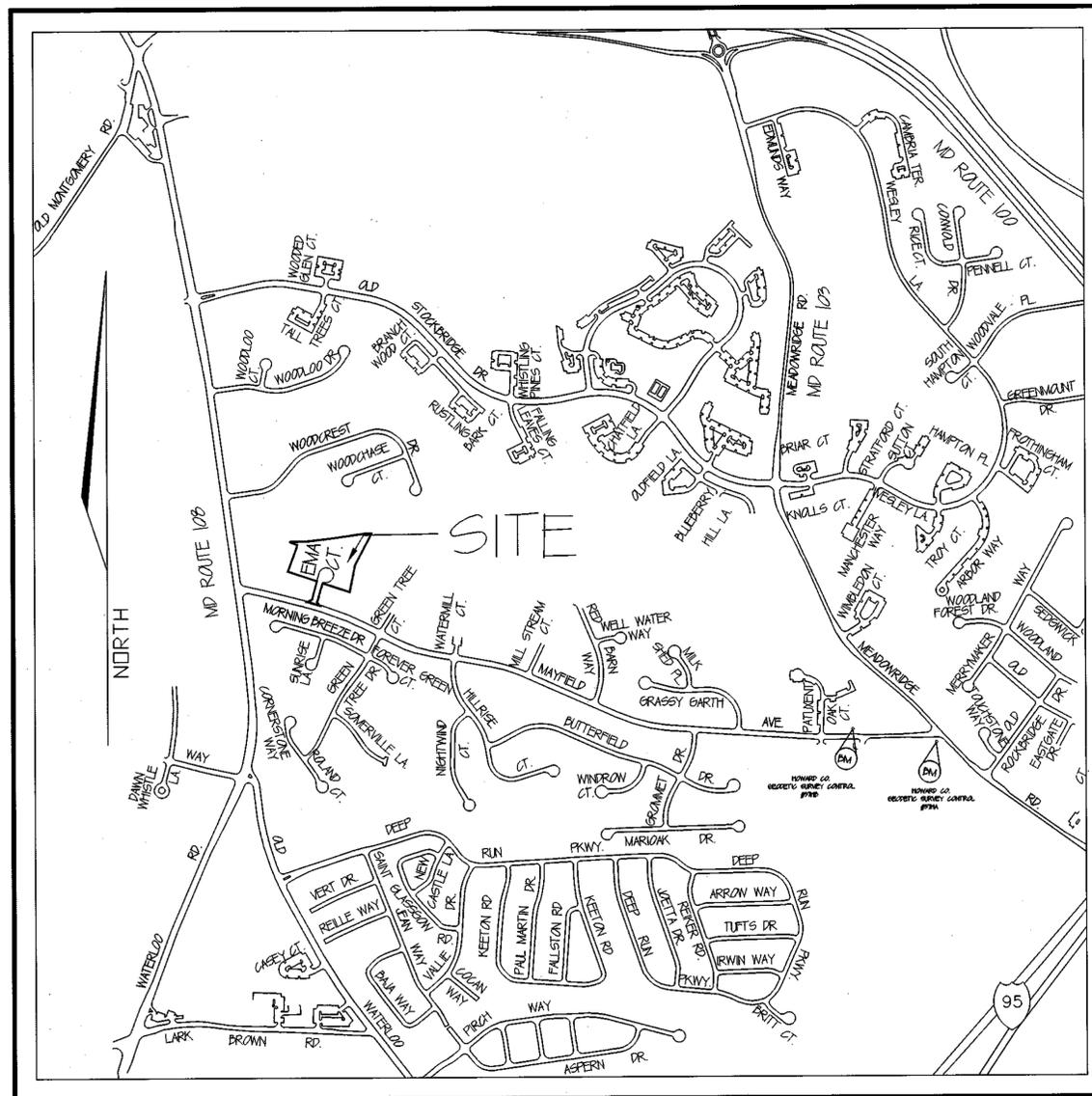


SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	ROAD PLAN & PROFILE
3	GRADING PLAN
4	SWM PLAN, DETAILS, & STORM DRAIN PROFILE
5	SEDIMENT CONTROL PLAN
6	LANDSCAPE / FOREST CONSERVATION PLAN



VICINITY MAP

SCALE: 1"=600'

FINAL CONSTRUCTION PLAN EMA'S MANOR

LOTS 1-9

A SUBDIVISION OF PARCEL 143 & P/O PARCEL 125
1ST ELECTION DISTRICT, TAX MAP 37, GRID 14
HOWARD COUNTY, MARYLAND

GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOL. IV (STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION).
- APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS:
 MISS UTILITY 1-800-957-7771
 BELL TELEPHONE SYSTEM 410-293-2649
 LONG DISTANCE CABLE DIVISION 410-293-3693
 BALTIMORE GAS & ELECTRIC CO. 410-593-8000 x691
 COLUMBIA PIPELINE 410-735-1932
 HOWARD COUNTY BUREAU OF UTILITIES 410-293-1266
 HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (24 HR. NOTICE BEFORE COMMENCEMENT OF WORK) 410-293-1872
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURB RETURNS SHALL HAVE A 95' RADIUS UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL. IV (STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION).
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE MUTCD.
- THE CONTRACTOR SHALL NOT INSTALL PIPE UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- DESIGNED TRAFFIC SPEED IS IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- ALL FILL AREAS WITHIN THE ROADWAY AND UNDER STRUCTURES ARE TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION IN ACCORDANCE WITH AASHTO T-192.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATION SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- SUBJECT PROPERTY ZONED R-5C PER 12/18/99 COMPREHENSIVE ZONING PLAN.
- THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PERFORMED BY FREDERICK WARD ASSOCIATES IN APRIL, 2001.
- THE TOPOGRAPHY SHOWN IS BASED ON A SURVEY PERFORMED BY FREDERICK WARD ASSOCIATES IN DECEMBER, 2002.
- COORDINATE DATUM IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM (MDS) AS PROJECTED BY THE FOLLOWING HOWARD COUNTY GEODETIC CONTROL STATIONS: 37HA & 37HD.
- NO PIPE SHALL BE LAD UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT TO WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE AS SHOWN IN FIG. 1A, VOL. I OF THE HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- NO CLEARING, GRADING & CONSTRUCTION WILL OCCUR OR IS PERMITTED WITHIN THE WETLAND BUFFER & 75' STREAM BUFFER.
- THE FOREST CONSERVATION OBLIGATION FOR REFORESTATION INCURRED BY THE SUBDIVISION SHOWN HEREON, 199 ACRES HAS BEEN SATISFIED BY THE ACQUISITION OF 100 ACRES OF FOREST MITIGATION CREDITS FROM ENVIRONMENTAL BANK & EXCHANGE LLC (EBE) BY EMA'S MANOR LLC (EMA). EMA SHALL DELIVER TO HOWARD COUNTY ANY AND ALL DOCUMENTS RELATING TO THE FOREST MITIGATION, AND THAT THE OUTSTANDING REFORESTATION OBLIGATION OF 99 ACRES HAS BEEN MET BY A FEE-IN-LIEU PAYMENT OF \$289,940 TO THE HOWARD CO. FOREST CONSERVATION FUND.
- AS A RESULT OF THE PRELIMINARY PLAN FOR THIS SUBDIVISION P-01-B, BEING SUBMITTED TO THE COUNTY FOR REVIEW PRIOR TO 11/16/01, IT IS SUBJECT TO COMPLIANCE WITH THE FOURTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. IN ADDITION, BECAUSE THE PRELIMINARY PLAN FOR THIS SUBDIVISION DID OBTAIN SIGNATURE APPROVAL PRIOR TO 11/01/01 ON 01/25/02, THIS SUBDIVISION IS SUBJECT TO COMPLIANCE WITH ZONING REGULATIONS ADOPTED ON 12/18/99 AND AMENDED ON 07/12/01.
- HOWARD COUNTY FILE NO'S: P-01-54, DPZ NO. 5-02-11, P-01-18, WF-01-62 & WF-01-110
- THE SCHOOL BUS PAD IS TO BE OWNED AND MAINTAINED BY THE HOME OWNER ASSOCIATION.
- PLAN OF THE SUBDIVISION SHOWN HEREON IS SUBJECT TO A WARNER FROM THE REQUIREMENTS OF SECTION 16B(1)(1)(b) TO CONSTRUCT IMPROVEMENTS TO A MAJOR COLLECTOR ROAD, SPECIFICALLY TO CONSTRUCT ACCESS/DRIVE LINES ALONG THE NORTHERN SIDE OF WATERLIP AVENUE AT THE INTERSECTION OF EMA'S COURT, WF-01-62 APPROVED MARCH 4, 2002.
- PLAN OF THE SUBDIVISION SHOWN HEREON IS SUBJECT TO A WARNER FROM THE REQUIREMENTS OF SECTIONS 16A(1)(c) and (1), 16A(5), and 16A(6) TO NOT BE REQUIRED TO SUBMIT SKETCH AND PRELIMINARY PLANS FOR THE PROPOSED ADDITION OF LAND (P/O PARCEL 125) TO A MAJOR SUBDIVISION (P-02-54, EMA'S MANOR) AND SECTION 16B(1)(1)(b) TO PERMIT THE REQUIRED PUBLIC ROAD FRONTAGE FOR OPEN SPACE TO BE REDUCED TO 20 FEET FOR PROPOSED OPEN SPACE LOT 2, WOODCREST, SECTION 2 WITHOUT REQUIRING THE ADJACENT SIDE DRILLS ON ADJACENT LOTS TO BE INCREASED BY 10 FEET AND ZERO FEET FOR THE TWO PROPOSED OPEN SPACE PARCELS, SHOWN AS LOTS 10 & 11. FILE NO. WF-02-120 APPROVED JULY 30, 2002.
- SEWERWATER WILL BE PROVIDED BY AN INFILTRATION BASIN. SWM FACILITY WILL BE OWNED & MAINTAINED BY THE HOA.

OWNER:
EMA'S MANOR, LLC
346-A NARMACH CT.
ELDERSBURG, MD 21834

OWNER:
CHATEAU HOMES, INC.
8850 WATERLOO RD. (STE 220)
COLUMBIA, MD 21046-5149

DEVELOPER:
FARMVANT REAL ESTATE SERVICES
346-A NARMACH CT.
ELDERSBURG, MD 21834

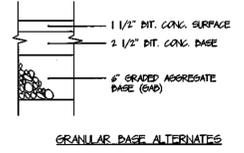
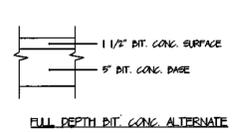
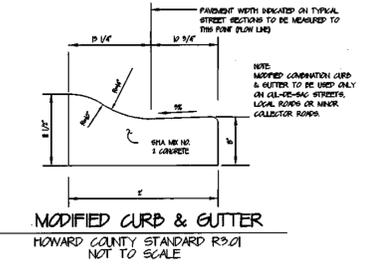
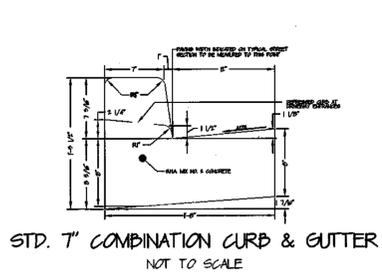
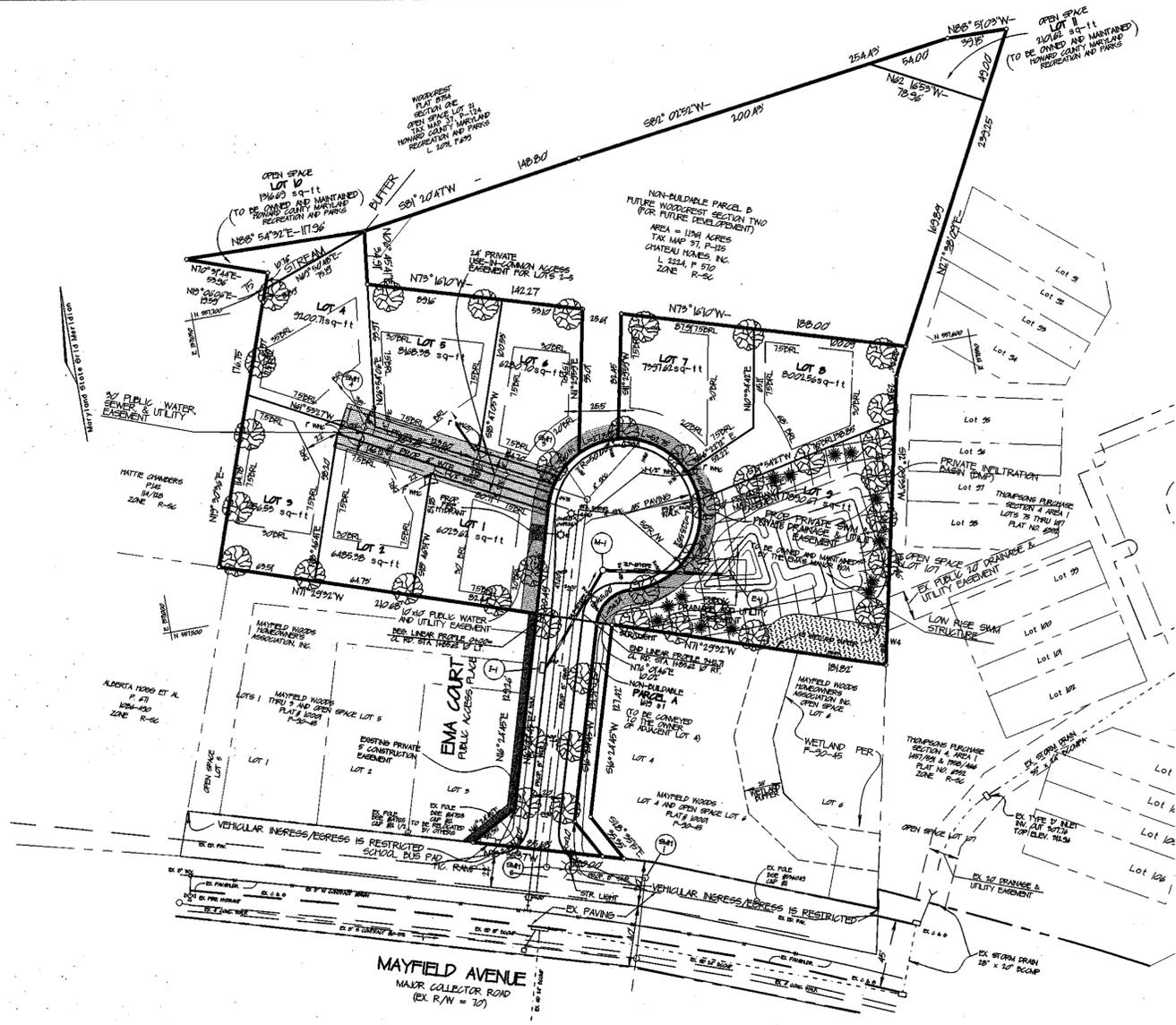
EMA'S MANOR	
TAX MAP 37, GRID 14 1ST ELECTION DISTRICT	PARCEL 143, P/O 125 HOWARD COUNTY, MARYLAND
11-12-02 DATE	Prepared by: CHARLES R. CROCKEN AND ASSOCIATES, INC. Civil Engineering - Land Planning PO Box 307 Washington, MD 21157 Tel. (410) 543-2103 Fax (410) 543-2083
TAX MAP 37, BUX 14, PARCEL 124	PROJECT NO.:
DESIGNED BY:	DATE:
DRAWN BY: LAB.	SCALE: AS SHOWN
DRAWING NO. <u>1</u> OF <u>6</u>	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Craig H. Hester 2/14/03
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. G. Tucker 2-4-03
 CHIEF, BUREAU OF HIGHWAYS

