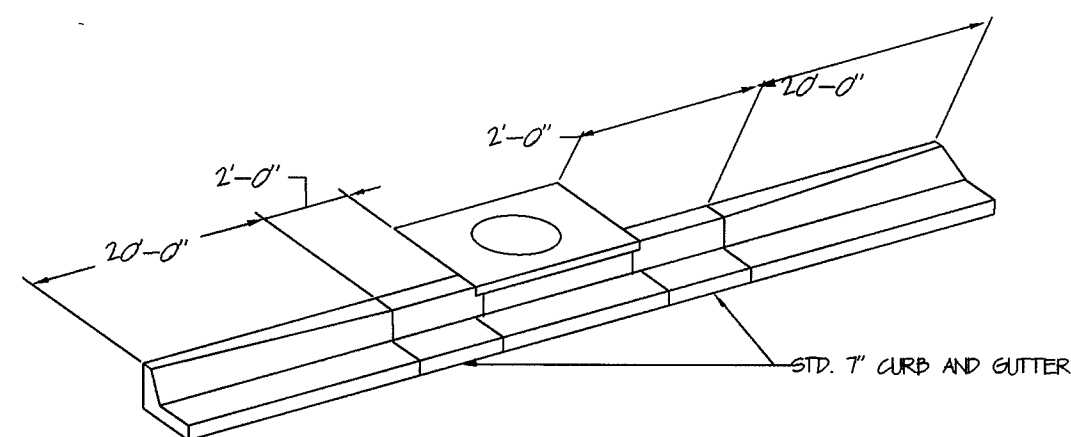
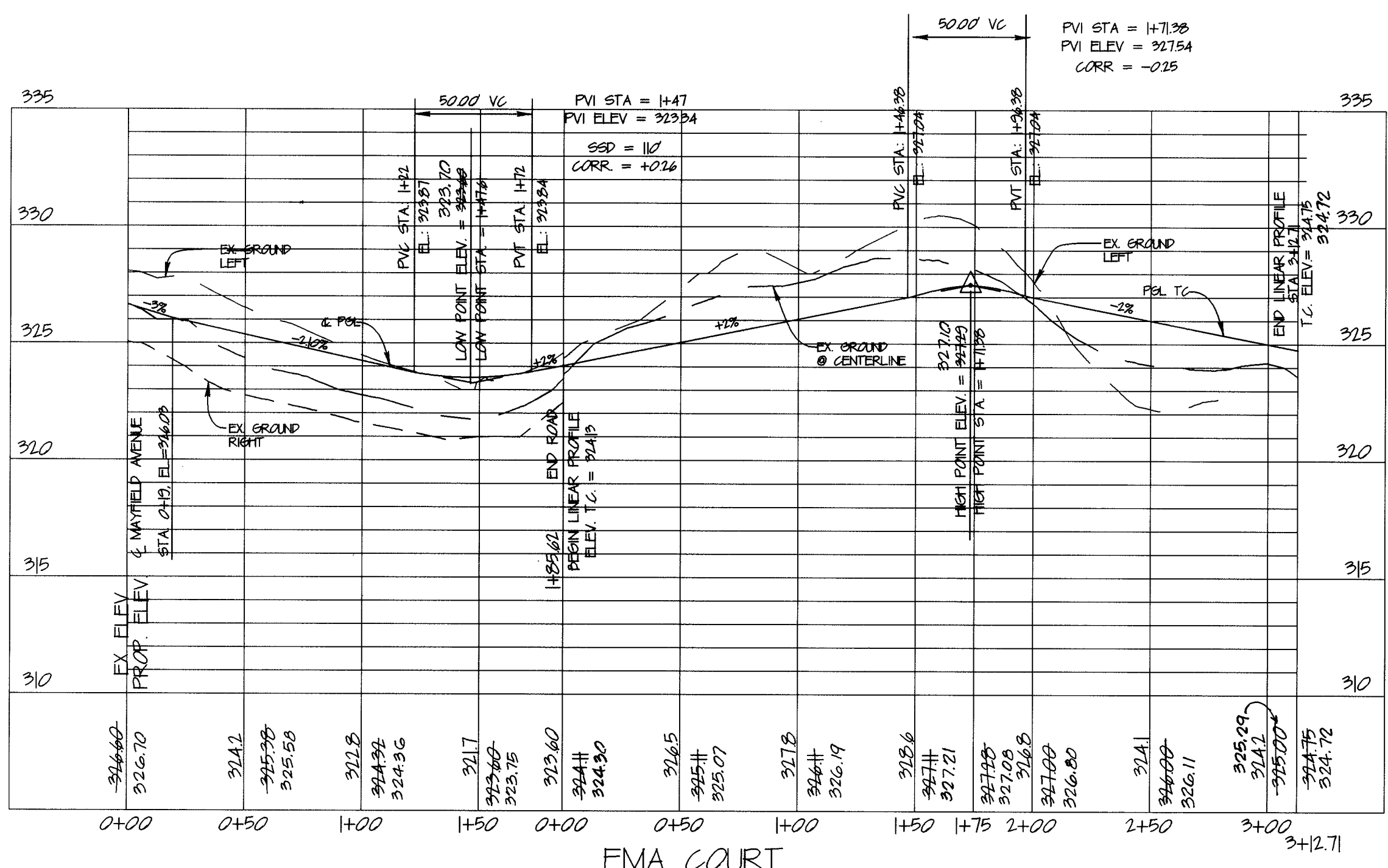
NOTE: STREET LIGHT TO BE LOCATED NOT LESS THAN 10'-0" FROM STREET TREES.



**P-2 LIGHT DUTY PAVING SECTION**  
N.T.S.

INLET TRANSITION	
STRUCTURE	LOCATION
H	BEGIN EMA CT. CL STA. 1+22.61, END STA. 1+42.61
	THEN, BEGIN EMA CT. CL STA. 1+52.61, END STA. 1+72.61

STREET TREE CHART			
SYMBOL	QUANTITY	BOTANICAL/COMMON NAME	SIZE
	92	FRAXINUS P. 'PATMORE'/PATMORE GREEN ASH	2.5"-5" CAL., D&B



STATE OF MARYLAND  
CHARLES R. CROCKER  
REGISTERED PROFESSIONAL ENGINEER  
No. 1003  
EXPIRES 12/31/05

*Charles R. Crocker*  
AS-BUILT 6-9-05

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

NO. 6-9-05 DATE: 2-9-05

AD-BUILT ELEVATION: 490

REVISION:

**ROAD PLAN AND PROFILE**  
**EMA'S MANOR**

TAX MAP 97 GRID 14 1ST ELECTION DISTRICT PARCEL 143 HOWARD COUNTY, MARYLAND

DATE: 11-13-02

Prepared by: **CHARLES R. CROCKER AND ASSOCIATES, INC.**  
Civil Engineering - Land Planning  
PO Box 307  
Westminster, MD 21157  
TEL. (410) 540-2206  
FAX. (410) 540-0963

TAX MAP 97 PARCEL 143 PROJECT NO.:

DESIGNED BY: DATE:

DRAWN BY: L.A.B. SCALE: 1" = 50'

