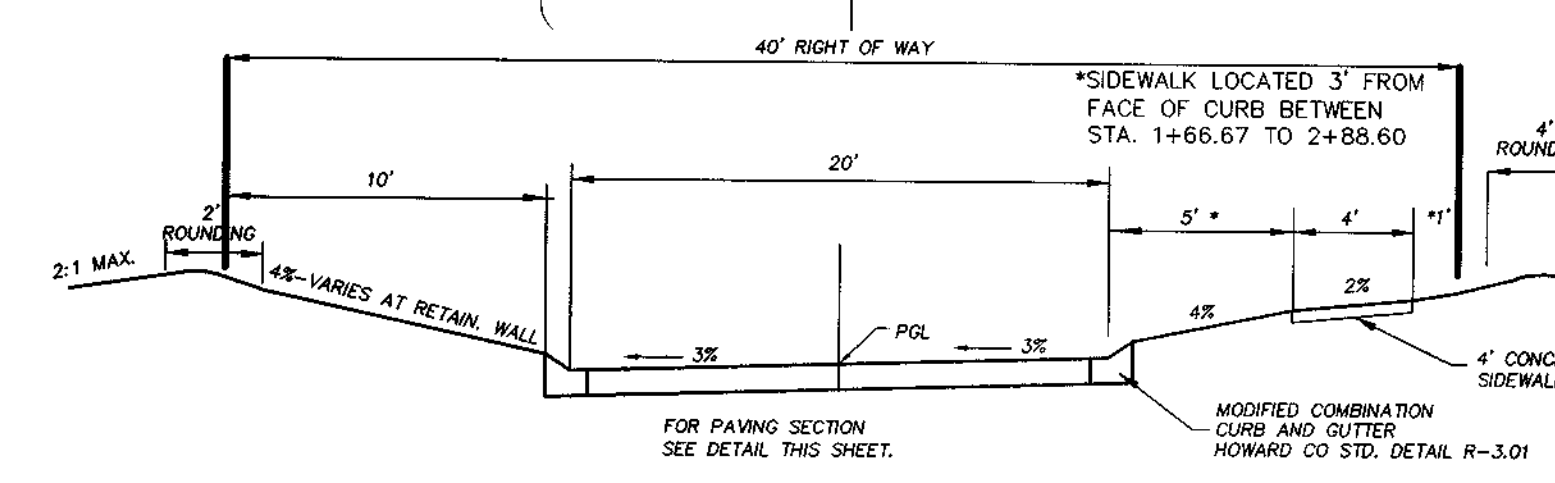


Street Light Legend

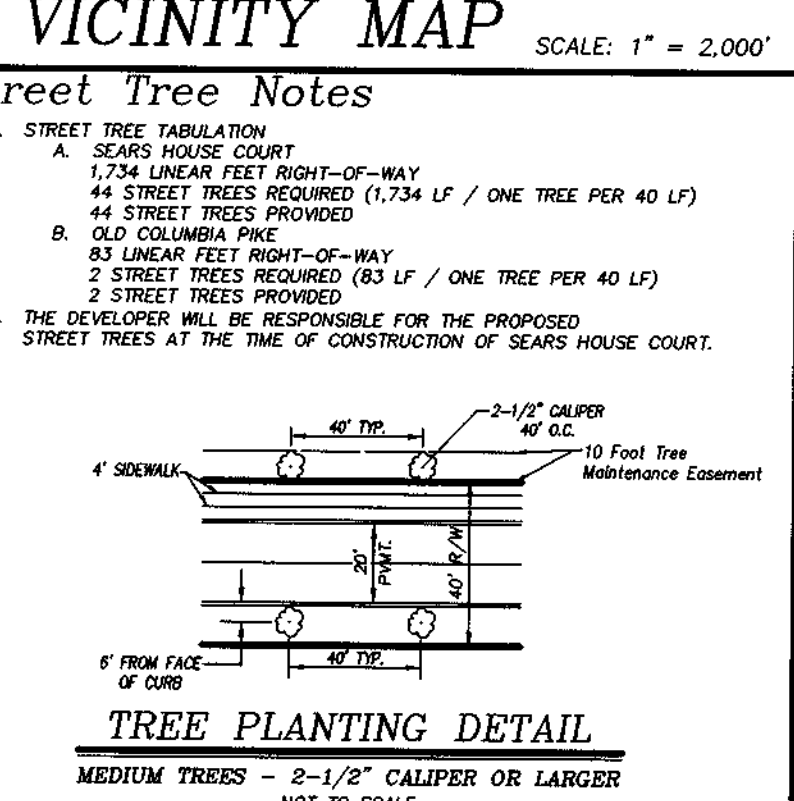
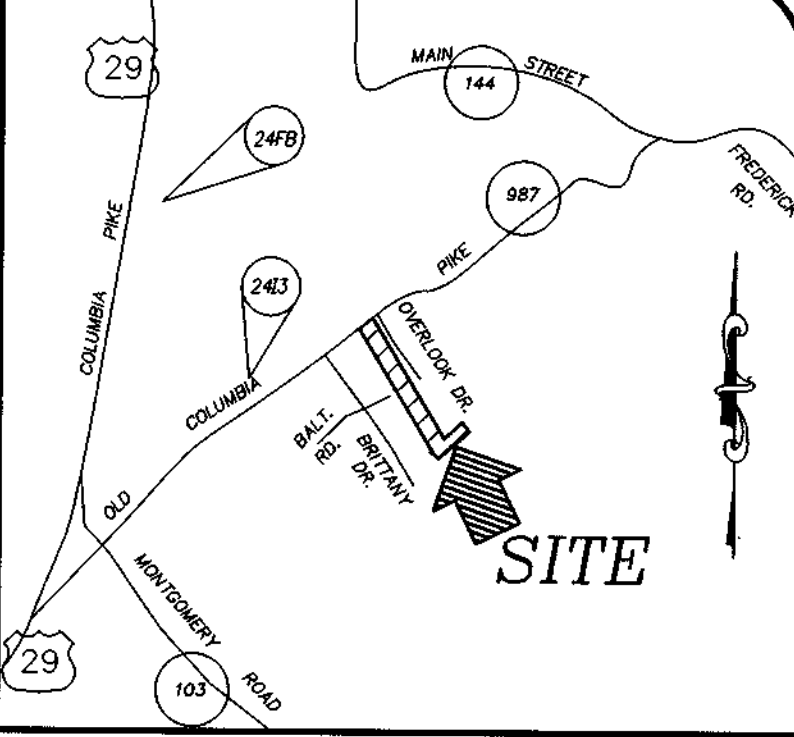
SEARS HOUSE COURT Sta. 0+39 o/s 19' RL	100-watt "Traditionaire" HPS vapor post top fixture on 14-foot black fiberglass pole	Street light shall be placed 2'-4" from back of curb
SEARS HOUSE COURT Sta. 3+12 o/s 14' Lt.	100-watt "Traditionaire" HPS vapor post top fixture on 14-foot black fiberglass pole	Street light shall be placed 2'-4" from back of curb
SEARS HOUSE COURT Sta. 4+48 o/s 15' Lt.	100-watt "Traditionaire" HPS vapor post top fixture on 14-foot black fiberglass pole	Street light shall be placed 2'-4" from back of curb
SEARS HOUSE COURT Sta. 7+50.86 o/s 34.81' Lt.	100-watt "Traditionaire" HPS vapor post top fixture on 14-foot black fiberglass pole	Street light shall be placed 2'-4" from back of curb

Curve Data

CURVE NO.	RADIUS	ARC	DELTA	TAN	CHORD BEARING - DIST.
C-1	50.00	36.14'	41°24'48"	18.90'	S 10°19'53" E - 35.36'
C-2	50.00	36.80'	42°10'09"	19.28'	S 10°42'34" E - 35.97'
C-3	45.00	70.69'	90°00'00"	45.00'	S 76°02'18" E - 63.64'
C-4	45.00	70.80'	90°08'45"	45.11'	S 75°57'55" E - 63.72'
C-5	96.00	77.43'	46°12'45"	40.96'	S 07°47'10" E - 75.35'



- ### General Notes:
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JAN. 1995).
 - A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
 - THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN SURVEY WITH TWO (2) FOOT CONTOUR INTERVALS PREPARED BY VOGEL & ASSOCIATES, DATED JULY 18, 1999.
 - THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS Nos. 24FB AND 24B3.



Street Tree Legend

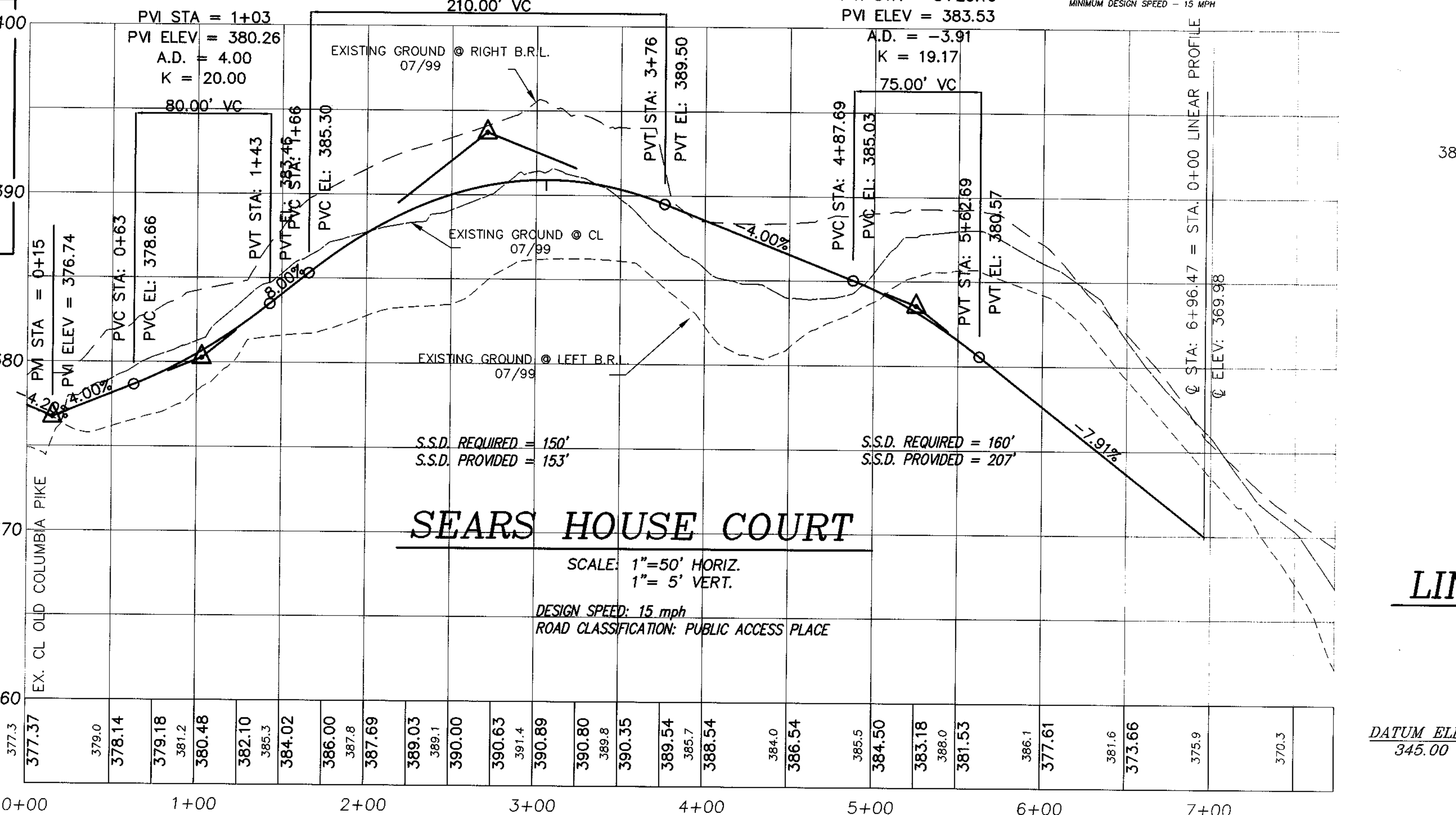
Botanical Name	Common Name	Size	Root	Quantity	Symbol
ACER RUBRUM	RED MAPLE	2-1/2" CAL.	B & B	46	(Symbol)

☆ 100-watt "Traditionaire" HPS vapor post top fixture on 14-foot black fiberglass pole

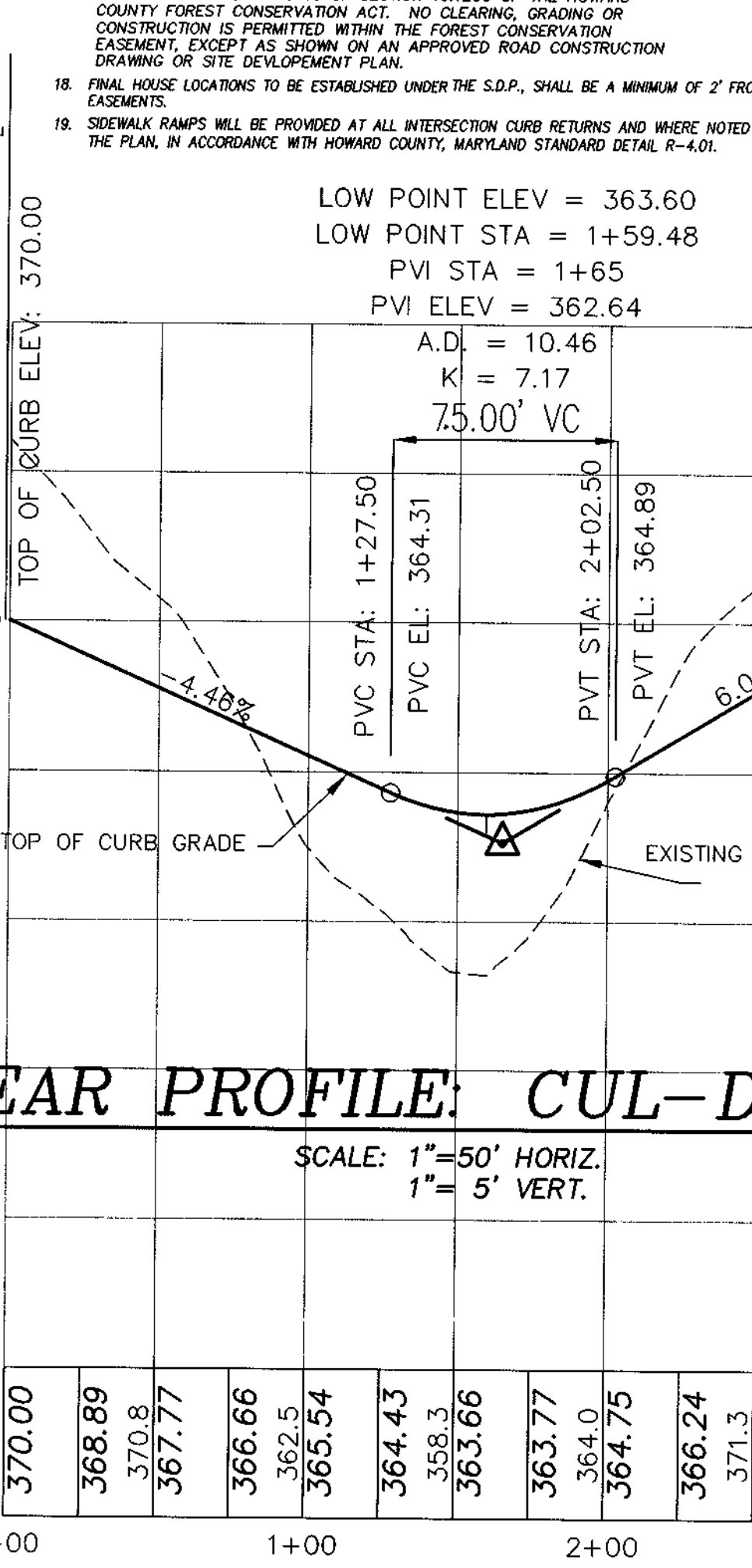
S.S.D. REQUIRED = 160'
S.S.D. PROVIDED = 160'

INDEX OF SHEETS

- SEARS HOUSE COURT- PLAN AND PROFILE
- GRADING AND SEDIMENT CONTROL PLAN
- S.W.M. PROFILES AND DETAILS
- S.W.M. PROFILES AND DETAILS
- STORM DRAIN PROFILES
- GRADING, SEDIMENT CONTROL NOTES & DETAILS
- S.W.M. AND STORM DRAIN DRAINAGE AREA MAP
- STREET TREE AND LANDSCAPING PLAN
- FOREST CONSERVATION PLAN
- FOREST CONSERVATION DETAILS



LINEAR PROFILE: CUL-DE-SAC



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Robert M. Mochi 4/25/00
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cinda Amata 4/15/00
CHIEF, DIVISION OF LAND DEVELOPMENT

Robert M. Mochi 4/25/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Surveyor
Vogel & Associates
3691 Park Ave., Suite 101
Ellicott City, MD. 21043
(410) 461-5828
Fax (410) 465-3966

Owner:
L. Earl & Mary T. Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Developer:
Orchard Development Corporation
ATTN: Mr. Scott Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Engineer:
R.M. Mochi Group, P.C.
10120A Old National Pike
Ijamsville, MD. 21754-9706
(301) 865-5858
Attn: Mr. Robert M. Mochi, P.E.

MILL TOWNE OVERLOOK
Election District No. 2 Howard County, MD.
Tax Map 25, Grid 13, Parcel 220
Previous Files: S-97-17, P.B. CASE No. 318, WP-98-10, P-99-07

Project: 99011.13
Date: 07-20-99
Illustration: KMB
Scale: 1" = 50'
Title: MILL TOWNE OVERLOOK

4 4/11/99 P.E. P.B. COMMENTS DATED 4/11/99
3 MYLARS SUBMITTED FOR SIGNATURES
2 DIRECT SUBMITTALS TO DPZ & DEED
1 REVISED SUBMITTAL PER HOWARD COUNTY COMMENTS
0 SUBMITTED TO HOWARD CO. DPZ FOR REVIEW

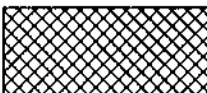
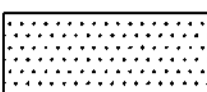


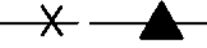
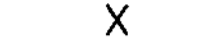

Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
ELECTION DISTRICT NO. 2
SEARS HOUSE COURT - PLAN AND PROFILE
HOWARD COUNTY, MARYLAND

EM MOCHI GROUP, P.C.
P.O. Box 10
New Market, MD 21774-0010
10120 A Old National Pike
Ijamsville, MD 21754-9706
(301) 865-5858
Fax: (301) 865-9111

1 OF 10

NOTE: CONTRACTOR SHALL COORDINATE WITH THE DEVELOPER ON STRUCTURAL FILL REQUIREMENTS FOR THE LOT GRADING SHOWN ON THIS PLAN.

LEGEND:

-  25% OR GREATER SLOPES
-  DENOTES PRIVATE STORMWATER MANAGEMENT DRAINAGE AND UTILITY EASEMENT
-  DENOTES FOREST RETENTION AREAS WHICH INCLUDE EXISTING FORESTED AREAS IN FLOODPLAIN.
-  LIMITS OF DISTURBANCE (L.O.D.)
-  DENOTES LOCATION OF FOREST RETENTION EASEMENT WITH TREE PROTECTION AND SIGNAGE.
-  DENOTES FENCE
-  DENOTES SIGNAGE

Owner:
L. Earl & Mary T. Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Developer:
Orchard Development Corporation
ATTN: Mr. Scott Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Engineer:
R.M. Mochi Group, P.C.
10120A Old National Pike
Jammsville, MD. 21754-9706
(301) 865-5858

Surveyor:
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Ellicott City, MD. 21043
(410) 461-5828
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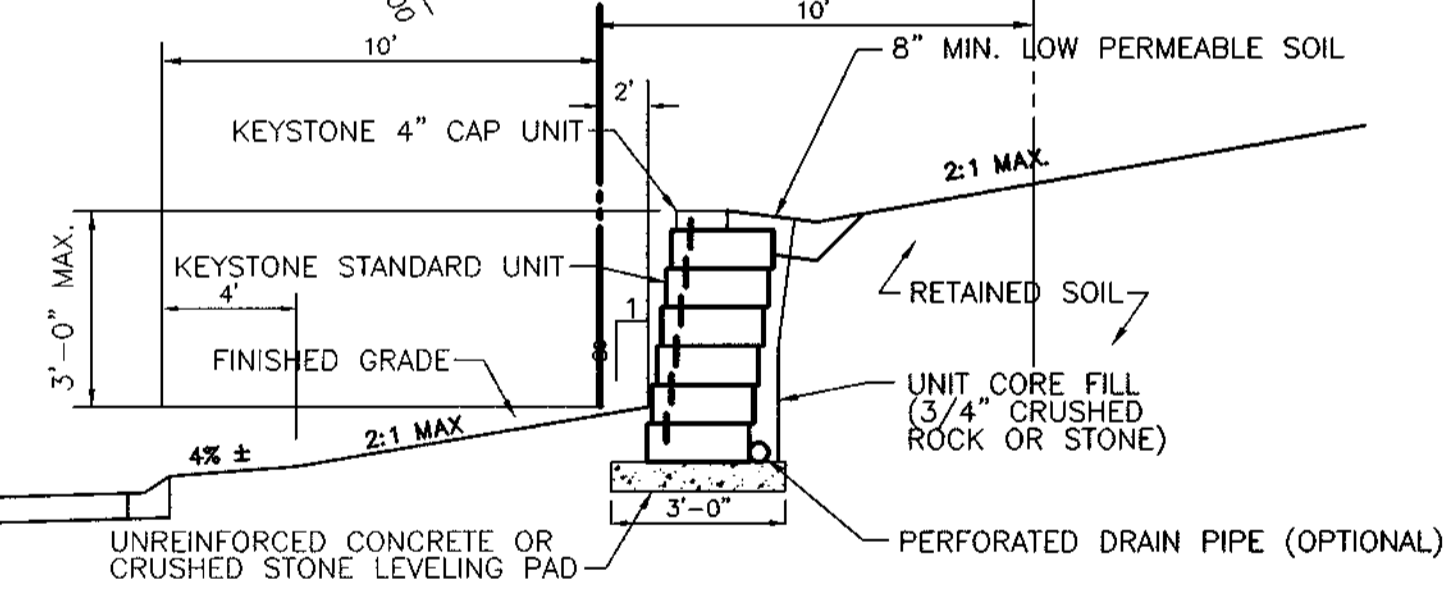
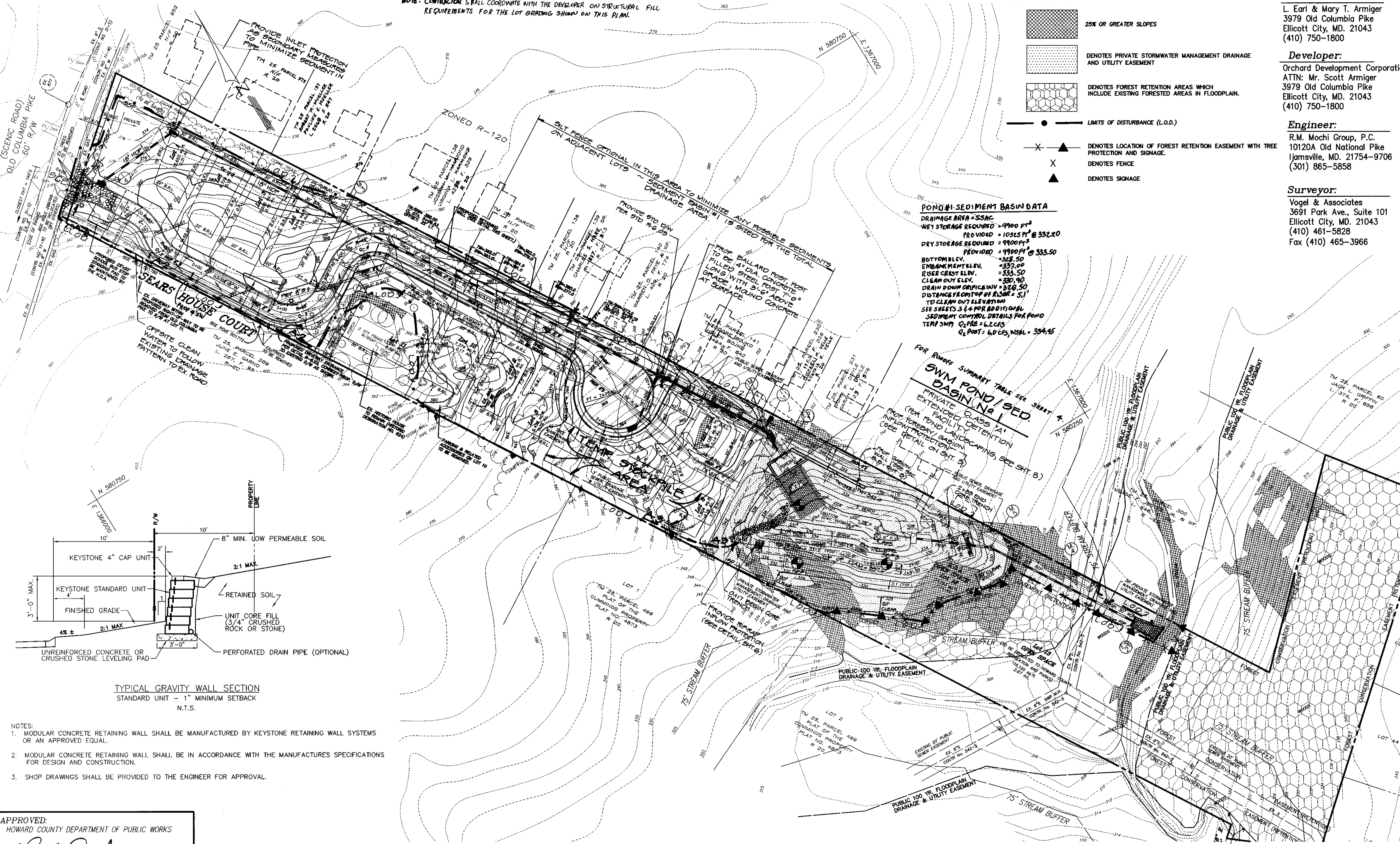
POND #1-SEDIMENT BASIN DATA

DRAINAGE AREA = 55AC
WET STORAGE REQUIRED = 9900 FT³
PROVIDED = 10325 FT³ @ 332.20
DRY STORAGE REQUIRED = 9900 FT³
PROVIDED = 9900 FT³ @ 333.50
BOTTOM ELEV. = 332.50
EMBANKMENT ELEV. = 337.00
RISER CREST ELEV. = 333.50
CLEAR OUT ELEV. = 330.90
DRAIN DOWN ORIFICE INV. = 328.50
DISTANCE FROM TOP OF RISER = 5.1'
TO CLEAR OUT ELEVATION
SEE SHEETS 3 & 4 FOR ADDITIONAL
SEDIMENT CONTROL DETAILS FOR POND
TEMP SWY Q₂ P88 = 6.2 CFS
Q₂ FOOT = 6.0 CFS, NSM = 234.45

FOR RAINFALL SUMMARY TABLE SEE SHEET 4

SWM POND / SED. BASIN #1

EXTENDED GLASS 'A' FACILITY DETENTION
FOR POND LANDSCAPING, SEE SHEET (B)
INFLOW PROTECTION
SEE DETAIL ON SHEET (B)
FOR POND LANDSCAPING, SEE SHEET (B)
FOR POND LANDSCAPING, SEE SHEET (B)
FOR POND LANDSCAPING, SEE SHEET (B)



TYPICAL GRAVITY WALL SECTION
STANDARD UNIT - 1" MINIMUM SETBACK
N.T.S.

- NOTES:
1. MODULAR CONCRETE RETAINING WALL SHALL BE MANUFACTURED BY KEYSTONE RETAINING WALL SYSTEMS OR AN APPROVED EQUAL.
 2. MODULAR CONCRETE RETAINING WALL SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS FOR DESIGN AND CONSTRUCTION.
 3. SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL.