STREET LIGHTS

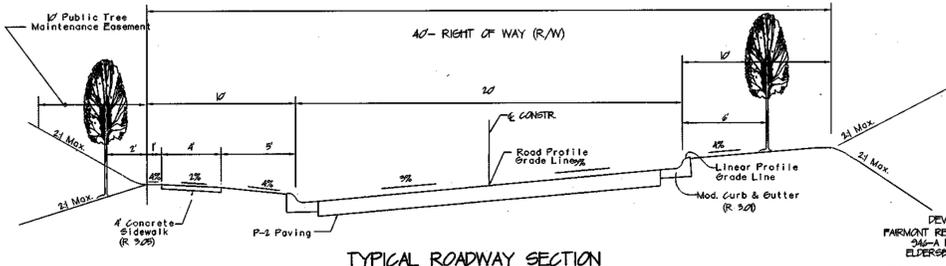
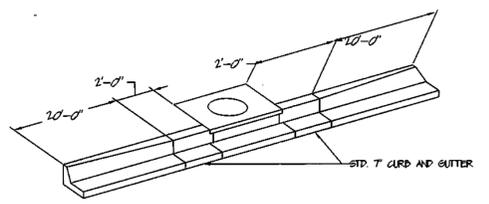
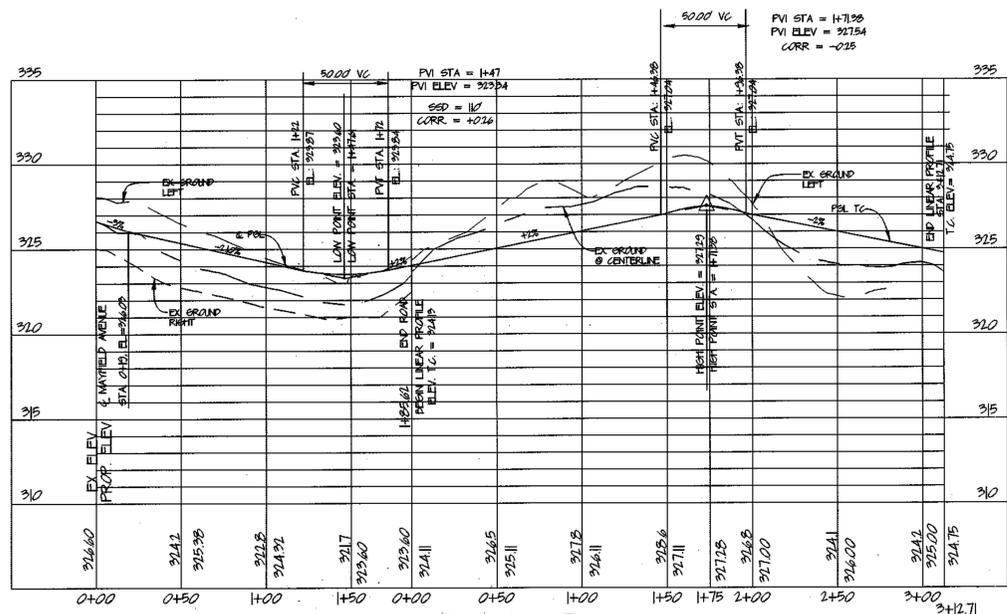
- PAVING**
- 360 - WATER PIPES PERMANENT PROTECTION (MOUNTED ON A 2" DIAMETER ALUMINUM POLE) USED AT AREA
 - 360 - WATER TRANSDUCERS (MOUNTED ON A 2" DIAMETER ALUMINUM POLE) USED AT AREA
- NOTE: STREET LIGHT TO BE LOCATED NOT LESS THAN 5' FROM STREET TREES



P-2 LIGHT DUTY PAVING SECTION
NT-5

INLET TRANSITION	
STRUCTURE	LOCATION
I-1	BEGIN EMA CT. CL STA. 1422.61, END STA. 1422.61 THEN, BEGIN EMA CT. CL STA. 1452.61, END STA. 1472.61

STREET TREE CHART			
SYMBOL	QUANTITY	BOTANICAL/COMMON NAME	SIZE
	32	FRAXINUS P. 'PATMORE' / PATMORE GREEN ASH	25-3" CAL. D&D



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Cindy Hanley 2/14/03
 CHIEF, DIVISION OF LAND DEVELOPMENT
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Sanchez 2-4-03
 CHIEF, BUREAU OF HIGHWAYS

ROAD PLAN AND PROFILE
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) 549-2706
 FAX: (410) 549-9063

DATE: 11-18-02

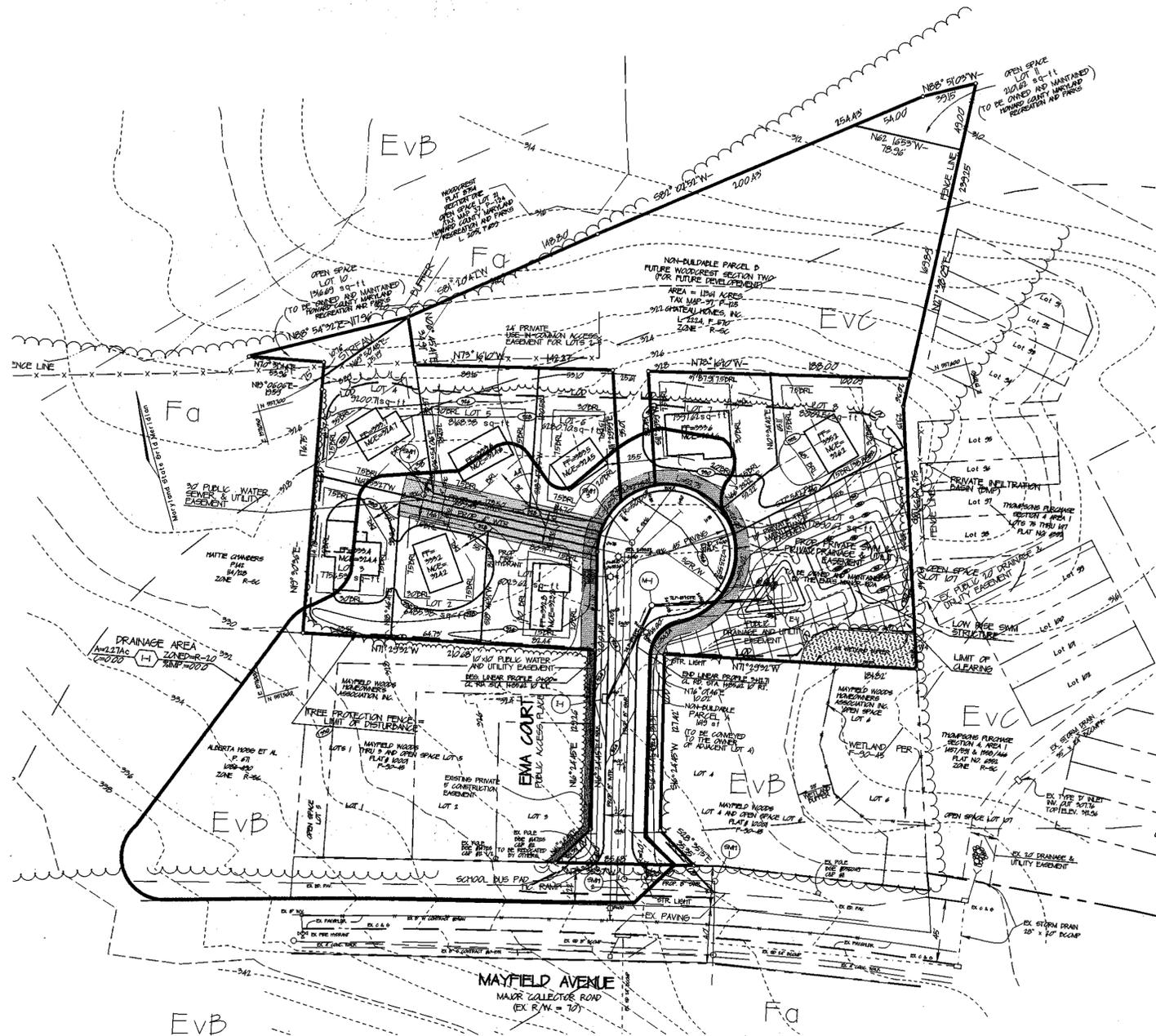
DESIGNED BY: DATE: PROJECT NO:
 DRAWN BY: L.A.D. SCALE: 1" = 50'
 DRAWING NO. 2 OF 6

DEVELOPER: FARMINGTON REAL ESTATE SERVICES
 3404 NARWICH CT. ELERSBURG, MD 21844
 OWNER: CHATEAU HOMES, INC.
 5650 WATERLOO RD. (SITE 230)
 COLUMBIA, MD 21046-1945

Charles R. Crocken

STATE OF MARYLAND
 REGISTERED PROFESSIONAL ENGINEER

F-02-54



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/WALES - 4 DAYS
5. INSTALL SILT FENCE /SUPER SILT FENCE AND PERIMETER DIKES/WALES - 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	EVESPOOD LOWMY SAND, 8% TO 8% SLOPES	A
EVC	EVESPOOD LOWMY SAND, 8% TO 8% SLOPES	A
Fa	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 DATE
 US Soil Conservation Service

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

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

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 Ralston 11/12/02 DATE
 L. RAY RALSTON

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 11/12/02 DATE
 CHARLES R. CROCKEN, P.E. REG. NO. 7803

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chris Harsh 2/14/02 DATE
 CHIEF, DIVISION OF PLANNING AND ZONING

Mark 2/14/02 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Charles M. Finkle 2-9-02 DATE
 CHIEF, BUREAU OF HIGHWAYS

LEGEND

Existing Contour	---
Proposed Contour	---(E)---
Spot Elevation	+82.52
Direction of Flow	→
Existing Trees to Remain	(Tree Symbol)
Light Poles	○ Post Top ○ Overhead * Buried
Stabilized Construction Entrance	(Symbol)
Silt Fence	---SF---
Super Silt Fence	---SSF---
Earth Dike	---ED A-1---
Limit of Disturbance	---LDB---

DEVELOPER:
 FARMOUT REAL ESTATE SERVICES
 346-A MARYMICH CT.
 ELPERSBURG, MD 21784

OWNER:
 CHATEAU HOMES, INC.
 8850 WATERLOO RD. (STE 230)
 COLUMBIA, MD 21046-0349

OWNER:
 EMAS MANOR, LLC
 346-A MARYMICH CT.
 ELPERSBURG, MD 21784

NO. DATE REVISION

GRADING PLAN
EMA'S MANOR

TAX MAP 37 GRID 14
 1ST ELECTION DISTRICT

11-12-02 DATE

Prepared by: **CHARLES R. CROCKEN AND ASSOCIATES, INC.**
 Civil Engineering - Land Planning
 PO Box 397
 Westminster, MD 21157
 TEL (410) 549-2708
 FAX (410) 549-9003

TAX MAP 37 PARCEL 143, 110, 105 PROJECT NO:

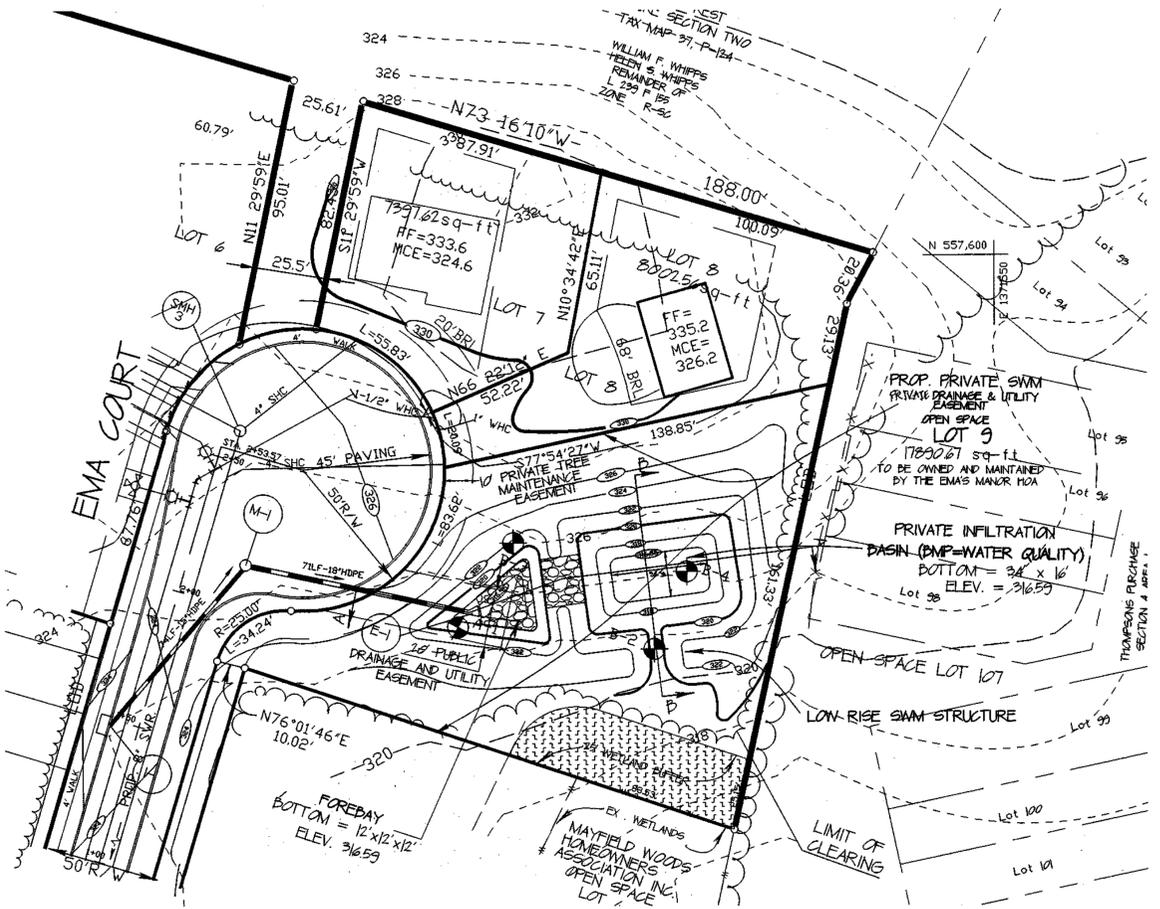
DESIGNED BY: DATE: SEPT. 2001

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

DRAWING NO. 3 OF 4

STATE OF MARYLAND
 CHARLES R. CROCKEN
 PROFESSIONAL ENGINEER

F-02-54



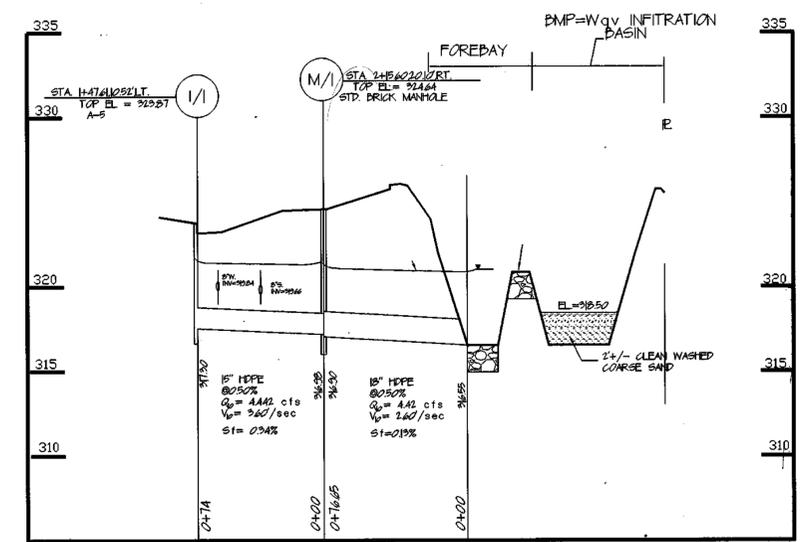
STORMWATER MANAGEMENT FACILITY (INFILTRATION)

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 THE 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 TILLING 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'S SIDE SLOPES AT LEAST TWICE A YEAR, ONCE IN JUNE AND AGAIN IN SEPTEMBER, SHALL BE DONE.
8. AFTER THE SECOND YEAR OF SEEDING, REFERTILIZE THE BASIN WITH 10-4-4 RATIO FERTILIZER AT A RATE OF 500 LBS. PER ACRE OR 1/10 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
I/1	A-5		317.49	323.87	HO. CO. SD A.01	STA 147410221RT.
M/1	STD.	317.12	317.02	324.64	HO. CO. GS.01	STA 248620201RT.
ES-1	END SECTION		316.59	318.09	HO. CO. GS.01	NEST472.910 E1073682356

OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT FACILITY INFILTRATION FACILITY

STORMWATER MANAGEMENT FACILITY
ROUTINE MAINTENANCE BY HOA

1. FACILITY WILL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING THE WEATHER TO DETERMINE IF FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE ENHANCEMENT 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 TRIFURC OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE BY HOA:

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE PIER, 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. INTERFERES WITH THE FUNCTION OF THE POND. 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	320.02
10 YEAR	0.00 cfs	7.97 cfs	NONE	N/A	320.95
100 YEAR	0.40 cfs	14.76 cfs	NONE	N/A	320.75

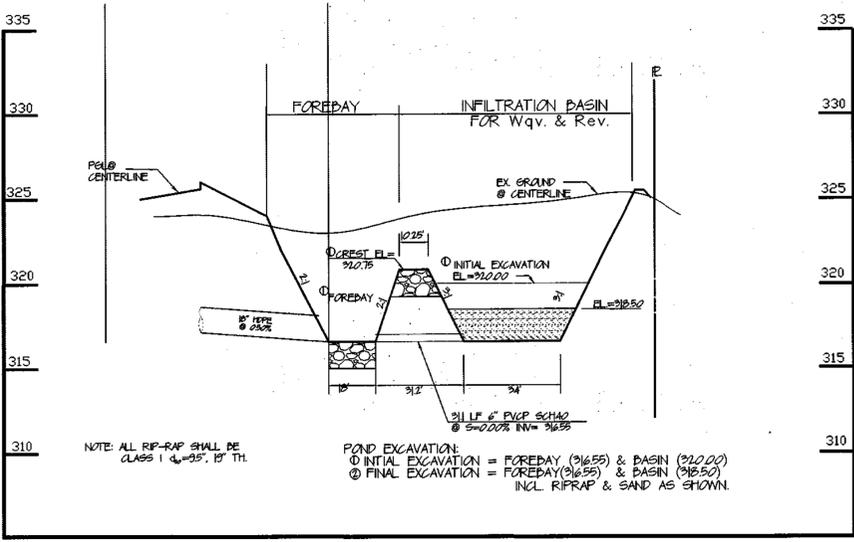
AVAILABLE FREEDORD 322.00 - 320.75 = 1.25 (100 YEAR)
1-YEAR PEAK FLOW = 0.04 cfs < 2.00 cfs QPV NOT REQ'D.

WATER QUALITY DATA - (STREAM CLASS B)									
WqV WATER QUALITY MANAGEMENT					Rev WATER RECHARGE				
AREA	BMP	AREA AC	IMPERV. %	Rv	WqV STORAGE REQ'D.	P.A.	IMP. AC	Rev REQ'D.	Rev. PROVIDED
①	INFL	2.31	100	0.91	3.177 CF	2.21	0.87	1.955 CF	2.640 CF

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

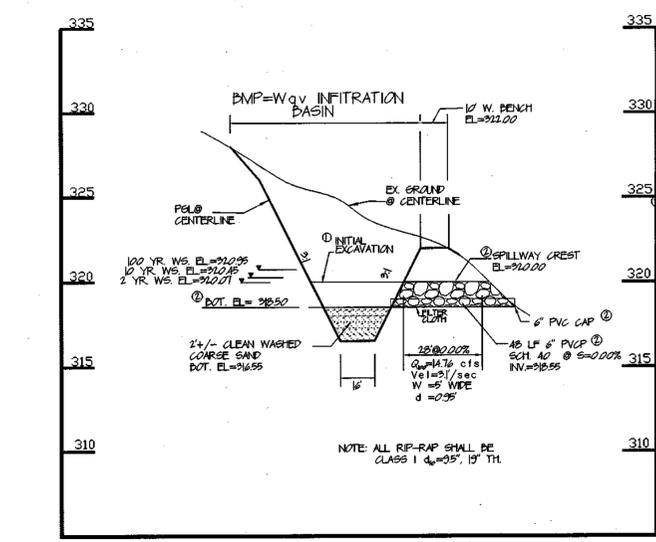
CONSTRUCTION SEQUENCE FOR SWM FACILITY

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 PRECITED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE OR TRILLED 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.=320.00 (SEE PLAN AND NOTES).
4. WHEN THE GRADINGS 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 SEPTIM CONTROL INSPECTOR IS OBTAINED.
5. ALL ACCUMULATED SEDIMENT ON THE BASIN FLOOR 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 10 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 FILLED 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 24" 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 SLASHING WHILE MAINTAINING 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:
FARMANT REAL ESTATE SERVICES
346-A MARINCH CT
ELLSBURG, MD 2184

OWNER:
EMA'S MANOR, LLC
346-A MARINCH CT
ELLSBURG, MD 2184

OWNER:
CHATEAU HOMES, INC.
5050 WATERLOO RD. (STE 220)
COLUMBIA, MD 21046-3445

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chris Hagan 2/17/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Dwyer 2-9-03
 CHIEF, BUREAU OF HIGHWAYS DATE

NO. DATE REVISION

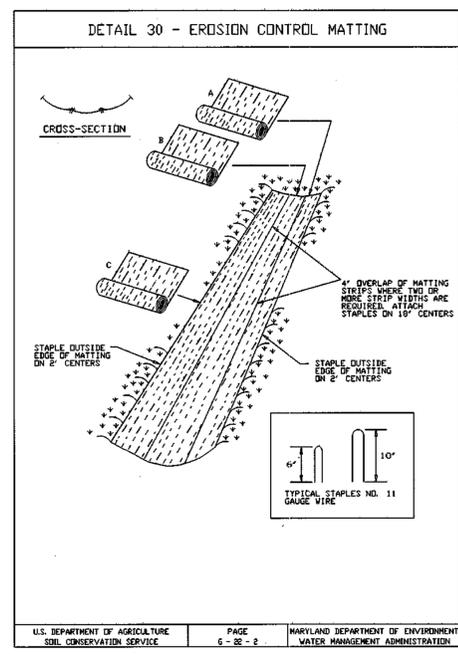
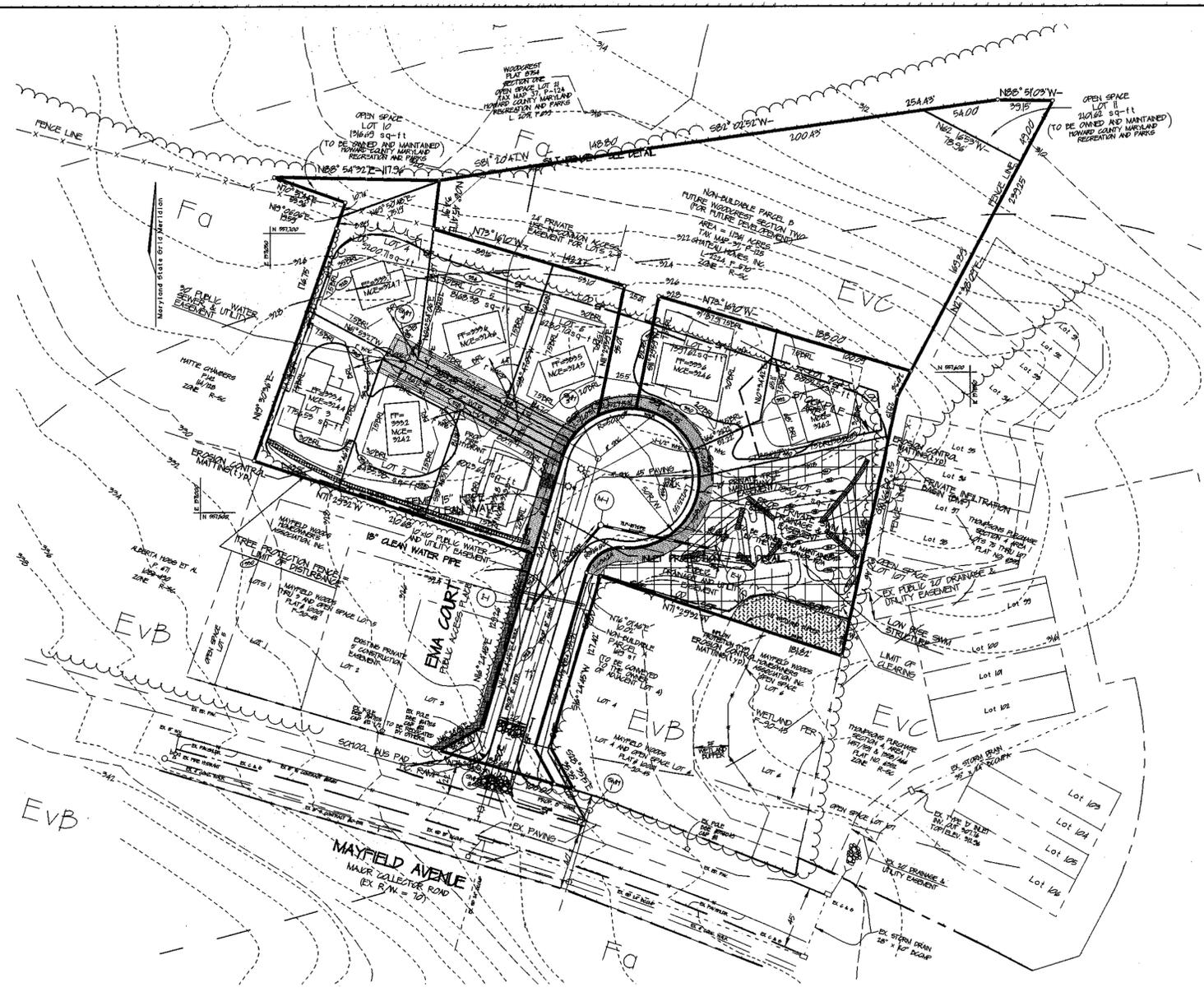
SWM PLAN, DETAILS, & STORM DRAIN PROFILE
EMA'S MANOR

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

Prepared by: **CHARLES R. CROCKEN & ASSOC., INC.**
 Civil Engineering - Land Planning
 PO Box 307
 Westminster, MD 21157
 Tel. (410) 540-2708
 Fax. (410) 540-9063

11-12-02 DATE

TAX MAP 37 PARCEL 143, P10105 PROJECT NO.
 DESIGNED BY: CRC DATE: 8/20/02
 DRAWN BY: LAB, CHC SCALE: 1" = 50'
 PROFESSIONAL ENGINEER NO. DRAWING NO. 4 OF 6



- 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. (410-910-1855)
 - 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 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 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3% (4) 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. B 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. 51), sod (Sec. 54), temporary seeding (Sec. 52), and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
 - 6) All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
 - 7) Site analysis:
 Total area of site - 1,201 acres
 Area disturbed - 176 acres
 Area to be rooted or paved - 1216 acres
 Area to be vegetatively stabilized - 730 cu. yds.
 Total cut - 730 cu. yds.
 Offsite 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 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. Seeding 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 (92 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 (92 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.