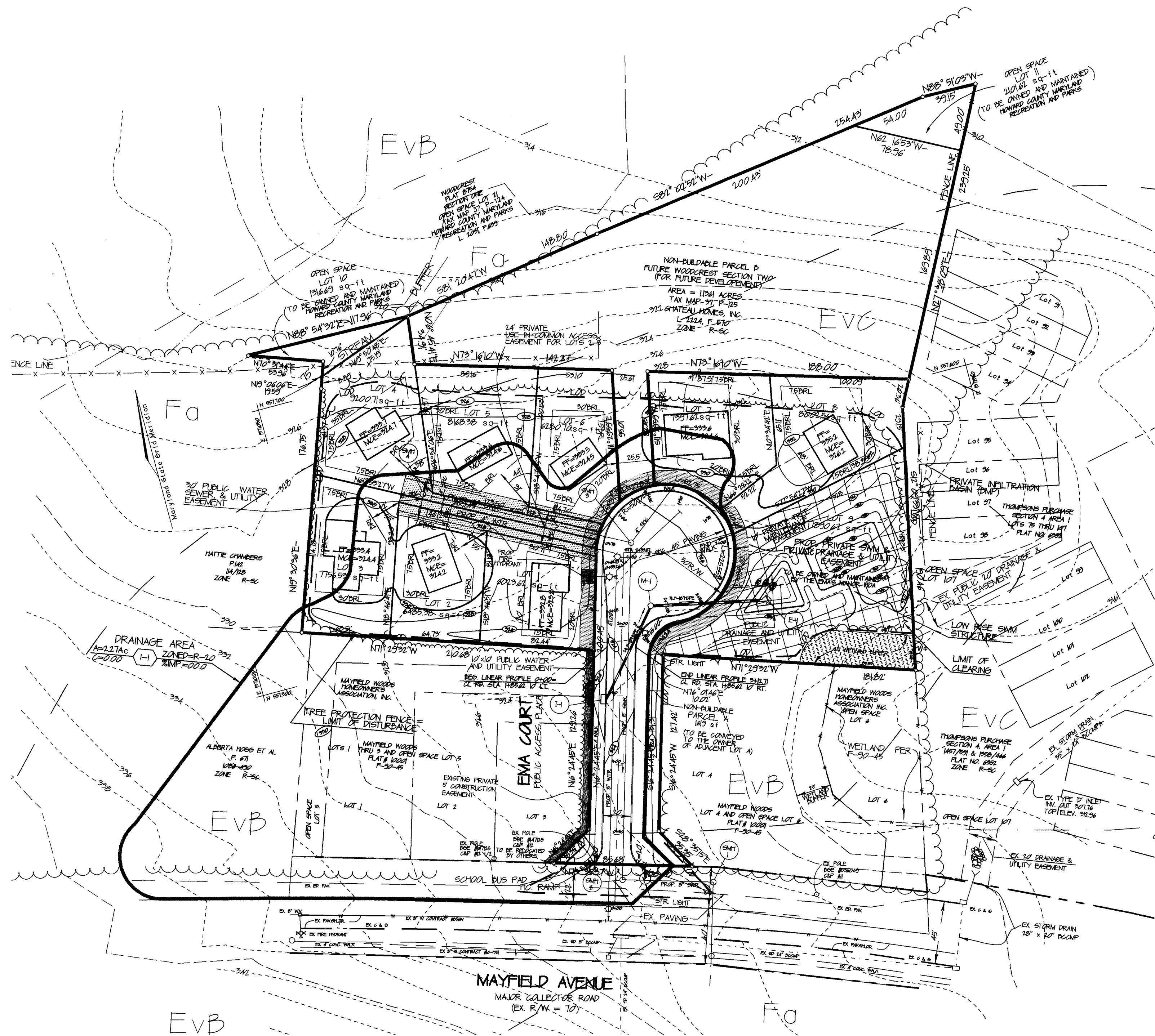
DRAWING NO. 2 OF 6

DEVELOPER: FARMHOUT REAL ESTATE SERVICES 346-A MARNICH CT. ELDELSBURG, MD 21784

OWNER: EMA'S MANOR, L.L.C. 346-A MARNICH CT. ELDELSBURG, MD 21784

OWNER: CHATEAU HOMES, INC. 5850 WATERLOO RD. (SITE 230) COLUMBIA, MD 21045-5443





**REQUIRED SEQUENCE OF CONSTRUCTION:**

1. OBTAIN GRADING PERMIT - 3 DAYS
2. INSTALL TREE PROTECTION DEVICE - 2 DAYS
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE - 1 DAY
4. CLEAR AND GRUB AREAS FOR INSTALLING SILT FENCE AND PERIMETER DIKES/SWALES - 4 DAYS
5. INSTALL SILT FENCE /SUPER SILT FENCE AND PERIMETER DIKES/SWALES - 1-1/2 WEEKS
6. ROUGH GRADE SITE TO LIMITS OF DISTURBANCE - 2 WEEKS
7. CONSTRUCT ROAD SUBBASE - 2 WEEKS
8. CONSTRUCT INITIAL PHASE OF SWM FACILITY IN ACCORDANCE WITH CONSTRUCTION SEQUENCE FOR SWM FACILITY NOTE #3 AND INSTALL 18" PIPE FOR CLEAN WATER. 2-WEEKS
9. CONSTRUCT STORM DRAINS AND OTHER UTILITIES AND INSTALL INLET PROTECTION AND SILT FENCE IN FRONT OF LOTS # 1, 6, 7, & 8. - 5 WEEKS
10. REMOVE STABILIZED CONSTRUCTION ENTRANCE AND CONSTRUCT BASE COURSE FOR EMA COURT - 1 WEEK
11. STABILIZE, SEED AND MULCH ALL DISTURBED AREAS - 1 WEEK
12. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES EXCEPT THE SEDIMENT CONTROL MEASURES AROUND THE INFILTRATION BASIN - 1 WEEK
13. CONSTRUCT INFILTRATION BASIN IN ACCORDANCE WITH CONSTRUCTION SEQUENCE. REMOVE ALL SEDIMENT CONTROL MEASURES AROUND BASIN, STABILIZE, AND PERMANENTLY SEED AND MULCH ALL AREAS DISTURBED DURING CONSTRUCTION - 1-1/2 WEEKS

SOILS LEGEND		
SYMBOL	NAME/DESCRIPTION	SOIL GROUP
EVB	EVEBROD LOAMY SAND, 1% TO 5% SLOPES	A
EVC	EVEBROD LOAMY SAND, 5% TO 15% SLOPES	A
Fd	FALLINGBOM LOAM	D/D

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for the Soil and Sediment Control.

*Jim Myers* 11/16/03  
 US Soil Conservation District DATE

These plans for Soil and Sediment Control meet the requirements of the Howard County Soil Conservation District.

*Jim Myers* 11/16/03  
 Howard Soil Conservation District DATE

**DEVELOPER'S CERTIFICATE**

I/We certify that all development and/or construction will be done according to these plans, and that all responsible personnel involved in the construction of the 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/We also authorize periodic on-site inspection by the Howard County Conservation District or their Authorized Agent as necessary.

*L. Ray Rachuba* 11/12/02  
 DATE

**ENGINEER'S CERTIFICATE**

I certify that this plan for erosion and sediment control represents a practical and workable plan based on my knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard County Soil Conservation District.

*Charles R. Crocken* 11/2/02  
 CHARLES R. CROCKEN, PE, REG. NO. 7803 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Craig Hancock* 2/14/04  
 CHIEF, DIVISION OF PLANNING AND ZONING DATE

*Mark Hancock* 2/10/04  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Andrew M. Soule* 2-9-03  
 CHIEF, BUREAU OF HIGHWAYS DATE

**LEGEND**

Existing Contour	---	-382
Proposed Contour	---	+82.52
Spot Elevation	+	+82.52
Direction of Flow	→	
Existing Trees to Remain		
Light Poles	⊙ Post Top	⊙ Overhead
Stabilized Construction Entrance		
Silt Fence	— SF — SF —	
Super Silt Fence	— SSF — SSF —	
Earth Dike	— ED A-1 —	
Limit of Disturbance	---	LOD

DEVELOPER:  
 FARMINGTON REAL ESTATE SERVICES  
 346-A NARMING CT  
 ELSPERSBURG, MD 21784

OWNER:  
 CHATEAU HOMES, INC.  
 5562 WATERLOO RD. (STE 230)  
 COLUMBIA, MD 21046-3443

OWNER:  
 EMA'S MANOR, LLC  
 346-A NARMING CT.  
 ELSPERSBURG, MD 21784

**GRADING PLAN**  
**EMA'S MANOR**

TAX MAP 37 GRID 14  
 1ST ELECTION DISTRICT

PARCEL 143  
 HOWARD COUNTY, MARYLAND

11-12-02  
 DATE

Prepared by: **CHARLES R. CROCKEN AND ASSOCIATES, INC.**  
 Civil Engineering - Land Planning  
 PO Box 307  
 Westonsville, MD 21157  
 Tel. (410) 549-2708  
 Fax. (410) 549-9063

TAX MAP 37 PARCEL 143, P10105 PROJECT NO:

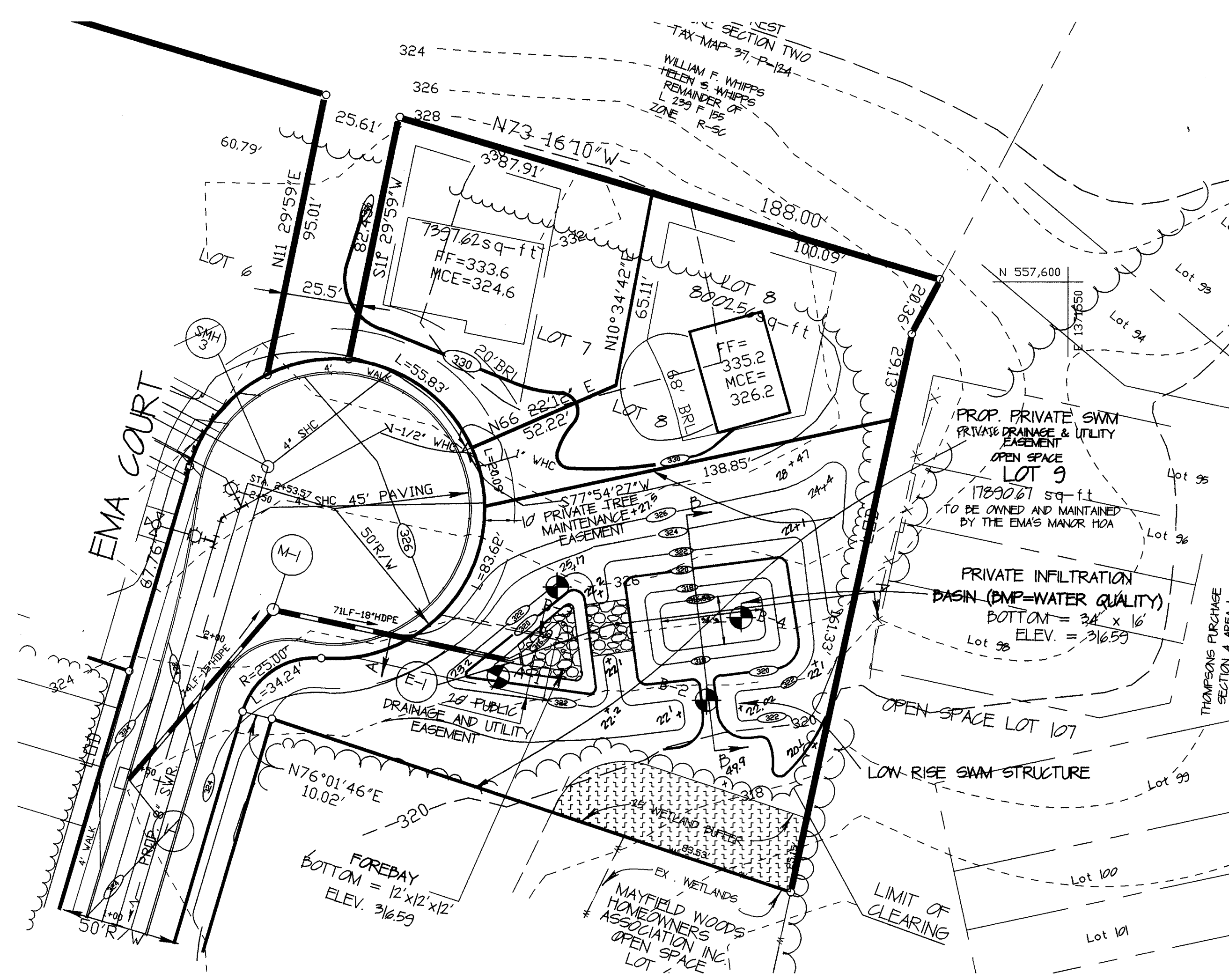
DESIGNED BY: DATE: SEPT. 2001

DRAWN BY: LAD. SCALE: 1" = 50'