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Danalo 4/25/00
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cecilia Hamilton 4/25/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Chad Deussen 5/5/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED:
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Paul A. M... 4/25/00
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED:
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Chad Seaman 4/25/00
USDA - NATIONAL RESOURCES CONSERVATION SERVICE DATE

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.
Scott Armiger 4-13-00
Signature of Developer DATE

ENGINEER'S CERTIFICATE
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.
R.M. Mochi 4/14/00
R.M. Mochi, P.E. DATE

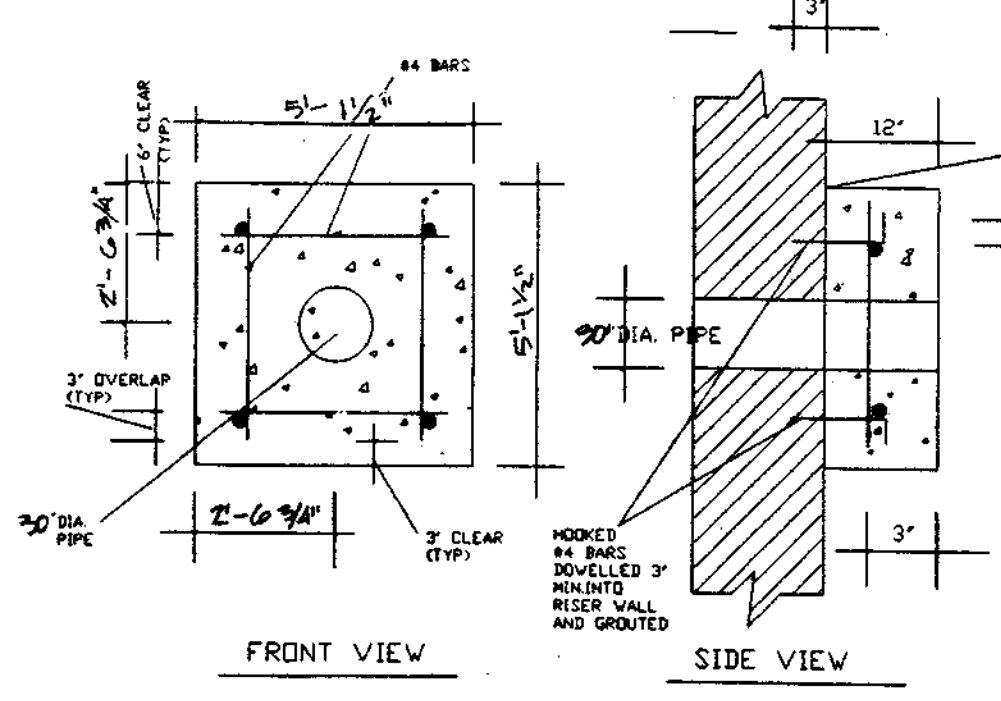
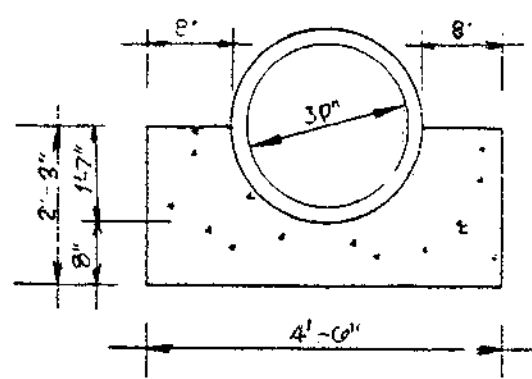


DATE	07-29-98	OWNER	L. Earl & Mary T. Armiger
PROJECT	9801113	ILLUSTRATION	KMB
SCALE	1"=50'	APPROVAL	R.M.M.

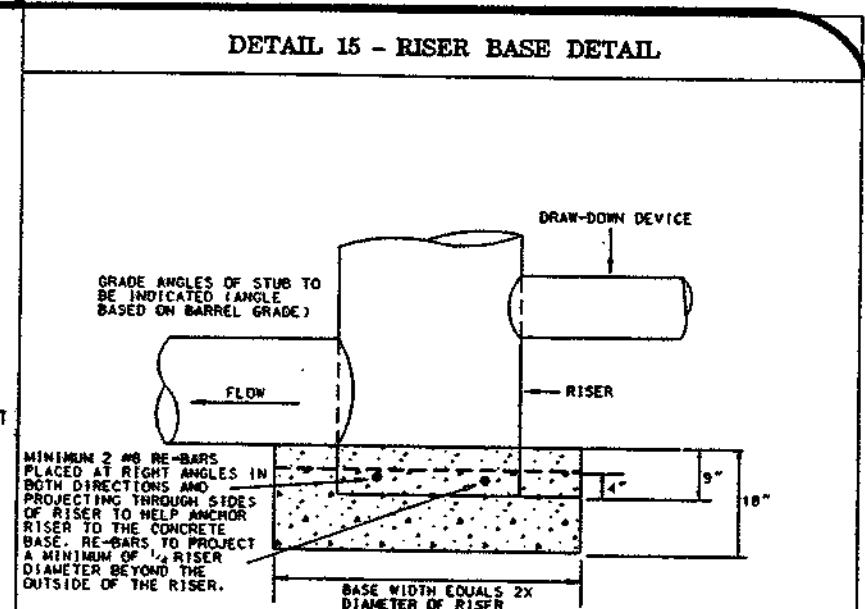
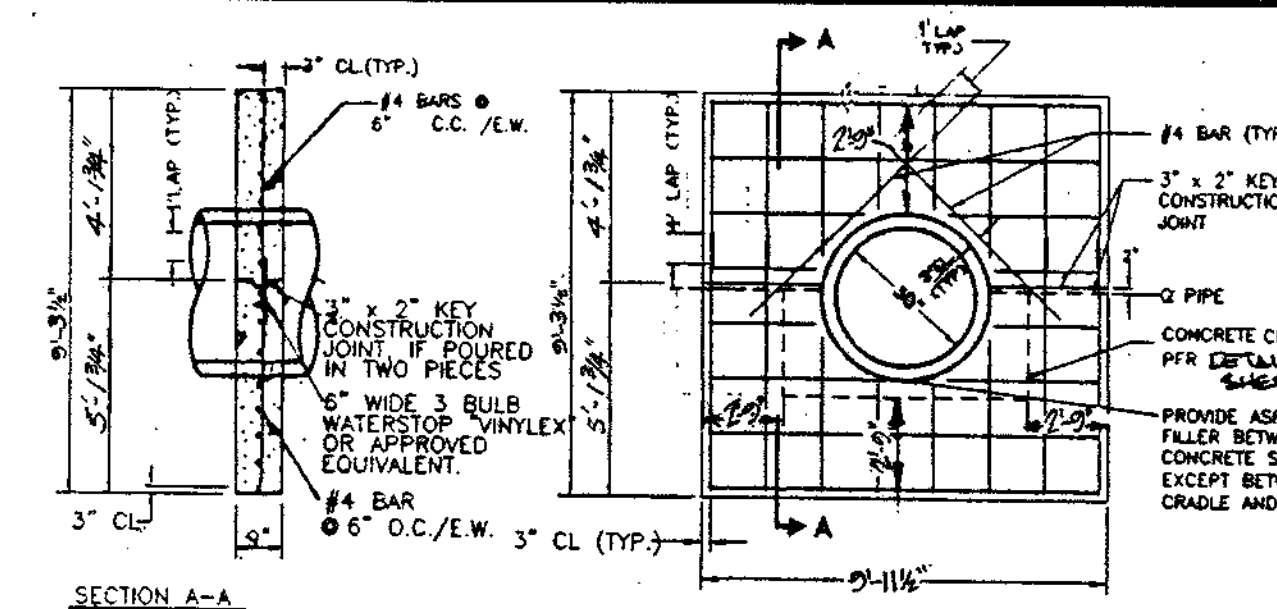
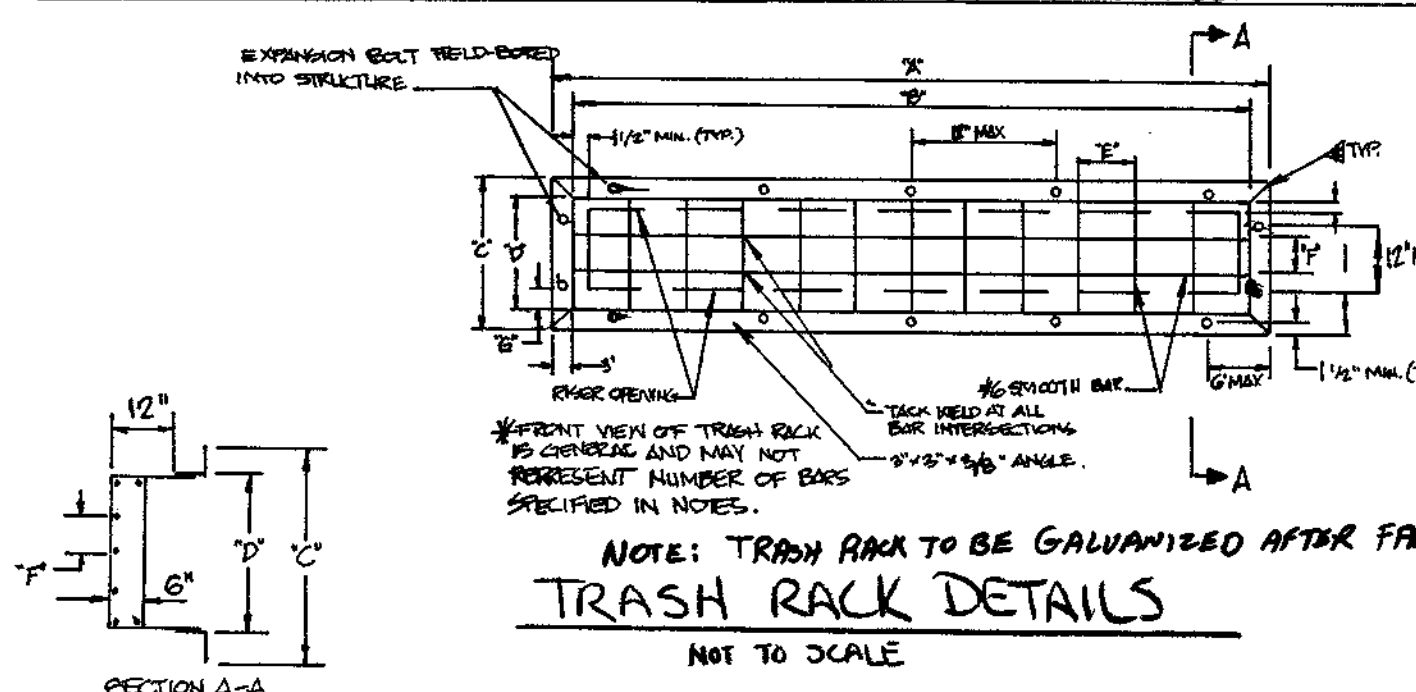
NO.	DESCRIPTION	DATE
1	REVISED PER 3/2 COMMENTS DATED 5/14/00	5-26-00
2	MYLARS SUBMITTED FOR SIGNATURES	04-18-00
3	DIRECT SUBMITTALS TO DPZ & BED	02-03-00
4	REVISED SUBMITTAL PER HOWARD COUNTY COMMENTS	11-08-99
5	1ST SUBMITTAL TO HO. CO. DPZ FOR REVIEW	08-07-99

Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
ELECTION DISTRICT NO. 2 HOWARD COUNTY, MD.
GRADING AND SEDIMENT CONTROL PLAN

R.M. MOCHI GROUP, P.C.
P.O. Box 10
New Market, MD 21774-0010
10120A Old National Pike
Jammsville, MD 21754-9706
(301) 865-5858
Fax: (301) 865-5111



LOCATION OF TRASH RACK	NO.	A	B	C	D	E	F	G	NOTES
SIDES A+C	2	5'-0"	3'-3"	1'-7"	1'-1"	10 1/2"	10 1/2"	1 1/2"	1. VERT. BARS IN FRONT, BENT TOP & BOTTOM 2. HORIZ. BARS IN FRONT, BENT AROUND SIDES 3. HORIZ. BARS, 1 EACH ALONG TOP & BOTTOM 4. VERT. BARS ALONG EACH SIDE
SIDES B+D	2	11'-0"	10'-6"	2'-0"	2'-4"	10 1/2"	7"	1 1/2"	1. VERT. BARS IN FRONT, BENT TOP & BOTTOM 2. HORIZ. BARS, 1 EACH ALONG TOP & BOTTOM 3. HORIZ. BARS, 1 EACH ALONG EACH SIDE 4. VERT. BARS ALONG EACH SIDE



NOTES

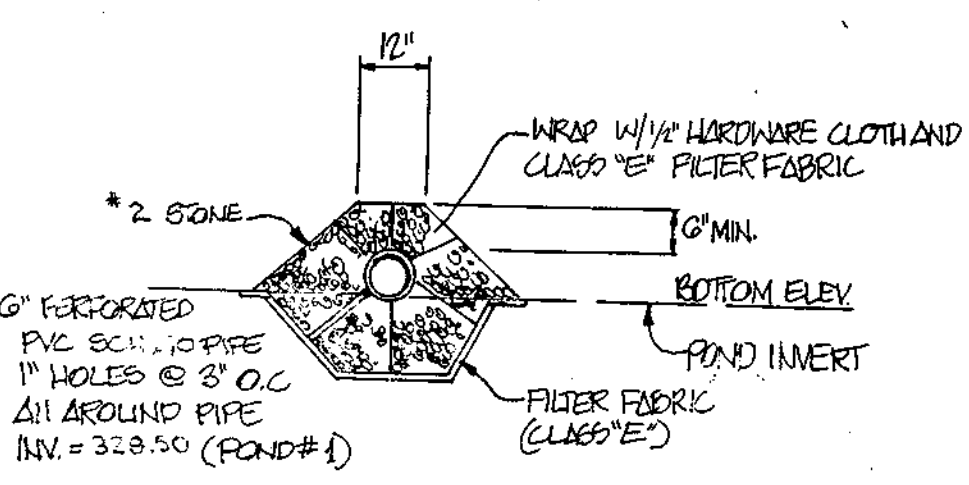
- POUR CONCRETE AGAINST UNDISTURBED EARTH.
- CONCRETE SHALL BE MSHA MIX NO. 3 (FC = 3,500 PSI) BARREL MAY BE PLACED ON PRECAST CONCRETE BLOCKS PRIOR TO CRADLE POUR.
- POURING AN ADDITIONAL 4" TO 6" THICK "MUDMAT" MAY BE ACCEPTABLE IF SUBCONDITIONS ARE WET AND WITH APPROVAL OF GEOTECHNICAL ENGINEER.
- IF ALL OF CONCRETE CRADLE CANNOT BE POURED AT ONE TIME, ONE HORIZONTAL JOINT IS ALLOWED. PLACE A MINIMUM OF THREE (3) - 6" LONG #4 REBAR BOWELS TO CONNECT POURS.
- IF A CRADLE HORIZONTAL JOINT IS USED, DO NOT LOCATE WITHIN 2" OF PIPE JOINT.

CONCRETE CRADLE
NOT TO SCALE

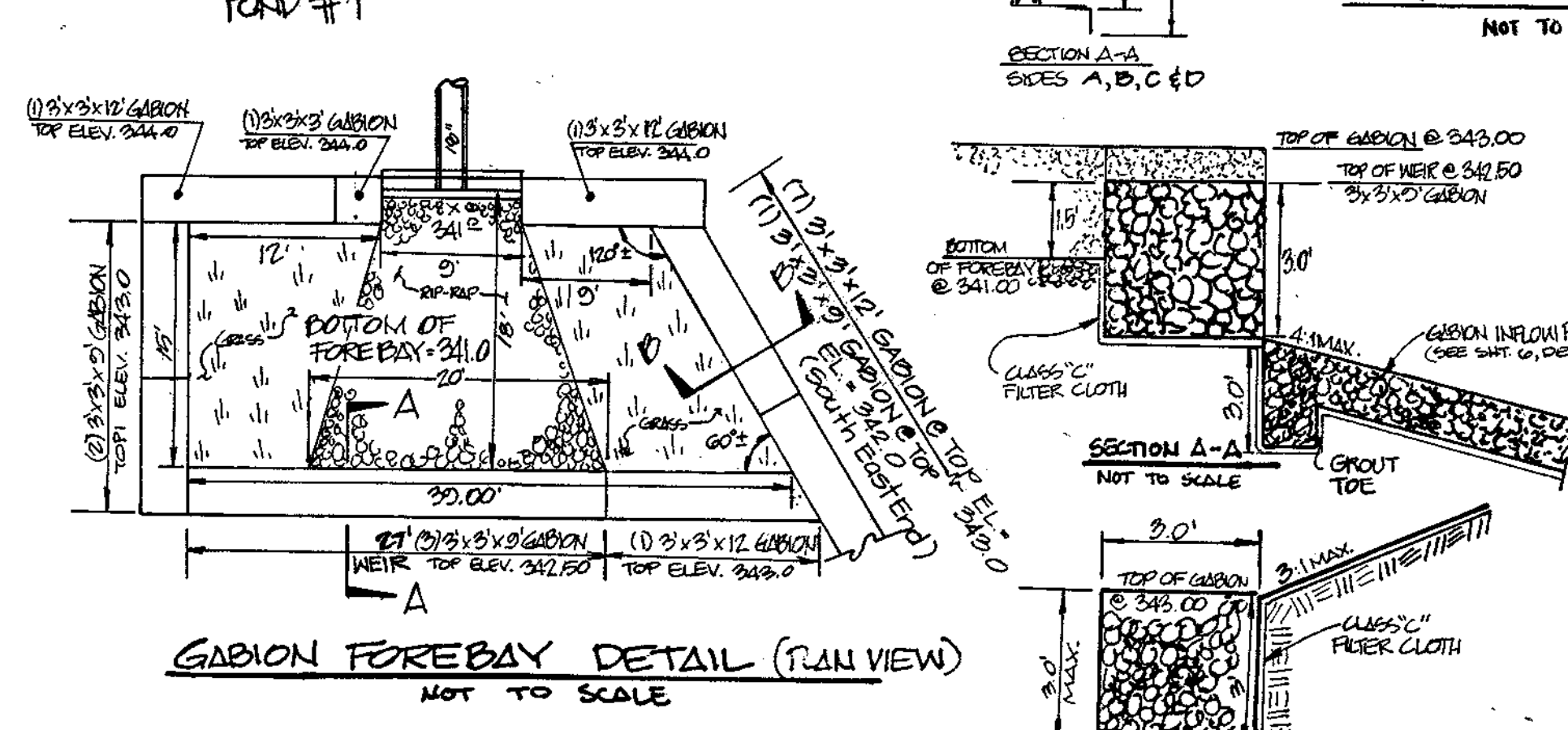
NOTE:

- CONCRETE SHALL BE MSHA MIX NO. 3 (FC = 3,500 PSI)

CONCRETE COLLAR
NOT TO SCALE

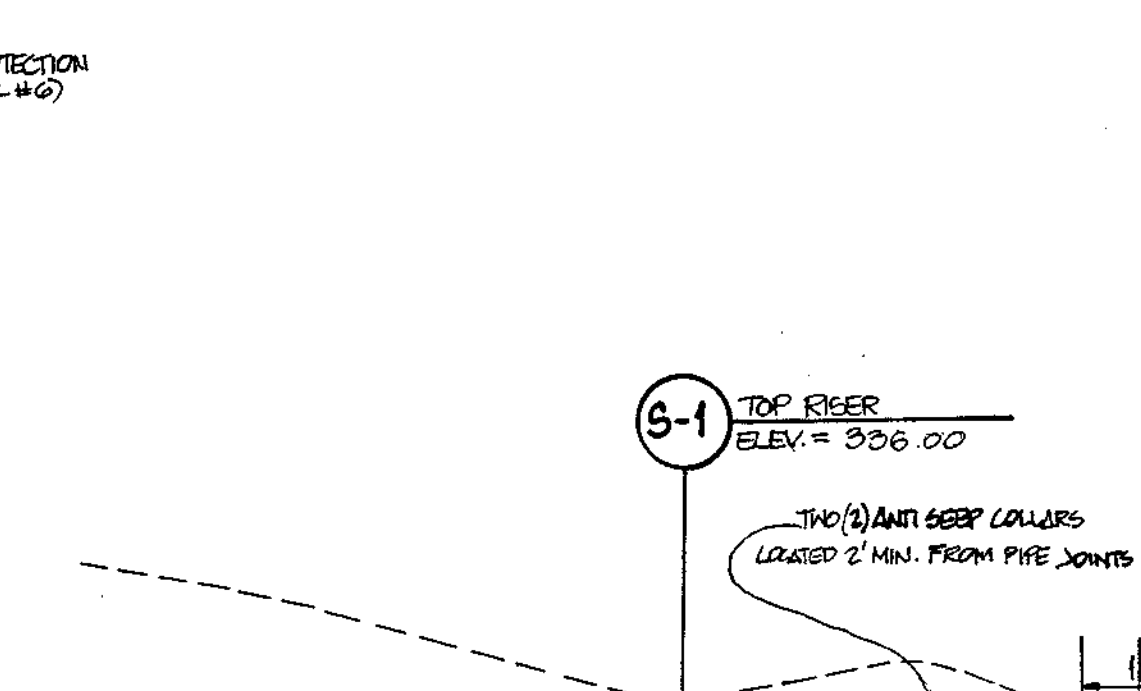


POND DRAIN PERFORATED PIPE PROTECTION
NOT TO SCALE

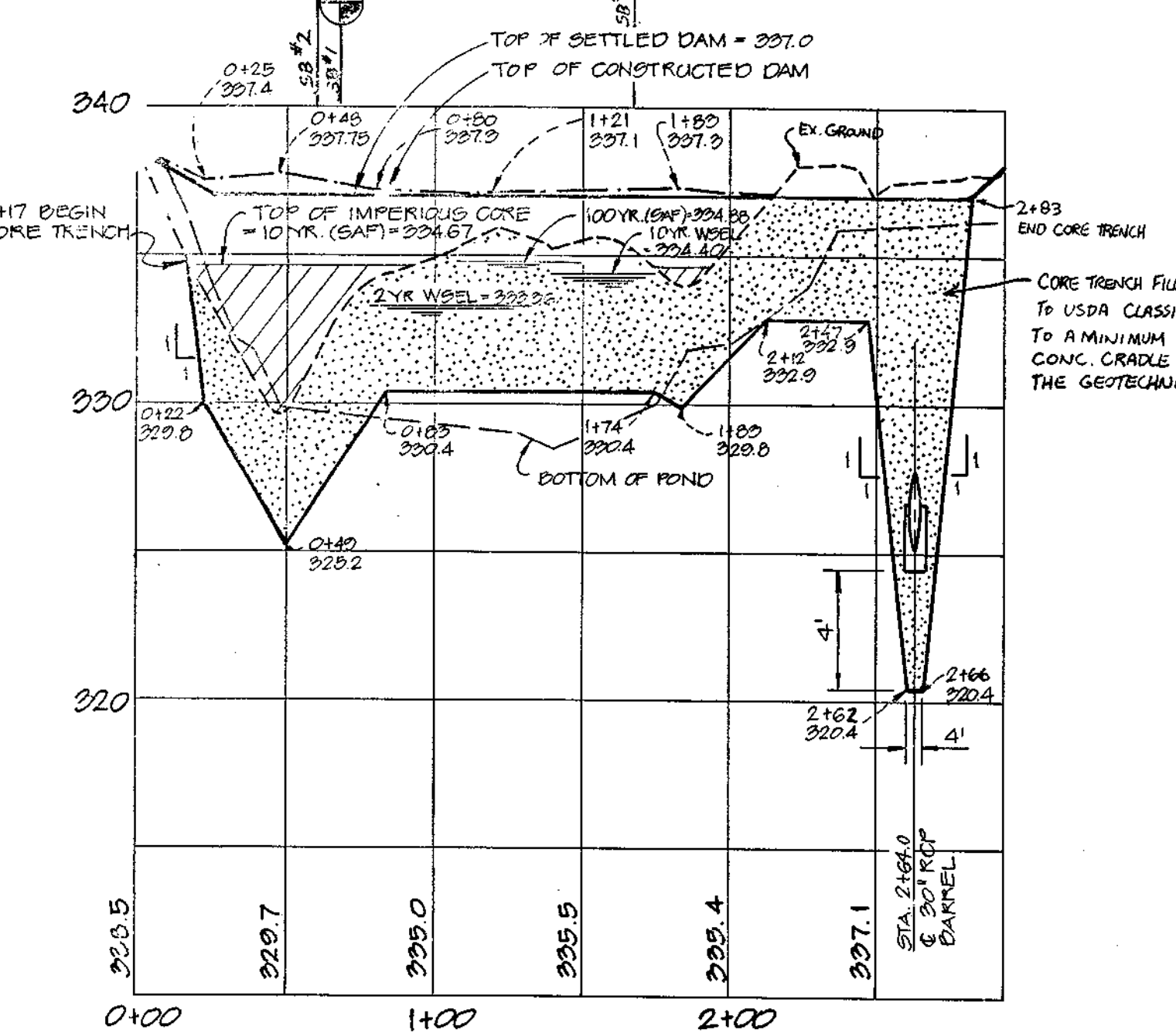
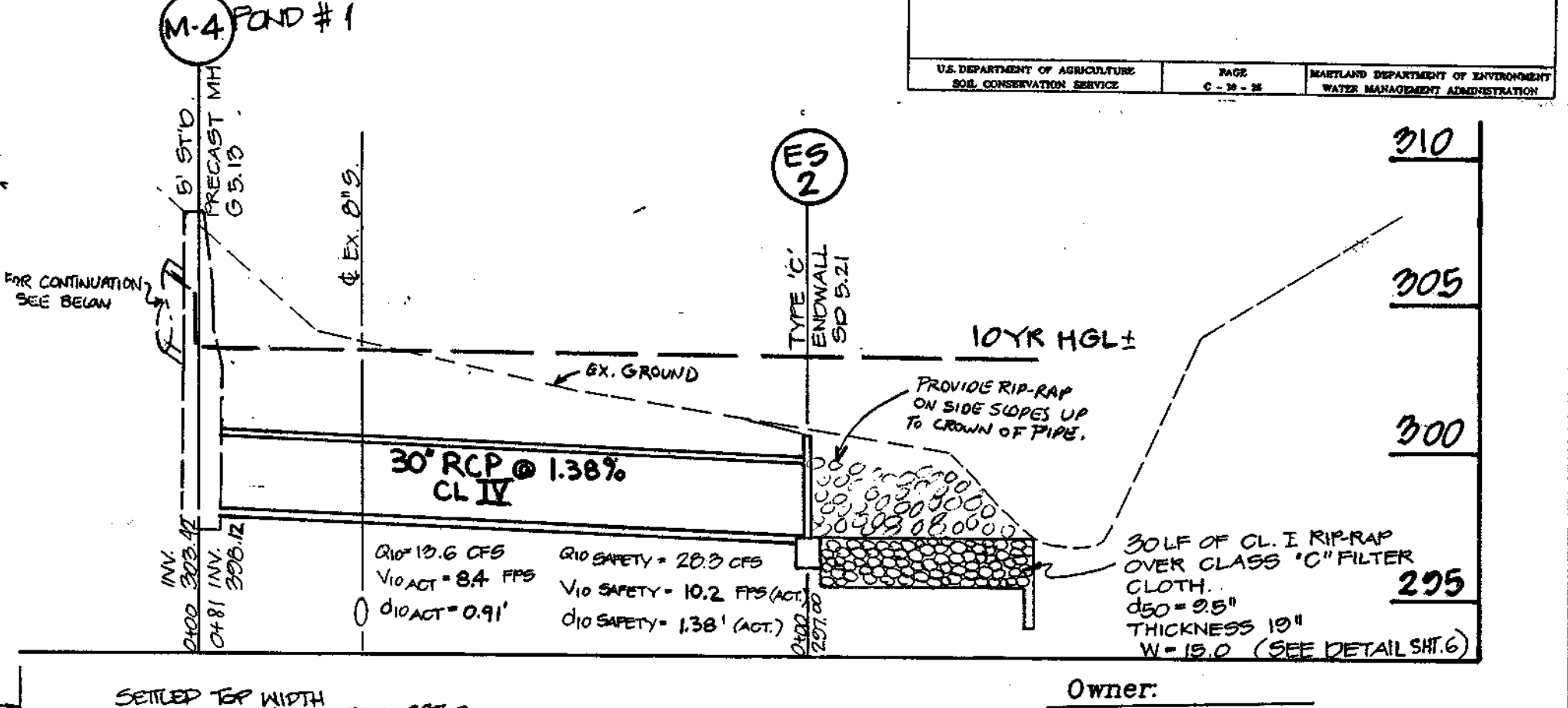