Seeding - For the periods March 1 through April 30, and Aug. 1 through Oct. 31, seed with 40 lbs./acre (4 lbs./1000 sq ft) of Kentucky 31 tall fescue. For the period May 1 through July 31, seed with 40 lbs./acre of Kentucky 31 tall fescue and 2 lbs. per acre (2 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 40 lbs./acre of Kentucky 31 tall fescue and mulch with 2 tons/acre of well-anchored straw.

Mulching - Apply 1/2 to 2 tons/acre (10 to 30 lbs./100 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 25 gallons/acre (25 gal./1000 sq ft) of unmulsified asphalt on flat areas. On slopes 3 feet or higher use 500 gallons/acre (500 gal./1000 sq ft) for anchoring.

Maintenance - Inspect all seeded areas and make needed repairs, replacements, and reseedings. For the period Nov. 1 through Feb. 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring or use sod.

TEMPORARY SEEDING NOTES

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

Seeding Preparation: Loosen upper three inches of soil by raking, discing, or other acceptable means before seeding, unless otherwise 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 (92 lbs./1000 sq ft) of annual ryegrass. For the period May 1 through Nov. 31, seed with 3 lbs./acre (3 lbs./1000 sq ft) of weeping lovegrass.

Mulching: Apply 1/2 to 2 tons/acre (10 to 30 lbs./100 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 25 gallons/acre (25 gal./1000 sq ft) of unmulsified asphalt on flat areas. On slopes 3 feet or higher use 500 gallons/acre (500 gal./1000 sq ft) for anchoring. Refer to 1984 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
 US Soil Conservation District DATE

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

John R. Robertson 1/16/03
 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 Rachaba 1/16/03
 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, P.E., REG. NO. 7809 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Wendy Harms 1/16/03
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Richard M. Dwyer 2-4-03
 CHIEF, BUREAU OF HIGHWAYS DATE

NO.	DATE	REVISION

SEDIMENT CONTROL PLAN

EMA'S MANOR 86195 PARCELS MAP

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

Prepared by: **CHARLES R. CROCKEN AND ASSOCIATES, INC.**
 Civil Engineering - Land Planning
 PO Box 307
 Westminster, MD 21157
 Tel: (410) 540-2708
 Fax: (410) 540-9063

DESIGNED BY: DATE: SEPT. 2001

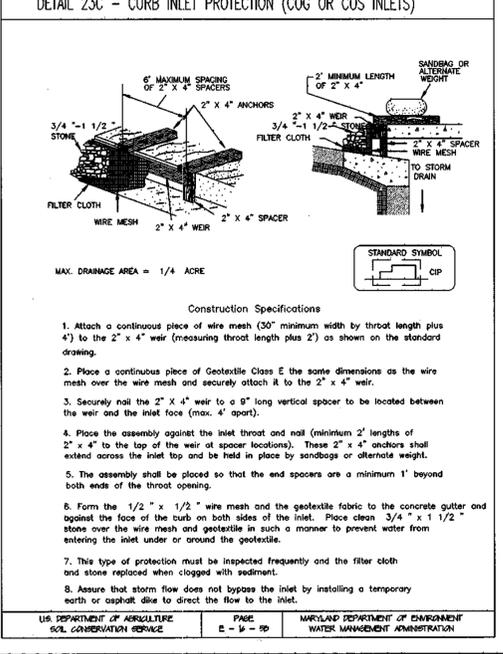
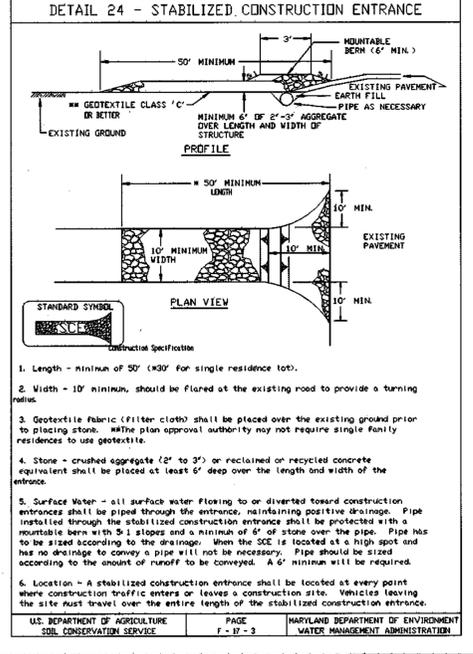
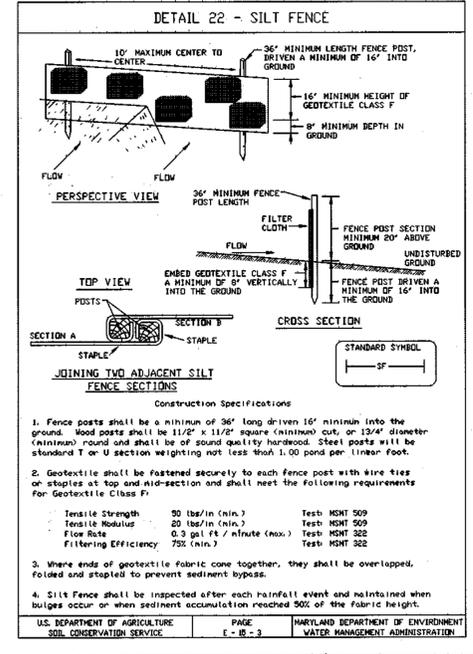
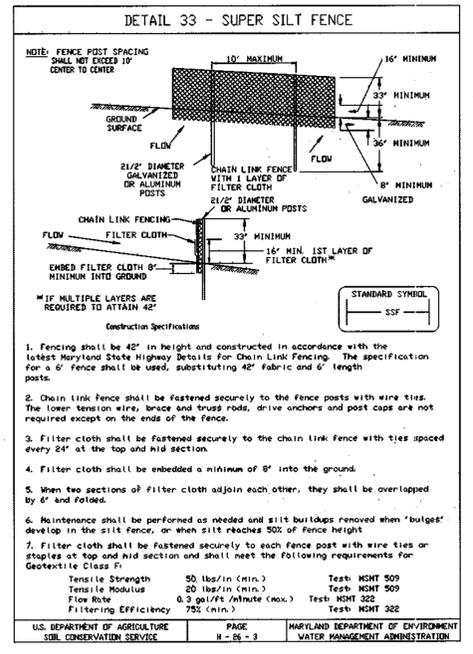
DRAWN BY: L.A.D. SCALE: 1" = 50'

DRAWING NO. 5 OF 6

11-12-02

STATE OF MARYLAND PROFESSIONAL ENGINEER

Charles R. Crocken PROFESSIONAL ENGINEER NO. 11111



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 = 22.3 AC
 F. CONSERVATION THRESHOLD = 10% X D = 22.3 AC

EXISTING FOREST COVER:
 G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN) = 223 AC
 H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD = 126 AC
 I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD = 177 AC

BREAK EVEN POINT:
 J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION = 0.00 AC
 K. CLEARING PERMITTED WITHOUT MITIGATION = 141 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 = 0.00 AC
 O. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD = 0.00 AC
 P. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD = 0.00 AC
 Q. TOTAL REFORESTATION REQUIRED = 0.00 AC
 R. TOTAL AFFORESTATION REQUIRED = 0.00 AC
 T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED = 0.00 AC
 U. OFFSITE REFORESTATION (FOREST BANK) = 120 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.

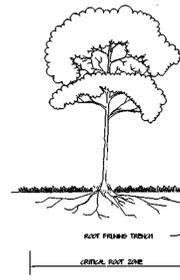
GENERAL NOTES

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 120 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, 120 ACRES HAS BEEN SATISFIED BY THE ACQUISITION OF 120 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 0.00 ACRES HAS BEEN MET BY A FEE-IN-LIEU PAYMENT OF \$2,894.00 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.
 ELERSBURG, 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, Dollard
- Shade Trees
- Evergreen Trees
- Perimeter Landscape Edge

SCHEDULE A

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* 24	Yes* 25	No	Yes* 35	Yes* 105	Yes* 54	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
Shade Trees		160	2	160	3	6	0	0	0
Evergreen Trees		-	-	-	-	-	-	-	-
Shrubs		-	-	-	-	-	-	-	-
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 (if needed)		-	-	-	-	-	-	-	-

* 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.

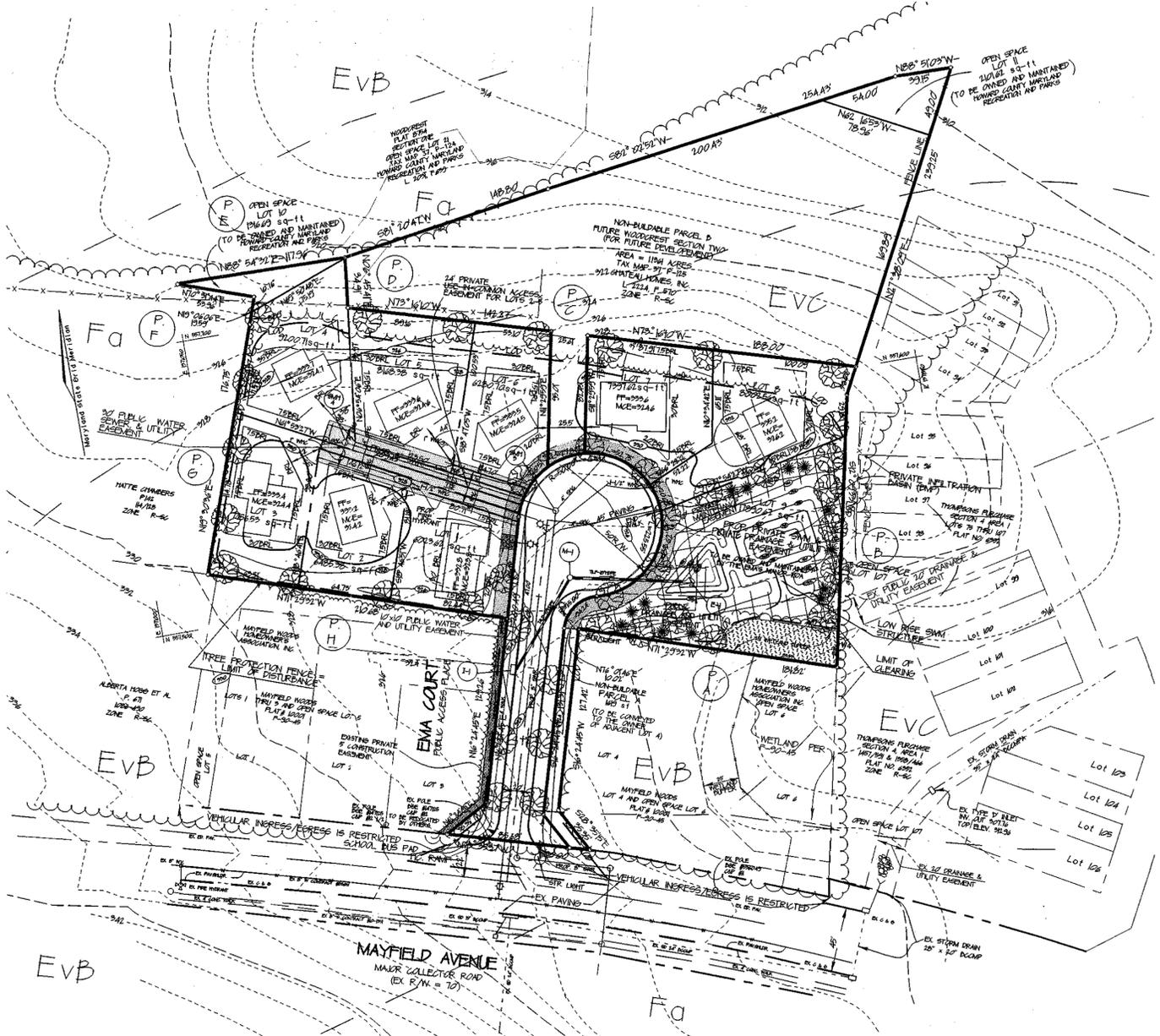
PLANT LIST

SYMBOL	QUANTITY	BOTANICAL/COMMON NAME	SIZE	REMARKS
	39	FRAXINUS P. 'PATMORE'/PATMORE GREEN ASH	2.5-5" CAL, D&D	12-14 HT.
	13	FINIS STROBUS / 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 15.24 OF THE HOWARD CO. CODE AND THE HOWARD CO. LANDSCAPE MANUAL.