DRAWING NO. 3 OF 6

*Charles R. Crocken*  
 PROFESSIONAL ENGINEER NO. 7803





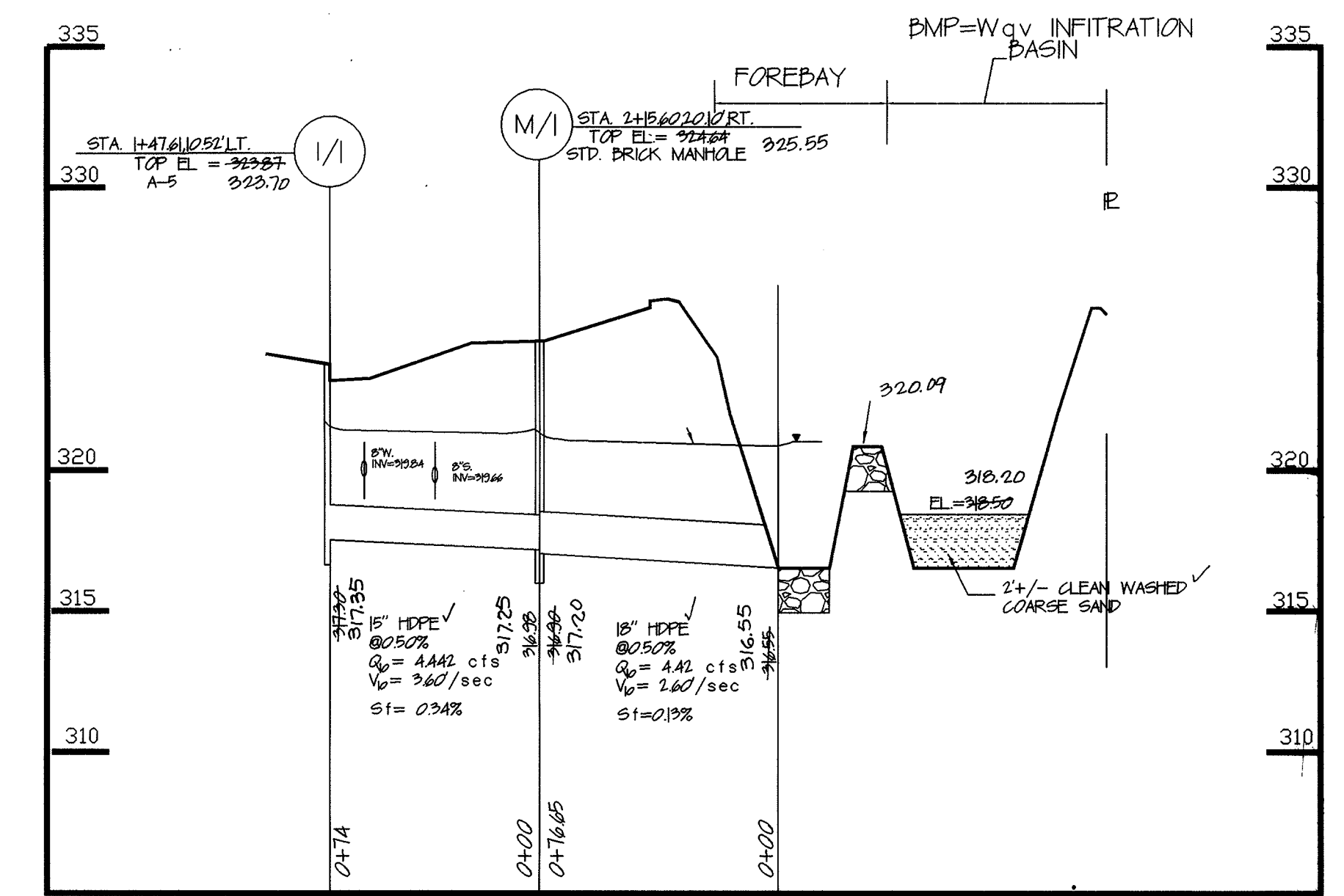
**STORMWATER MANAGEMENT FACILITY (INFILTRATION)**

SCALE: 1"=30'

STORMWATER MANAGEMENT FACILITY TO BE OWNED BY THE HOME OWNERS ASSOCIATION AND JOINTLY MAINTAINED BY HOA AND HOWARD COUNTY SEE MAINTENANCE AND OPERATION SCHEDULE

**MAINTENANCE AND OPERATION SCHEDULE:**

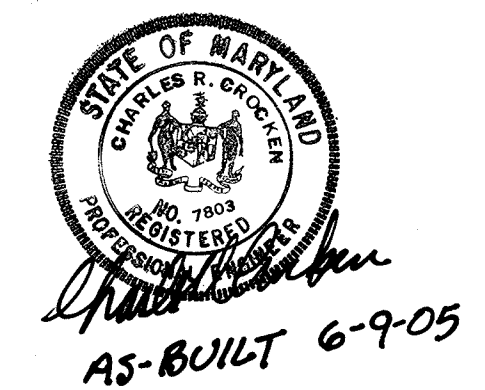
1. DRAINAGE SYSTEMS MUST BE INSPECTED ON A ROUTINE BASIS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. INSPECTION SHALL BE DONE ON A SEMIANNUAL BASIS BUT SHOULD ALWAYS BE CONDUCTED FOLLOWING MAJOR STORMS. TO REMOVE ACCUMULATED PAPER TRASH AND DEBRIS THE COLLECTION OF TRASH AND DEBRIS SHALL BE DONE BY THE HOMEOWNERS ASSOCIATION.
2. THE COUNTY SHALL INSPECT THE INFILTRATION BASIN ANNUALLY ANY REPAIR REQUIRED SHALL BE DONE BY COUNTY AND THE HOMEOWNERS ASSOCIATION.
3. WHENEVER SILT HAS ACCUMULATED MORE THAN 4 INCHES IN THE FOREDAY, THE INFILTRATION BASIN SHALL BE CLEANED OF SILT DEPOSIT. REMOVAL SHALL BE DONE IN ACCORDANCE WITH SEDIMENT REMOVAL IN
4. TRACTORS BE EMPLOYED FOR THESE OPERATIONS IN THE EVENT HEAVY EQUIPMENT HAS CAUSED DEEPER THAN NORMAL COMPACTION OF THE SURFACE. THESE OPERATIONS SHALL BE PRECEDED BY DEEP FLOWING IN ITS FINAL CONDITION AFTER TILLING. THE BASIN FLOOR SHALL BE LEVEL, SMOOTH, AND FREE OF RIDGES AND FURROWS TO EASE FUTURE REMOVAL OF SEDIMENT AND MINIMIZE TIE MATERIAL TO BE REMOVED DURING THE FUTURE CLEANING OPERATIONS. A LEVELING DRAG, TOWED BEHIND THE EQUIPMENT ON THE LAST PASS WILL ACCOMPLISH THIS.
5. THOROUGH TILLAGE SHALL BE DONE ONCE EACH SEASON, FROM LATE JUNE TO SEPTEMBER.
6. TO CONTROL VEGETATIVE GROWTH AN ADDITIONAL LIGHT TILLAGE IS ADVISABLE DURING THE GROWING SEASON. PRECAUTION SHALL BE TAKEN TO AVOID ANY SEDIMENT ACCUMULATION INTO THE BASIN FLOOR. ALL TILLING OPERATIONS SHALL BE PRECEDED BY CAREFUL SEDIMENT REMOVAL.
7. VEGETATION ON THE TOP AND SIDE SLOPES SHALL NOT BE ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANY TIME. MOWING OF THE BASIN SIDE SLOPES AT LEAST TWICE A YEAR, ONCE IN JUNE AND AGAIN IN SEPTEMBER SHALL BE DONE.
8. AFTER THE SECOND YEAR OF SEEDING, REPERTILIZE THE BASIN WITH 10-6-4 RATIO FERTILIZER AT A RATE OF 500 LBS. PER ACRE OR 1/8 LBS PER 1000 SQ. FT.



**STORMDRAIN PROFILE**

SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'

STRUCTURE SCHEDULE						
NUMBER	TYPE	INV. IN	INV. OUT	TOP ELEV.	REMARKS	LOCATION
1/1	A-5		317.49 317.35	323.75 323.57	HO. CO. SDA01	STA 147410281.T ✓
M/1	STD.	317.72 317.25	317.01 317.2	325.55 324.65	HO. CO. G501	STA 245602012.T ✓
ES-1	END SECTION		316.59 ✓	316.23	HO. CO. G501	N551472910 ✓ E1718082326 ✓



OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT INFILTRATION FACILITY. STORMWATER MANAGEMENT FACILITY ROUTINE MAINTENANCE BY HOA:  
 1. FACILITY WILL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTION SHOULD BE PERFORMED DURING BEST WEATHER TO DETERMINE IF FUNCTIONING PROPERLY.  
 2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.  
 3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.  
 4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS REPEAT OUTLET AREA SHALL BE RETAINED AS SOON AS IT IS NOTICED.  
 NON-ROUTINE MAINTENANCE BY HOA:  
 1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RIDGE, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.  
 2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE. INTERFERE WITH THE FUNCTION OF THE RIDGE. WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

STORM WATER MANAGEMENT DATA					
DESIGN STORM	EXIST. RUNOFF	PEAK FLOW	STORAGE		PEAK W.S. ELEV.
			REQUIRED	PROVIDED	
2 YEAR	0.00 cfs	2.07 cfs	NONE	N/A	320.21
10 YEAR	0.00 cfs	7.97 cfs	NONE	N/A	320.35
100 YEAR	0.00 cfs	14.76 cfs	NONE	N/A	320.75

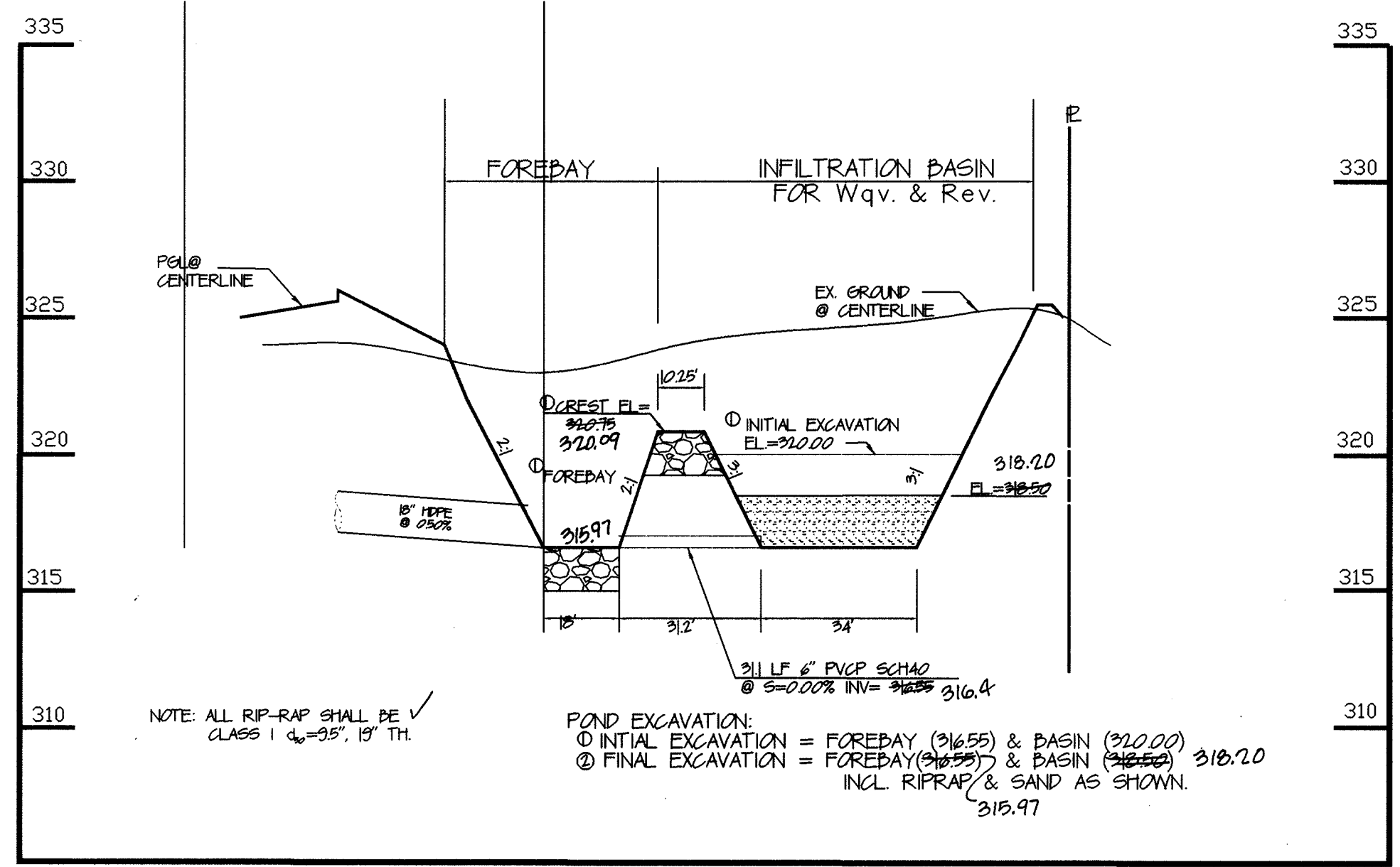
AVAILABLE FREEBOARD 312.00 - 312.75 = 125 (100 YEAR)  
1-YEAR PEAK FLOW = 0.04 cfs < 2.00 cfs C/PV NOT REQ'D.