GABION FOREBAY DETAIL (PLAN VIEW)
NOT TO SCALE

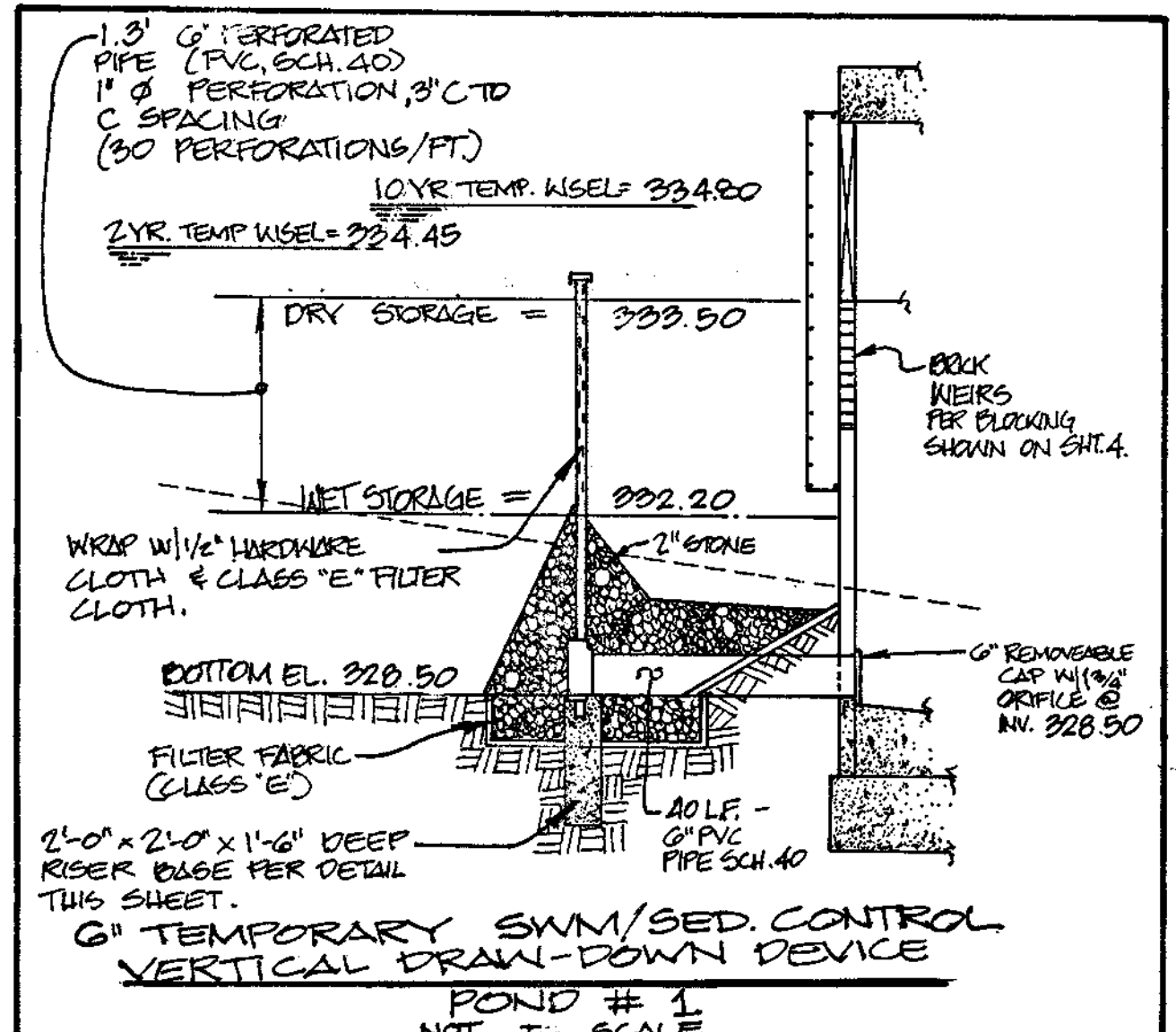
No.	Type	Location	Remarks	Top
S-1	Precast Concrete Riser Structure	N 580229.94 E 1366761.42		336.0
M-4	5'0" Precast Manhole	N 580089.26 E 1366881.81	GS.13	308.0
M-5	5'0" Precast Manhole	N 580105.21 E 1366871.70	GS.13	330.0
ES-2	Type "C" Endwall Circular Pipe	N 580020.66 E 1366922.93	SD 5.21	



CONCRETE ANTI-SEEP COLLAR
NOT TO SCALE



PROFILE ALONG E TOP OF DAM
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



POND #1
NOT TO SCALE

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Swartz
CHIEF, BUREAU OF HIGHWAYS 4/25/00

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Candy Hamstra
CHIEF, DIVISION OF LAND DEVELOPMENT 4/18/00
Robert Mochi
CHIEF, DEVELOPMENT ENGINEERING DIVISION 6/5/00

APPROVED:
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
John A. ...
HOWARD SOIL CONSERVATION DISTRICT 4/20/00

APPROVED:
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Cheryl Simms
USDA - NATIONAL RESOURCES CONSERVATION SERVICE 4/20/00

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this project will have a certificate of attendance at a Department of the Environment approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic onsite inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.
Robert Mochi
4-13-00

ENGINEER'S CERTIFICATE
I hereby certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.
Robert Mochi, P.E.
4/14/00



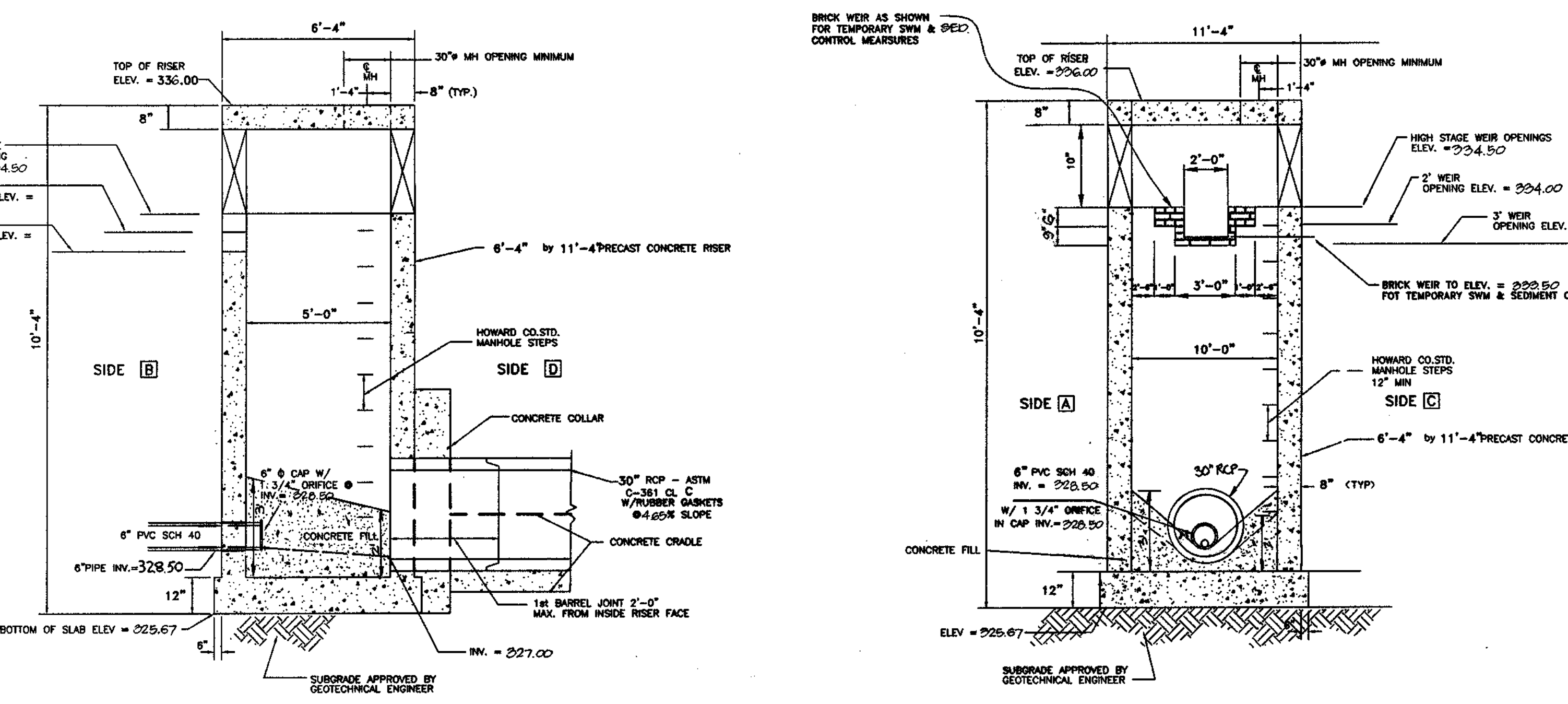
PROJECT	DATE	engineering	P.F.B.	approval	R.M.M.
980113		illustration	G.E.M.	scale	as shown

DESIGN	DATE	REVISIONS
2/19/00		
11-00-00		
02-20-00		

Drawn according to DPE-5-82
REVISIONS SHALL BE INITIAL AND NUMBERED
1. SUBMITTAL TO P.C. 11/20/00

Tax Map 25, Grid 19, Parcel 220
MILL TOWNE OVERLOOK
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MD.
S.W.M. PROFILES AND DETAILS

R.M. MOCHI GROUP, P.C.
P.O. Box 10
New Market, MD 21774-0010
10120 A Old National Pike
Pawnee, MD 21754-9708
(301) 855-5858
Fax: (301) 855-5111



DESIGN STORM	WSEL	AS BUILT
EXT. DETENTION	200.09	
2 YEAR	200.36	
10 YEAR	204.40	
100 YEAR (ULT.)	204.88	

STORMWATER MANAGEMENT POND MAINTENANCE SCHEDULE (H.O.A.)

ROUTINE MAINTENANCE

FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.

TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MAINTAINED TO A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, THE BOTTOM OF THE POND, AND MAINTENANCE ACCESS SHOULD BE MAINTAINED AS NEEDED.

DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MAINTENANCE OPERATIONS AND AS NEEDED.

VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPPAP OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE

STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, RISER STRUCTURE AND PIPES SHALL BE INSPECTED DURING REGULAR MAINTENANCE OPERATIONS AND AS NEEDED. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.

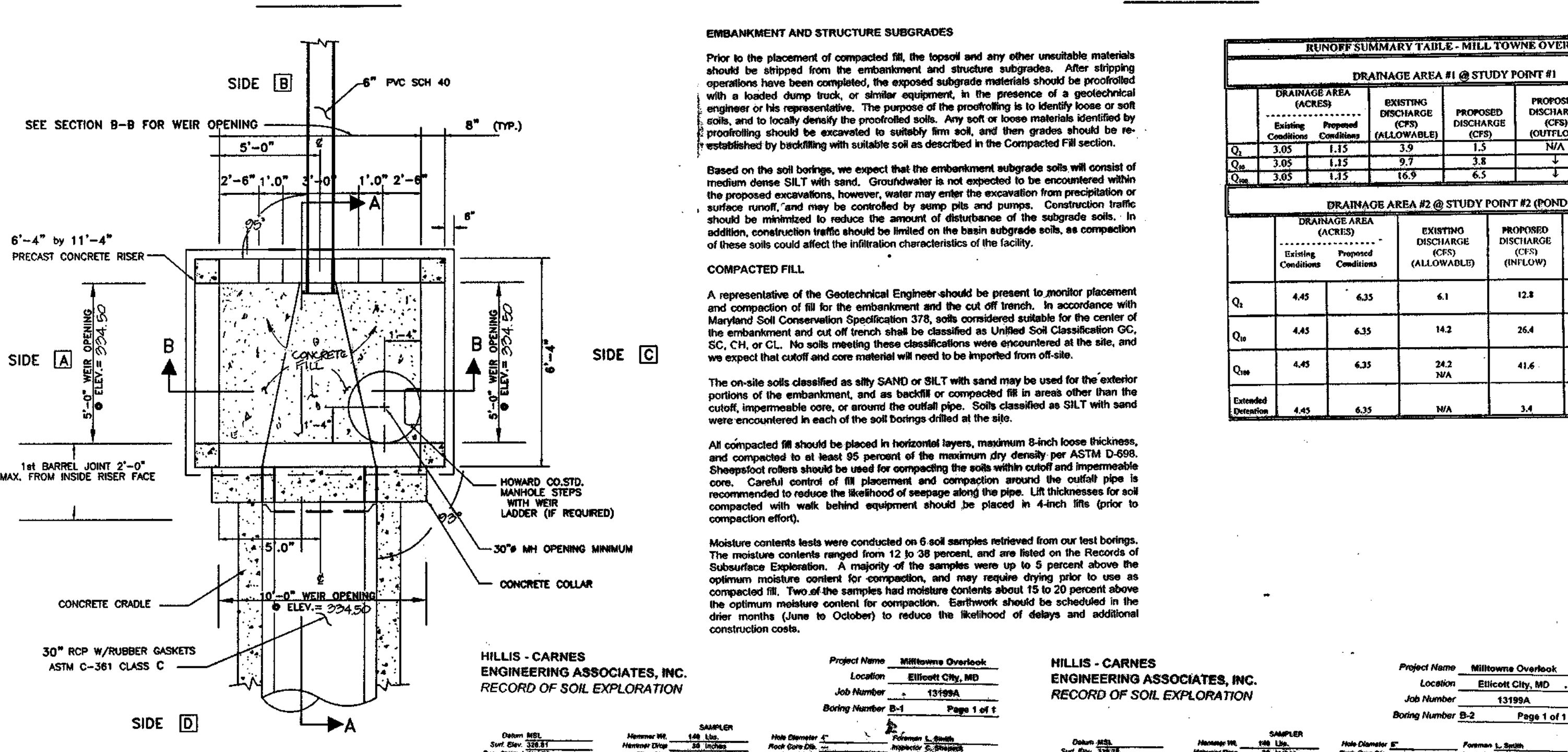
SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

RISER STRUCTURE GENERAL NOTES:

1. PRECAST RISER AND TOP SLAB TO BE MANUFACTURED AND SUPPLIED BY FREDERICK PRECAST CONCRETE, INC. OR APPROVED EQUIVALENT.
2. SHOP DRAWINGS FOR RISER AND TOP SLAB MUST BE REVIEWED BY AN ENGINEER AND APPROVED BY HOWARD COUNTY PRIOR TO FABRICATION.
3. IF ANY DIMENSIONS ARE CHANGED OR REDUCED, REVISED AMPLIFICATION COMPUTATIONS MUST BE SUBMITTED WITH THE SHOP DRAWINGS TO HOWARD COUNTY FOR APPROVAL.
4. TRASH RACKS ARE NOT SHOWN IN THIS VIEW FOR CLARITY.
5. THE RISER STRUCTURE SHALL BE NOT TO SCALE SEE THIS SHEET FOR ACTUAL DIMENSIONS.
6. CAST FRAME (30" DIA. MIN. OPENING) INTO TOP SLAB (NEEDED R-1792 - HL OR APPROVED EQUIVALENT). PROVIDE REINFORCING FRAME AND COVER WITH (3) 1/2" BOLT HOLES AND 5/8" DIA. STAINLESS STEEL BOLTS SPACED AT 12" O.C.

ADDITIONAL MAINTENANCE REQUIREMENTS (H.O.A.)

- A. REMOVAL OF SILT WHEN ACCUMULATION EXCEEDS SIX (6) INCHES IN BASINS WITHOUT FOREBAYS. IN BASINS WITH FOREBAYS, REMOVAL OF SILT SHALL OCCUR WHEN THE ACCUMULATION EXCEEDS FOUR (4) INCHES IN THE FOREBAY.
- B. REMOVAL OF ACCUMULATED PAPER, TRASH AND DEBRIS AS NECESSARY.
- C. VEGETATION GROWING ON THE EMBANKMENT TOP AND SIDES IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANY TIME.
- D. ANNUAL INSPECTION AND REPAIR OF THE STRUCTURE.
- E. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME AN EXTENDED DETENTION BASIN DOES NOT DRAIN COMPLETELY WITHIN 60 HOURS (I.E., NO STANDING WATER IS ALLOWED).
- F. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME THE FOREBAY DOES NOT DRAIN DOWN COMPLETELY WITHIN 60 HOURS (I.E., NO STANDING WATER ALLOWED).



RUNOFF SUMMARY TABLE - MILL TOWNE OVERLOOK						
DRAINAGE AREA #1 @ STUDY POINT #1						
DRAINAGE AREA (ACRES)	EXISTING DISCHARGE (CFS)	PROPOSED DISCHARGE (ALLOWABLE) (CFS)	PROPOSED DISCHARGE (CFS)	POUND ELEV. / STORAGE (FT)	TIME TO PEAK (HRS)	
0.4	1.15	3.9	1.5	N/A	N/A	
0.1	3.05	1.15	9.7	3.8	1	
0.1	3.05	1.35	16.9	6.5	1	
0.1	4.45	6.35	12.8	1.0	33.33'	
	0.1	4.45	6.35	14.2	13.6	374.4
	0.1	4.45	6.35	24.2	41.6	334.79
	0.1	4.45	6.35	N/A	3.4	33.00
	0.1	4.45	6.35	N/A	3.4	33.00

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION					
Project Name: Milltowne Overlook					
Location: Ellicott City, MD					
Job Number: 13199A					
Sheet Number: B-1					
Page 1 of 1					
DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 8' (VERTICAL)	DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 40' (HORIZONTAL)
DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 8' (VERTICAL)	DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 40' (HORIZONTAL)
DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 8' (VERTICAL)	DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 40' (HORIZONTAL)
DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 8' (VERTICAL)	DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 40' (HORIZONTAL)

RISER POND #1

NOT TO SCALE

DATE	DEPTH	MOISTURE	TEXTURE	STRUCTURE	OTHER	REMARKS
10/19/00	0.0 - 1.0	2.5	S			Topsoil
10/19/00	1.0 - 2.0	3.7	S			Soft to medium dense, silty clay
10/19/00	2.0 - 3.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	3.0 - 4.0	4.1	CL			Soft to medium dense, silty clay
10/19/00	4.0 - 5.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	5.0 - 6.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	6.0 - 7.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	7.0 - 8.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	8.0 - 9.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	9.0 - 10.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	10.0 - 11.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	11.0 - 12.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	12.0 - 13.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	13.0 - 14.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	14.0 - 15.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	15.0 - 16.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	16.0 - 17.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	17.0 - 18.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	18.0 - 19.0	8.1	CL			Soft to medium dense, silty clay
10/19/00	19.0 - 20.0	8.1	CL			Soft to medium dense, silty clay

HILLS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION					
Project Name: Milltowne Overlook					
Location: Ellicott City, MD					
Job Number: 13199A					
Sheet Number: B-3					
Page 1 of 1					
DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 8' (VERTICAL)	DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 40' (HORIZONTAL)
DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 8' (VERTICAL)	DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 40' (HORIZONTAL)
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DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 8' (VERTICAL)	DATE: 10/19/00	BY: R.M. MOCHI	SCALE: 1" = 40' (HORIZONTAL)

STORMWATER MANAGEMENT CONSTRUCTION SPECIFICATIONS SCS MD. - 378 NOV. 1992

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD SPECIFICATION MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

I. SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STIPPED OF TOPSOIL, ALL TREES, WEEDS, BRUSH, ROCKS AND OTHER OBSTRUCTIONAL MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1.

AREAS TO BE COVERED BY THE RESECTOR WILL BE CLEARED OF ALL TREES, BRUSH, ROCKS, RUBBER AND OTHER OBSTRUCTIONAL MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 50 FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEAR.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

II. EARTH FILL

MATERIAL

THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBER, STONES GREATER THAN 6" FROZEN OR OTHER OBSTRUCTIONAL MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL BE LIMITED TO UNIFIED SOIL CLASSIFICATION SC, CL, CH, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IF THEY MEET THE DESIGN AND CONSTRUCTION REQUIREMENTS OF THE DESIGN AND CONSTRUCTION ENGINEER.

PLACEMENT

AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIAL SHALL BE PLACED IN MAXIMUM 8" THICK LAYERS. THE MAXIMUM SIZE OF MATERIAL SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM SIDE OF THE EMBANKMENT. THE REMAINING MATERIAL SHALL BE PLACED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION

THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY MEANS OF FOUR CONCRETE PASSES OF A SHEEPSFOOT, RUBBER-TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DENSITY OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.

WHERE A MINIMUM REQUIRED DENSITY IS SPECIFIED, IT SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +/- 2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE GEOLOGICAL ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99.

CUT OFF TRENCH

THE TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE NOT TO EXCEED FOUR FEET. THE TRENCH SHALL BE EXCAVATED WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GROUND OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1:1. THE TRENCH SHALL BE PROTECTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

III. STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY SPECIFIED FOR THAT SPECIFIED IN THE ADDITIONAL MAINTENANCE REQUIREMENTS. THE BACKFILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTION BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO BE FULLY COMPACTED ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILL OPERATION SHALL DRIVEN EQUIPMENT BE USED TO VIBRATE THE MATERIAL. MEASUREMENTS SHALL BE TAKEN TO INSURE THE MATERIAL IS FULLY COMPACTED MEASURED HORIZONTALLY AND TO ANY PART OF A STRUCTURE UNDER NO CIRCUMSTANCES SHALL THERE BE A DRY SPACE OR ANY PART OF THE STRUCTURE. THE BACKFILL SHALL BE PLACED UNDER ALL RISER AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF MATERIALS, SECTION 608.

IV. PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE

ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

1. MATERIALS (STEEL PIPE)
2. COUPLED BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC. MUST BE COMPOSED OF THE SAME MATERIAL AS THE PIPE. METALS MUST BE INSULATED FROM DISPERSED MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.
3. CONNECTIONS

ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO COMPLETELY WATERTIGHT. DOUBLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT.

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUPTIONS TO ACCOMMODATE THE BAND WIDTHS. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24" IN DIAMETER. FLANGES ON BOTH ENDS OF THE PIPE WITH 12" WIDE STANDARD LAP TYPE BAND WITH 1/2" WIDE BY 3/8" THICK CLOSED CELL CIRCULAR NEOPRENE GASKET. AND 1/2" WIDE INSIDE TYPE BAND WITH 1/2" WIDE STANDARD LAP TYPE BAND WITH 1/2" WIDE BY 3/8" THICK CLOSED CELL CIRCULAR NEOPRENE GASKET. AND 1/2" WIDE INSIDE TYPE BAND WITH 1/2" WIDE STANDARD LAP TYPE BAND WITH 1/2" WIDE BY 3/8" THICK CLOSED CELL CIRCULAR NEOPRENE GASKET SHALL BE INSTALLED ON THE END OF EACH PIPE FOR A TOTAL OF 24"

HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

Project	08/99	Engineering	DATE	AS SHOWN
Project	08/99	Engineering	DATE	AS SHOWN
Project	08/99	Engineering	DATE	AS SHOWN

Project	08/99	Engineering	DATE	AS SHOWN
Project	08/99	Engineering	DATE	AS SHOWN
Project	08/99	Engineering	DATE	AS SHOWN

Tax Map 25, Grid 10, Parcel 220
MILL TOWNE OVERLOOK
HOWARD COUNTY, MD
ELECTION DISTRICT 2
SURV - PROFILE & DETAILS



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

6/8/00

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

5/6/00

DATE

APPROVED: THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

4-25-00

DATE

APPROVED: THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

4/20/00

DATE

DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

4-13-00

DATE

ENGINEER'S CERTIFICATE

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

4/14/00

DATE

Surveyor
Vogel & Associates
3631 Park Ave., Suite 101
Ellicott City, MD 21043
(410) 461-5828
Fax (410) 465-3966

Owner:
L. Earl & Mary T. Armiger
3979 Old Columbia Pike
Ellicott City, MD 21043
(410) 750-1800

Developer:
Orchard Development Corporation
ATTN: Mr. Scott Armiger
3979 Old Columbia Pike
Ellicott City, MD 21043
(410) 750-1800

Engineer:
R.M. Mochi Group, P.C.
10120A Old National Pike
Jomsville, MD 21754-9706
(301) 865-5858
Attn: Mr. Robert M. Mochi, P.E.