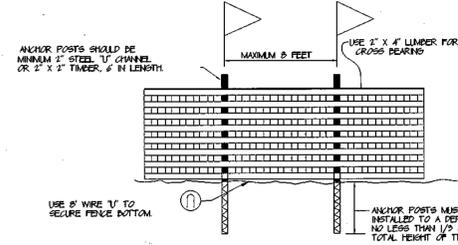


SCHEDULE D: STORMWATER MANAGEMENT AREA LANDSCAPING

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



BLAZE ORANGE PLASTIC MESH TYPICAL TREE PROTECTION FENCE DETAIL

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, DIVISION OF LAND DEVELOPMENT: *David Hanna* DATE: 2/14/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *John Damm* DATE: *shaps*

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS: *Robert M. Pancher* DATE: 2-1-02

LANDSCAPE / FOREST CONSERVATION PLAN
EMA'S MANOR

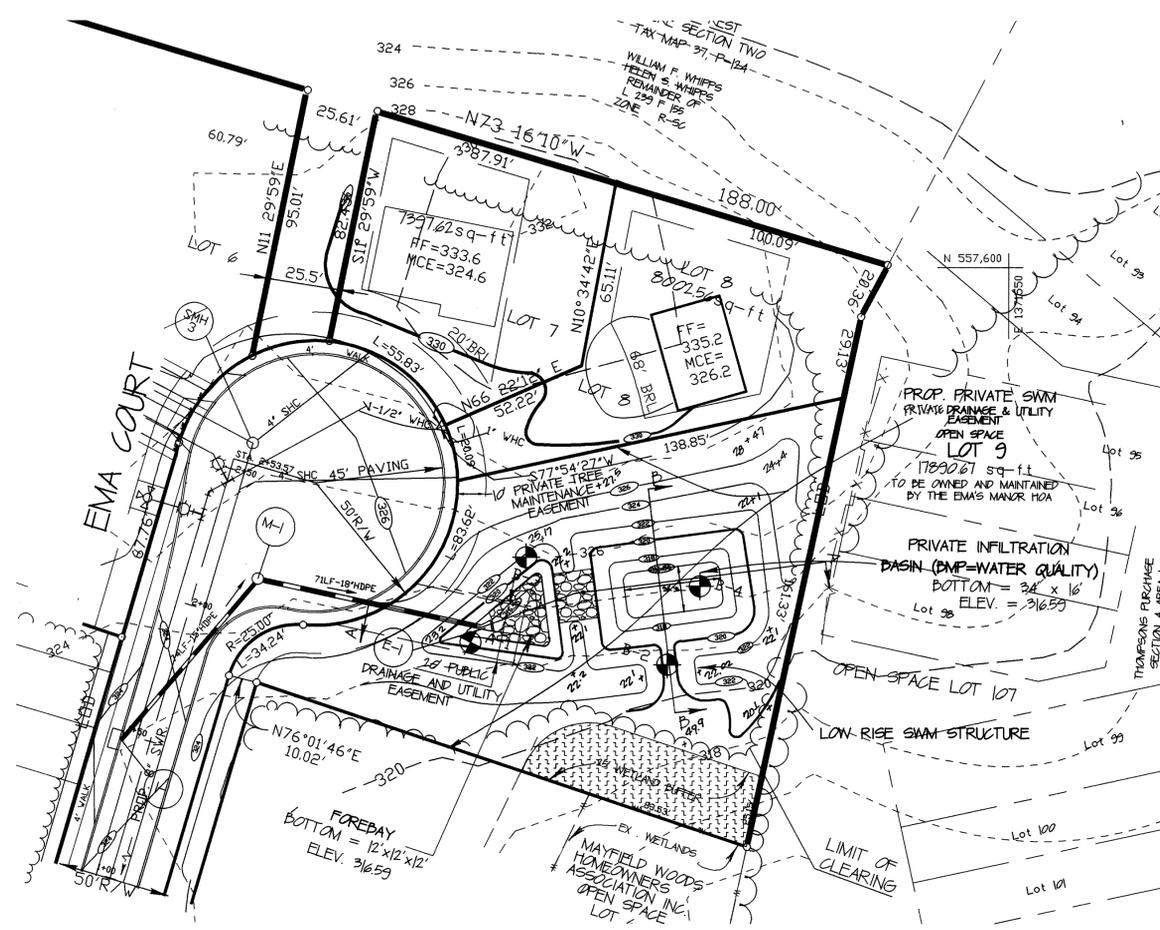
TAX MAP 37, GRID 14, 1ST ELECTION DISTRICT, PARCEL 143, HOWARD COUNTY, MARYLAND

Prepared by: **CHARLES R. CROCKEN AND ASSOCIATES, INC.**
 Civil Engineering - Land Planning
 PO Box 307
 Westminster, MD 21157
 Tel: (410) 540-5700
 Fax: (410) 543-3063

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

DATE: 11-12-02

REGISTERED PROFESSIONAL ENGINEER



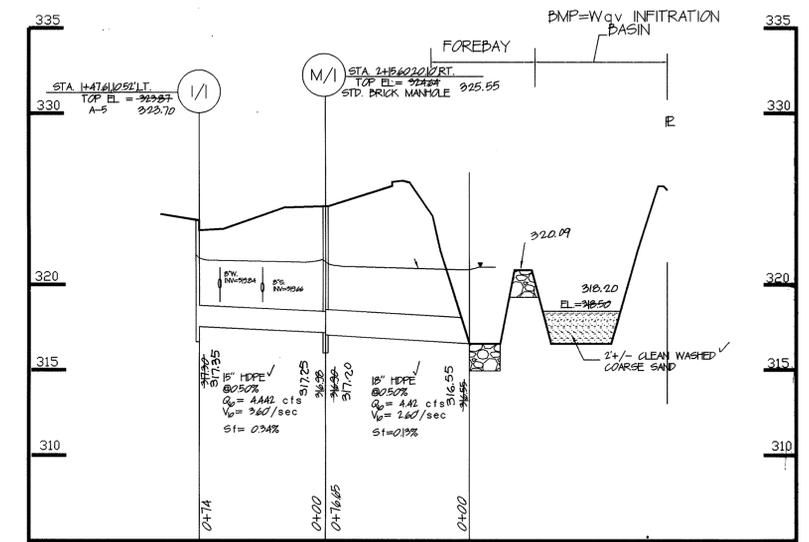
STORMWATER MANAGEMENT FACILITY (INFILTRATION)

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'S 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 ✓ E171762226 ✓



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. INSPECTIONS SHOULD BE PERFORMED DURING WET 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 AREAS 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

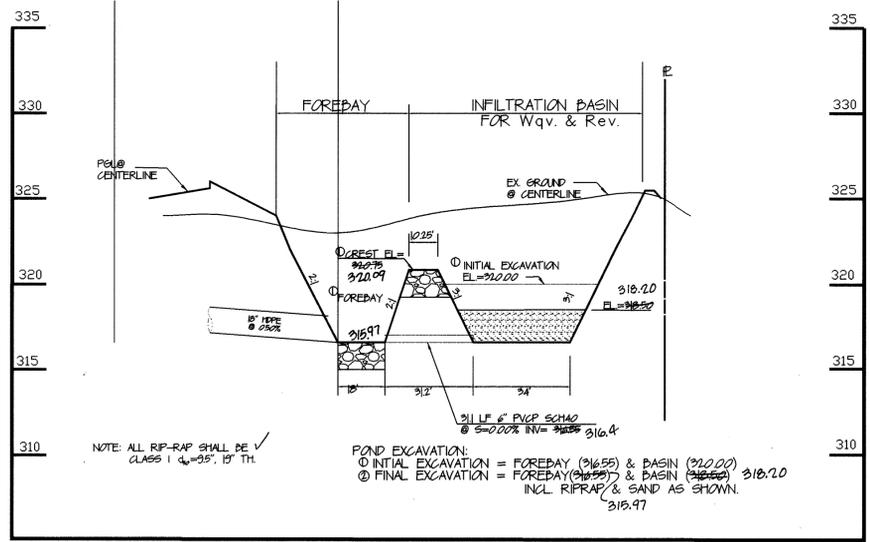
AVAILABLE FREEBOARD 312.00 - 312.75 = 125 (100 YEAR)
1-YEAR PEAK FLOW = 0.04 cfs < 2.00 cfs CDP NOT REQ'D.

WATER QUALITY DATA - (STREAM CLASS 1)											
WqV WATER QUALITY MANAGEMENT					REV WATER RECHARGE						
AREA	BMP	AREA	IMPERV. AC %	Rv	WqV STORAGE REQ'D	WqV STORAGE 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.

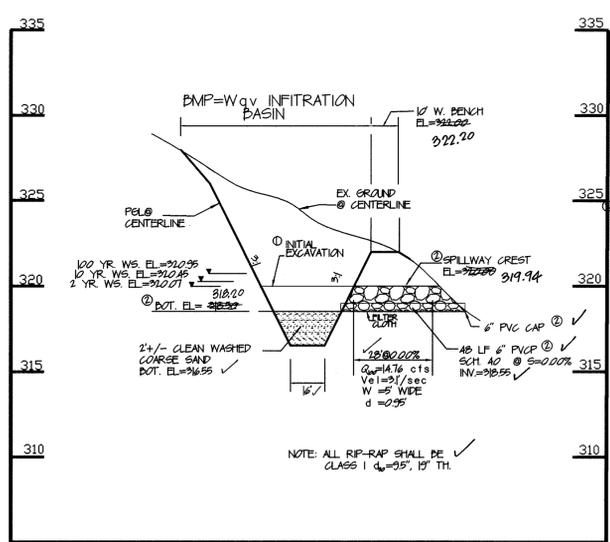
CONSTRUCTION SEQUENCE FOR SWM FACILITY

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 DESIRE 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: CHATEAU HOMES, INC., 5840 WATERLOO RD. (SITE 220), COLUMBIA, MD, 21046-1949

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Planning and Zoning: *[Signature]* 2/11/03
 Chief, Development Engineering Division: *[Signature]* 2/13/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways: *[Signature]* 2-9-03

11-12-02 DATE
 AS-BUILT ELEVATIONS

SWM PLAN, DETAILS, & STORM DRAIN PROFILE

EMA'S MANOR

TAX MAP 37 GRID 14 PARCEL 143
 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 37 PARCEL 143, 11015 PROJECT NO:
 DESIGNED BY: CRC. DATE: 8/20/02
 DRAWN BY: LAB. CHC. SCALE: 1" = 50'
 DRAWING NO. A OF 6

Professional Engineer No. *[Signature]*

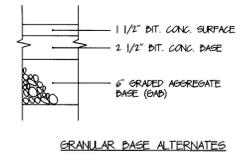
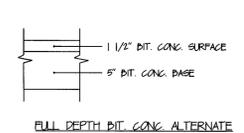
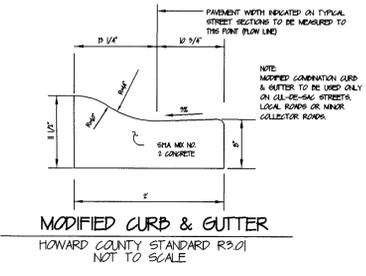
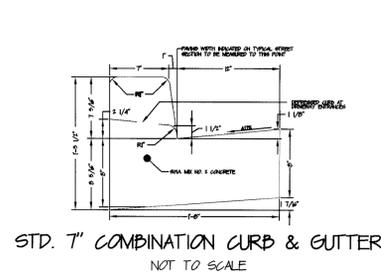
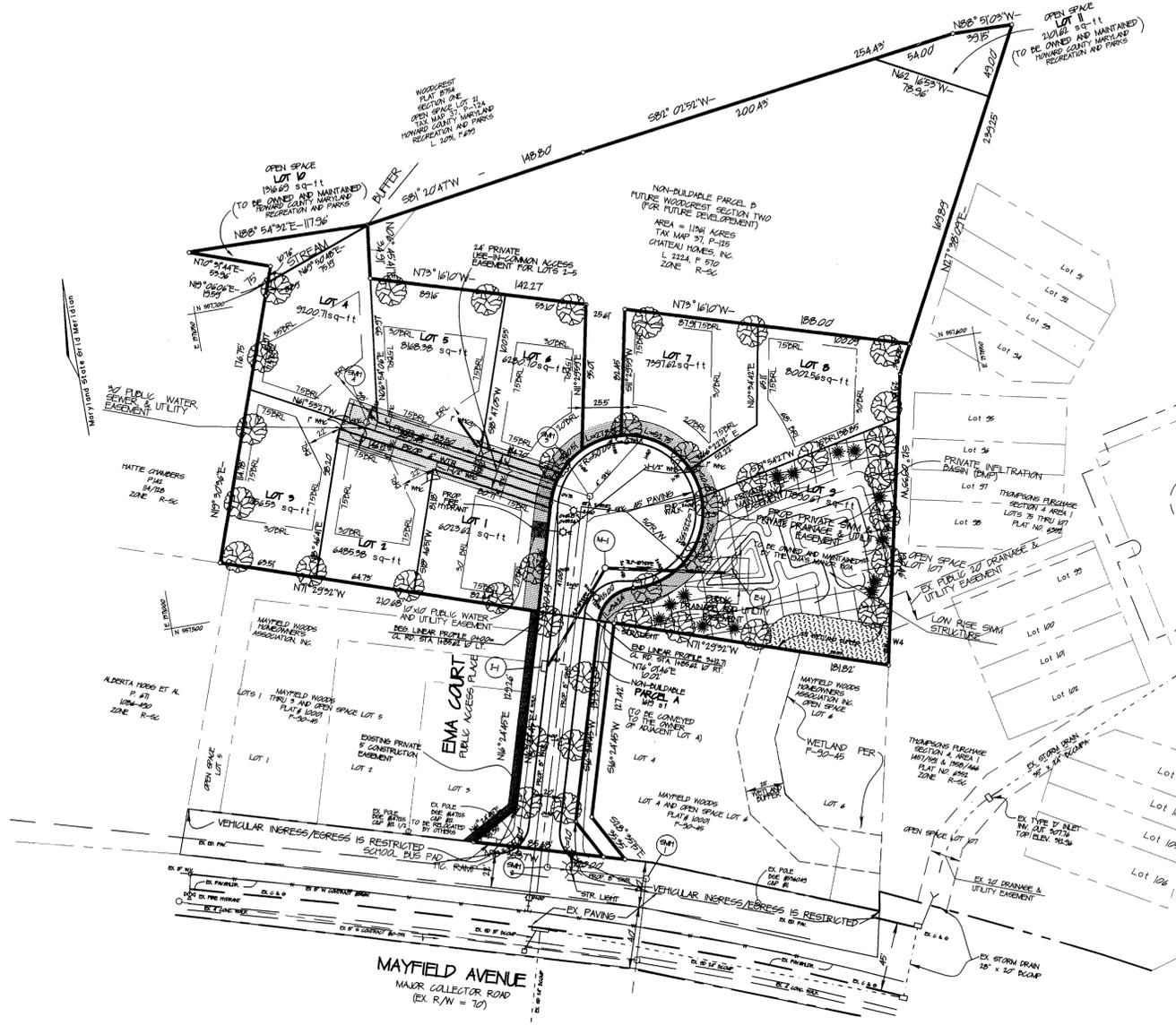
STREET LIGHTS