WATER QUALITY DATA - (STREAM CLASS 1)											
WqV WATER QUALITY MANAGEMENT					Rev WATER RECHARGE						
AREA	BMP	AREA	IMPERV. AC %	Rv	WqV STORAGE REQ'D	PROVIDED	DA	MP AC	Rev REQ'D	Rev PROVIDED	
①	INFL.	2.21	104	51	0.51	2171 CF	2,640 CF	2.21	0.87	1,555 CF	2,640 CF

NOTE: WqV AND Rev BY INFILTRATION BASIN FOR AREA ①. PRETREATMENT PROVIDED BY FOREDAY.

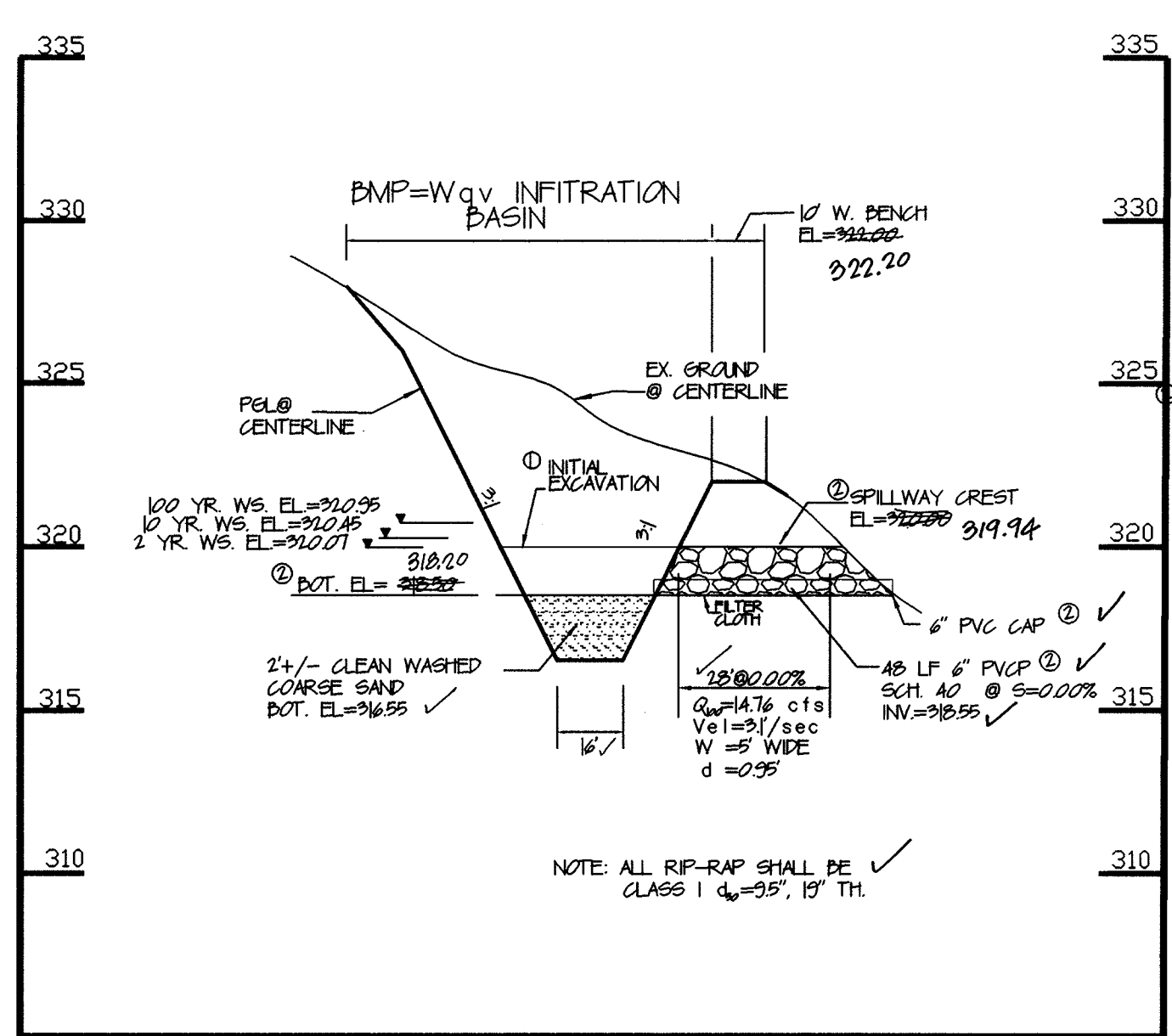
**CONSTRUCTION SEQUENCE FOR SWM FACILITY**

1. THE AREA TO BE COVERED BY THE BASIN SHALL BE CLEAR OF ALL TREES, BRUSH, LOGS, RUBBISH AND OTHER OBJECTIONABLE MATERIALS.
2. ALL CLEARED AND GRUBBED MATERIALS SHALL BE DEPOSED OF NO LESS THAN 25 FEET WITHIN THE BASIN LIMITS AS DIRECTED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE OR HALLED OFF SITE.
3. THE SWM FACILITY SHALL BE CONSTRUCTED IN PHASES TO AVOID SEDIMENT CLOGGING THE INFILTRATION BASIN. THE INITIAL CONSTRUCTION SHALL INCLUDE EXCAVATION OF THE FOREDAY TO ELEV=316.59 AND THE BASIN TO ELEV=312.00 (SEE PLAN AND NOTES).
4. WHEN THE GRADING OR DISTURBANCE OF ALL AREAS DRAINING TO SWM FACILITY HAVE BEEN COMPLETED AND THE AREAS PERMANENTLY STABILIZED, THE FINAL PHASE EXCAVATION SHALL BE CARRIED OUT, AFTER APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR IS OBTAINED.
5. ALL ACCUMULATED SEDIMENT ON THE BASIN SHALL BE REMOVED AND THE INFILTRATION BASIN EXCAVATED TO THE FINAL ELEVATION SHOWN ON THE PLAN. RELATIVELY LIGHT EQUIPMENT SHALL BE USED FOR THIS OPERATION TO AVOID COMPACTION OF THE BASIN FLOOR. THE MATERIAL EXCAVATED FROM THE BASIN SHALL BE PLACED AND SPREAD NO LESS THAN 15 FEET FROM THE BASIN LIMITS WITH THE TOP SLOPING AWAY FROM THE BASIN EDGE.
6. AFTER THE FINAL GRADING IS COMPLETED, THE BASIN FLOOR SHALL BE DEEPLY TILLED BY MEANS OF ROTARY TILLERS OR DISC HARROWS TO PROVIDE A WELL-AERATED, HIGHLY POROUS SURFACE TEXTURE.
7. THE INFILTRATION BASIN SHALL BE LINED WITH A 2 1/4" LAYER OF COARSE SAND TO HELP PREVENT THE BUILDING OF IMPERVIOUS DEPOSITS ON THE SOIL SURFACE.
8. AFTER THE INFILTRATION BASIN IS EXCAVATED TO THE GRADE SPECIFIED IN THE DRAWINGS, ESTABLISH DENSE VEGETATION ON THE BASIN SIDE SLOPES AND FLOOR TO PREVENT EROSION AND SLUSHING WHILE PROVIDING A NATURAL MEANS OF MAINTAINING RELATIVELY HIGH INFILTRATION RATES. SELECTION OF SUITABLE VEGETATIVE MATERIALS SHALL BE DONE IN ACCORDANCE WITH MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.



**SECTION A-A THROUGH INFILTRATION BASIN**

SCALE: HORIZONTAL - 1"=30'  
VERTICAL - 1"=5'



**SECTION B-B THROUGH INFILTRATION BASIN**

SCALE: HORIZONTAL - 1"=30'  
VERTICAL - 1"=5'

DEVELOPER: FARMVANT REAL ESTATE SERVICES, 346-A WARMING CT, ELDELSBURG, MD 21784

OWNER: EMAS MANOR, L.L.C., 346-A WARMING CT, ELDELSBURG, MD 21784

OWNER: CHATEAU HOMES, INC., 5840 WATERLOO RD. (SITE 230), COLUMBIA, MD, 21045-1949

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Planning and Zoning: *Carolyn Hunt*, 2/11/03  
 Chief, Development Engineering Division: *John J. ...*, 2/13/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways: *Richard M. ...*, 2-9-03