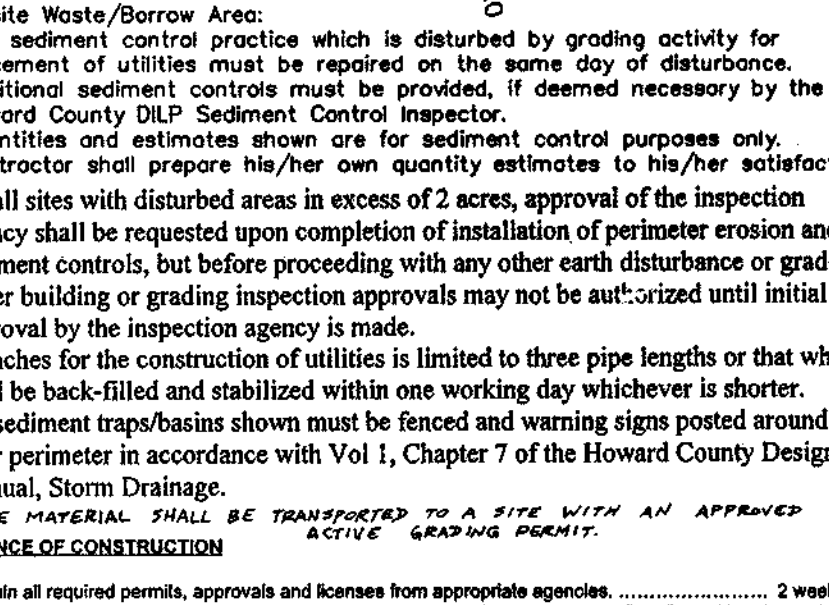
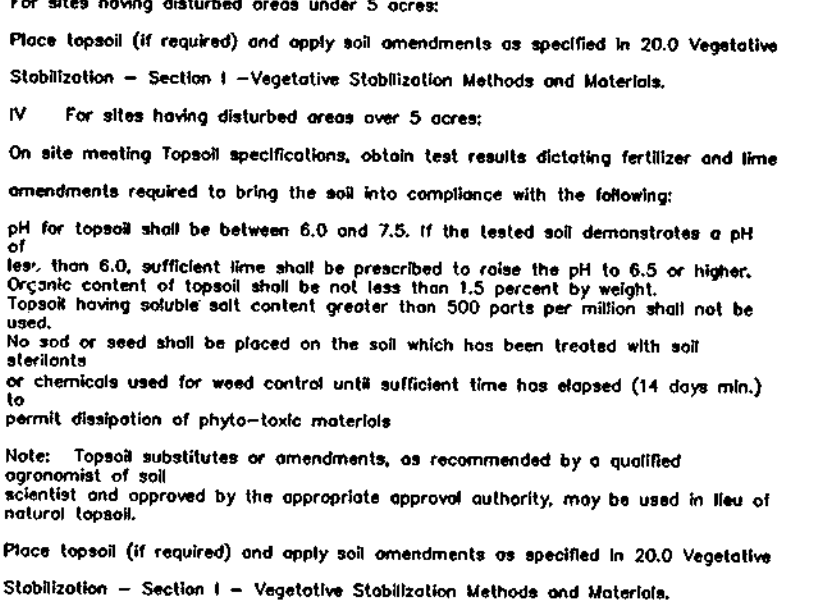
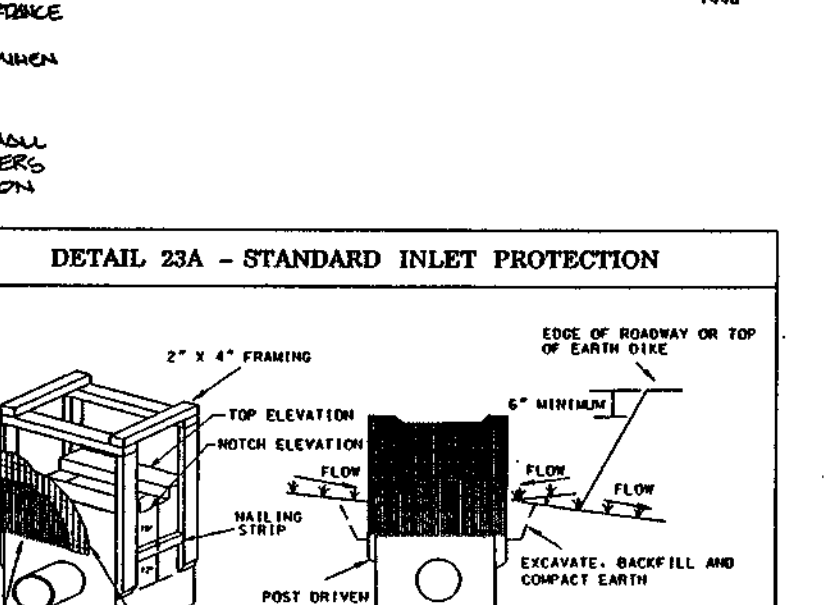
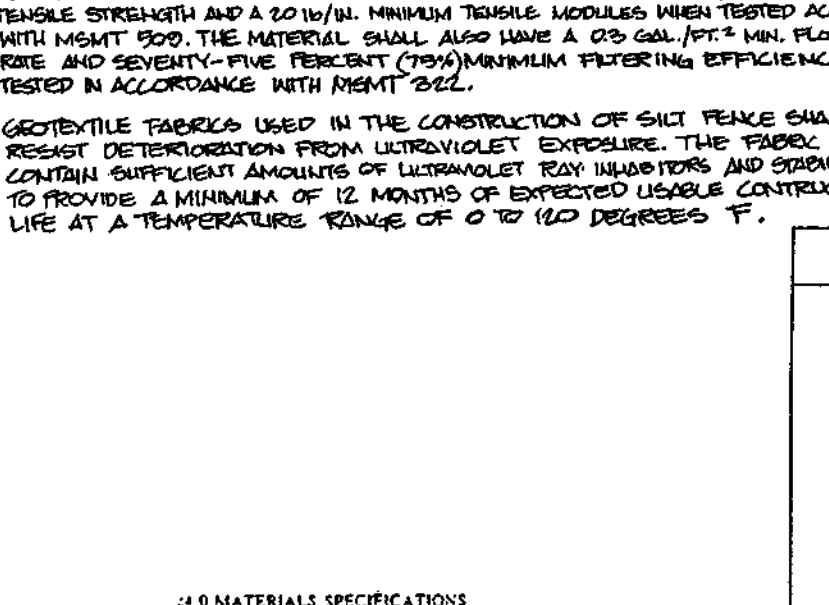
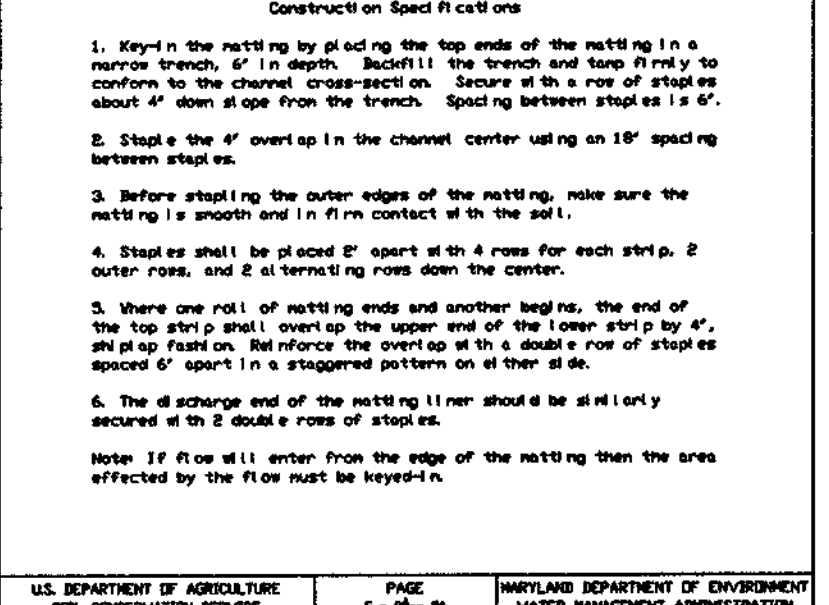
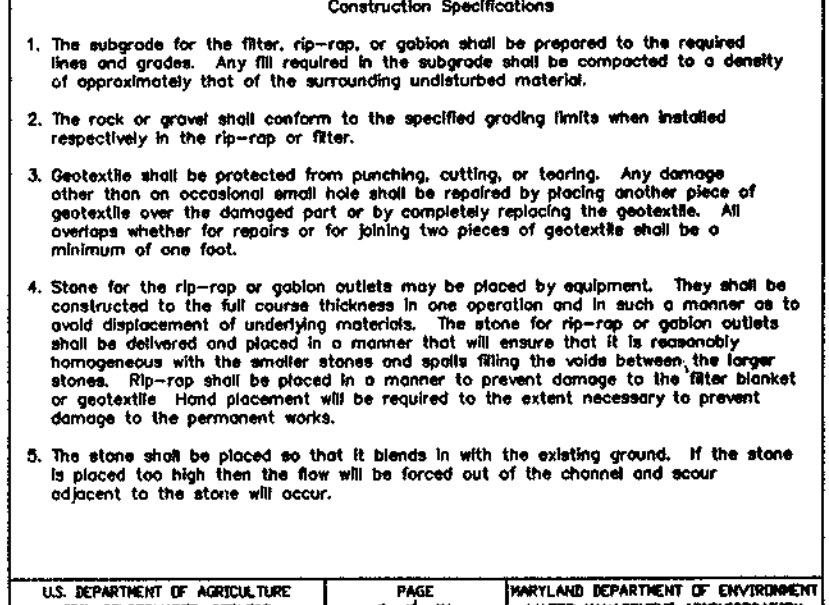
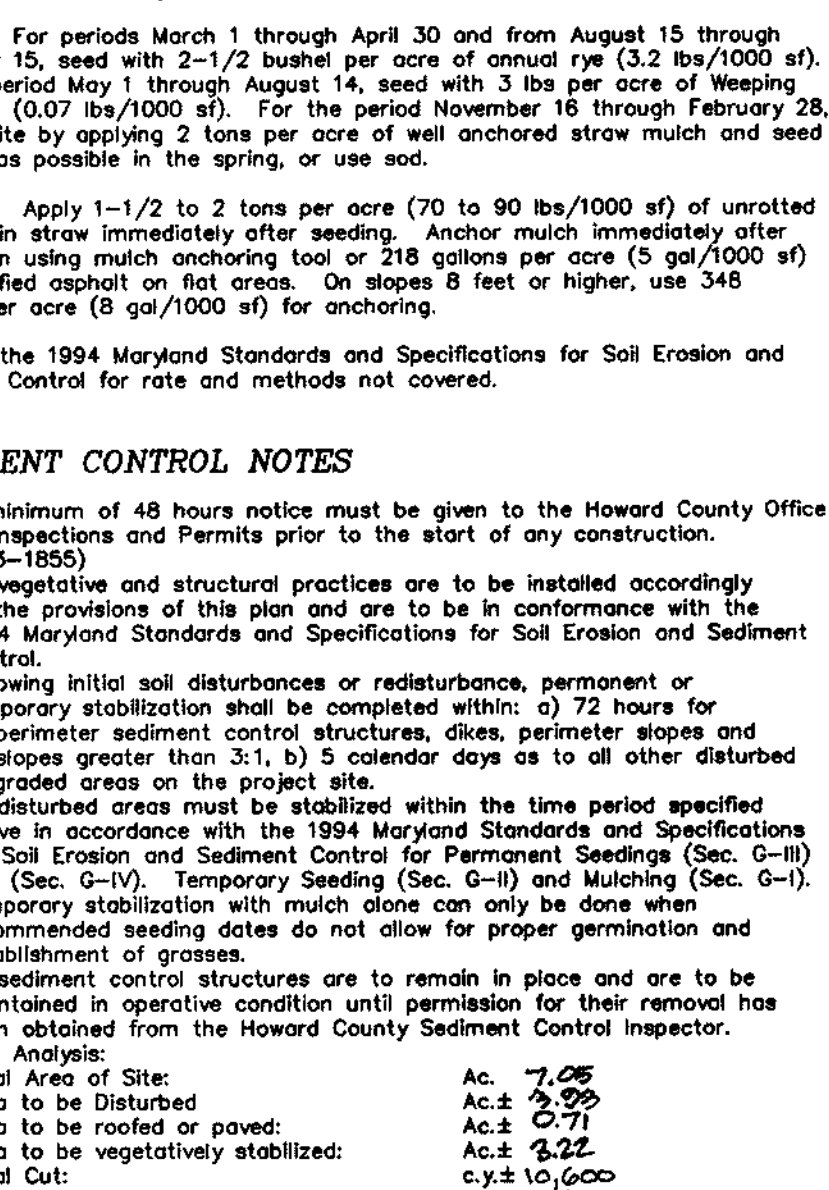
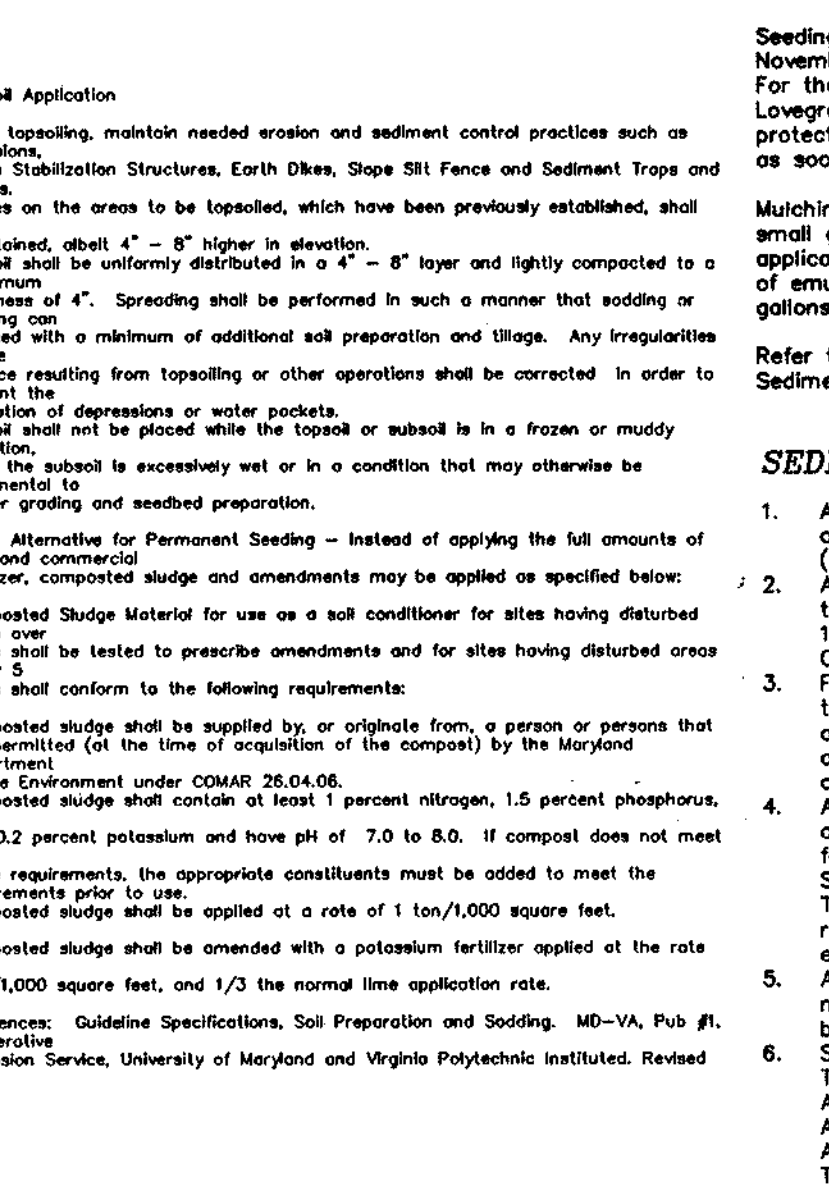
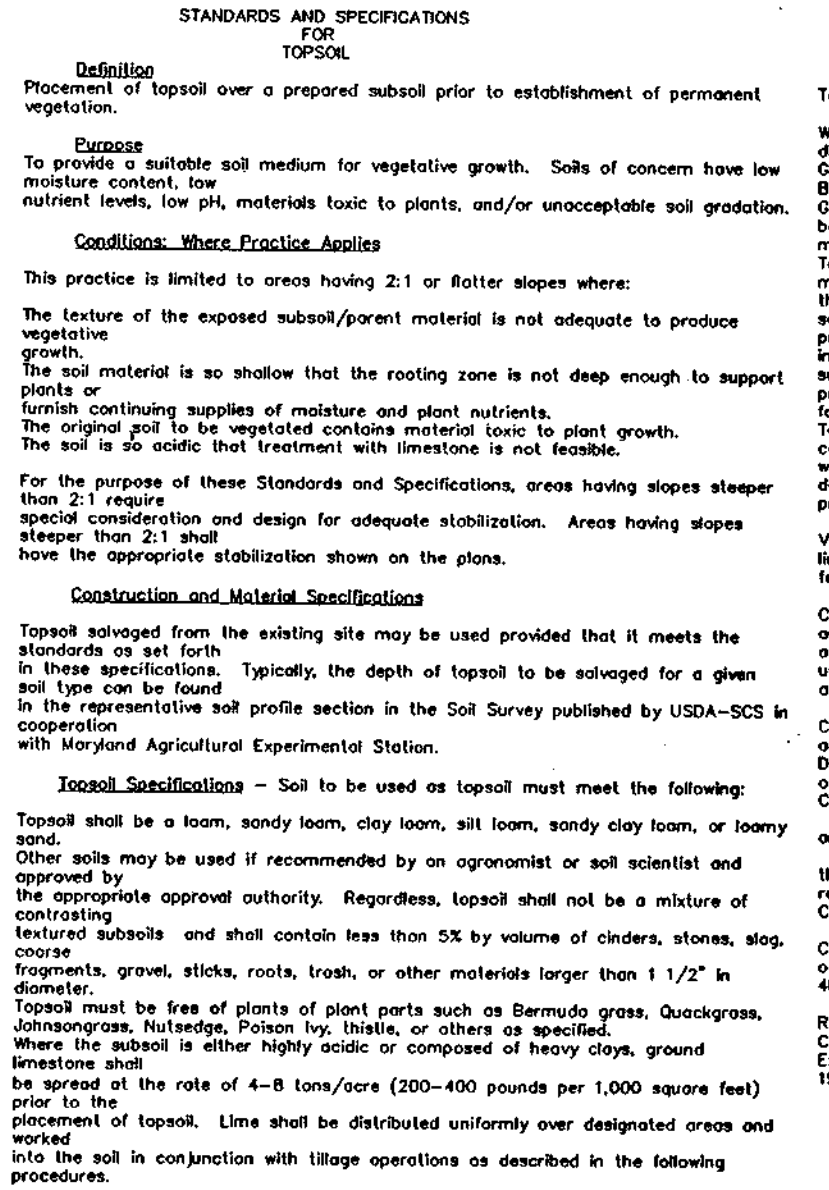
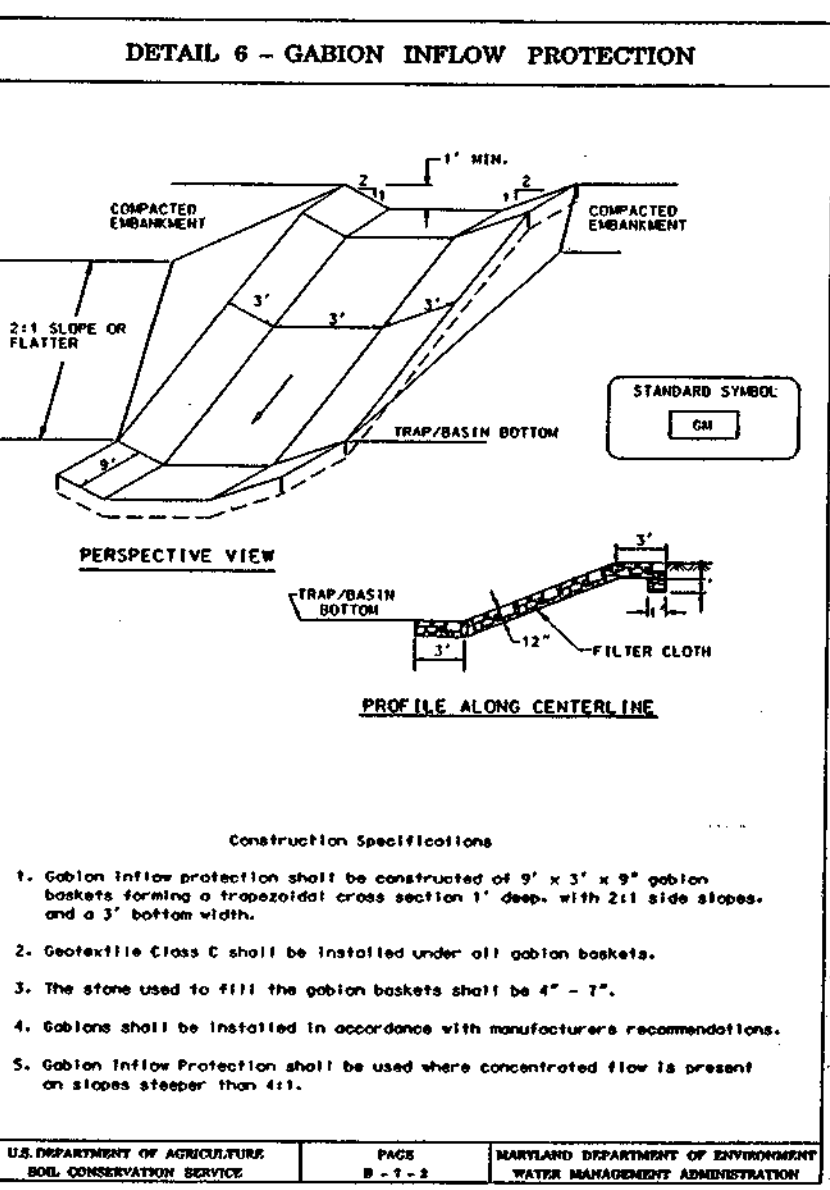
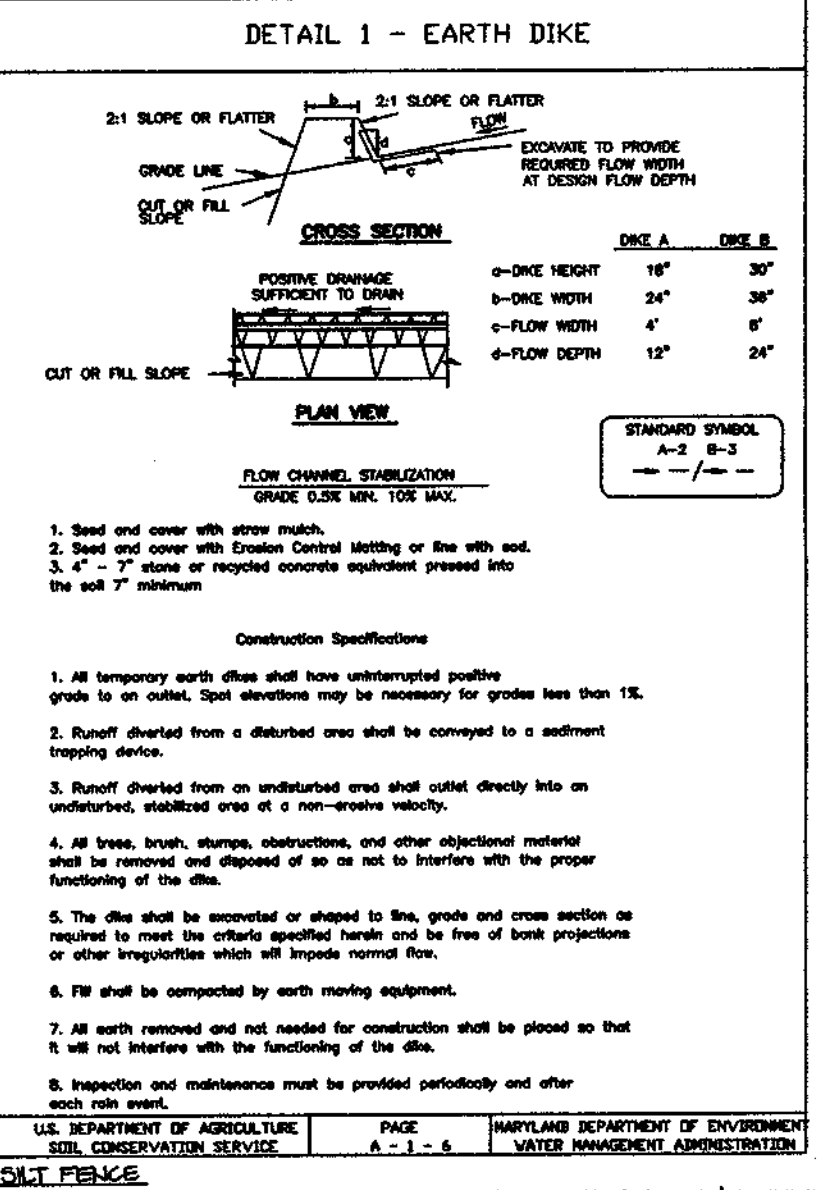
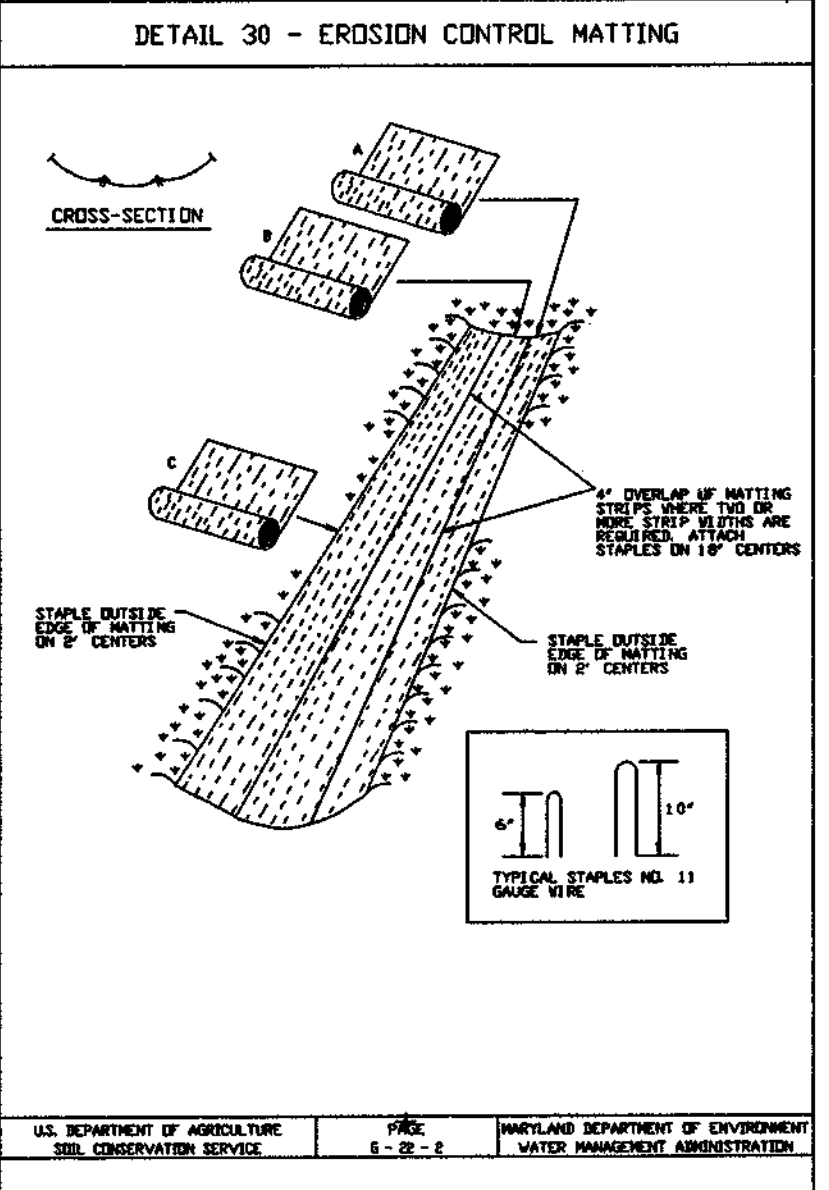
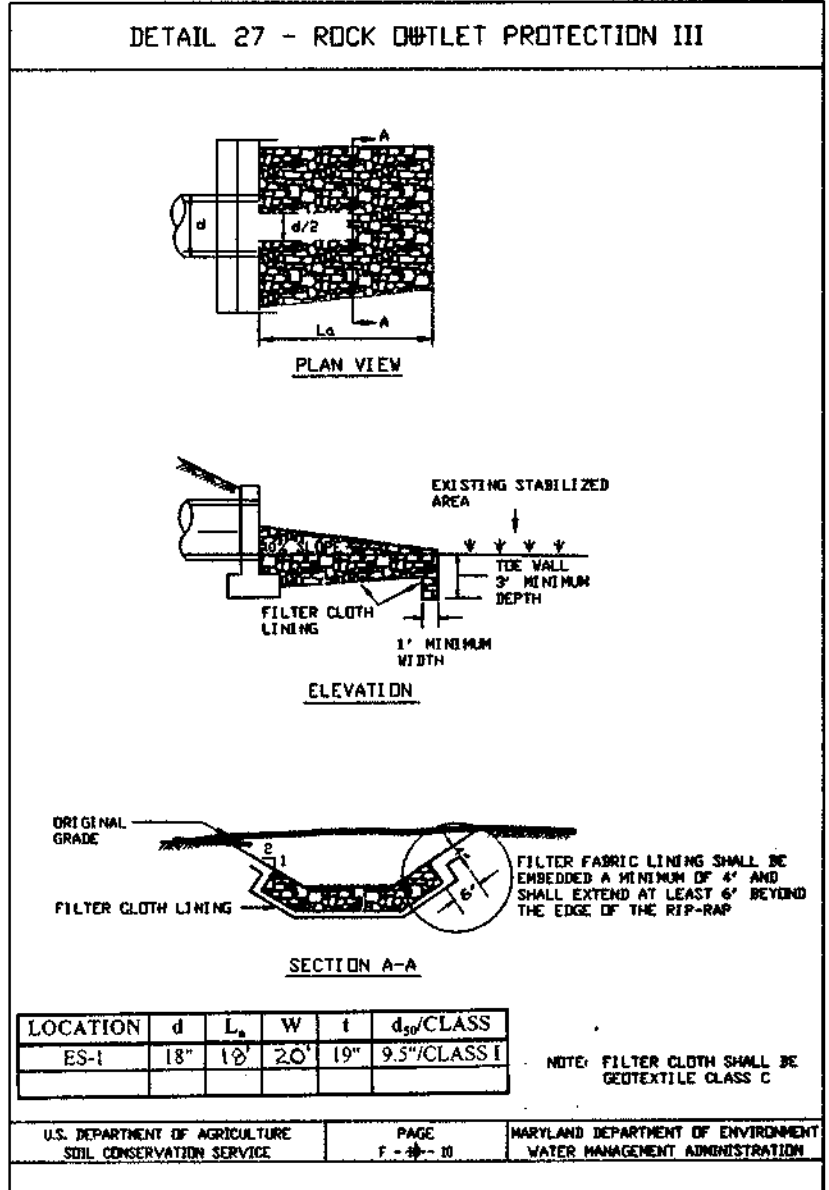
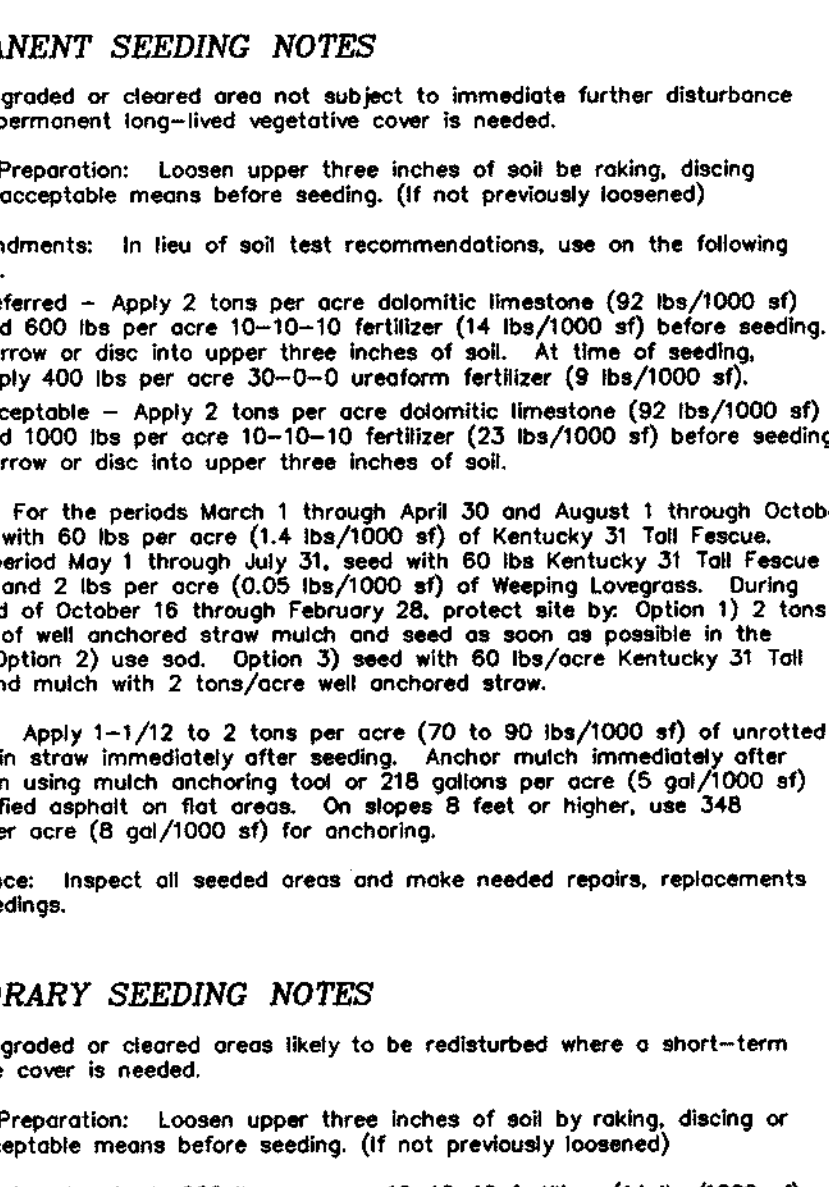
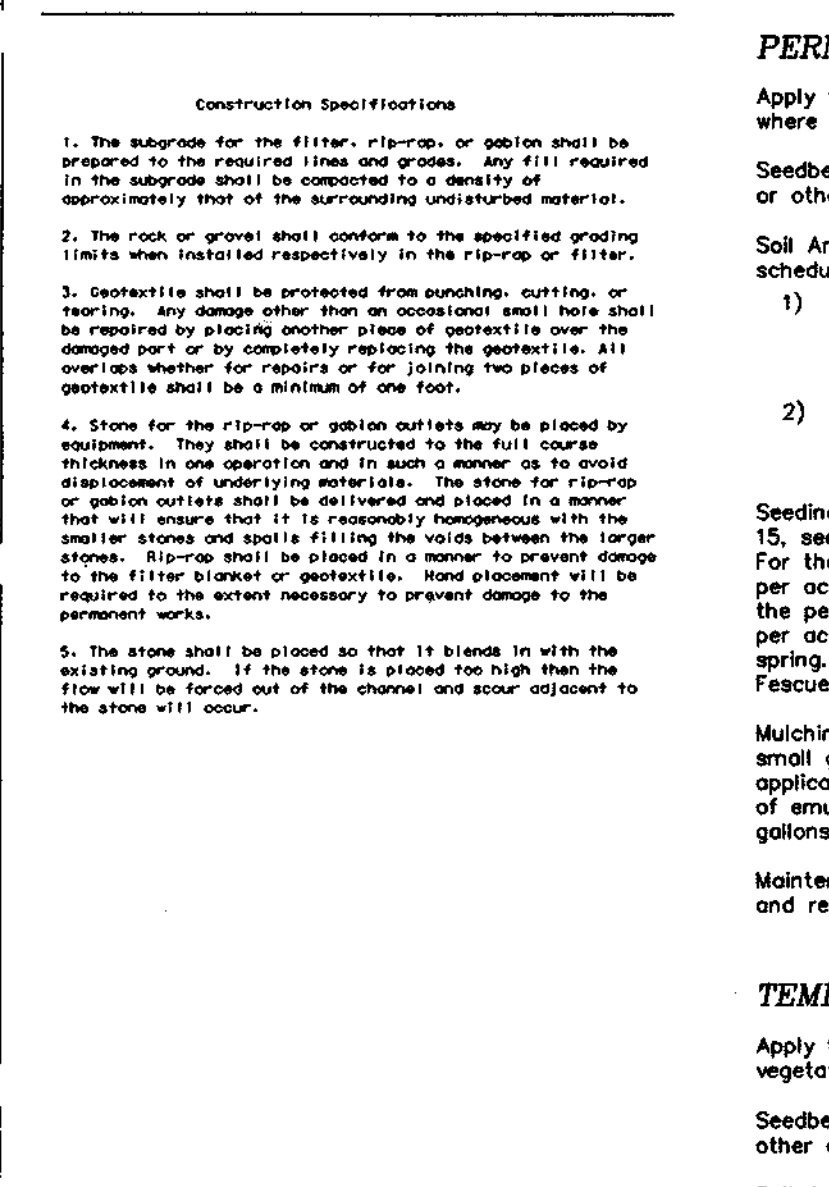
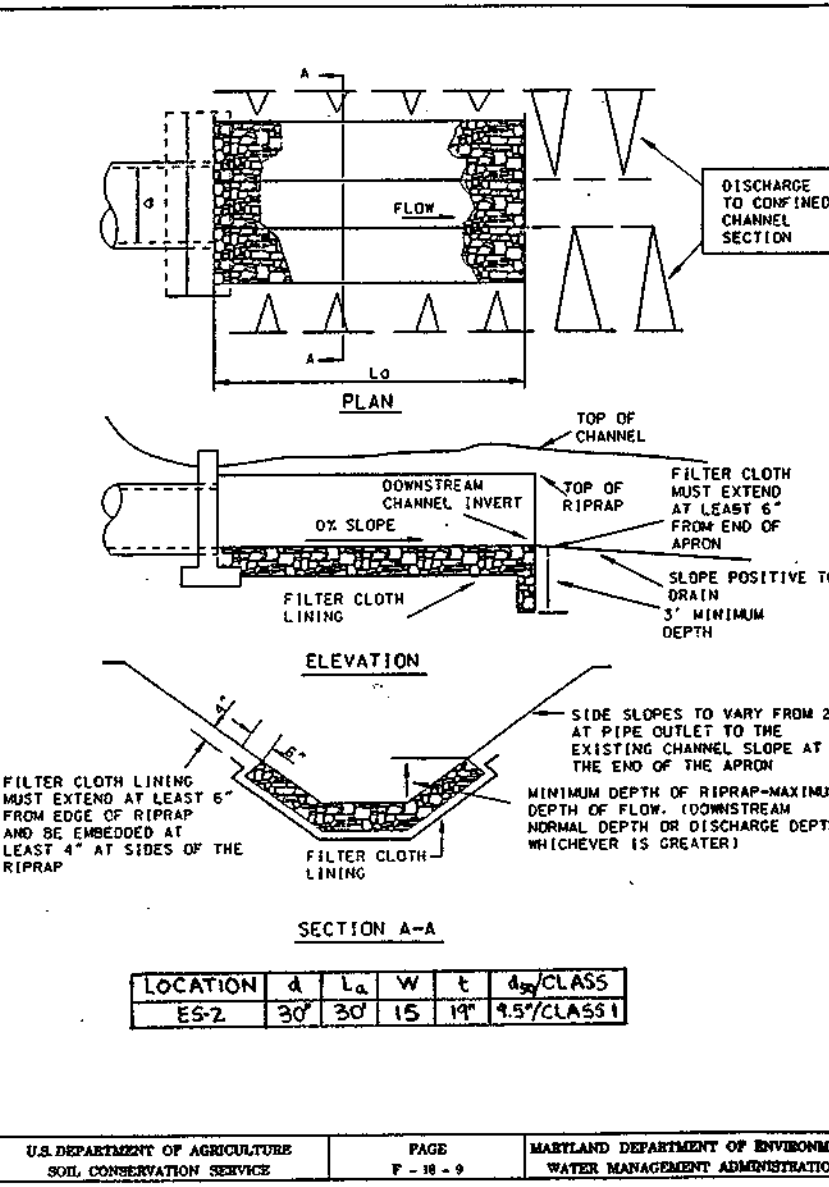
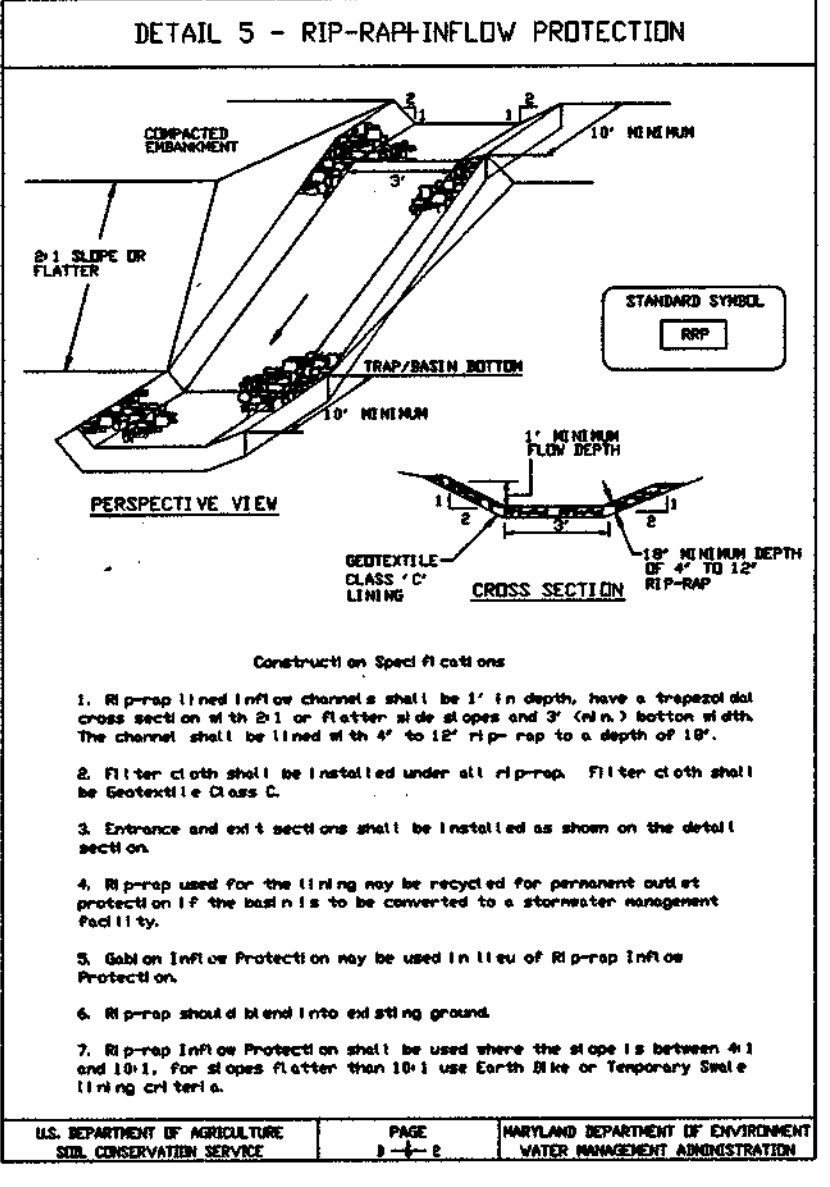
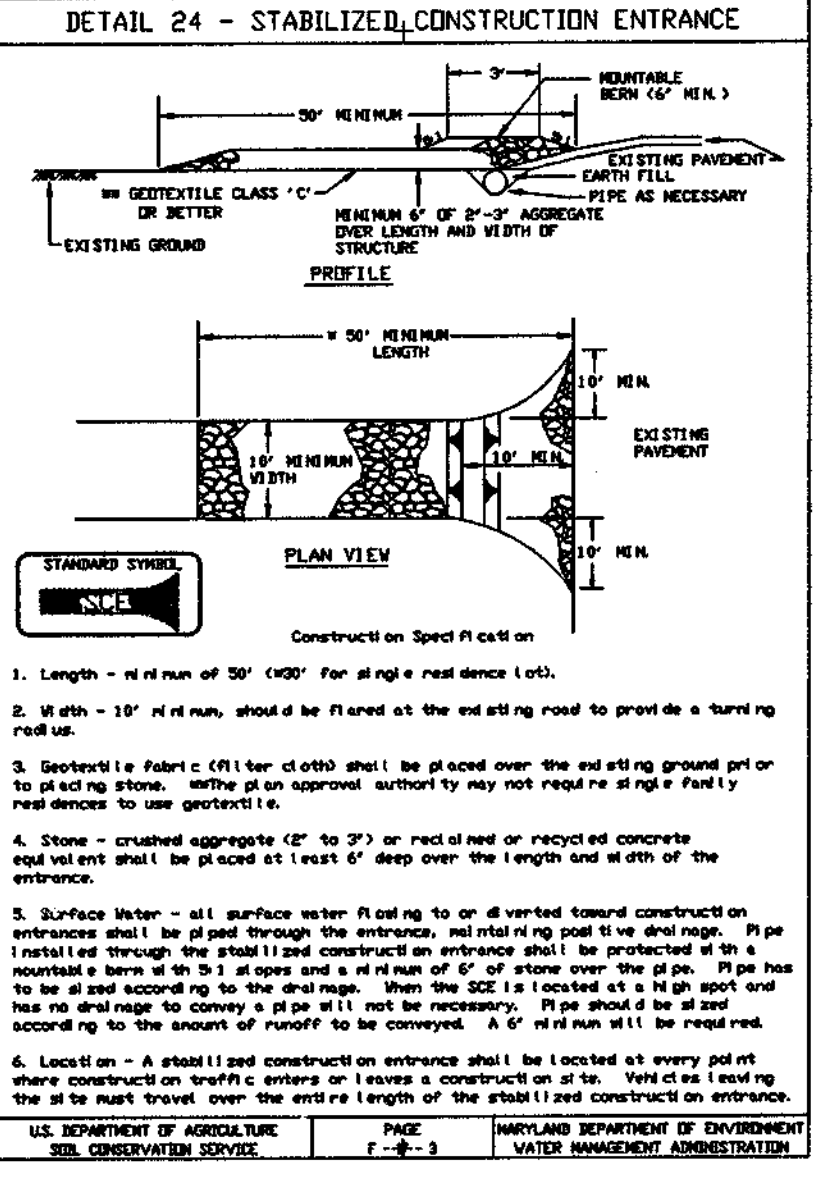
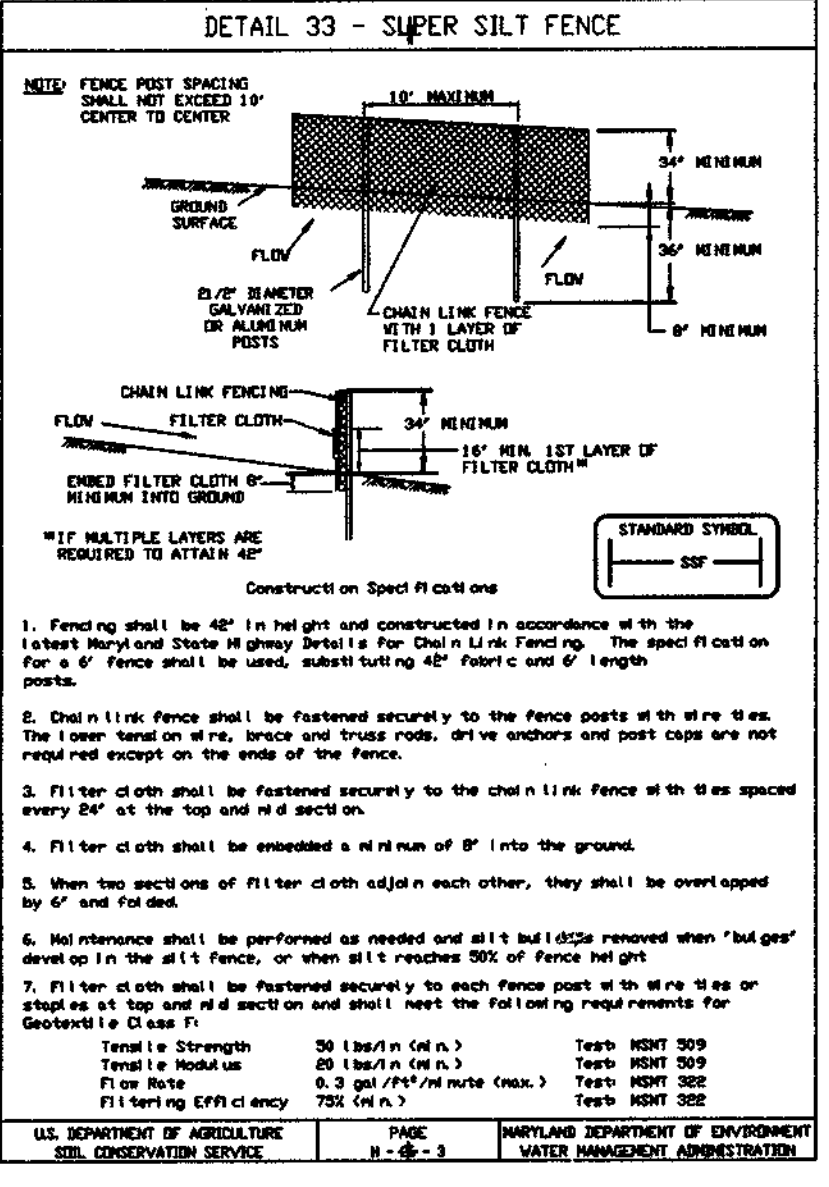
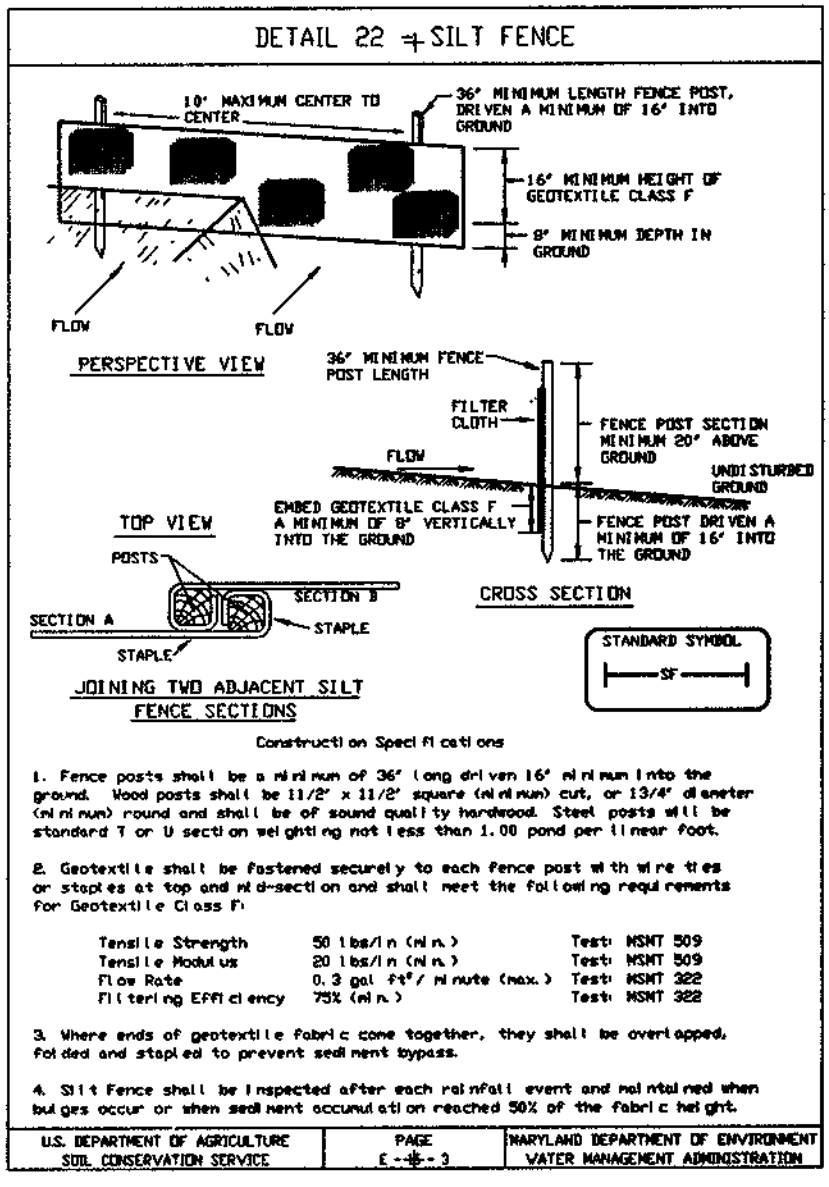