SYMBOL DESCRIPTION

360 - WATER TIPS VAPOR PREDOMINANT FUTURE LIGHTS MOUNTED ON A 30' BRONZE ALUMINUM POLE USING 12' WAX

360 - WATER TRANSLUCENT TIPS VAPOR PREDOMINANT FUTURE ON A 30' BRONZE ALUMINUM POLE

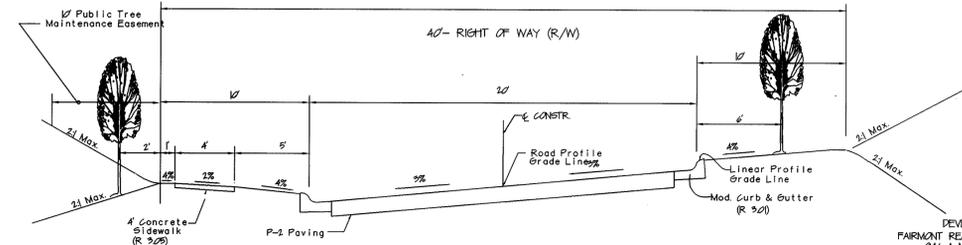
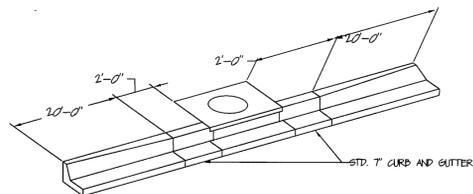
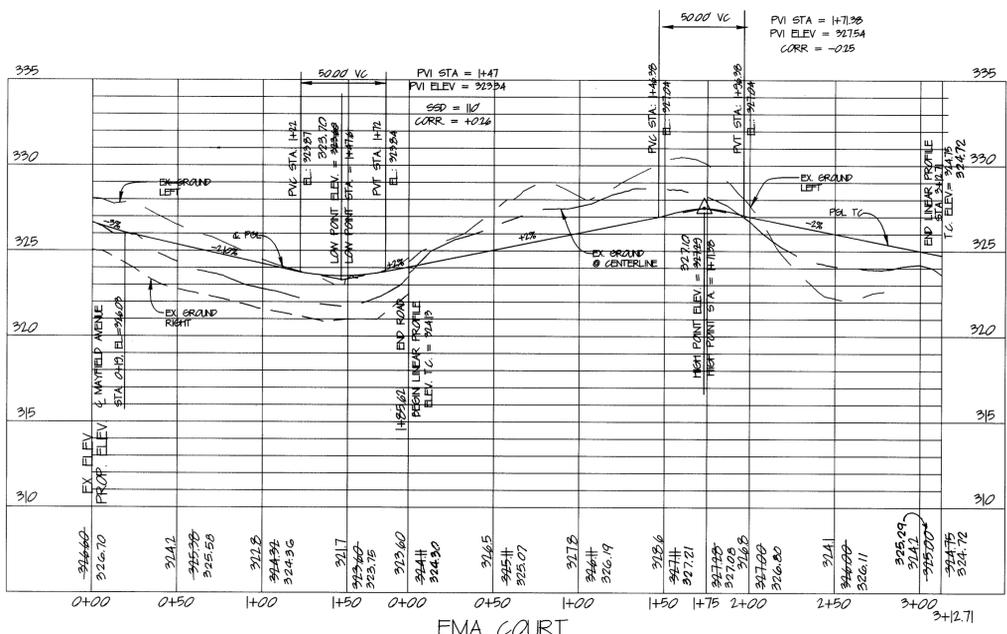
NOTE: STREET LIGHT TO BE LOCATED NOT LESS THAN 10'-0" FROM STREET TREES



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: 6-9-05

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

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 9.2.1, PAGE 40, MANUAL)

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

E. AFFOREST THRESHOLD = 18% X D = 0.39 AC
 F. CONSERVATION THRESHOLD = 20% X D = 0.44 AC

EXISTING FOREST COVER:
 G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN) = 233 AC
 H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD = 188 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 = 141 AC

PROPOSED FOREST CLEARING:
 L. TOTAL AREA OF FOREST TO BE CLEARED = 2.23 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 = 0.28 AC
 P. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD = 0.00 AC
 Q. TOTAL REFORESTATION REQUIRED = 1.99 AC
 R. TOTAL AFFORESTATION REQUIRED = 0.00 AC
 T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED = 1.99 AC
 U. OFFSITE REFORESTATION (FOREST BANK) = 120 AC
 V. BALANCE REQ'D (EQUIV. AREA FEES) = 0.19 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 plat.

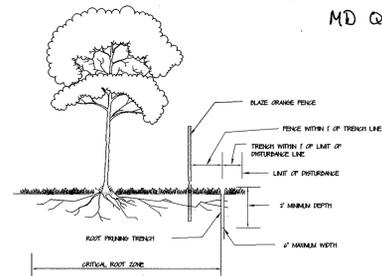
GENERAL NOTES

1. Wetland buffers are to be retained.
2. There are no endangered species on this site.
3. There are no specimen trees 3/4" 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 120 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, 199 ACRES HAS BEEN SATISFIED BY THE ACQUISITION OF 120 ACRES OF REFORESTATION CREDITS FROM ENVIRONMENTAL BANK & EXCHANGE LLC (EBE) BY EMAR'S MANOR LLC (EMAR) 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 \$2,891.40 TO THE HOWARD CO. FOREST CONSERVATION FUND.

Forest Conservation Review
 William D. Dryden
 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 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 WASHINGTON CT
 ELDELSBURG, MD 21784

OWNER:
 EMAR'S MANOR, LLC
 5800 WATERLOO RD. (SITE 230)
 COLUMBIA, MD 21046-DAP

OWNER:
 CHATEAU HOMES, INC.
 5800 WATERLOO RD. (SITE 230)
 COLUMBIA, MD 21046-DAP

LEGEND

- Existing Contour: - - - - -
- Proposed Contour: - - - - -
- Spot Elevation: +82.52
- Direction of Flow: →
- Existing Trees to Remain: [Tree Symbol]
- Light Poles: * Post Top, * Overhead, * Dollard
- Shade Trees: [Shade Tree Symbol]
- Evergreen Trees: [Evergreen Tree Symbol]
- Perimeter Landscape Edge: (P) [Circle]

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES							
		A	D	C	D	E	F	G	H
Perimeter/Frontage Designation									
Linear Feet of Roadway	182	211	356	35	54	214	211		
Frontage/Perimeter									
Credit for Existing Vegetation (Yes, No, Linear Feet)	Yes* 24	Yes* 25	No	Yes* 95	Yes* 105	Yes* 54	No	No	No
Credit for Wall, Fence or Berm (Yes, No, Linear Feet)	No	No	No	No	No	No	No	No	No
Number of Plants Required									
Shade Trees	(121) 140	(156) 140	160	6	160	0	160	0	160
Evergreen Trees	-	-	-	-	-	-	-	-	-
Shrubs	-	-	-	-	-	-	-	-	-
Number of Plants Provided									
Shade Trees	2	3	6	0	0	0	4	4	4
Evergreen Trees	-	-	-	-	-	-	-	-	-
Other Trees (1:1 Substitution)	-	-	-	-	-	-	-	-	-
Shrubs (1:1 Substitution)	-	-	-	-	-	-	-	-	-
Describe Plant Substitution Credits Below if needed									

* Existing Woods to Remain

STREET TREE CHART			
SYMBOL	QUANTITY	BOTANICAL/Common NAME	SIZE
[Tree Symbol]	13	FRAXINUS P. 'PATMORE'/PATMORE GREEN ASH	2.5-3" CAL., D&B

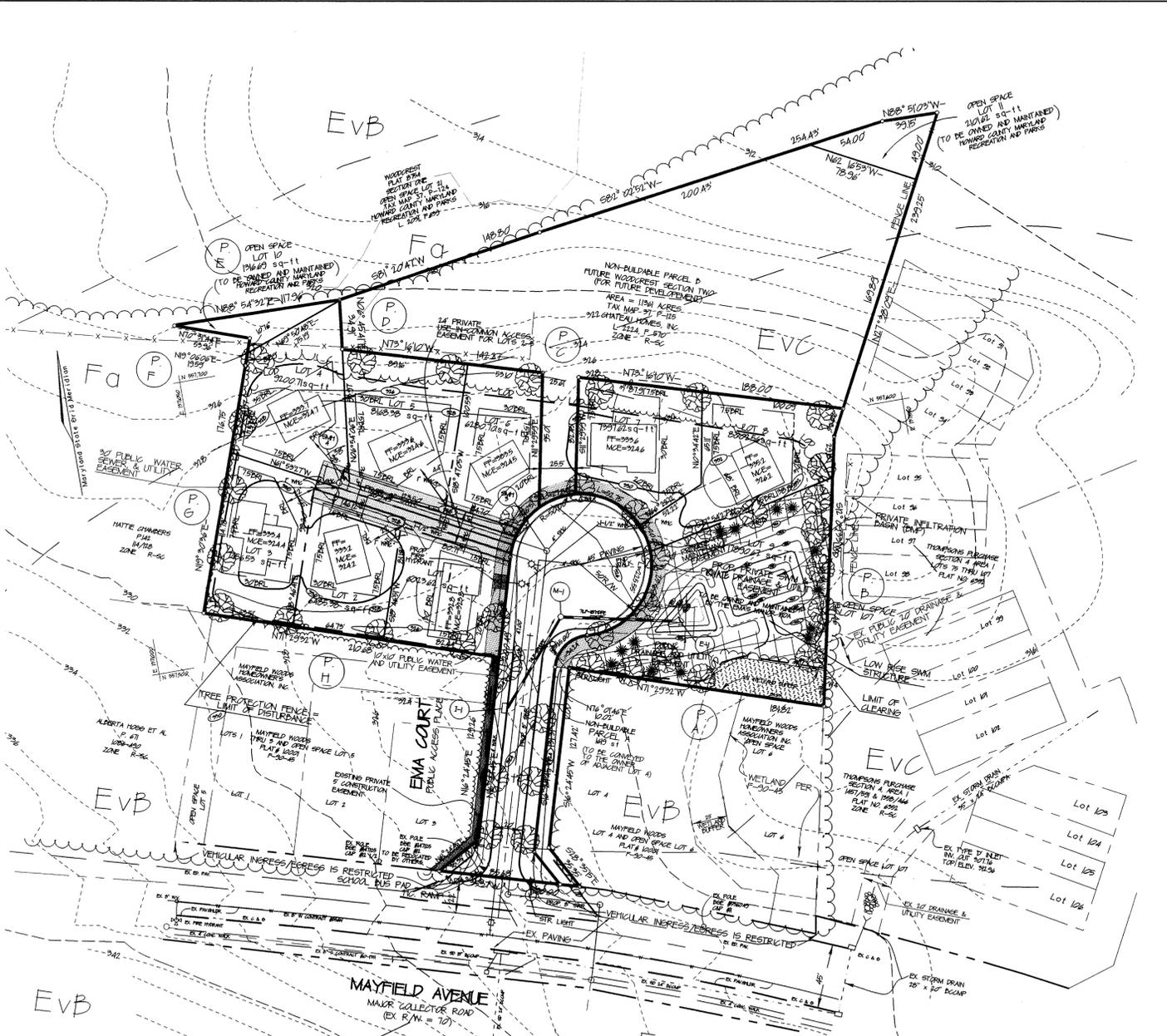
THIS LIST INCLUDES LANDSCAPE MATERIAL FOR PERIMETER LANDSCAPE EDGE AND STREET TREES.

PLANT LIST				
SYMBOL	QUANTITY	BOTANICAL/Common NAME	SIZE	REMARKS
[Tree Symbol]	99	FRAXINUS P. 'PATMORE'/PATMORE GREEN ASH	2.5-3" CAL., D&B	12-14' HT.
[Tree Symbol]	13	PINUS STROBUS / WHITE PINE	6-8' HT., D&B	10-15' OC

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

GENERAL NOTES

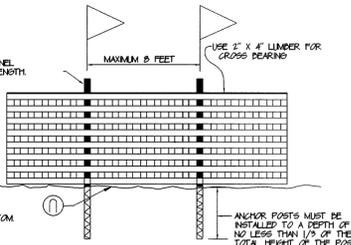
1. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DFW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$2,750.00 FOR 26 SHADE TREES AND 15 EVERGREEN TREES.
2. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS SECTION 16.124 OF THE HOWARD CO. CODE AND THE HOWARD CO. LANDSCAPE MANUAL.



SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING		
LINEAR FEET OF PERIMETER	40071 LF	TYPE 'D'
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	YES, 80 LF	
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	YES, 3 PERIMETER TREES	
NUMBER OF TREES REQUIRED	12 SHADE TREES 10 EVERGREEN TREES	
NUMBER OF TREES PROVIDED	7 SHADE TREES 10 EVERGREEN TREES 0 OTHER TREES (1:1 SUBSTITUTION)	

SYMBOL	NAME/DESCRIPTION	SOIL GROUP
EVB	EVERSBORD LOAMY SAND, 0% TO 8% SLOPES	A
EVC	EVERSBORD LOAMY SAND, 8% TO 15% SLOPES	A
Fo	FALLINGBORN LOAM	D/D

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.
 6. Device should be maintained throughout construction.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Planning & Zoning: [Signature] 2/14/03
 Chief, Development Engineering Division: [Signature] 2/14/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways: [Signature] 2-1-03

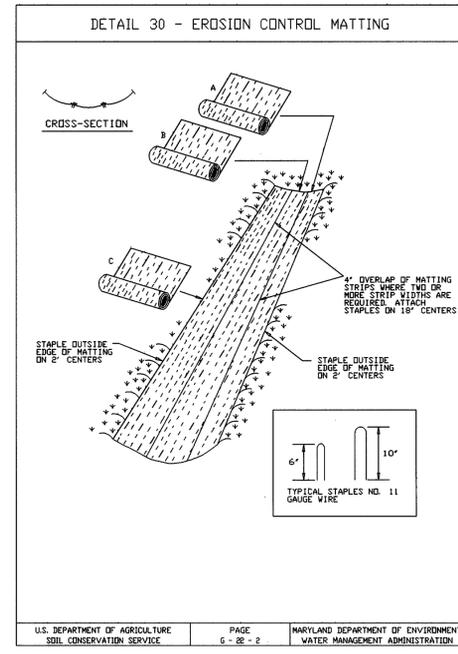
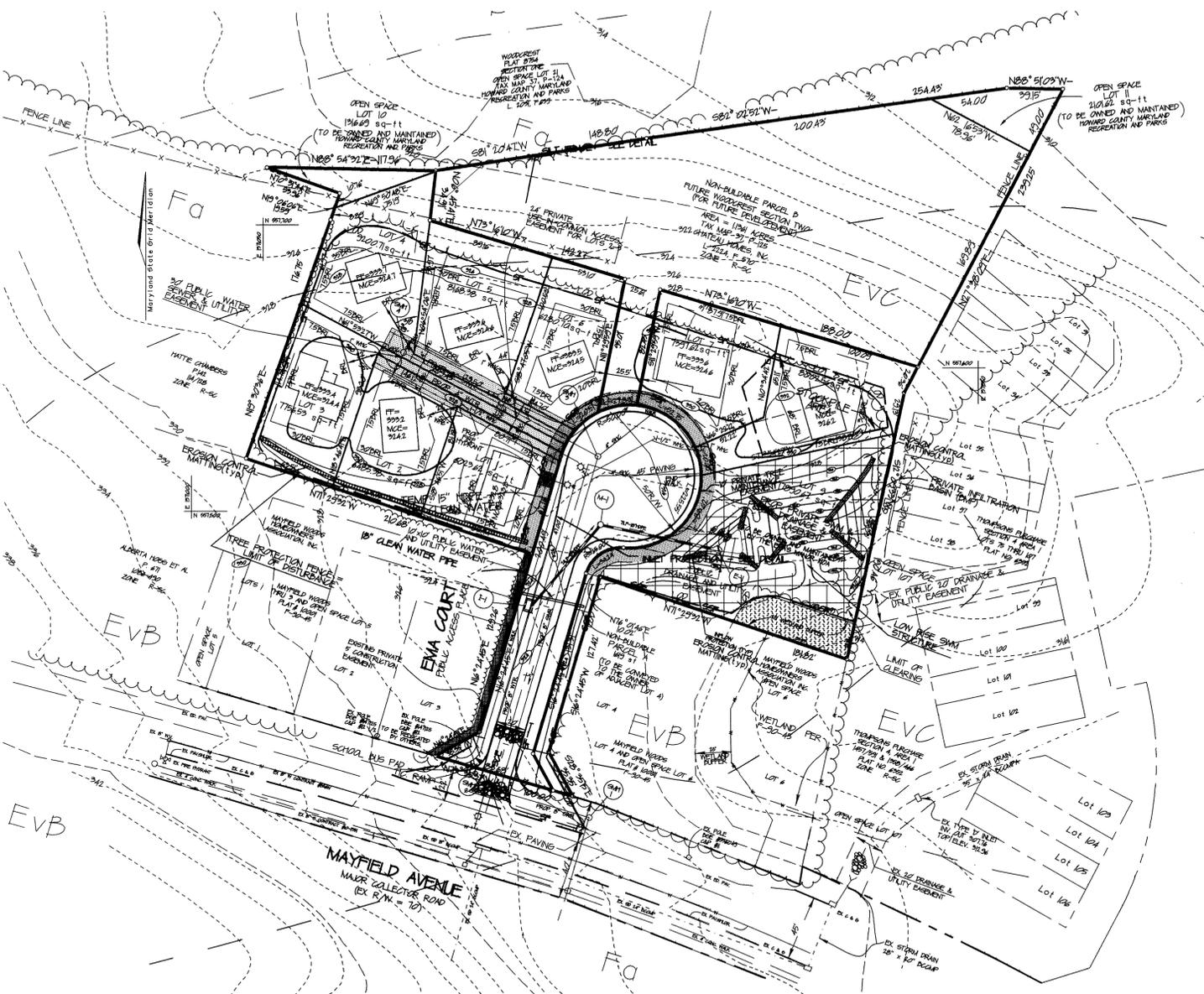
LANDSCAPE / FOREST CONSERVATION PLAN
EMA'S MANOR
 TAX MAP 37 GRID 14 PARCEL 143
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

Prepared by: CHARLES R. CROCKEN AND ASSOCIATES, INC.
 Civil Engineering - Land Planning
 PO Box 307
 Westminster, MD 21157
 Tel. (410) 543-2708
 Fax. (410) 543-3063

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

11-12-02
 DATE

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 [Signature]



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 (410-215-2656).

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 - 790 cu. yds.
 Total fill - 790 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 3% or higher use 300 gallons/acre (3 gal/1000 sq ft) for anchoring.

Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseeding. For the period Nov. 1 through Feb. 28, protect site by applying 2 tons/acre of well-anchored straw mulch and seed as soon as possible in the spring, or use sod.

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. 30, seed with 2 1/2 bushels/acre (22 lbs/1000 sq ft) of annual ryegrass. For the period May 1 through Nov. 30, 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 3% 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 11/16/03
 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. Palminteri 1/14/03
 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 11/16/02
 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 2/14/03
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Charles R. Crocken 2/24/03
 CHIEF, BUREAU OF HIGHWAYS DATE

NO. DATE REVISION

SEDIMENT CONTROL PLAN
EMA'S MANOR

TAX MAP 37 GRID 14
 1ST ELECTION DISTRICT

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

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

OWNER:
 CHATEAU HOMES, INC.
 5850 WATERLOO RD. (SUITE 200)
 COLUMBIA, MD 21046-1545

190125
 PARCELS 143
 HOWARD COUNTY, MARYLAND

Prepared by: **CHARLES R. CROCKEN AND ASSOCIATES, INC.**
 Civil Engineering - Land Planning
 Westminster, MD 21157
 Tel. (410) 548-2708
 Fax. (410) 548-9063

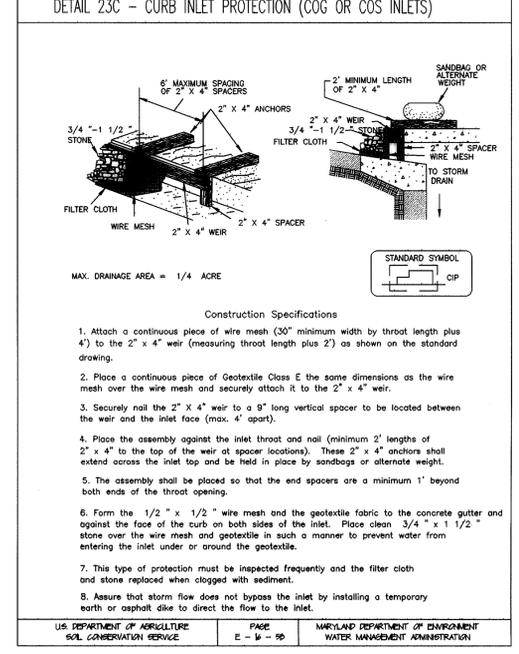
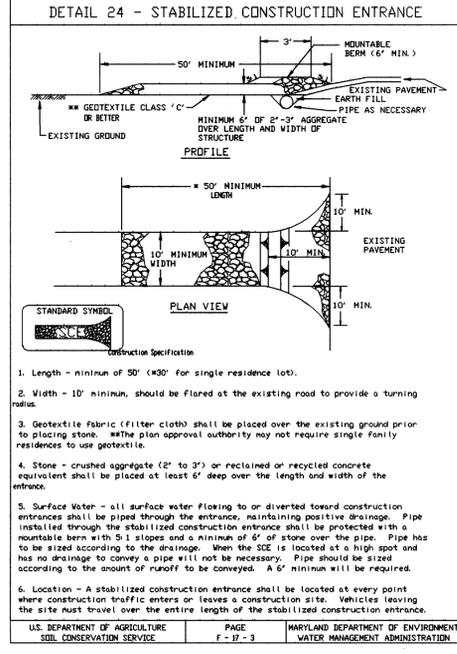
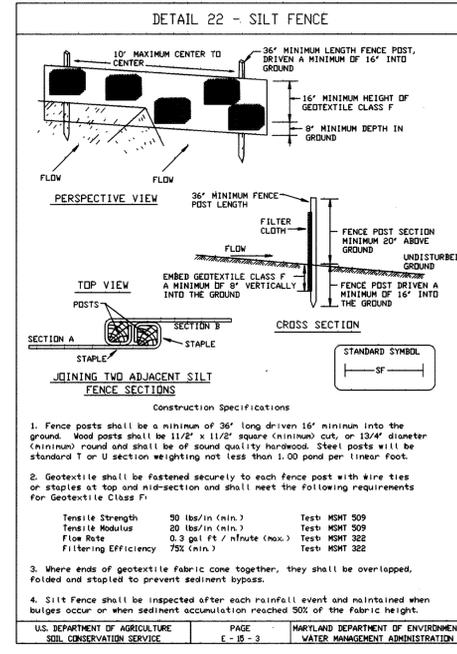
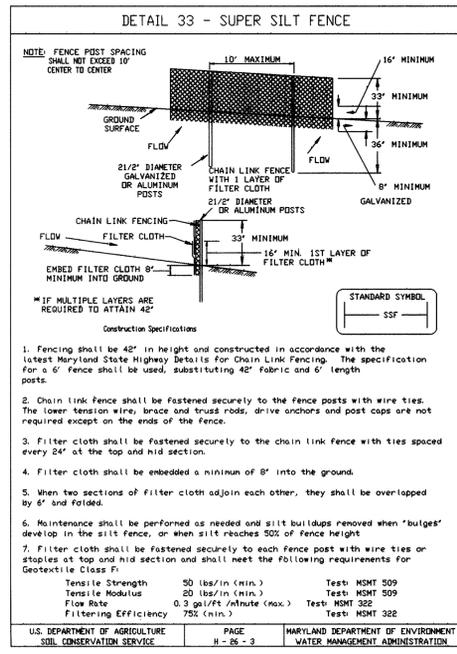
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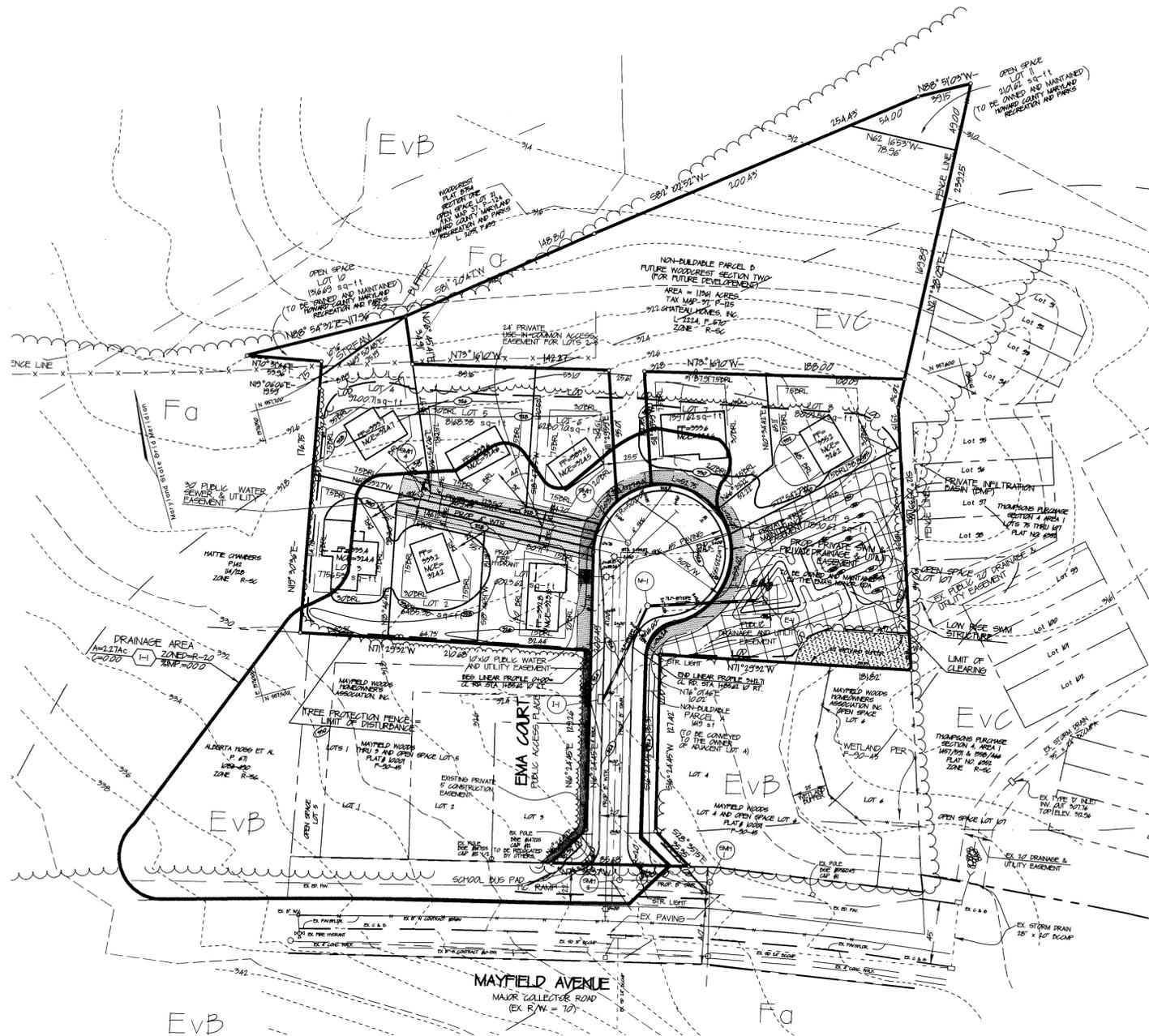
DESIGNED BY: DATE: SEPT. 2001

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

DRAWING NO. 5 OF 6

Charles R. Crocken
 PROFESSIONAL ENGINEER NO. 7903





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	EVESBORD LOAMY SAND, 1% TO 5% SLOPES	A
EVC	EVESBORD LOAMY SAND, 5% TO 15% SLOPES	A
Fd	FALLINGBORN 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
 U.S. Soil Conservation Service DATE

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

Jim Myers 11/16/03
 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 Conservation District or their Authorized Agent as necessary.