11-12-02 DATE  
 AS-BUILT ELEVATIONS

**SWM PLAN, DETAILS, & STORM DRAIN PROFILE**

EMA'S MANOR

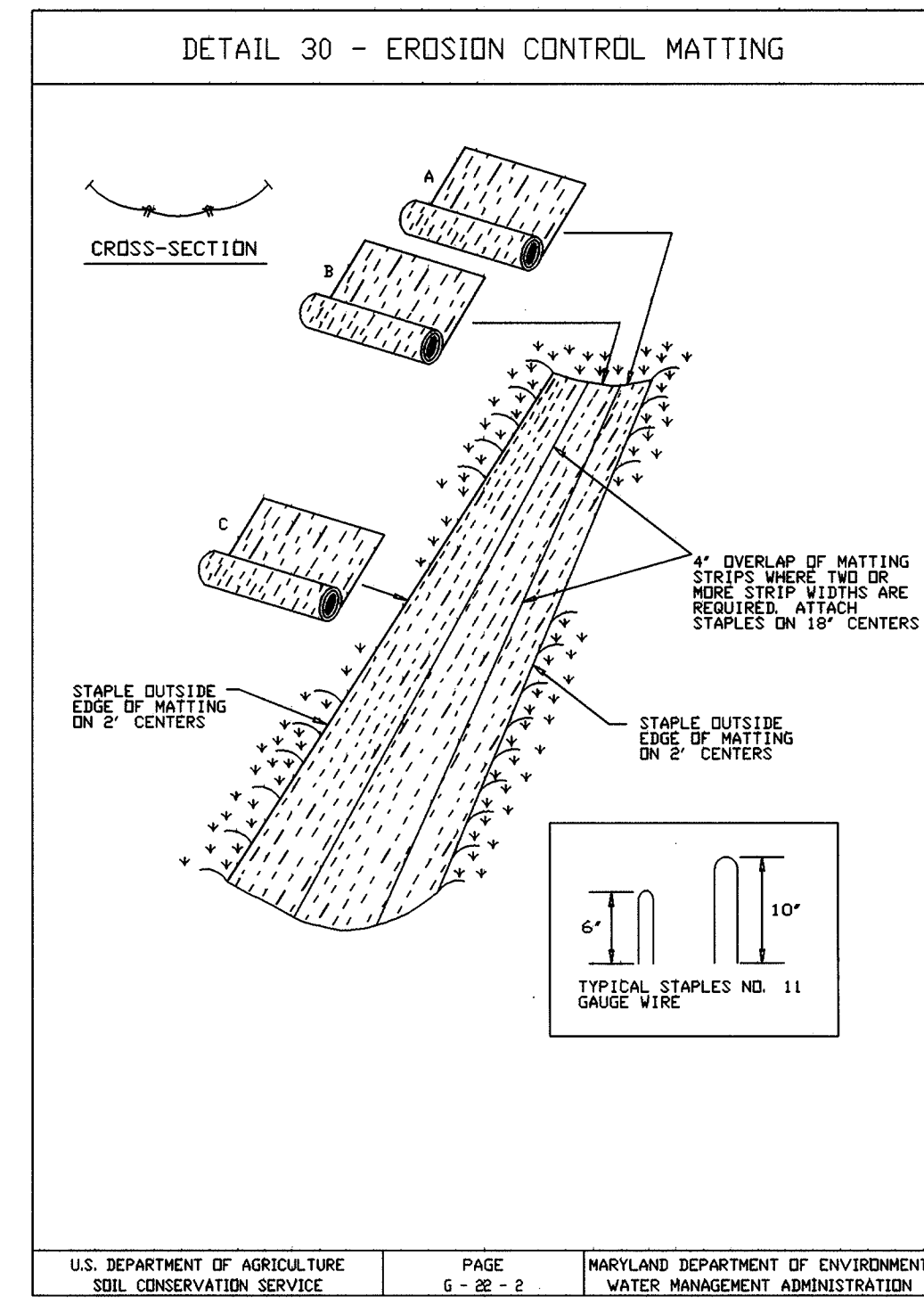
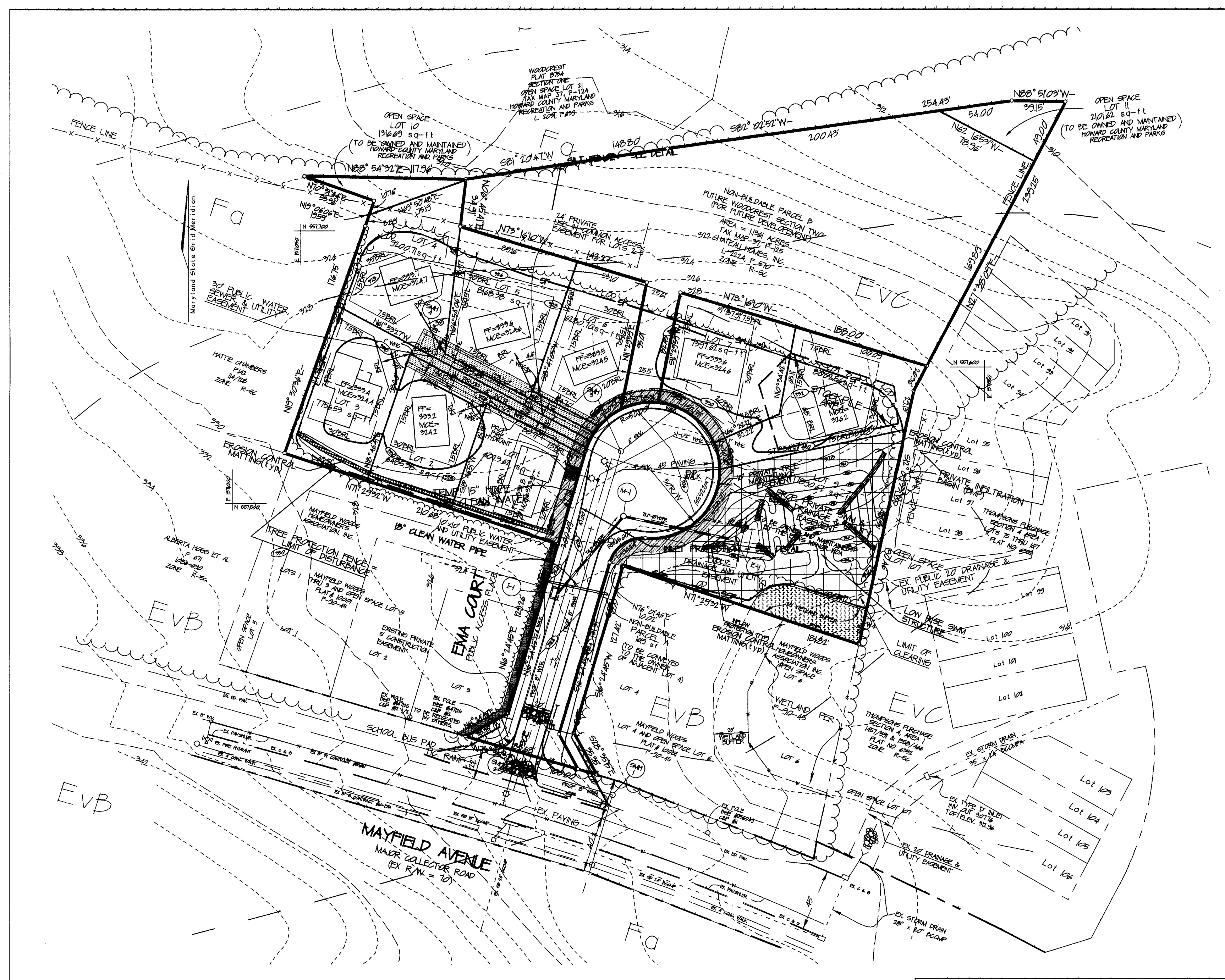
TAX MAP 97 GRID 14 PARCEL 149  
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

Prepared by: **CHARLES R. CROCKEN & ASSOC., INC.**  
 Civil Engineering - Land Planning  
 PO Box 307  
 Westonsville, MD 21157  
 Tel. (410) 549-2708  
 Fax. (410) 549-9063

TAX MAP 97 PARCEL 149, 150 PROJECT NO:  
 DESIGNED BY: CRC. DATE: 8/20/02  
 DRAWN BY: LAB. CHC. SCALE: 1" = 50'  
 DRAWING NO. A OF 6

Professional Engineer No. *Charles R. Crocken*





**STANDARD SEDIMENT CONTROL NOTES**

1) A minimum of 48 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction (410-215-1056).

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 1989 Maryland Standards and Specifications for Soil Erosion and Control.

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

4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeters in accordance with Vol. I Chap. 12 of the Howard County Design Manual, Storm Drainage.

5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1989 Maryland Standards and Specifications for soil erosion and sediment control for permanent seedings (Sec. 5), sod (Sec. 5A), temporary seeding (Sec. 5C), and mulching (Sec. 5D). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

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

7) Site analysis:  
 Total area of site - 1001 acres  
 Area disturbed - 0.48 acres  
 Area to be roofed or paved - 0.48 acres  
 Area to be vegetatively stabilized - 1.74 acres  
 Total cut - 7.70 cu. yds.  
 Total fill - 7.70 cu. yds.  
 On-site waste/borrow area location - 1/0

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

9) Additional sediment controls must be provided if deemed necessary by the Howard County DPW Sediment Control Inspector.

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

**PERMANENT SEEDING NOTES**

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed. Seeded Preparation: Loosen upper 3 inches of soil by raking, discing, or other suitable means before seeding, unless otherwise loosened.

**Soil Amendments:** In lieu of soil test recommendations, use the following schedules:  
 1) Preferred - apply 2 tons per acre dolomitic limestone (25 lbs/1000 sq ft) and 400 lbs. per acre 10-10-10 fertilizer (4 lbs/1000 sq ft) before seeding. Harrow or disc into upper 3 inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (3 lbs/1000 sq ft).

2) Acceptable - apply 2 tons per acre dolomitic limestone (25 lbs/1000 sq ft) and 1000 lbs. per acre 10-10-10 fertilizer (25 lbs/1000 sq ft) before seeding. Harrow or disc into upper 3 inches of soil one of the following schedules:  
 Seeding - For the periods March 1 through April 30, and Aug. 1 through Oct. 31, seed with 60 lbs/acre (4 lbs/1000 sq ft) of Kentucky 31 tall fescue. For the period May 1 through July 31, seed with 60 lbs/acre of Kentucky 31 tall fescue and 2 lbs. per acre (25 lbs/1000 sq ft) of weeping lovegrass. For the period Oct. 1 through Feb. 28, protect by Option (1) 2 tons/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 of Kentucky 31 tall fescue and mulch with 2 tons/acre of well-anchored straw.

Mulching - Apply 1 1/2 to 2 tons/acre (10 to 20 lbs/100 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 200 gallons/acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8% feet or higher use 300 gallons/acre (3 gal/1000 sq ft) for anchoring. Refer to 1994 Maryland Standards for Soil Erosion and Sediment Control for rates and methods not covered.