Table 20: General Fabric. Columns: CLASS, APPARENT OPENING SIZE, GRAB TENSILE STRENGTH, BURST STRENGTH.

Table 21: General Fabric. Columns: CLASS, APPARENT OPENING SIZE, GRAB TENSILE STRENGTH, BURST STRENGTH.

Table 22: General Fabric. Columns: CLASS, APPARENT OPENING SIZE, GRAB TENSILE STRENGTH, BURST STRENGTH.

Table 23: General Fabric. Columns: CLASS, APPARENT OPENING SIZE, GRAB TENSILE STRENGTH, BURST STRENGTH.

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Mochi
 CHIEF, BUREAU OF HIGHWAYS

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamstra
 CHIEF, DIVISION OF LAND DEVELOPMENT

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cheryl Simon
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

DEVELOPER'S CERTIFICATE
Cheryl Simon
 DATE: 4/13/00

ENGINEER'S CERTIFICATE
Robert M. Mochi, P.E.
 DATE: 4/14/00

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Robert M. Mochi, P.E.
 DATE: 4/14/00

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Robert M. Mochi, P.E.
 DATE: 4/14/00

Project: 990113
 Engineering: P.F.B.
 Illustration: G.E.M.
 Scale: as shown
 Approval: R.M.M.

REVISED PER COMMENTS DATED 5/16/00
 DIRECT SUBMITTAL TO HOWARD COUNTY COMMENTS
 REVISION NO. 1
 DATE: 5/16/00

REVISED PER COMMENTS DATED 5/16/00
 DIRECT SUBMITTAL TO HOWARD COUNTY COMMENTS
 REVISION NO. 2
 DATE: 5/16/00

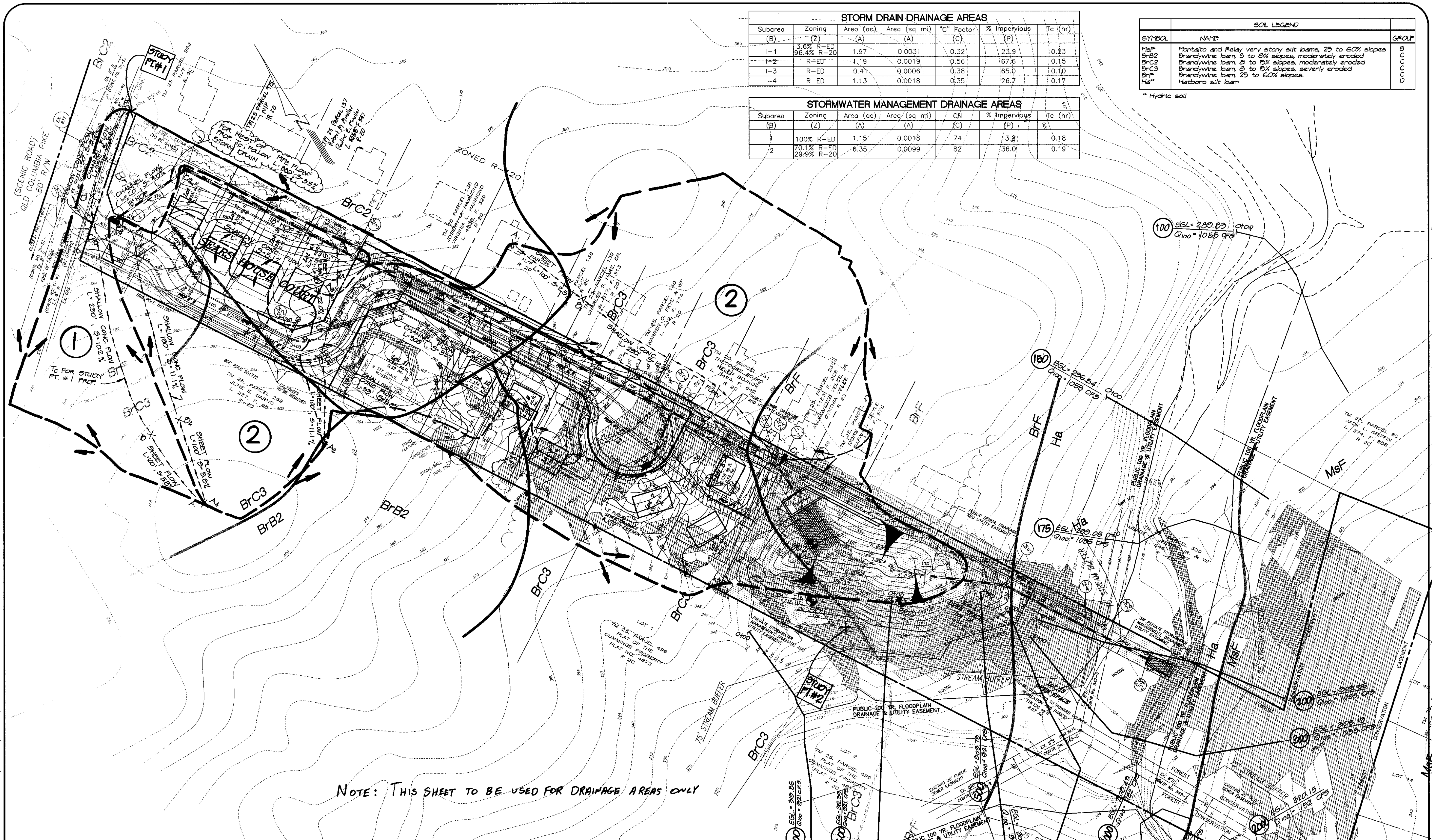
REVISED PER COMMENTS DATED 5/16/00
 DIRECT SUBMITTAL TO HOWARD COUNTY COMMENTS
 REVISION NO. 3
 DATE: 5/16/00

REVISED PER COMMENTS DATED 5/16/00
 DIRECT SUBMITTAL TO HOWARD COUNTY COMMENTS
 REVISION NO. 4
 DATE: 5/16/00

REVISED PER COMMENTS DATED 5/16/00
 DIRECT SUBMITTAL TO HOWARD COUNTY COMMENTS
 REVISION NO. 5
 DATE: 5/16/00

REVISED PER COMMENTS DATED 5/16/00
 DIRECT SUBMITTAL TO HOWARD COUNTY COMMENTS
 REVISION NO. 6
 DATE: 5/16/00

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Robert M. Mochi, P.E.
 DATE: 4/14/00



STORM DRAIN DRAINAGE AREAS						
Subarea (B)	Zoning (Z)	Area (ac) (A)	Area (sq mi) (A)	"C" Factor (C)	% Impervious (P)	Tc (hr)
I-1	3.6% R-ED 96.4% R-20	1.97	0.0031	0.32	23.9	0.23
I-2	R-ED	1.19	0.0019	0.56	67.6	0.15
I-3	R-ED	0.41	0.0006	0.38	65.0	0.10
I-4	R-ED	1.13	0.0018	0.35	26.7	0.17

STORMWATER MANAGEMENT DRAINAGE AREAS						
Subarea (B)	Zoning (Z)	Area (ac) (A)	Area (sq mi) (A)	CN (C)	% Impervious (P)	Tc (hr)
1	100% R-ED 29.9% R-20	1.15	0.0018	74	13.2	0.18
2	R-ED	6.35	0.0099	82	36.0	0.19

SOIL LEGEND		
SYMBOL	NAME	GROUP
MsF	Montalto and Relay very stony silt loam, 2% to 60% slopes	DUNNDB
BrB2	Brandywine loam 3 to 6% slopes, moderately eroded	
BrC2	Brandywine loam 6 to 15% slopes, moderately eroded	
BrC3	Brandywine loam 2% to 15% slopes, severely eroded	
BrF	Brandywine loam 2% to 60% slopes	
Ha	Hatboro silt loam	

** Hydric soil

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. ... 4-25-00
CHIEF, BUREAU OF HIGHWAYS

Surveyor:
Vogel & Associates
3691 Park Ave., Suite 101
Ellicott City, MD. 21043
(410) 461-5828
FAX (410) 465-3966

Owner:
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Developer:
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Engineer:
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10120A Old National Pike
Ijamsville, MD. 21754-9706
(301) 865-5858
Attn: Mr. Robert M. Mochi, P.E.