L. Ray Ruchda 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 11/12/02
 CHARLES R. CROCKEN, PE, REG. NO. 7803 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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

Mike 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	---	
Super Silt Fence	---	
Earth Dike	---	
Limit of Disturbance	---	

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, L.L.C.
 346-A NARMING CT.
 ELSPERSBURG, MD 21784

GRADING PLAN
EMA'S MANOR

TAX MAP 37 GRID 14
 1ST ELECTION DISTRICT

PARCELS 143
 HOWARD COUNTY, MARYLAND

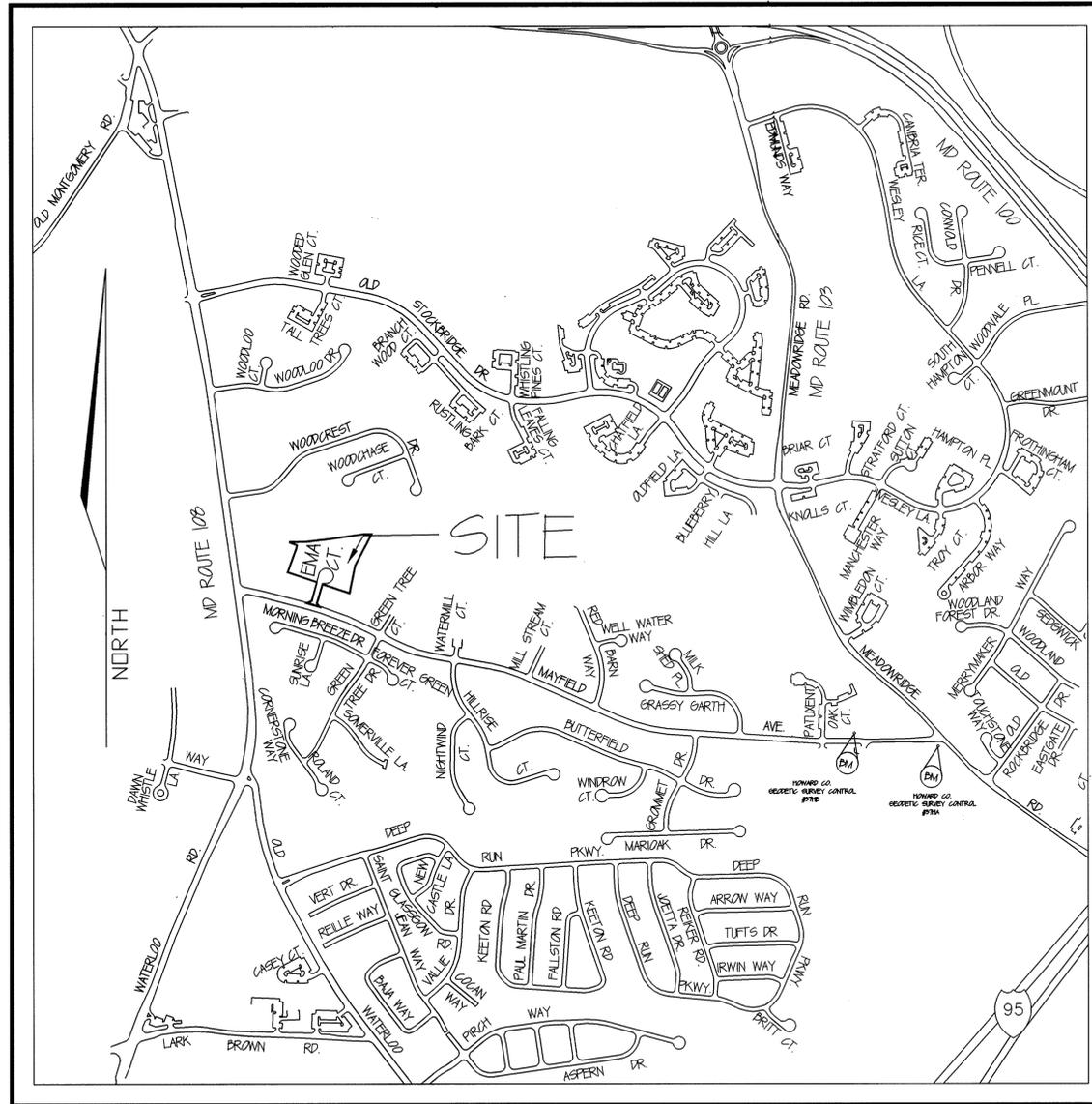
11-12-02
 DATE

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		

PROFESSIONAL ENGINEER NO. *Charles R. Crocken*

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	ROAD PLAN & PROFILE
3	GRADING PLAN
4	SWM PLAN, DETAILS, & STORM DRAIN PROFILE
5	SEDIMENT CONTROL PLAN
6	LANDSCAPE / FOREST CONSERVATION PLAN



VICINITY MAP

SCALE: 1"=600'

AS-BUILT

FINAL CONSTRUCTION PLAN EMA'S MANOR

LOTS 1-9

A SUBDIVISION OF PARCEL 143 & P/O PARCEL 125
1ST ELECTION DISTRICT, TAX MAP 37, GRID 14
HOWARD COUNTY, MARYLAND

GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV (STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION).
- APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS:
 MISS UTILITY 1-800-257-7777
 BELL TELEPHONE SYSTEM 410-293-3649
 LONG DISTANCE CABLE DIVISION 410-293-3553
 BALTIMORE GAS & ELECTRIC CO 410-593-8000 x691
 COLONIAL PIPELINE 410-795-1930
 HOWARD COUNTY BUREAU OF UTILITIES 410-392-2366
 HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (24 HR NOTICE BEFORE COMMENCEMENT OF WORK) 410-310-1872
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURB RETURNS SHALL HAVE A 35' RADIUS UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL. IV (STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION).
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE MUTCD.
- THE CONTRACTOR SHALL NOT INSTALL PIPE UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- DESIGNED TRAFFIC SPEED IS IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.G. AND O.S. MEAN SEA LEVEL, DATUM, 1929.
- ALL FILL AREAS WITHIN THE ROADWAY AND UNDER STRUCTURES ARE TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION IN ACCORDANCE WITH AASHTO T-99.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATION SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- SUBJECT PROPERTY ZONED R-50 PER 10/18/99 COMPREHENSIVE ZONING PLAN.
- THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PERFORMED BY FREDERICK WARD ASSOCIATES IN APRIL, 2001.
- THE TOPOGRAPHY SHOWN IS BASED ON A SURVEY PERFORMED BY FREDERICK WARD ASSOCIATES IN DECEMBER, 2000.
- COORDINATE DATUM IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM (MD 89) AS PROJECTED BY THE FOLLOWING HOWARD COUNTY GEODETIC CONTROL STATIONS: 571A & 571B.
- NO PIPE SHALL BE LAD UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT TO WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE AS SHOWN IN FIG. 11.4, VOL. 1 OF THE HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- NO CLEARING, GRADING & CONSTRUCTION WILL OCCUR OR IS PERMITTED WITHIN THE WETLAND BUFFER & 75' STREAM BUFFER.
- THE FOREST CONSERVATION OBLIGATION FOR REFORESTATION AND AFFORESTATION INCURRED BY THE SUBDIVISION SHOWN HEREON, 193 ACRES HAS BEEN SATISFIED BY THE ACQUISITION OF 120 ACRES OF FOREST MITIGATION CREDITS FROM ENVIRONMENTAL BANK & EXCHANGE LLC (EBE) BY EMA'S MANOR LLC (EMM) SHALL DELIVER TO HOWARD COUNTY ANY AND ALL DOCUMENTS RELATING TO THE FOREST MITIGATION, AND THAT THE OUTSTANDING REFORESTATION OBLIGATION OF 210 ACRES HAS BEEN MET BY A FEE-IN-LIEU PAYMENT OF \$229,140 TO THE HOWARD CO. FOREST CONSERVATION FUND.
- AS A RESULT OF THE PRELIMINARY PLAN FOR THIS SUBDIVISION, P-01-18, BEING SUBMITTED TO THE COUNTY FOR REVIEW PRIOR TO 11/15/01, IT IS SUBJECT TO COMPLIANCE WITH THE MOST CURRENT EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. IN ADDITION, BECAUSE THE PRELIMINARY PLAN FOR THIS SUBDIVISION DID OBTAIN SIGNATURE APPROVAL PRIOR TO 11/01/01, ON 06/15/01, THIS SUBDIVISION IS SUBJECT TO COMPLIANCE WITH ZONING REGULATIONS ADOPTED ON 12/18/99 AND AMENDED ON 07/18/01.
- HOWARD COUNTY FILE NO'S: F-02-54, DPZ NO. S-00-11, P-01-18, WF-02-01 & WF-02-10
- THE SCHOOL BUS PAD IS TO BE OWNED AND MAINTAINED BY THE HOME OWNER ASSOCIATION.
- PLAN OF THE SUBDIVISION SHOWN HEREON IS SUBJECT TO A WAIVER FROM THE REQUIREMENTS OF SECTION 1610(a)(1)(b) TO CONSTRUCT IMPROVEMENTS TO A MAJOR COLLECTOR ROAD, SPECIFICALLY TO CONSTRUCT ACCEL/DECEL LANES ALONG THE NORTHEAST OF MAYFIELD AVENUE AT THE INTERSECTION OF EMAS COURT, WF-02-01 APPROVED MARCH 4, 2002.
- PLAN OF THE SUBDIVISION SHOWN HEREON IS SUBJECT TO A WAIVER FROM THE REQUIREMENTS OF SECTIONS 1610(a) and 1610(b) AND 1610(c) TO NOT BE REQUIRED TO SUBMIT SKETCH AND PRELIMINARY PLANS FOR THE PROPOSED ADDITION OF LAND (P/O PARCEL 125) TO A MAJOR SUBDIVISION (F-02-54, EMAS MANOR) AND SECTION 1610(a)(1) TO PERMIT THE REQUIRED PUBLIC ROAD FRONTAGE FOR OPEN SPACE TO BE REDUCED TO 20 FEET FOR PROPOSED OPEN SPACE LOT 2, WOODCREST, SECTION 2, WITHOUT REQUIRING THE ADJACENT SIDE PARS (ON ADJACENT LOTS TO BE INCREASED BY 10 FEET AND 250.0 FEET FOR THE TWO PROPOSED OPEN SPACE PARCELS, SHOWN AS LOTS 10 & 11, FILE NO. WF-02-10 APPROVED JULY 30, 2001.
- WORMWATER WILL BE PROVIDED BY AN INFILTRATION BASIN. SWM FACILITY WILL BE OWNED & MAINTAINED BY THE HOA.

AS-BUILT LEGEND
 AS-BUILT ELEV. = 325.25
 -325.70
 ✓ = SATISFACTORY

OWNER:
 EMA'S MANOR LLC
 5454 MARMON CT
 ELDERSBURG, MD 21784

OWNER:
 CHATEAU HAWES INC
 5952 WINDY HILL RD
 COLUMBIA, MD 21046-849

DEVELOPER:
 FAIRMONT REAL ESTATE SERVICES
 5454 MARMON CT
 ELDERSBURG, MD 21784

"AS-BUILT"



Charles R. Crocken
 AS-BUILT 6-9-05

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>Christy Hamrick</i> CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 2/14/03
<i>Charles Crocken</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 2/12/03
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>Andrew M. Sauer</i> CHIEF, BUREAU OF HIGHWAYS	DATE: 2-4-03
NO.	DATE
	REVISION

EMA'S MANOR	
TAX MAP 37, GRID 14 1ST ELECTION DISTRICT	PARCEL 143, P/O 125 HOWARD COUNTY, MARYLAND
DATE: 11-12-02	Prepared by: CHARLES R. CROCKEN AND ASSOCIATES, INC. Civil Engineering - Land Planning PO Box 307 Westminster, MD 21157 Tel. (410) 549-2108 Fax. (410) 549-3069
TAX MAP 37, BLK 14, PARCEL 124	PROJECT NO.:
DESIGNED BY:	DATE:
DRAWN BY: L.A.B.	SCALE: AS SHOWN
DATE:	DRAWING NO. 1 OF 6
PROFESSIONAL ENGINEER NO.:	F-02-54