**TEMPORARY SEEDING NOTES**

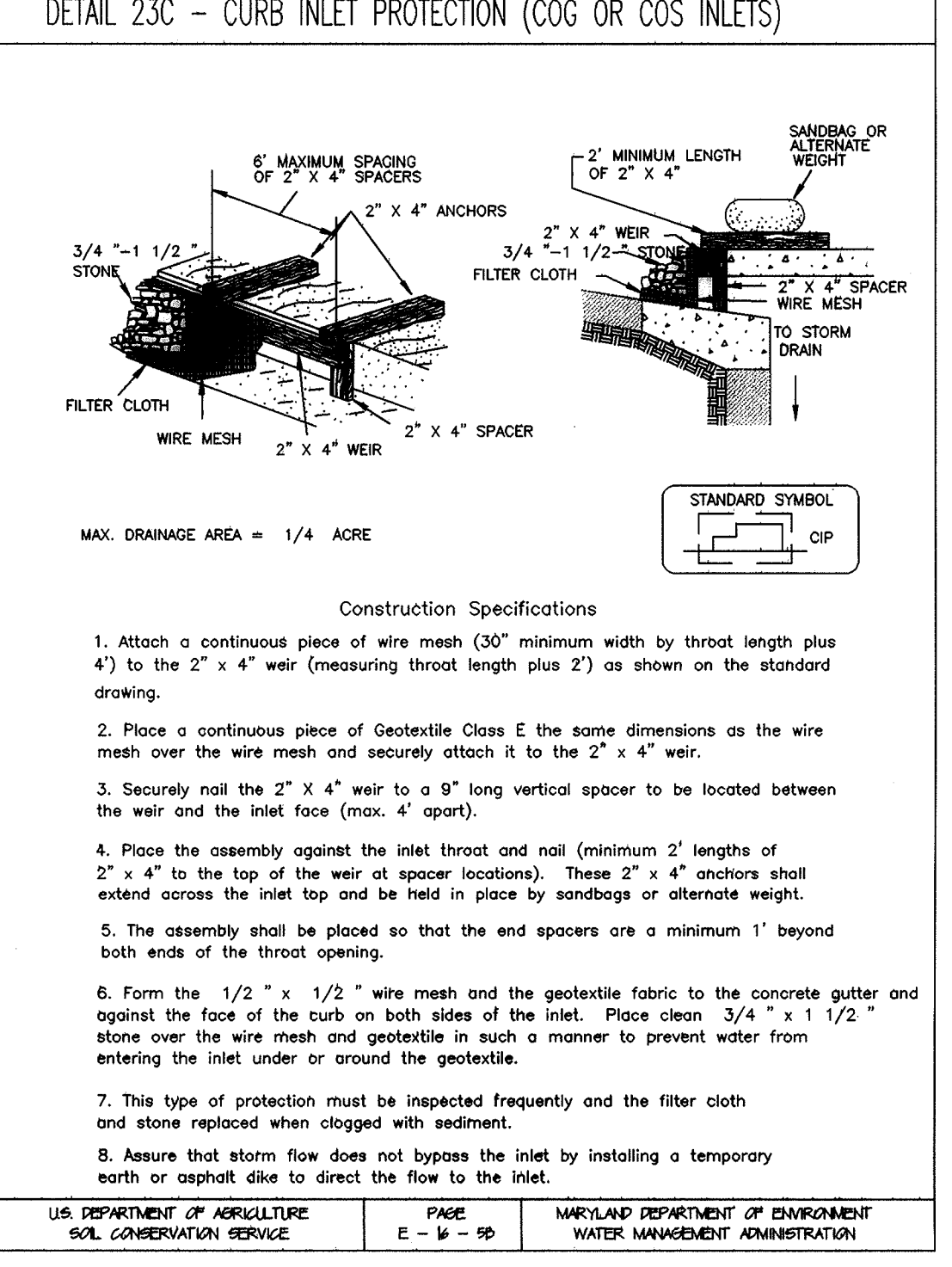
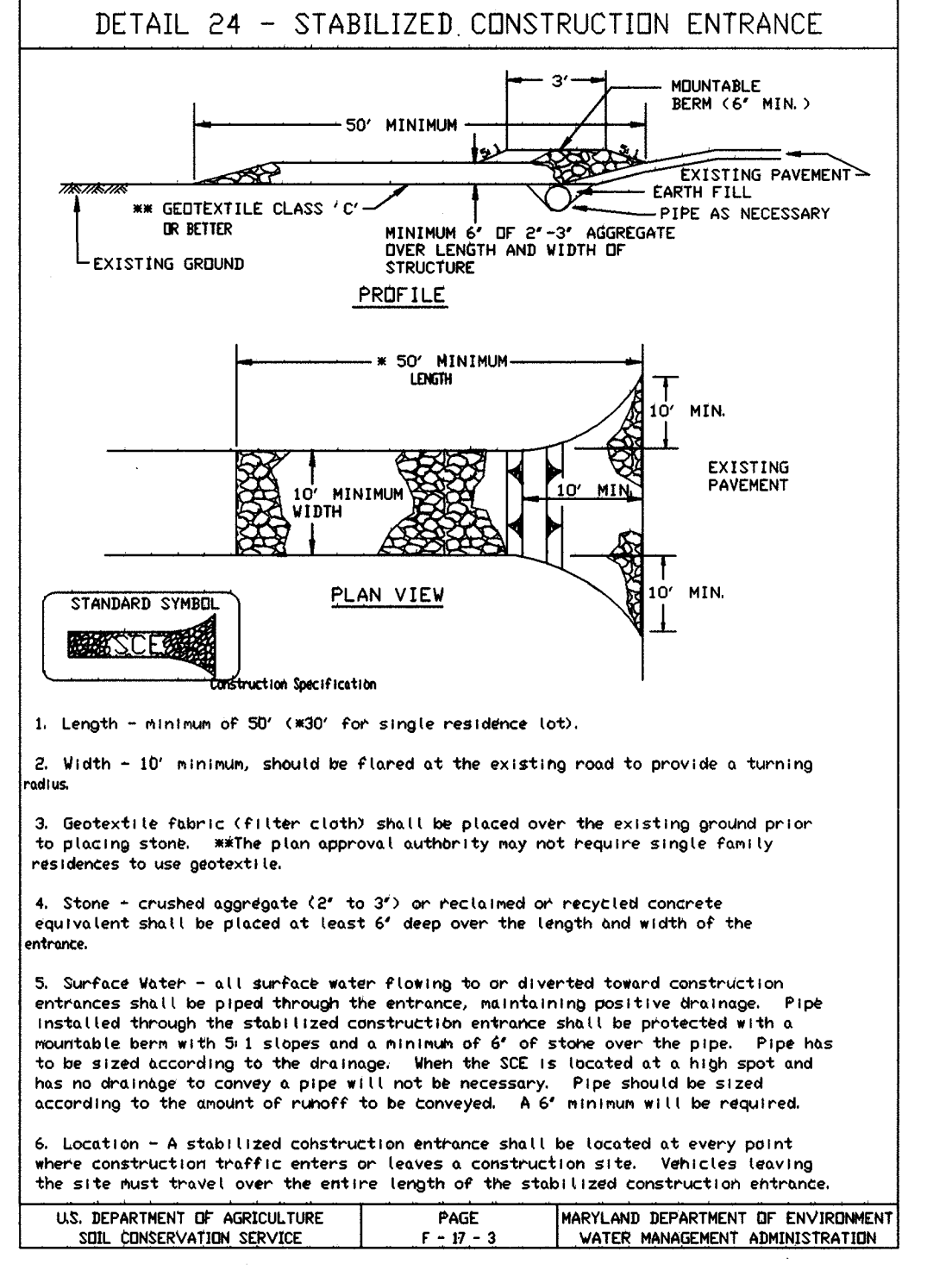
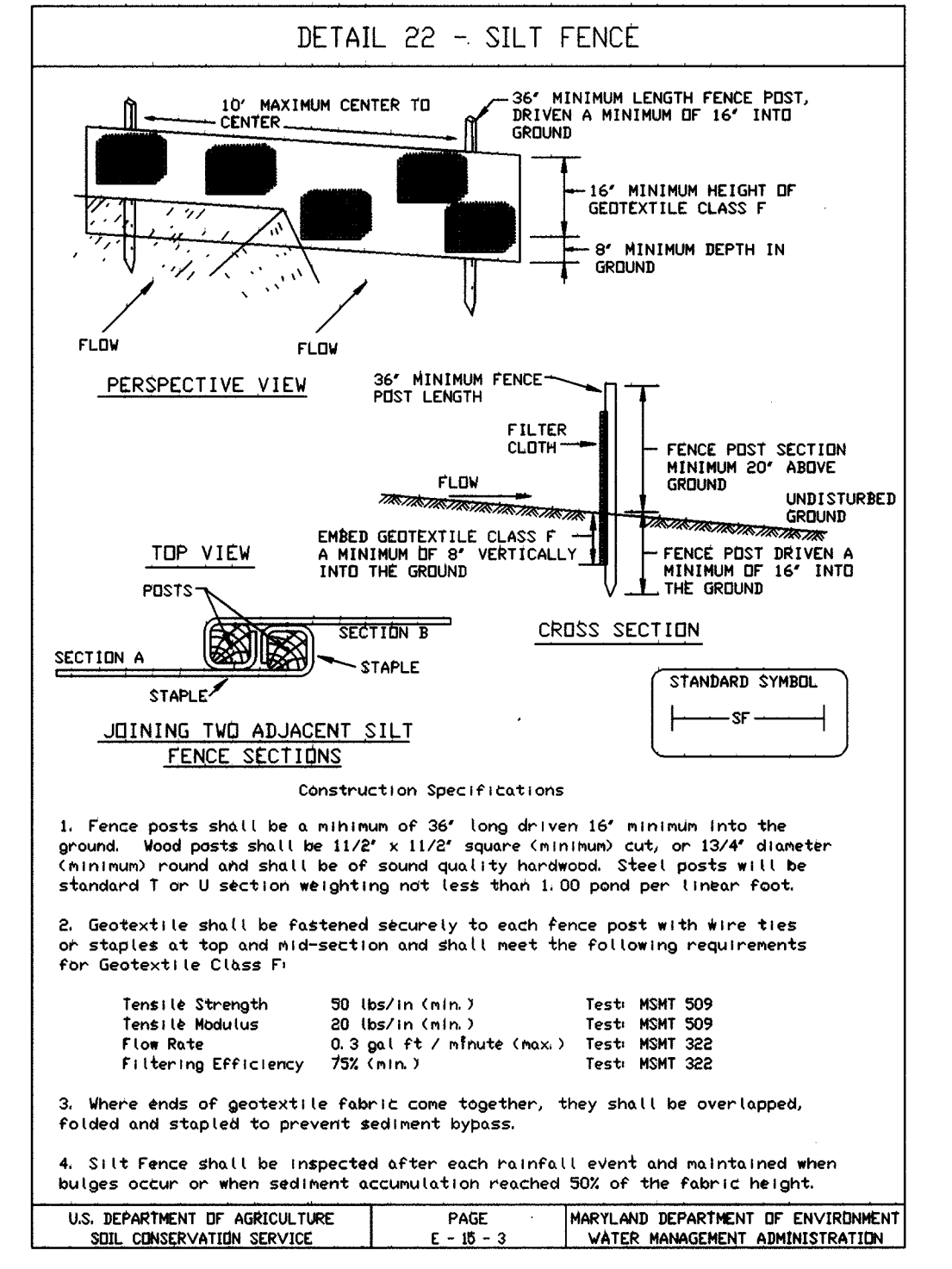
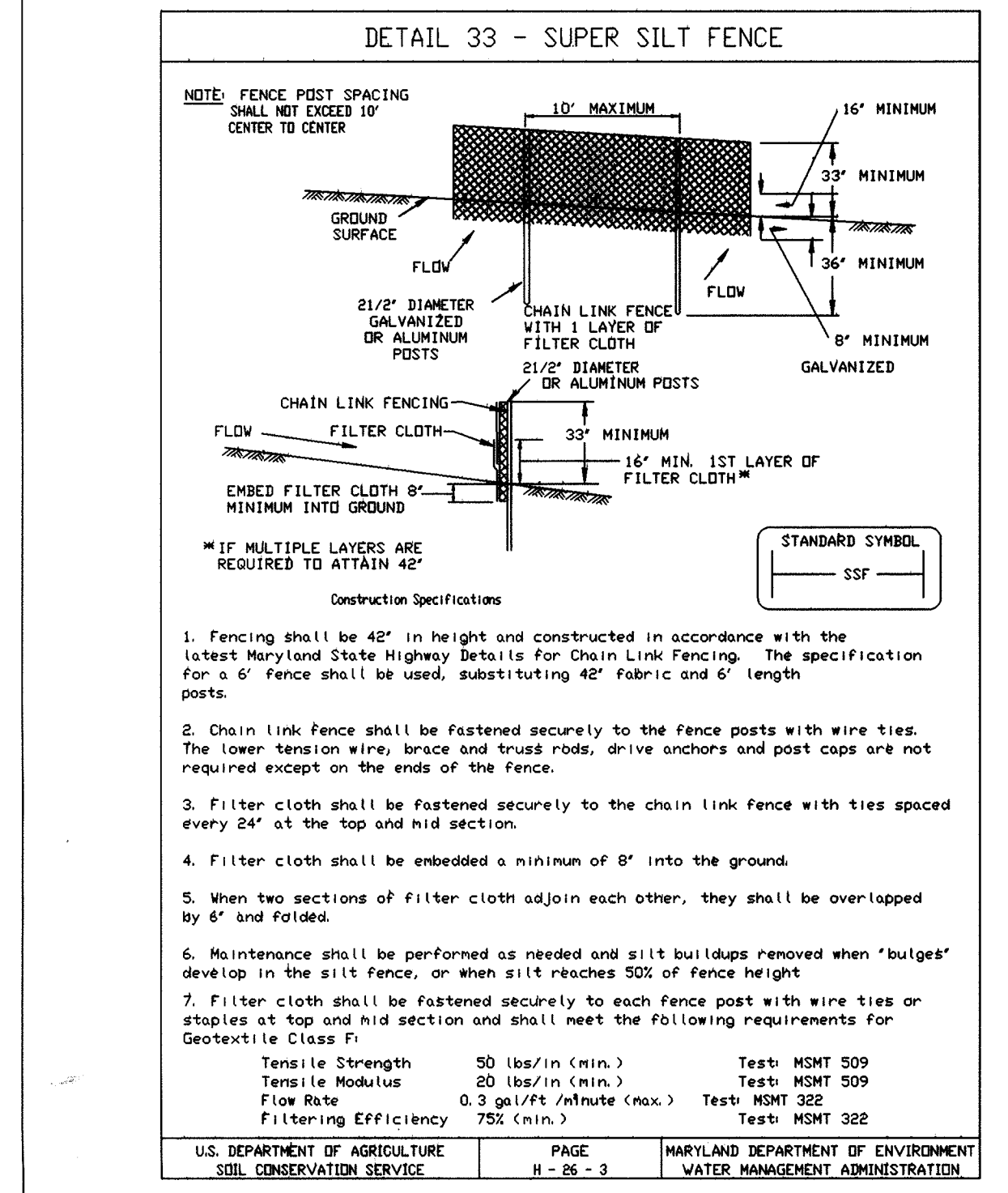
Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other suitable means before seeding, unless previously loosened.