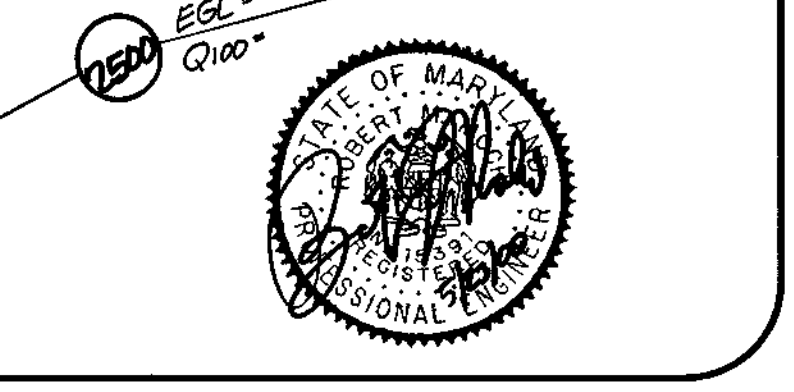
APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chris Hamite 6/6/00
CHIEF, DIVISION OF LAND DEVELOPMENT
William ... 5/15/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED:
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 5/23/00
HOWARD SOIL CONSERVATION DISTRICT

APPROVED:
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Chris ... 5/23/00
USDA - NATIONAL RESOURCES CONSERVATION SERVICE

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.
[Signature] 5/23/00
Signature of Developer

ENGINEER'S CERTIFICATE
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.
[Signature] 5/23/00
Robert M. Mochi, P.E.

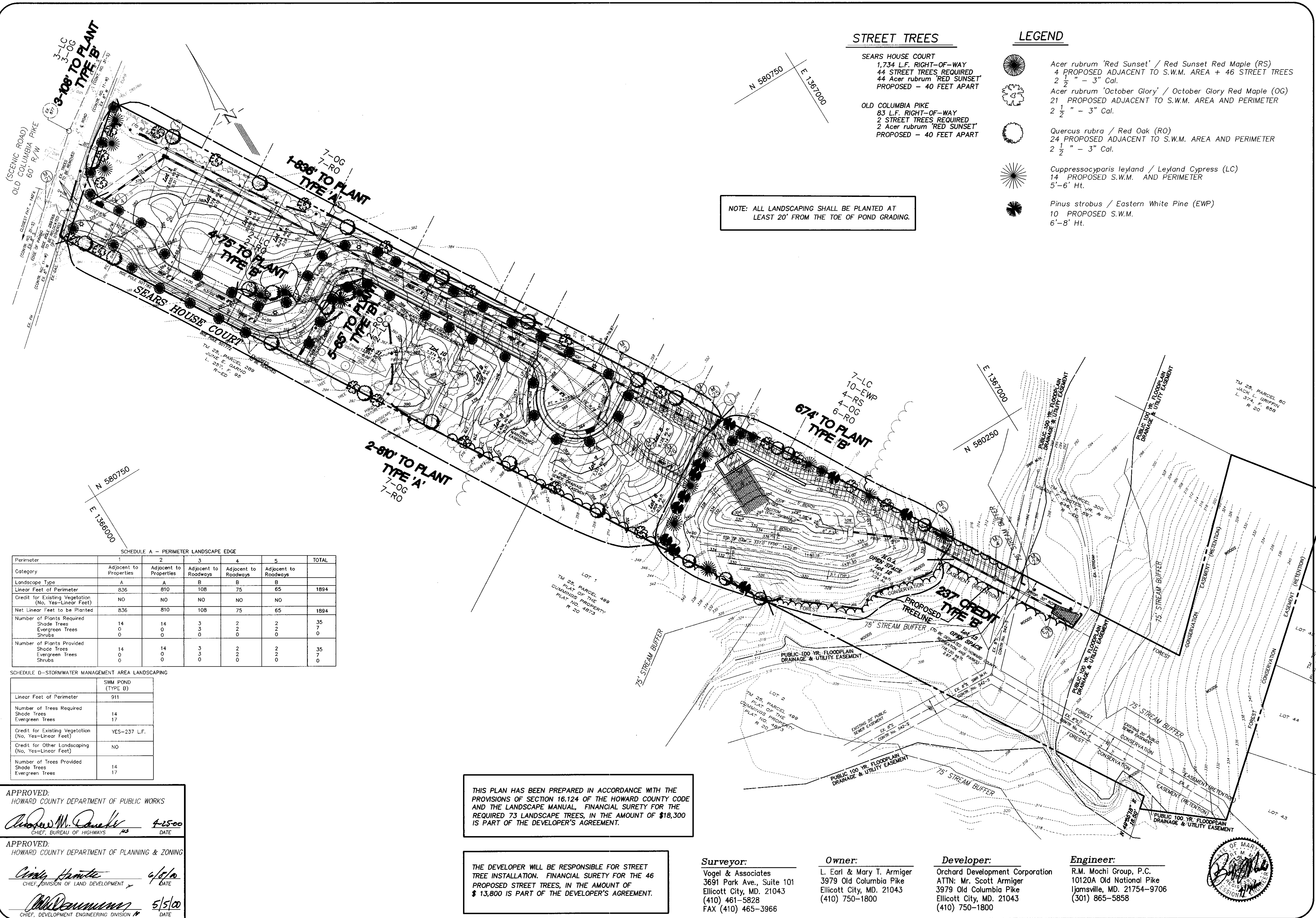


project	99011.13	date	07-23-99
illustration	KMB/GEM	engineering	P.F.B.
scale	1"=50'	approval	R.M.M.

4	REVISED ADDING PROPERTY OWNERS	05-23-00
3	MYLARS SUBMITTED FOR SIGNATURES	04-18-00
2	DIRECT SUBMITTALS TO DPZ & HED	02-03-00
1	REVISED SUBMITTAL PER HOWARD COUNTY COMMENTS	11-08-99
0	1ST SUBMITTAL TO HC. CO. DPZ FOR REVIEW	09-07-99

Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MD.
S.W.M./STORM DRAIN DA MAP & FLOODPLAIN STUDY

R.M. MOCHI GROUP, P.C.
P.O. Box 10
New Market, MD 21774-0010
10120A Old National Pike
Ijamsville, MD 21754-9706
(301) 865-5858
Fax: (301) 865-5111



STREET TREES

- SEARS HOUSE COURT
1,734 L.F. RIGHT-OF-WAY
44 STREET TREES REQUIRED
44 Acer rubrum 'RED SUNSET'
PROPOSED - 40 FEET APART
- OLD COLUMBIA PIKE
83 L.F. RIGHT-OF-WAY
2 STREET TREES REQUIRED
2 Acer rubrum 'RED SUNSET'
PROPOSED - 40 FEET APART

LEGEND

- Acer rubrum 'Red Sunset' / Red Sunset Red Maple (RS)
4 PROPOSED ADJACENT TO S.W.M. AREA + 46 STREET TREES
2 1/2" - 3" Cal.
- Acer rubrum 'October Glory' / October Glory Red Maple (OG)
21 PROPOSED ADJACENT TO S.W.M. AREA AND PERIMETER
2 1/2" - 3" Cal.
- Quercus rubra / Red Oak (RO)
24 PROPOSED ADJACENT TO S.W.M. AREA AND PERIMETER
2 1/2" - 3" Cal.
- Cupressocyparis leyland / Leyland Cypress (LC)
14 PROPOSED S.W.M. AND PERIMETER
5'-6' Ht.
- Pinus strobus / Eastern White Pine (EWP)
10 PROPOSED S.W.M.
6'-8' Ht.

NOTE: ALL LANDSCAPING SHALL BE PLANTED AT LEAST 20' FROM THE TOE OF POND GRADING.

SCHEDULE A - PERIMETER LANDSCAPE EDGE

Perimeter	1	2	3	4	5	TOTAL
Category	Adjacent to Properties	Adjacent to Properties	Adjacent to Roadways	Adjacent to Roadways	Adjacent to Roadways	
Landscape Type	A	B	A	B	B	
Linear Feet of Perimeter	836	810	108	75	65	1894
Credit for Existing Vegetation (No, Yes-Linear Feet)	NO	NO	NO	NO	NO	
Net Linear Feet to be Planted	836	810	108	75	65	1894
Number of Plants Required						
Shade Trees	14	14	3	2	2	35
Evergreen Trees	0	0	3	2	2	7
Shrubs	0	0	0	0	0	0
Number of Plants Provided						
Shade Trees	14	14	3	2	2	35
Evergreen Trees	0	0	3	2	2	7
Shrubs	0	0	0	0	0	0

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING

	SWM POND (TYPE B)
Linear Feet of Perimeter	911
Number of Trees Required	
Shade Trees	14
Evergreen Trees	17
Credit for Existing Vegetation (No, Yes-Linear Feet)	YES-237 L.F.
Credit for Other Landscaping (No, Yes-Linear Feet)	NO
Number of Trees Provided	
Shade Trees	14
Evergreen Trees	17

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Conely 4/25/00
CHIEF, BUREAU OF HIGHWAYS

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cynthia Hamilton 4/5/00
CHIEF, DIVISION OF LAND DEVELOPMENT

Michael J. ... 5/5/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 73 LANDSCAPE TREES, IN THE AMOUNT OF \$18,300 IS PART OF THE DEVELOPER'S AGREEMENT.

THE DEVELOPER WILL BE RESPONSIBLE FOR STREET TREE INSTALLATION. FINANCIAL SURETY FOR THE 46 PROPOSED STREET TREES, IN THE AMOUNT OF \$ 13,800 IS PART OF THE DEVELOPER'S AGREEMENT.

Surveyor:
Vogel & Associates
3691 Park Ave., Suite 101
Ellicott City, MD. 21043
(410) 461-5828
FAX (410) 465-3966

Owner:
L. Earl & Mary T. Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Developer:
Orchard Development Corporation
ATTN: Mr. Scott Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Engineer:
R.M. Mochi Group, P.C.
10120A Old National Pike
Jamsville, MD. 21754-9706
(301) 865-5858

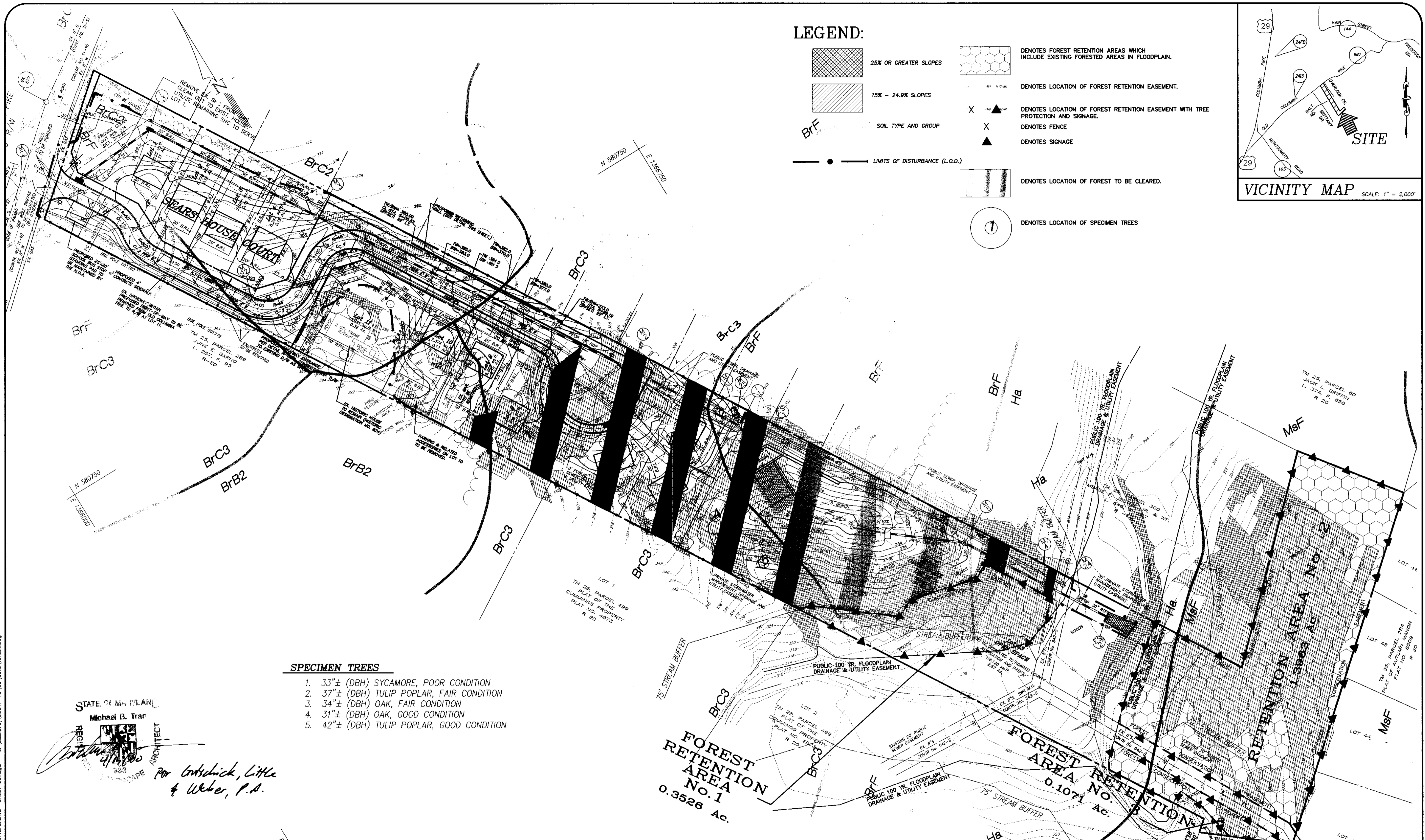


PROJECT	99011.13	DATE	07-20-99
ILLUSTRATION	KMB	ENGINEERING	P.F.B.
SCALE	1"=50'	APPROVAL	R.M.M.

REVISED PER PER COMMENTS DATE	5-26-00	DATE	5-26-00
MYLARS SUBMITTED FOR SIGNATURES	04--00	DATE	02-03-00
REVISED SUBMITTALS TO DPZ & DEED	11-08-99	DATE	11-08-99
1ST SUBMITTAL TO MD. CO. DPZ FOR REVIEW	08-07-99	DATE	08-07-99

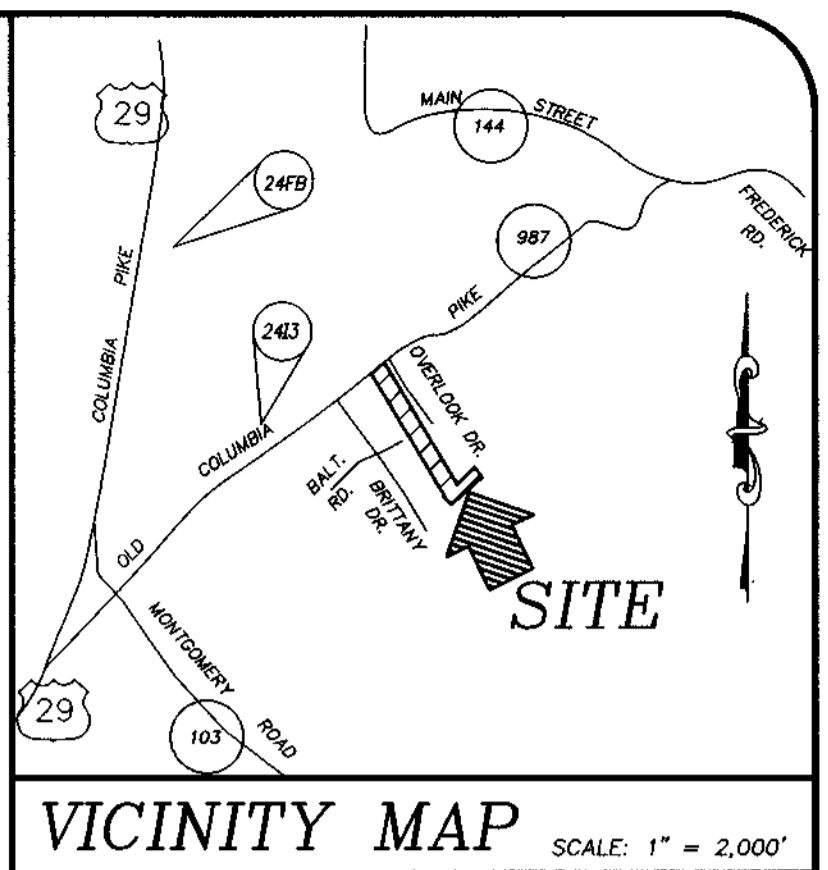
Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
ELECTION DISTRICT NO. 2
STREET TREE AND LANDSCAPING PLAN
HOWARD COUNTY, MD.

R.M. MOCHI GROUP, P.C.
P.O. Box 10
New Market, MD 21774-0010
10120A Old National Pike
Jamsville, MD 21754-9706
(301) 865-5858
Fax: (301) 865-5111



LEGEND:

- 25% OR GREATER SLOPES
- 15% - 24.9% SLOPES
- SOIL TYPE AND GROUP
- LIMITS OF DISTURBANCE (L.O.D.)
- DENOTES FOREST RETENTION AREAS WHICH INCLUDE EXISTING FORESTED AREAS IN FLOODPLAIN.
- DENOTES LOCATION OF FOREST RETENTION EASEMENT.
- DENOTES LOCATION OF FOREST RETENTION EASEMENT WITH TREE PROTECTION AND SIGNAGE.
- DENOTES FENCE
- DENOTES SIGNAGE
- DENOTES LOCATION OF FOREST TO BE CLEARED.
- DENOTES LOCATION OF SPECIMEN TREES



SPECIMEN TREES

1. 33"± (DBH) SYCAMORE, POOR CONDITION
2. 37"± (DBH) TULIP POPLAR, FAIR CONDITION
3. 34"± (DBH) OAK, FAIR CONDITION
4. 31"± (DBH) OAK, GOOD CONDITION
5. 42"± (DBH) TULIP POPLAR, GOOD CONDITION

STATE OF MARYLAND
 Michael B. Tran
 REGISTERED ARCHITECT
 4/15/00
 333

For Gutschick, Little & Weber, P.A.

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

 CHIEF, BUREAU OF HIGHWAYS 4-25-00
 MS DATE

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

 CHIEF, DIVISION OF LAND DEVELOPMENT 4/15/00
 DATE

 CHIEF, DEVELOPMENT ENGINEERING DIVISION 5/5/00
 DATE

Surveyor
 Vogel & Associates
 3691 Park Ave., Suite 101
 Ellicott City, MD. 21043
 (410) 461-5828
 Fax (410) 465-3966

Owner:
 L. Earl & Mary T. Armiger
 3979 Old Columbia Pike
 Ellicott City, MD. 21043
 (410) 750-1800

Developer:
 Orchard Development Corporation
 ATTN: Mr. Scott Armiger
 3979 Old Columbia Pike
 Ellicott City, MD. 21043
 (410) 750-1800

Engineer:
 R.M. Mochi Group, P.C.
 10120A Old National Pike
 Jomsville, MD. 21754-9706
 (301) 865-5858

GUTSCHICK, LITTLE & WEBER, P.A.
 3909 NATIONAL DRIVE SUITE 250
 BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 (301) 421-4024
 QUALIFIED PROFESSIONAL PER THE MARYLAND FOREST CONSERVATION ACT.
 DATE

PROJECT	99011.13	DATE	07-28-99
ILLUSTRATION	KMB	ENGINEERING	PTB
SCALE	1" = 50'	APPROVAL	RAM

REVISED PER 212 COMMENTS DATED 5/16/00	DATE
MYLARS SUBMITTED FOR SIGNATURES	04--00
DIRECT SUBMITTALS TO DPZ & DEB	02-03-00
REVISED SUBMITTAL PER HOWARD COUNTY COMMENTS	11-08-99
SUBMITTED TO HOWARD COUNTY DPZ FOR REVIEW	08-07-99
NO.	DESCRIPTION

Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
 ELECTION DISTRICT No. 2
 HOWARD COUNTY, MARYLAND
FOREST CONSERVATION PLAN

R.M. MOCHI GROUP, P.C.
 10120 A Old National Pike
 Jomsville, MD 21754-9706
 (301) 865-5858
 Fax: (301) 865-3171

FOREST CONSERVATION WORKSHEET

BASIC SITE DATA	
GROSS SITE AREA	7.05
AREA WITHIN 100 YEAR FLOODPLAIN	0.63
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL	N/A
NET TRACT AREA	6.42
LAND USE CATEGORY:	R-ED

INFORMATION FOR CALCULATIONS	
A. NET TRACT AREA	6.42
B. REFORESTATION THRESHOLD (20% X A)	1.28
C. AFFORESTATION MINIMUM (15% X A)	0.96
D. EXISTING FOREST ON NET TRACT AREA	3.93
E. FOREST AREAS TO BE CLEARED	2.07
F. FOREST AREAS TO BE RETAINED	1.86

REFORESTATION CALCULATIONS	
A. NET TRACT AREA	6.42
B. REFORESTATION THRESHOLD (20% X A)	1.28
D. EXISTING FOREST ON NET TRACT AREA	3.93
E. FOREST AREAS TO BE CLEARED	2.07
F. FOREST AREAS TO BE RETAINED	1.86
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	2.07
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.58
(F-B, Retention Credit, if applicable)	

FOR CLEARING ABOVE THE THRESHOLD	
REFORESTATION FOR CLEARING ABOVE THRESHOLD (G x 1/4)	0.52
CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD (I)	0.58
TOTAL REFORESTATION REQUIRED (G x 1/4) - I	0

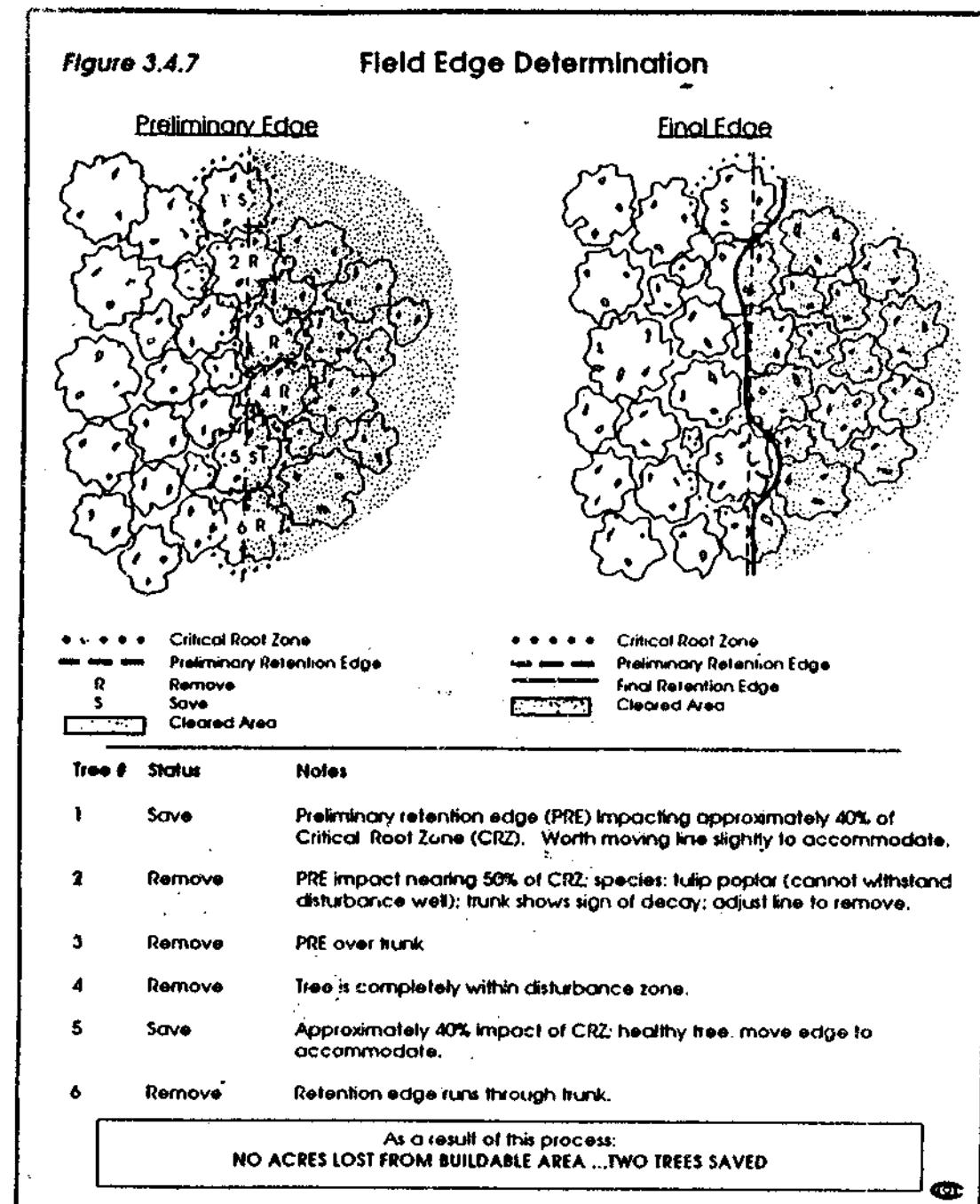
REQUIRED FOREST CONSERVATION EASEMENT AREA (RETENTION AREA + REFORESTATION AREA)	1.86
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PROPOSED METHOD OF SATISFYING FOREST CONSERVATION OBLIGATIONS	
RETENTION AREA	1.86 AC.

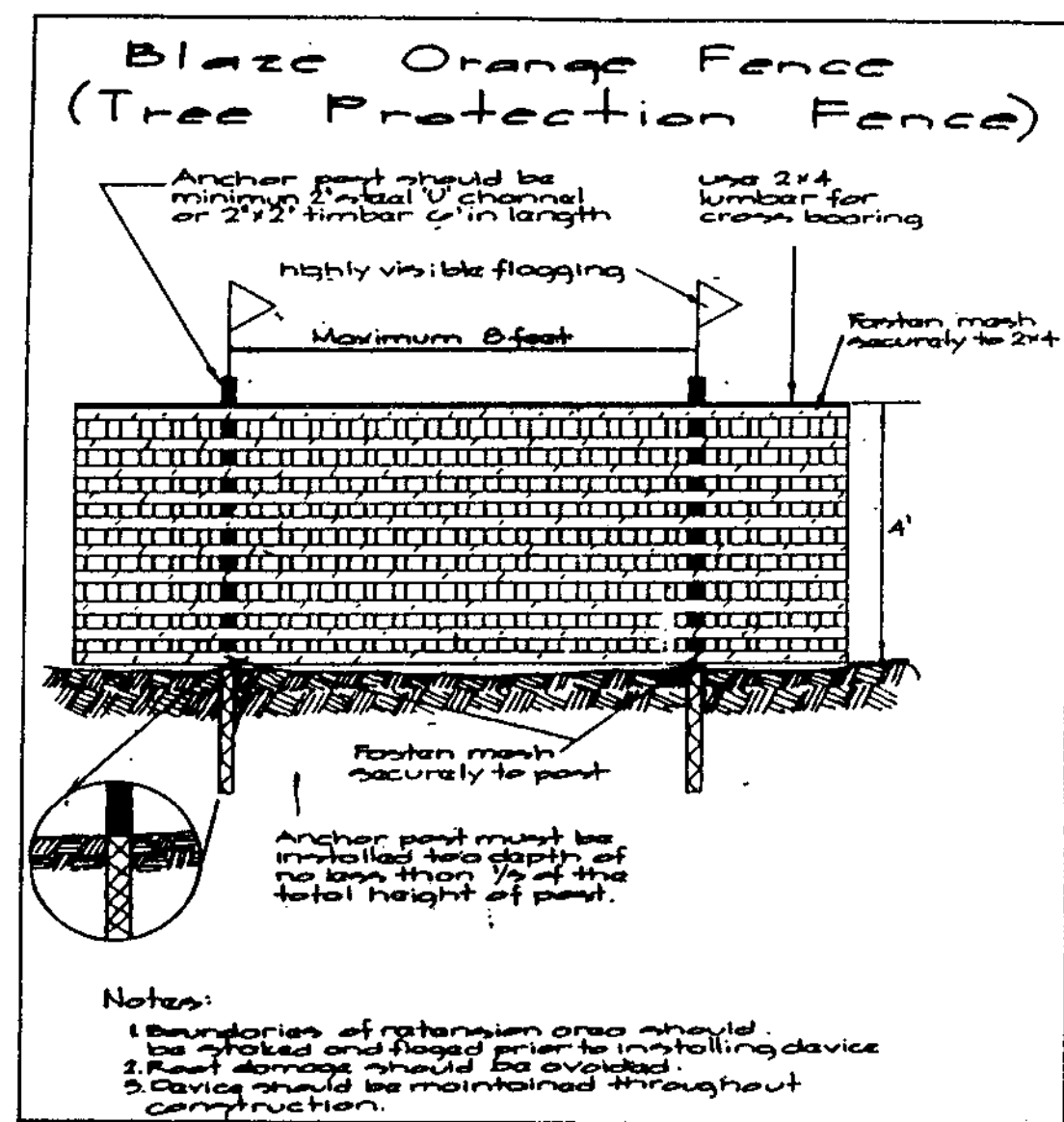
NARRATIVE

By locating the bulk of the development activities as shown and limiting any environmental recourse (stream, buffers, floodplain, etc.) disturbances to a necessary sewer line installation and a SWM outfall, the majority of the existing woodland and environmental resources can be saved.

This proposed development anticipates clearing above the forest conservation threshold (to the break-even point). The forest conservation obligation for the development would be met by protecting the woods retained within a forest conservation easement.

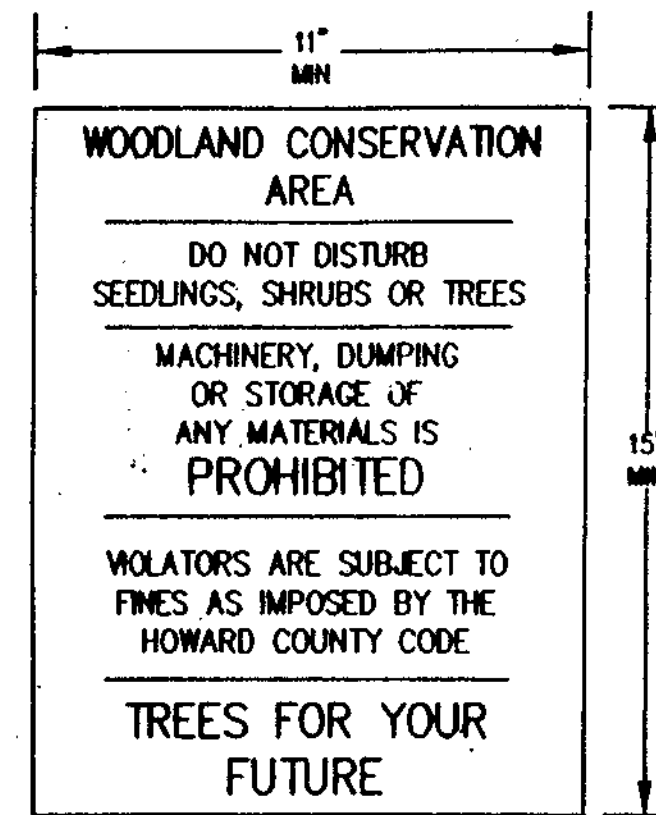


Staking Retention Edges in the field requires tree-by-tree decisions. The above example demonstrates the use of the Critical Root Zone, tree health, and tree species in laying out a final, healthy, retention line.



Notes:
 1. Boundaries of retention area should be marked and flagged prior to installing device.
 2. Root damage should be avoided.
 3. Device should be maintained throughout construction.

FOREST CONSERVATION SIGN



- NOTE:**
- ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
 - SIGNS SHOULD BE PROPERLY MAINTAINED.
 - AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR THE SIGNS.
 - SIGNS SHOULD BE POSTED TO BE VISIBLE TO ALL CONSTRUCTION PERSONNEL FROM ALL DIRECTIONS.

GENERAL NOTES

- This reforestation plan is provided in accordance with the requirements of Subtitle 12 "Forest Conservation" of the Howard County Code.
- Implementation of this plan must be performed by a contractor that is knowledgeable and experienced in afforestation/reforestation techniques and practices.
- The developer is responsible for a 2-year post-construction maintenance period which involves activities necessary to ensure survival and growth of the conservation area.
 Two inspection per year by a qualified professional at beginning and end of the growing season, are recommended in order to take remedial steps as necessary. If, after one year, the possibility exists that the original planting will not meet survival standards, the applicant may choose to establish reinforcement plantings.
 If plant mortality of reforestation or afforestation exceeds 10% of planting materials at the end of the first growing season, such material should be replaced to bring the total number of trees to 90% of the original total. Such material shall be installed by the beginning of the second growing season. If at the end of the second growing season, survival rate drops below 75%, such material as needed to guarantee a 75% survival rate by the end of the subsequent year shall be installed.
- At the end of the post-construction management and protection period, the designated responsible professional shall convey to the administrator of Howard County Forest Conservation Program Certification that all forest conservation areas have remained intact or have been restored to the appropriate condition, and that the stipulated rates have been achieved, and that any permanent protection measures required by the plan are in place.
- To minimize soil erosion, all reforestation planting areas shall be in a stabilized condition.
- The contractor is responsible for the location of any existing utilities. The repair of any utilities damaged by the contractor shall be at the contractor's expense.

CONSTRUCTION PERIOD PROTECTION PROGRAM

- The limit of forest retention and reforestation shall be staked and flagged. Field adjustments of the edge of surviving forest stand shall be done by the detail labeled "Field Edge Determination".
- A pre-construction meeting at the site should be held to verify the limits of clearing specified. The meeting should include the owner or the owner's representative, the on-site foreman in charge of land disturbance, the environmental consultant and the appropriate Howard County inspectors.
- Forest protection devices and signs (see details) shall be installed prior to any clearing or grading. The protection devices and signs shall be maintained during the entire construction period. None of the devices shall be in any way anchored or attached to the trees to be saved.
- Equipment, vehicles and building materials shall not be allowed within the protected area. Activities strictly to implement any reforestation planting and maintenance (i.e. watering, fertilizing, thinning, pruning, removal of dead and diseased trees etc.) of the conservation area are permitted. Clearing for the purpose of sodding or planting grass is not permitted within the forest conservation area.
- At the end of the construction period, the designated qualified professional shall convey to the administrator of the Howard County Forest Conservation Program certification that all forest retention areas have been preserved, all reforestation and/or afforestation plantings (where required) have been installed as required by the forest conservation plan, and that all protection measures required for the post-construction period have been put in place.
 Upon review of the final certification document for completeness and accuracy, the program coordinator will notify the developer of release from all construction period obligations.

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 4-25-00
 CHIEF, BUREAU OF HIGHWAYS HS

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hammett 4/8/00
 CHIEF, DIVISION OF LAND DEVELOPMENT

John W. ... 5/5/00
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Surveyor:
 Vogel & Associates
 3691 Park Ave., Suite 101
 Ellicott City, MD. 21043
 (410) 461-5828
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Owner:
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 3979 Old Columbia Pike
 Ellicott City, MD. 21043
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Developer:
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 ATTN: Mr. Scott Armiger
 3979 Old Columbia Pike
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 Ijamsville, MD. 21754-9706
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GUTSCHICK, LITTLE & WEBER, P.A.
 3909 NATIONAL DRIVE SUITE 250
 BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 (301) 421-4024

QUALIFIED PROFESSIONAL PER THE MARYLAND FOREST CONSERVATION ACT.

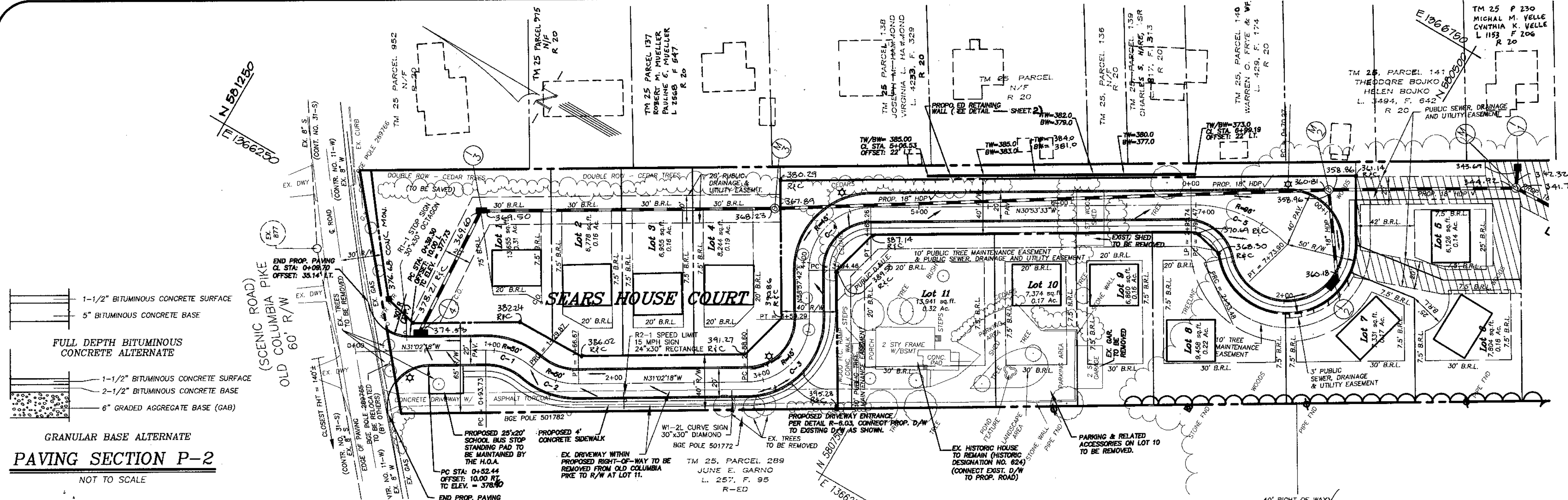
DATE _____

Project: 9901113
 Illustration: G.E.M.
 Scale: as shown
 Date: 11/19/97

DATE SUBMITTED TO DPE + DED: 11/19/97
 REVISED SUBMITTAL FOR HOWARD COUNTY COMMISSIONS: 11/19/97
 1ST SUBMITTAL TO HO. CO. DPZ FOR REVIEW: 11/19/97
 DATE: 11/19/97

MILL TOWNE OVERLOOK
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MD.
 FOREST CONSERVATION NOTES AND DETAILS

R.M. MOCHI GROUP, P.C.
 P.O. Box 10
 New Market, MD 21774-0010
 (301) 865-5858
 Fax: (301) 865-5811



General Notes:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410) 315-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JAN. 1996).
- A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN SURVEY WITH TWO (2) FOOT CONTOUR INTERVALS PREPARED BY VOICES & ASSOCIATES, DATED JULY 18, 1999.
- THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS Nos. 24FB AND 2413.

24FB
North: 582652.103
East: 1364255.930
Elev: 423.282

2413
North: 580648.804
East: 1341471
Elev: 404.481

9. WATER IS PUBLIC. CONTRACT NO. 14-3830-D
DRAINAGE AREA: 4.74 ACRES

10. STORMWATER MANAGEMENT WILL BE PROVIDED ON SITE WITH A PRIVATE EXTENDED DETENTION FACILITY. FACILITY WILL BE OWNED AND MAINTAINED BY THE H.O.A.

11. EXISTING UTILITIES ARE BASED ON HOWARD COUNTY CONTRACT DRAWINGS AND SOME SUPPLEMENTAL FIELD SURVEY INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM THE EXISTING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION.

12. FLOODPLAIN DELINEATION IS BASED ON A STUDY PREPARED BY R.M. MOCHI GROUP, P.C. DATED 07-19-99.

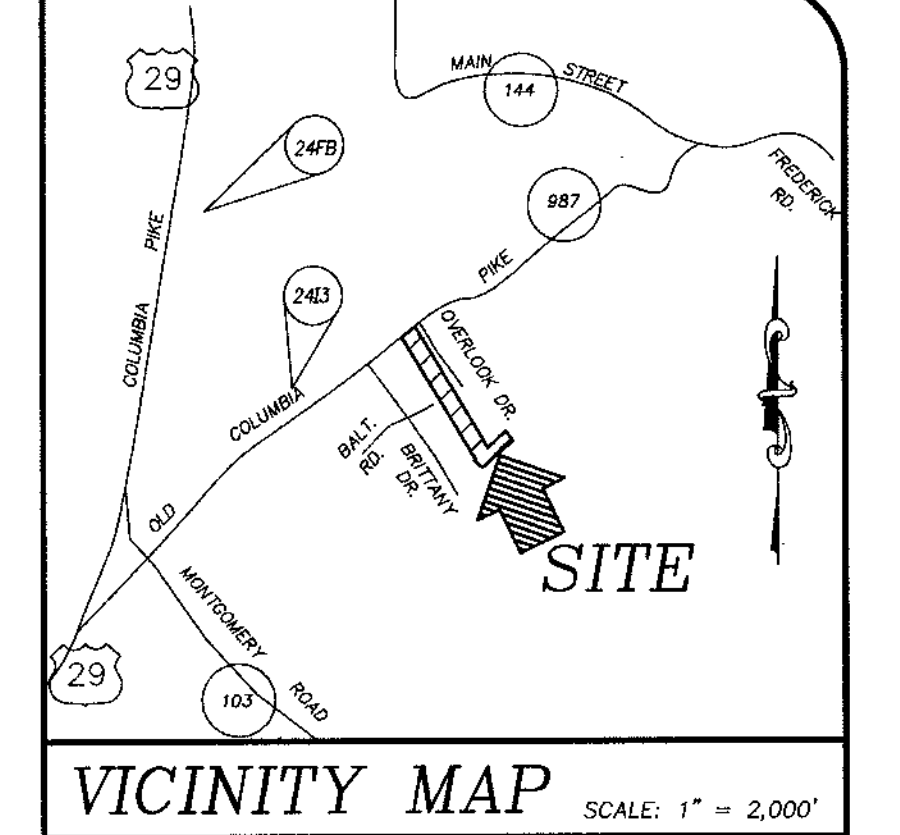
13. THERE ARE NO WETLANDS ON THIS SITE BASED ON A REPORT PREPARED BY EXPLORATION RESEARCH, INC. DATED AUGUST 8, 1997.

14. A TRAFFIC STUDY DATED APRIL, 1999 WAS PREPARED BY LEE CUNNINGHAM & ASSOCIATES, INC. AND APPROVED WITH S-97-017.

15. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT HOWARD COUNTY DESIGN MANUAL, VOLUME IV

16. PROJECT BACKGROUND INFORMATION:
ZONING: MILL TOWNE OVERLOOK
TAX MAP: R-ED
ORIG: 29
PARCEL: 13
GROSS TRACT AREA: 7.05 ACRES
NET TRACT AREA: 6.42 ACRES
AREA OF PROPOSED LOTS: 6.08 ACRES
AREA OF PROPOSED P/W: 0.87 ACRES
NUMBER OF LOTS: 11 BUILDABLE
2 OPEN SPACE

OPEN SPACE REQUIRED: 1.76 Ac.
OPEN SPACE PROVIDED: 3.91 Ac. (1.24 Ac. LOT 12 & 2.67 Ac. LOT 13)



Street Tree Notes

- STREET TREE TABULATION
A. SEARS HOUSE COURT
1.734 LINEAR FEET RIGHT-OF-WAY
44 STREET TREES REQUIRED (1.734 LF / ONE TREE PER 40 LF)
44 STREET TREES PROVIDED
- OLD COLUMBIA PIKE
83 LINEAR FEET RIGHT-OF-WAY
2 STREET TREES REQUIRED (83 LF / ONE TREE PER 40 LF)
2 STREET TREES PROVIDED

2. THE DEVELOPER WILL BE RESPONSIBLE FOR THE PROPOSED STREET TREES AT THE TIME OF CONSTRUCTION OF SEARS HOUSE COURT.

TREE PLANTING DETAIL
MEDIUM TREES - 2-1/2" CALIBER OR LARGER
NOT TO SCALE

Street Tree Legend

Botanical Name	Common Name	Size	Root	Quantity	Symbol
ACER RUBRUM	RED MAPLE	2-1/2" CAL.	B & B	46	(Symbol)

SEE STREET TREE & LANDSCAPING PLAN FOR STREET TREE LAYOUT.

Street Light Legend

SEARS HOUSE COURT	100-watt "Traditionaire" HPS vapor post top fixture on 14-foot black fiberglass pole	Street light shall be placed 2'-4" from back of curb
Sta. 0+39 o/s 19' RL		
SEARS HOUSE COURT	100-watt "Traditionaire" HPS vapor post top fixture on 14-foot black fiberglass pole	Street light shall be placed 2'-4" from back of curb
Sta. 3+12 o/s 14' LT		
SEARS HOUSE COURT	100-watt "Traditionaire" HPS vapor post top fixture on 14-foot black fiberglass pole	Street light shall be placed 2'-4" from back of curb
Sta. 4+48 o/s 15' LT		
SEARS HOUSE COURT	100-watt "Traditionaire" HPS vapor post top fixture on 14-foot black fiberglass pole	Street light shall be placed 2'-4" from back of curb
Sta. 7+50.86 o/s 34.81' LT		

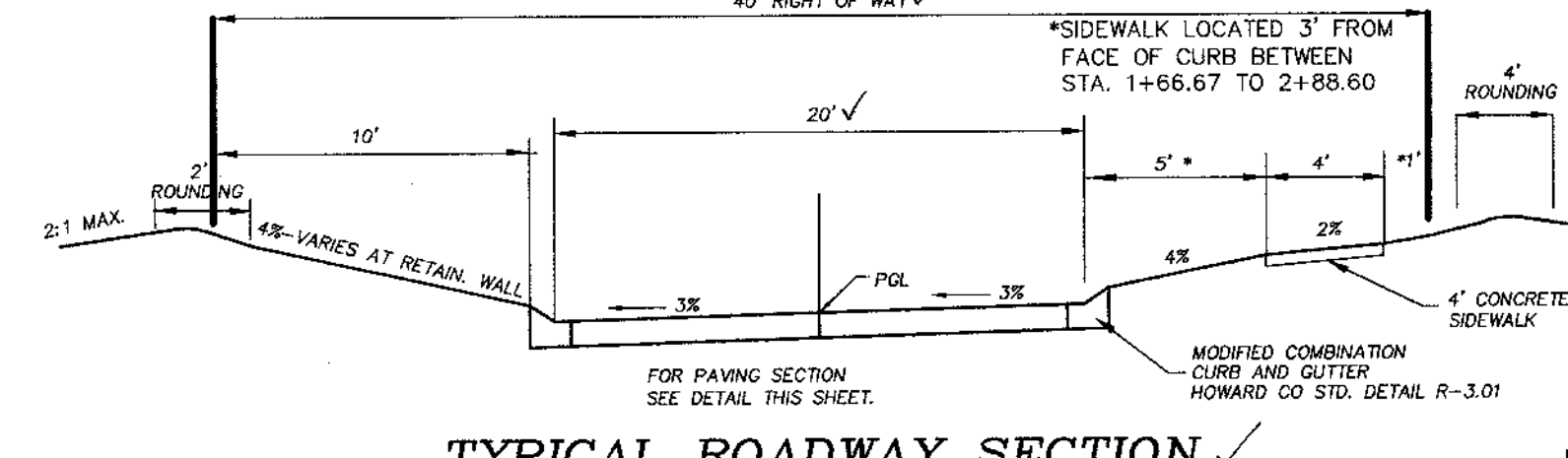
☆ 100-watt "Traditionaire" HPS vapor post top fixture on 14-foot black fiberglass pole

S.S.D. REQUIRED = 160'
S.S.D. PROVIDED = 160'

Curve Data

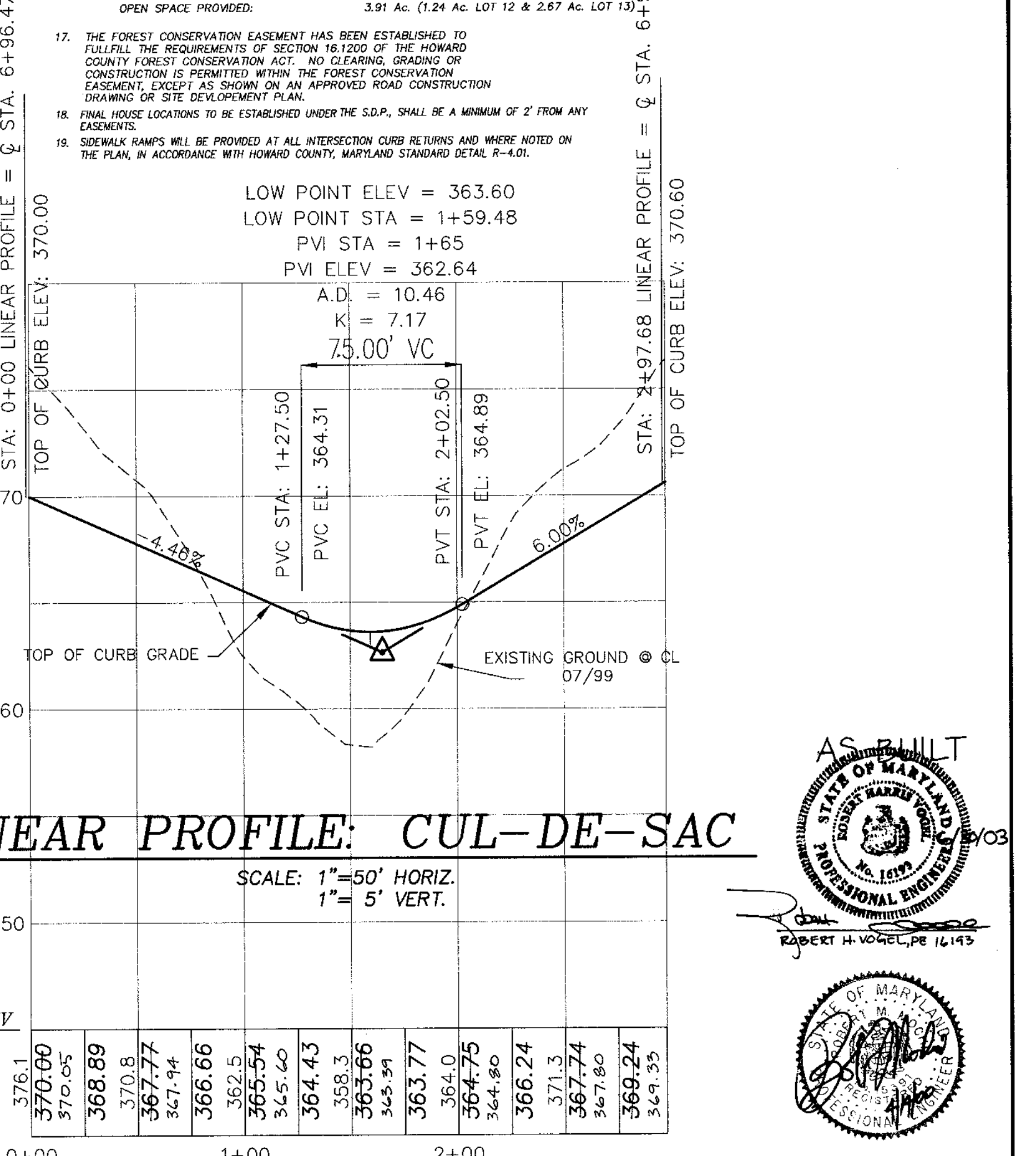
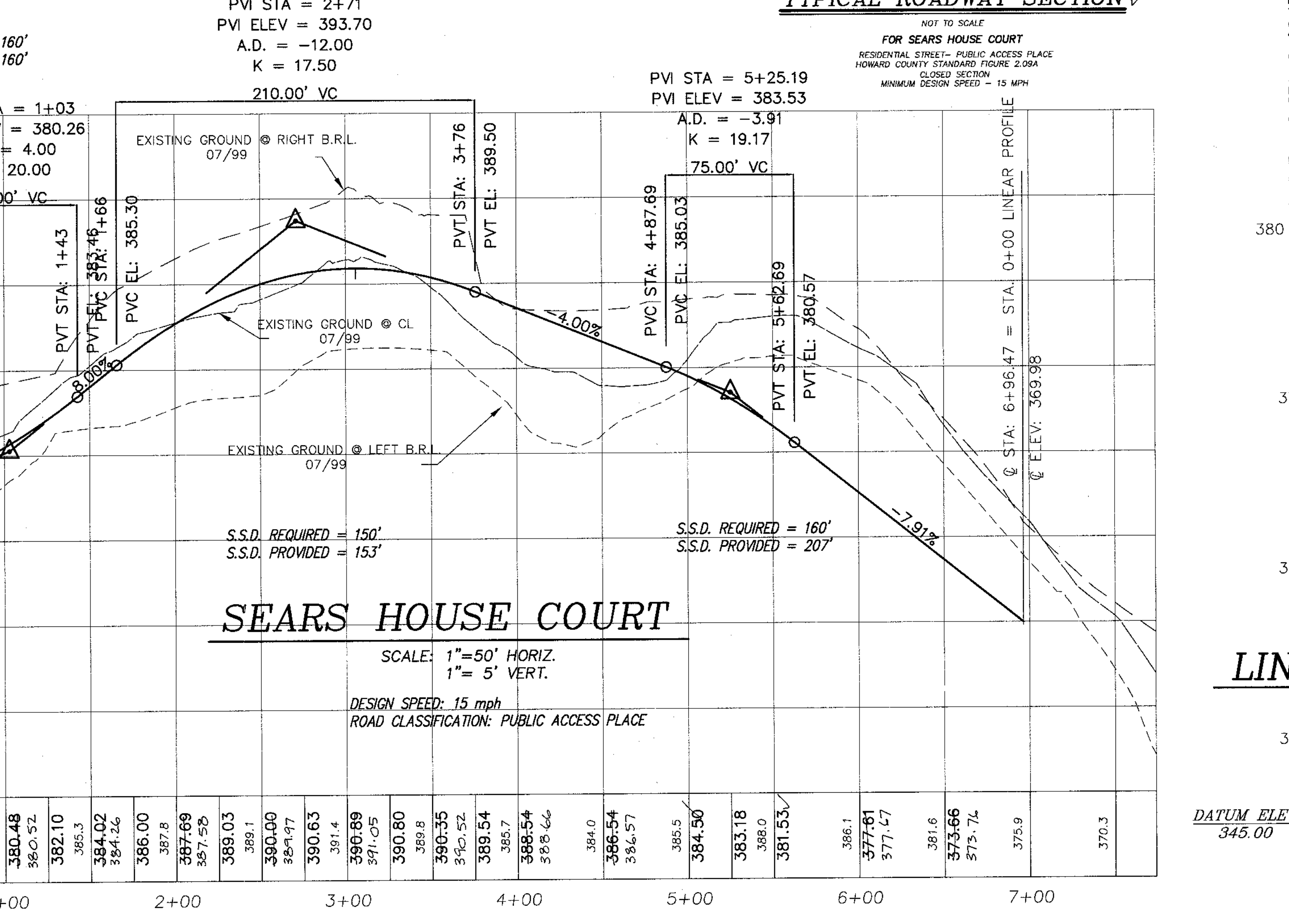
CURVE NO.	RADIUS	ARC	DELTA	TAN	CHORD BEARING - DIST.
C-1	50.00	36.14'	41°24'48"	18.90'	S 10°19'53" E - 35.36'
C-2	50.00	36.80'	42°10'09"	19.28'	S 10°42'34" E - 35.97'
C-3	45.00	70.69'	90°00'00"	45.00'	S 76°02'18" E - 63.64'
C-4	45.00	70.80'	90°08'45"	45.11'	S 75°57'55" E - 63.72'
C-5	96.00	77.43'	46°12'45"	40.96'	S 07°47'10" E - 75.35'

HIGH POINT ELEV = 390.90
HIGH POINT STA = 3+06
PVI STA = 2+71
PVI ELEV = 393.70
A.D. = -12.00
K = 17.50



INDEX OF SHEETS

- SEARS HOUSE COURT- PLAN AND PROFILE
- GRADING AND SEDIMENT CONTROL PLAN
- S.W.M. PROFILES AND DETAILS
- S.W.M. PROFILES AND DETAILS
- STORM DRAIN PROFILES
- GRADING, SEDIMENT CONTROL NOTES & DETAILS
- S.W.M. AND STORM DRAIN DRAINAGE AREA MAP
- STREET TREE AND LANDSCAPING PLAN
- FOREST CONSERVATION PLAN
- FOREST CONSERVATION DETAILS



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Robert M. Mochi 4-25-00
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cinda Hammit 5/5/0
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: *Robert M. Mochi* 5/5/0
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Surveyor:
Vogel & Associates
3691 Park Ave., Suite 101
Ellicott City, MD. 21043
(410) 461-5828
Fax (410) 465-3966

Owner:
L. Earl & Mary T. Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Developer:
Orchard Development Corporation
ATTN: Mr. Scott Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Engineer:
R.M. Mochi Group, P.C.
10120A Old National Pike
Jamasville, MD. 21754-9706
(301) 865-5858
Attn: Mr. Robert M. Mochi, P.E.