**Soil Amendments:** Apply 400 lbs/acre 10-10-10 fertilizer (4 lbs/1000 sq ft).

Seeding: For periods March 1 through April 30 and August 1 through Nov. 31, seed with 2 1/2 bushels/acre (22 lbs/1000 sq ft) of annual ryegrass. For the period May 1 through Nov. 31, seed with 3 lbs/acre (37 lbs/1000 sq ft) of weeping lovegrass.

Mulching: Apply 1 1/2 to 2 tons/acre (10 to 20 lbs/100 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 200 gallons/acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8% feet or higher use 300 gallons/acre (3 gal/1000 sq ft) for anchoring. Refer to 1994 Maryland Standards for Soil Erosion and Sediment Control for rates and methods not covered.



These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for the Soil and Sediment Control.

*Jim Myers* 1/16/03  
 U.S. Soil Conservation Service DATE

These plans for Soil and Sediment Control meet the requirements of the Howard County Soil Conservation District.

*John R. Palminter* 1/14/03  
 Howard County Soil Conservation District DATE

**DEVELOPER'S CERTIFICATE**

I/We certify that all development and/or construction will be done according to these plans, and that all responsible personnel involved in the construction of the 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/We also authorize periodic on-site inspection by the Howard County Soil Conservation District or their Authorized Agent as necessary.

*L. Ray Rachuba* 1/12/02  
 DATE

**ENGINEER'S CERTIFICATE**

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 County Soil Conservation District.

*Charles R. Crocken* 11-12-02  
 CHARLES R. CROCKEN, PE, REG. NO. 7809 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Jeff Harts* 2/1/02  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Charles M. Dowler* 2-4-03  
 CHIEF, BUREAU OF HIGHWAYS DATE

**SEDIMENT CONTROL PLAN**

**EMA'S MANOR** 190125 PARCELS 143 HOWARD COUNTY, MARYLAND

TAX MAP 37 GRID 14 1ST ELECTION DISTRICT

DEVELOPER: FAIRMONT REAL ESTATE SERVICES 346-A MARINCH CT. ELDERSBURG, MD 21784

OWNER: EMA'S MANOR, L.L.C. 346-A MARINCH CT. ELDERSBURG, MD 21784

OWNER: CHATEAU HOMES, INC. 5850 WATERLOO RD. (SITE 2207) COLUMBIA, MD 21046-1545

DESIGNED BY: DATE: SEPT. 2001

DRAWN BY: LAB. SCALE: 1" = 50'

DRAWING NO. 5 OF 6

*Charles R. Crocken* PROFESSIONAL ENGINEER NO. 190125



# FOREST CONSERVATION WORKSHEET

**NET TRACT AREA:**  
 A. TOTAL TRACT AREA = 223 AC  
 B. AREA WITHIN 100' YEAR FLOODPLAIN/WETLAND & STREAM BUFFERS = 0.00 AC  
 C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION = 0.00 AC  
 D. NET TRACT AREA = 223 AC

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

INPUT THE NUMBERS 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. AFFOREST THRESHOLD = 10% X D = 0.39 AC  
 F. CONSERVATION THRESHOLD = 10% X D = 0.44 AC

**EXISTING FOREST COVER:**  
 G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN) = 223 AC  
 H. AREA OF FOREST ABOVE AFFOREST THRESHOLD = 196 AC  
 I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD = 177 AC

**BREAK EVEN POINT:**  
 J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION = 0.80 AC  
 K. CLEARING PERMITTED WITHOUT MITIGATION = 1.41 AC

**PROPOSED FOREST CLEARING:**  
 L. TOTAL AREA OF FOREST TO BE CLEARED = 223 AC CANNOT EXCEED EXIST.  
 M. TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC

**PLANTING REQUIREMENTS:**  
 N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD = 0.44 AC  
 O. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD = 0.88 AC  
 P. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD = 0.00 AC  
 Q. TOTAL REFORESTATION REQUIRED = 1.32 AC  
 R. TOTAL AFFORESTATION REQUIRED = 0.00 AC  
 T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED = 1.32 AC  
 U. OFFSITE REFORESTATION (FOREST BANK) = 1.32 AC  
 V. BALANCE REQ'D (EQUIV. AREA FEE) = 0.00 AC

NOTE: THE ACREAGE OF NON-BUILDABLE PARCEL D IS NOT INCLUDED IN THIS WORKSHEET.

**FOREST PROTECTION NOTES**

**PRE-CONSTRUCTION ACTIVITIES**

1. Install blaze orange fence and retention signs before construction begins.
2. Root Prune adjacent to Blaze Orange Fence as per detail this sheet.
3. Fencing shall be maintained in good condition and promptly repaired or restored as the situation warrants.

**CONSTRUCTION PHASE**

1. No disturbance or dumping is allowed inside the tree retention area.
2. No equipment shall be operated inside the tree retention area including tree canopies.
3. In the event of drought, the protected trees shall be monitored for signs of stress and watered as needed.

**POST-CONSTRUCTION ACTIVITIES**

1. At the direction of a qualified tree care expert, damages to retained trees shall be repaired by the contractor.
2. Fence removal and stabilization shall be as per the sediment and erosion control plan.
3. Signs are to remain for a period of two years after recording the final plan.

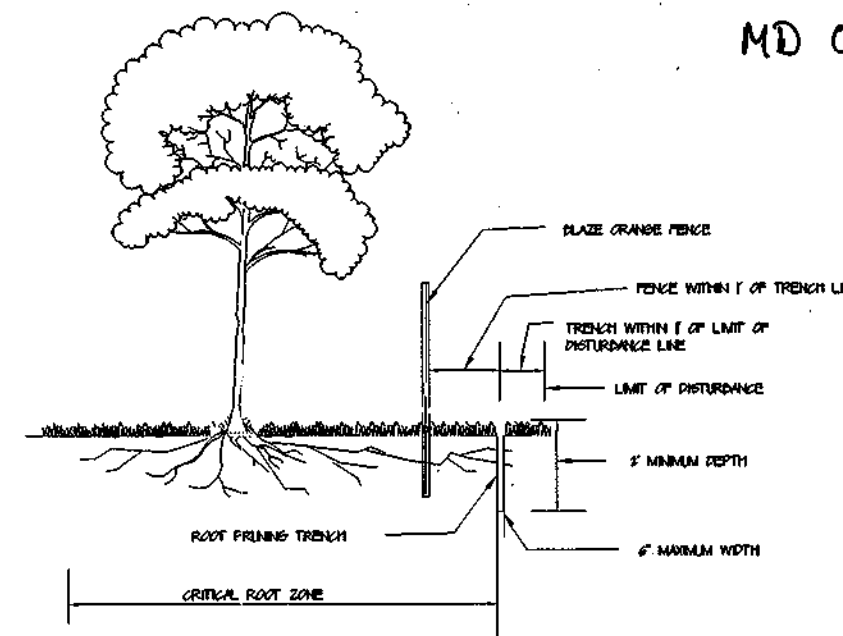
**GENERAL NOTES**

1. Wetland buffers are to be retained.
2. There are no endangered species on this site.
3. There are no specimen trees 30" in diameter or larger on this site.
4. There are no historic structures on this site.
5. Offsite reforestation is proposed via the purchase of 1.32 acres of reforestation credit from the Howard County approved Winkler Forest Conservation Bank.

**FOREST CONSERVATION NOTE:**

THE FOREST CONSERVATION OBLIGATION FOR REFORESTATION AND AFFORESTATION, INCURRED BY THE SUBDIVISION SHOWN HEREON, 139 ACRES HAS BEEN SATISFIED BY THE ACQUISITION OF 132 ACRES OF FOREST MITIGATION CREDITS FROM ENVIRONMENTAL BANK & EXCHANGE, L.L.C. (EBE) BY EMA'S MANOR, L.L.C. (EMA) SHALL DELIVER TO HOWARD COUNTY ANY AND ALL DOCUMENTS RELATING TO THE FOREST MITIGATION AND THAT THE OUTSTANDING REFORESTATION OBLIGATION OF 0.19 ACRES HAS BEEN MET BY A FEE-IN-LIEU PAYMENT OF \$4,894.00 TO THE HOWARD CO. FOREST CONSERVATION FUND.

Forest Conservation Review  
 William Bridgeland  
 MD Qualified Professional



- NOTES:**
1. Retention Areas to be established as part of the forest conservation plan review process.
  2. Boundaries of Retention Areas to be staked, flagged and/or fenced prior to trenching.
  3. Exact location of trench should be identified.
  4. Trench should be immediately backfilled with soil removed or organic soil.
  5. Roots should be cleanly cut using vibratory knife or other acceptable equipment.

**ROOT PRUNING**

DEVELOPER:  
 FARMINGTON REAL ESTATE SERVICES  
 346-A MARIMON CT.  
 ELDBERSBURG, MD 21784

OWNER:  
 CHATEAU HOMES, INC.  
 5850 WATERLOO RD. (STE 220)  
 COLUMBIA, MD 21045-1945

**LEGEND**

Existing Contour  
 Proposed Contour  
 Spot Elevation  
 Direction of Flow

Existing Trees to Remain

Light Poles: Post Top, Overhead, Ballast

Shade Trees

Evergreen Trees

Perimeter Landscape Edge

**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES							
		A	D	C	D	E	F	G	H
Perimeter/Frontage Designation		A	A	A	A	A	A	A	A
Linear Feet of Roadway Frontage/Perimeter		182	211	356	35	85	54	214	211
Credit for Existing Vegetation (Yes, No, Linear Feet Describe below if needed)		Yes*	Yes*	No	Yes*	Yes*	Yes*	No	No
Credit for Wall, Fence or Berm (Yes, No, Linear Feet Describe below if needed)		No	No	No	No	No	No	No	No
Number of Plants Required		(101)	(156)	160	6	160	0	160	4
Shade Trees		160	2	160	3	160	0	160	0
Evergreen Trees		-	-	-	-	-	-	-	-
Number of Plants Provided		2	3	6	0	0	0	4	4
Shade Trees		-	-	-	-	-	-	-	-
Evergreen Trees		-	-	-	-	-	-	-	-
Other Trees (1:1 Substitution)		-	-	-	-	-	-	-	-
Shrubs (1:1 Substitution)		-	-	-	-	-	-	-	-
Describe Plant Substitution Credits		-	-	-	-	-	-	-	-

\* Existing Woods to Remain

**STREET TREE CHART**

SYMBOL	QUANTITY	BOTANICAL/COMMON NAME	SIZE
	13	FRAXINUS P. 'PATMORE'/PATMORE GREEN ASH	2.5-5" CAL. D&D

THIS LIST INCLUDES LANDSCAPE MATERIAL FOR PERIMETER LANDSCAPE EDGE AND STREET TREES.

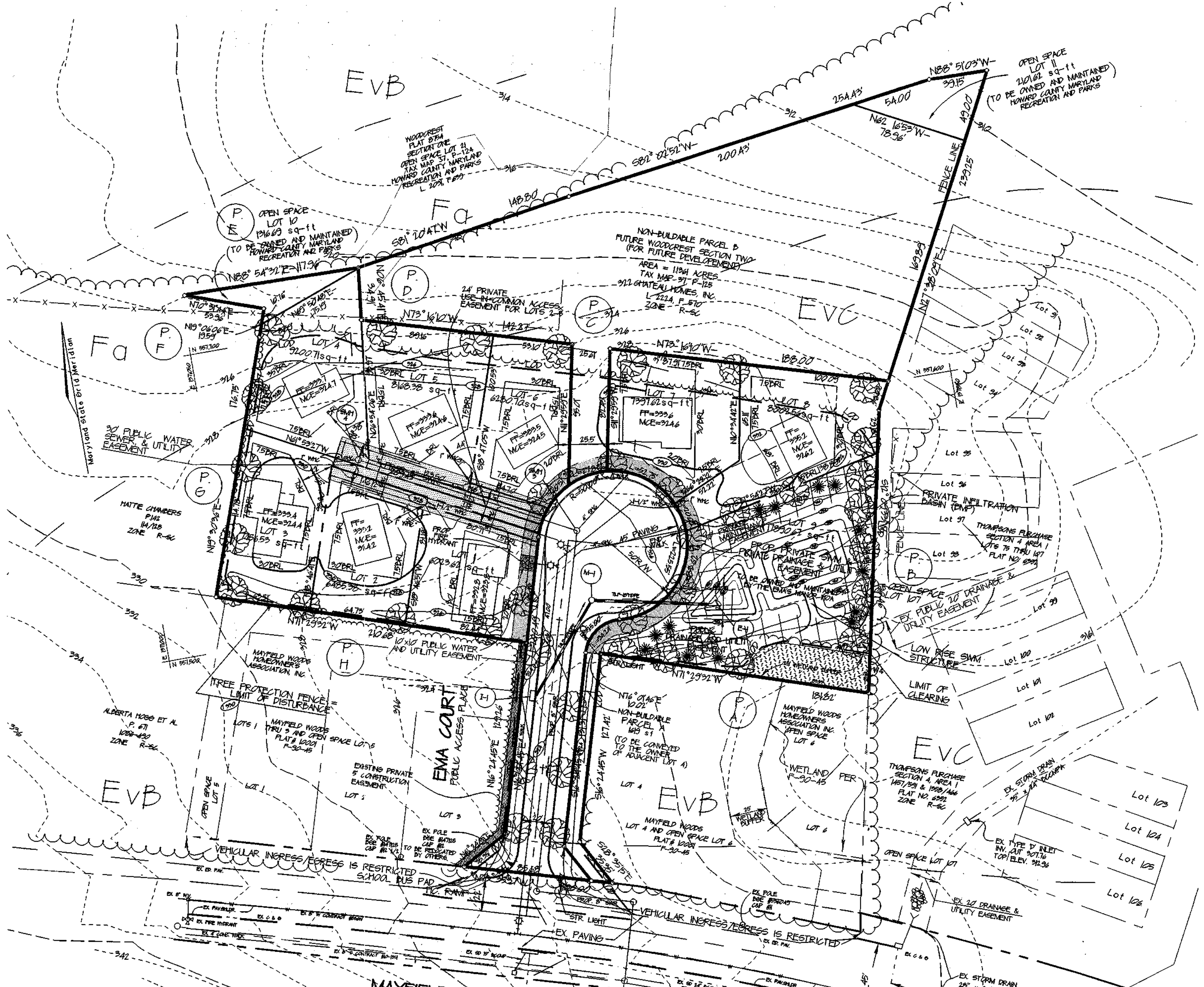
**PLANT LIST**

SYMBOL	QUANTITY	BOTANICAL/COMMON NAME	SIZE	REMARKS
	39	FRAXINUS P. 'PATMORE'/PATMORE GREEN ASH	2.5-5" CAL. D&D	12-14 HT.
	13	FINUS STURBUS / WHITE PINE	6-8 HT. D&D	12-15 OC

NOTE: PLANTS SHOULD BE LOCATED IN THE FIELD BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO PLANTING

**GENERAL NOTES**

1. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE EPM DEVELOPERS AGREEMENT IN THE AMOUNT OF \$2,500.00 FOR 26 SHADE TREES AND 13 EVERGREEN TREES.
2. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS SECTION 16.24 OF THE HOWARD CO. CODE AND THE HOWARD CO. LANDSCAPE MANUAL.

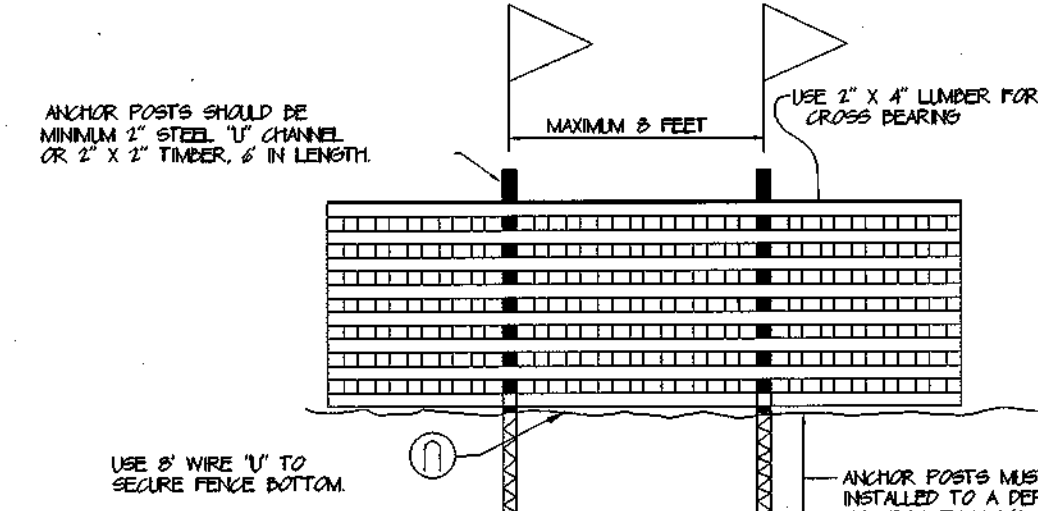


**SCHEDULE D: STORMWATER MANAGEMENT AREA LANDSCAPING**

LINEAR FEET OF PERIMETER	40071 LF	TYPE 1*
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	YES, 80 LF	
CREDIT FOR OTHER LANDSCAPING (NO, YES AND LF)	YES, 3 PERIMETER TREES	
NUMBER OF TREES REQUIRED (SHADE TREES, EVERGREEN TREES)	10 SHADE TREES, 19 EVERGREEN TREES	
NUMBER OF TREES PROVIDED (SHADE TREES, EVERGREEN TREES, OTHER TREES (1:1 SUBSTITUTION))	3 SHADE TREES, 19 EVERGREEN TREES, 2 TREES (1:1 SUBSTITUTION)	

**SOILS LEGEND**

SYMBOL	NAME/DESCRIPTION	SOIL GROUP
EVB	EVERGREEN LOAMY SAND, 1% TO 5% SLOPES	A
EVC	EVERGREEN LOAMY SAND, 5% TO 15% SLOPES	A
Fa	FALLINGSTON LOAM	D/P



**BLAZE ORANGE PLASTIC MESH TYPICAL TREE PROTECTION FENCE DETAIL**  
 NO SCALE

**NOTES:**

1. Forest protection device only.
2. Retention area will be set as part of the review process.
3. Boundaries of retention area should be staked and flagged prior to installing device.
4. Root damage should be avoided.
5. Protection signage should be used prior to installing device.
6. Device should be maintained throughout construction.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Planning & Zoning: *David Hanna* 2/14/02  
 Chief, Development Engineering Division: *John Damm* shaps  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways: *Robert M. Pancher* 2-1-02

**LANDSCAPE / FOREST CONSERVATION PLAN**  
**EMA'S MANOR**

TAX MAP 37, GRID 14, 1ST ELECTION DISTRICT, PARCEL 143, HOWARD COUNTY, MARYLAND

Prepared by: **CHARLES R. CROCKEN AND ASSOCIATES, INC.**  
 Civil Engineering - Land Planning  
 PO Box 307  
 Westminster, MD 21157  
 Tel: (410) 549-5700  
 Fax: (410) 549-3063

TAX MAP 37, PARCEL 143, PROJECT NO:  
 DESIGNED BY: DATE:  
 DRAWN BY: L.A.D. SCALE: 1" = 50'  
 DRAWING NO. 6 OF 6

DATE: 11-13-02

Professional Engineer Seal: *Charles R. Crocken*