MILL TOWNE OVERLOOK
Election District No. 2 Howard County, MD.
Tax Map 25, Grid 13, Parcel 220

Previous Files: S-97-17, P.B. CASE No. 318, WP-98-10, P-99-07

Project: 990113
Date: 07-20-99
Illustration: KUB
Scale: 1" = 50'

Revised: 5-26-00
04-18-00
02-03-00
11-08-99
08-01-99

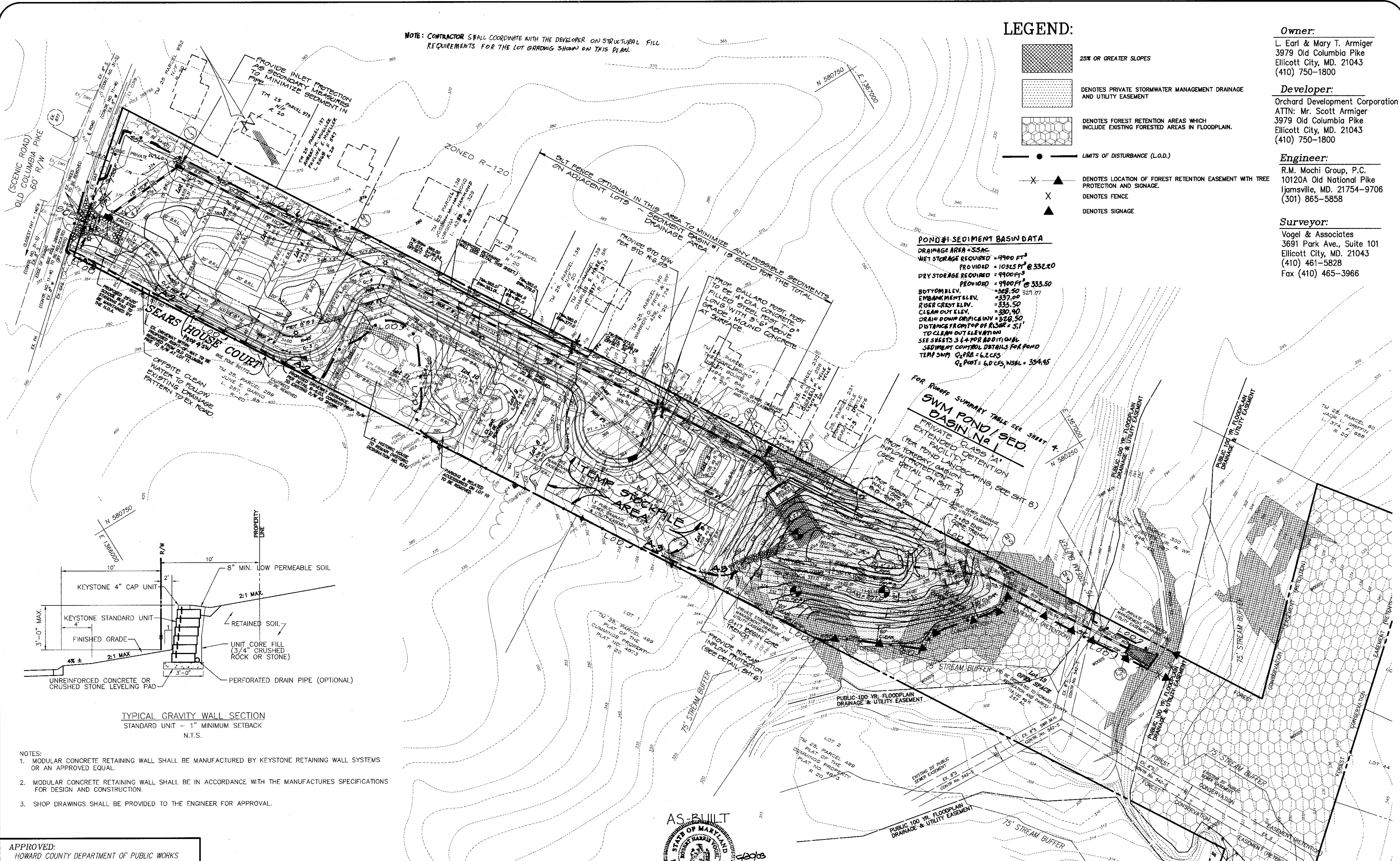
4 REVISED PER DPZ COMMENTS DATED 5/16/00
3 MILLARS SUBMITTED FOR SIGNATURES
2 DIRECT SUBMITTALS TO DPZ & DEC
1 REVISED SUBMITTAL PER HOWARD COUNTY COMMENTS
0 SUBMITTED TO HOWARD CO. DPZ FOR REVIEW
V.D. description revisors

Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
ELECTION DISTRICT NO. 2
SEARS HOUSE COURT - PLAN AND PROFILE
HOWARD COUNTY, MARYLAND

AS BUILT
STATE OF MARYLAND
PROFESSIONAL ENGINEER
ROBERT M. MOCHI, PE 16143

R.M. MOCHI GROUP, P.C.
P.O. Box 10
New Market, MD 21774-0010
(301) 865-5858
Fax: (301) 865-5111

1 OF 10

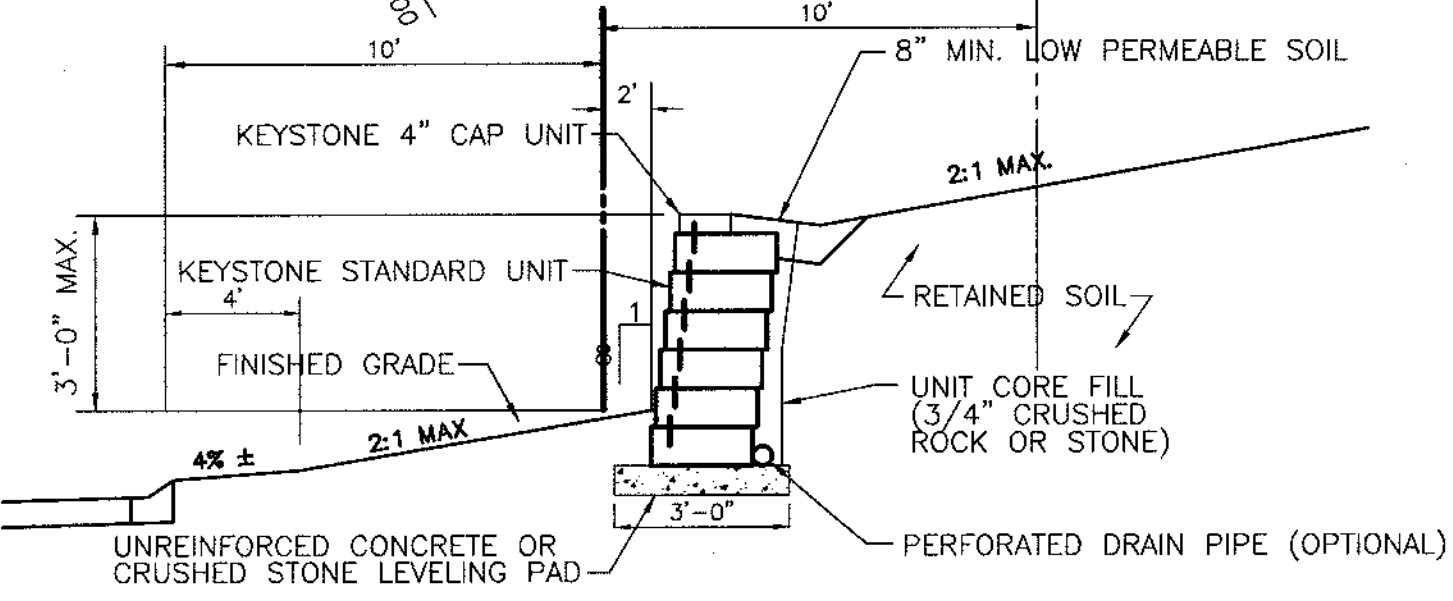


LEGEND:

- 25% OR GREATER SLOPES
- DENOTES PRIVATE STORMWATER MANAGEMENT DRAINAGE AND UTILITY EASEMENT
- DENOTES FOREST RETENTION AREAS WHICH INCLUDE EXISTING FORESTED AREAS IN FLOODPLAIN.
- LIMITS OF DISTURBANCE (L.O.D.)
- DENOTES LOCATION OF FOREST RETENTION EASEMENT WITH TREE PROTECTION AND SIGNAGE.
- DENOTES FENCE
- DENOTES SIGNAGE

POND #1 - SEDIMENT BASIN DATA

DRAINAGE AREA = 55AC
WET STORAGE REQUIRED = 9900 FT ³
PROVIDED = 10325 FT ³ @ 332.20
DRY STORAGE REQUIRED = 9900 FT ³
PROVIDED = 9900 FT ³ @ 333.50
BOTTOM ELEV. = 328.50
EMBANKMENT ELEV. = 337.00
RISER CREST ELEV. = 333.50
CLEAR OUT ELEV. = 330.90
DRAIN DOWN ORIFICIUM = 328.50
DISTANCE FROM TOP OF RISER = 5.1'
TO CLEAR OUT ELEVATION
SEE SHEETS 3 & 4 FOR ADDITIONAL
SEDIMENT CONTROL DETAILS FOR POND
TEMP SWP 1/2" @ 6.2 CPS
1/2" @ 6.2 CPS, NSBL = 354.95



- NOTES:
- MODULAR CONCRETE RETAINING WALL SHALL BE MANUFACTURED BY KEYSTONE RETAINING WALL SYSTEMS OR AN APPROVED EQUAL.
 - MODULAR CONCRETE RETAINING WALL SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS FOR DESIGN AND CONSTRUCTION.
 - SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL.

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Danalo 4/25/00
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Craig Stovall 4/19/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Chris Pannunzi 5/5/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED:
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
John A. [Signature] 4/20/00
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED:
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Cheryl Simon/CS 4/20/00
USDA - NATIONAL RESOURCES CONSERVATION SERVICE DATE

AS-BUILT
STATE OF MARYLAND
PROFESSIONAL ENGINEER
Robert M. Mochi 4/20/00
DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.
Robert M. Mochi 4-13-00
Signature of Developer DATE

ENGINEER'S CERTIFICATE
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.
Robert M. Mochi 4/14/00
Robert M. Mochi, P.E. DATE

Owner:
L. Earl & Mary T. Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Developer:
Orchard Development Corporation
ATTN: Mr. Scott Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Engineer:
R.M. Mochi Group, P.C.
10120A Old National Pike
Jamasville, MD. 21754-9706
(301) 865-5858

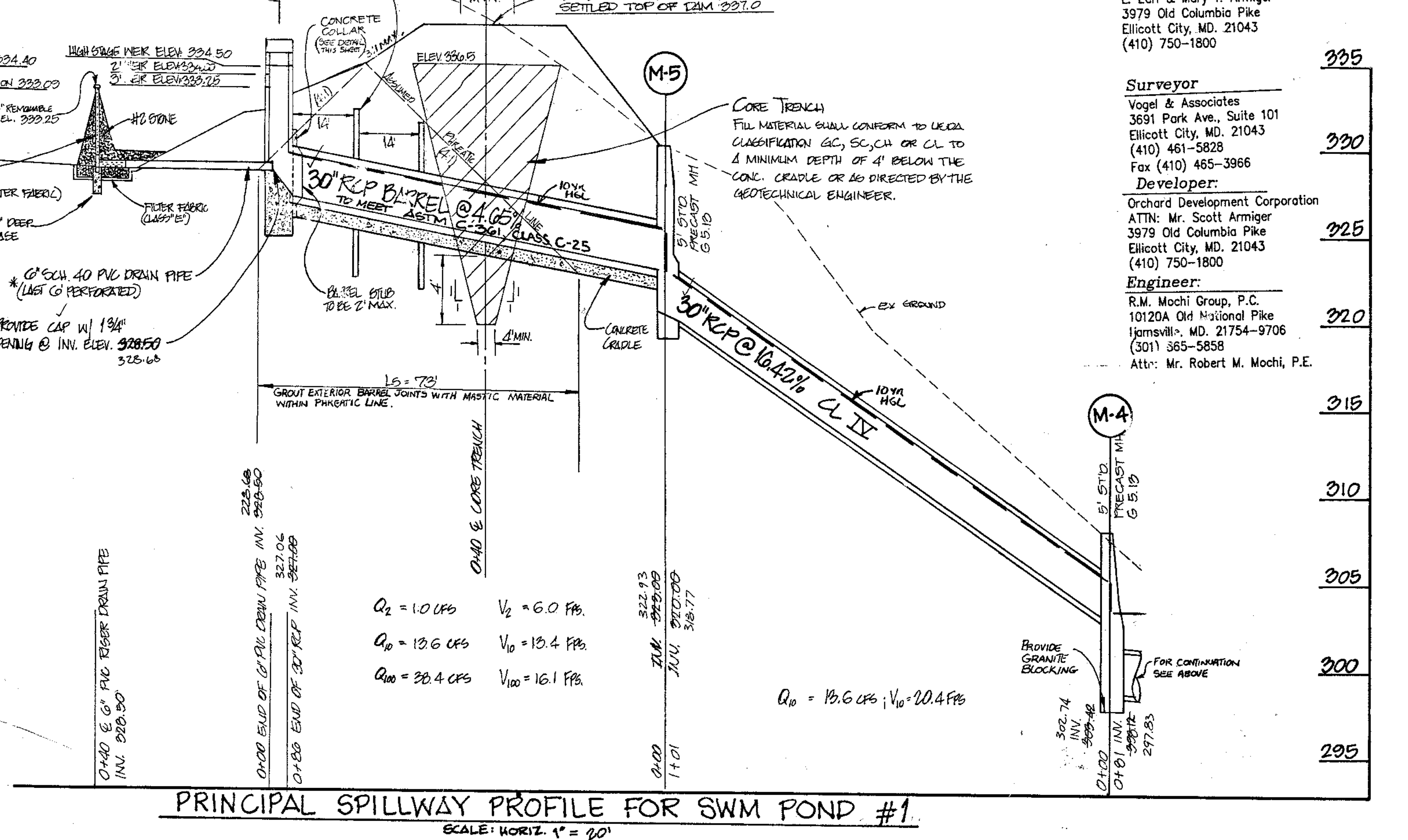
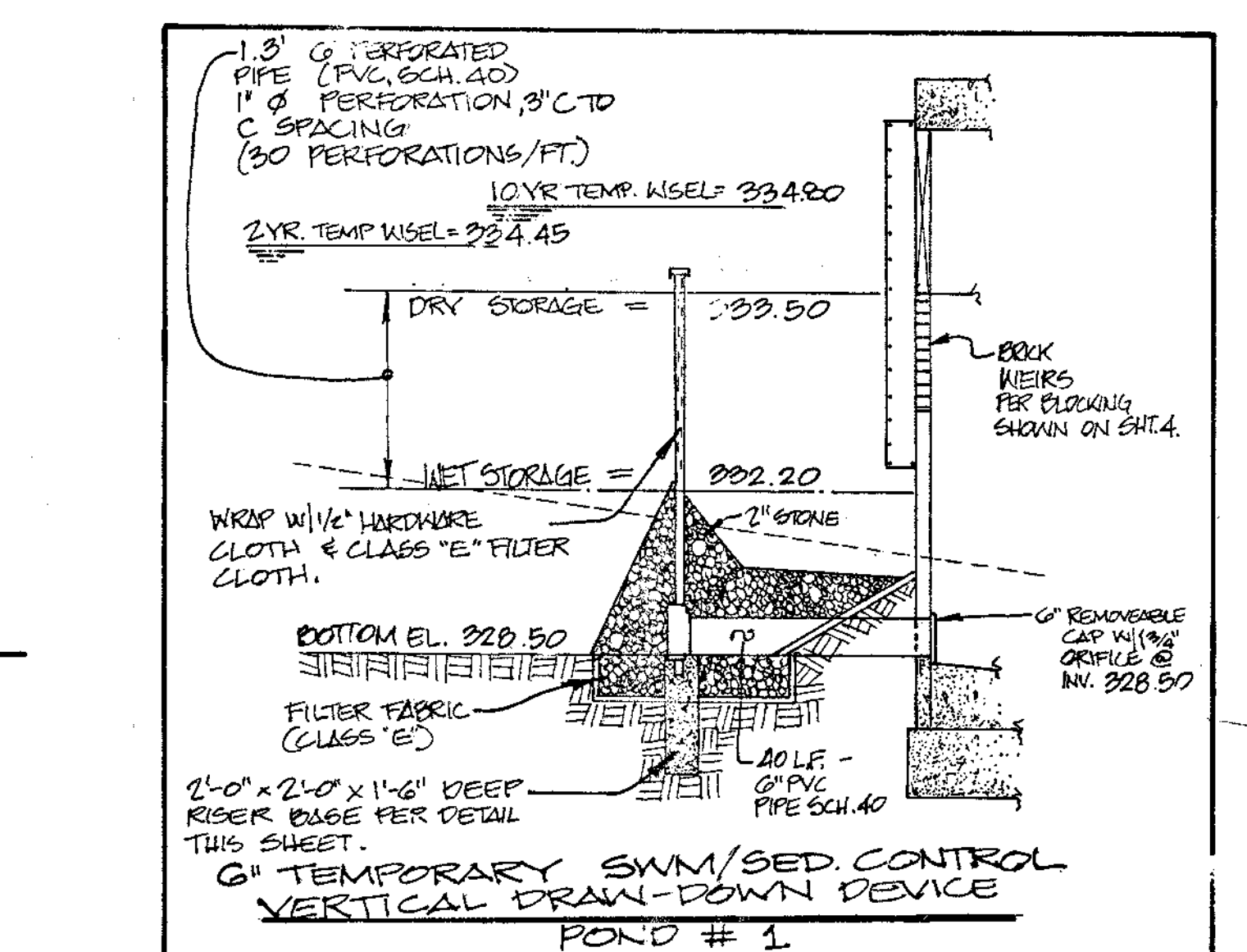
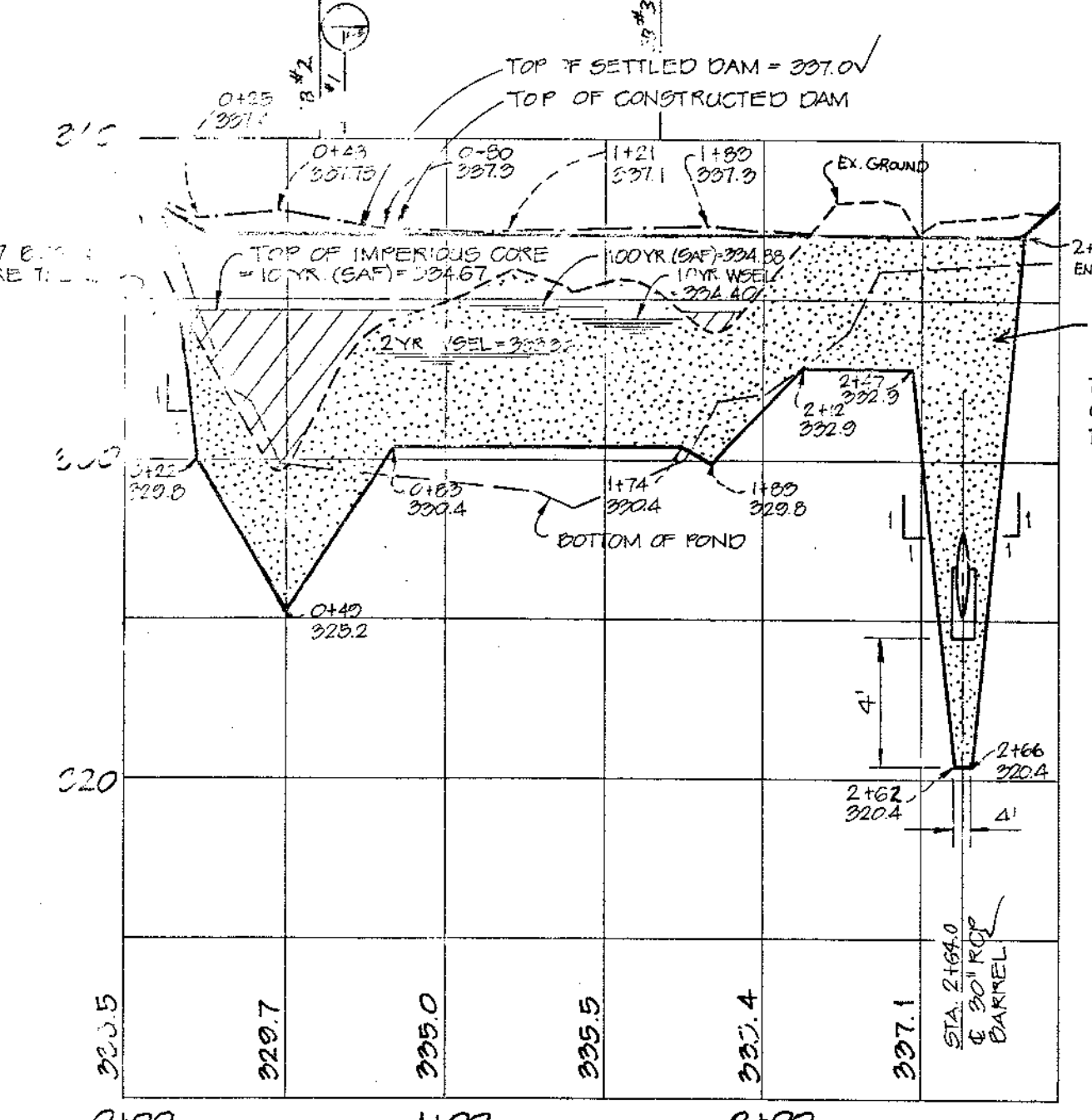
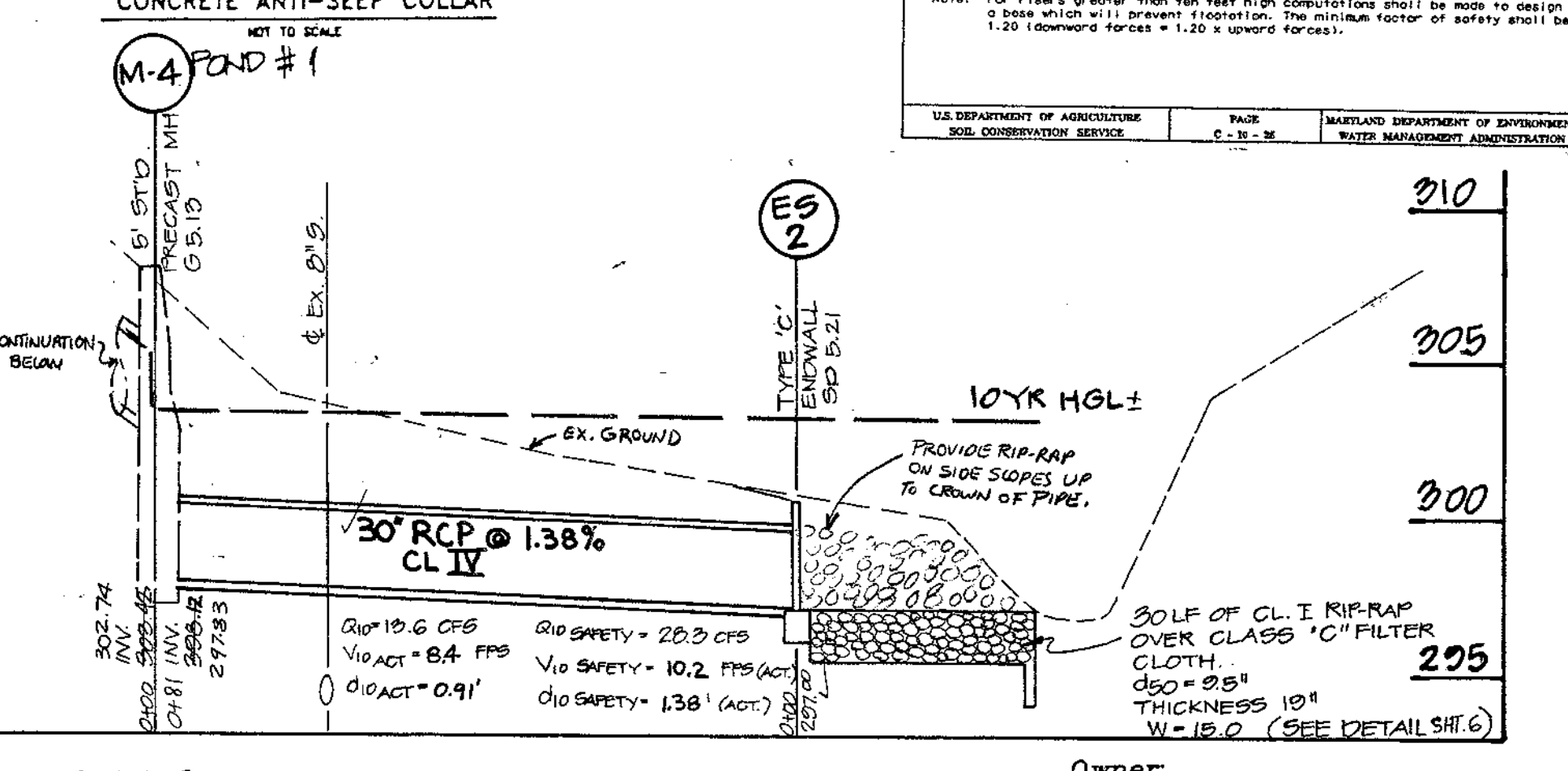
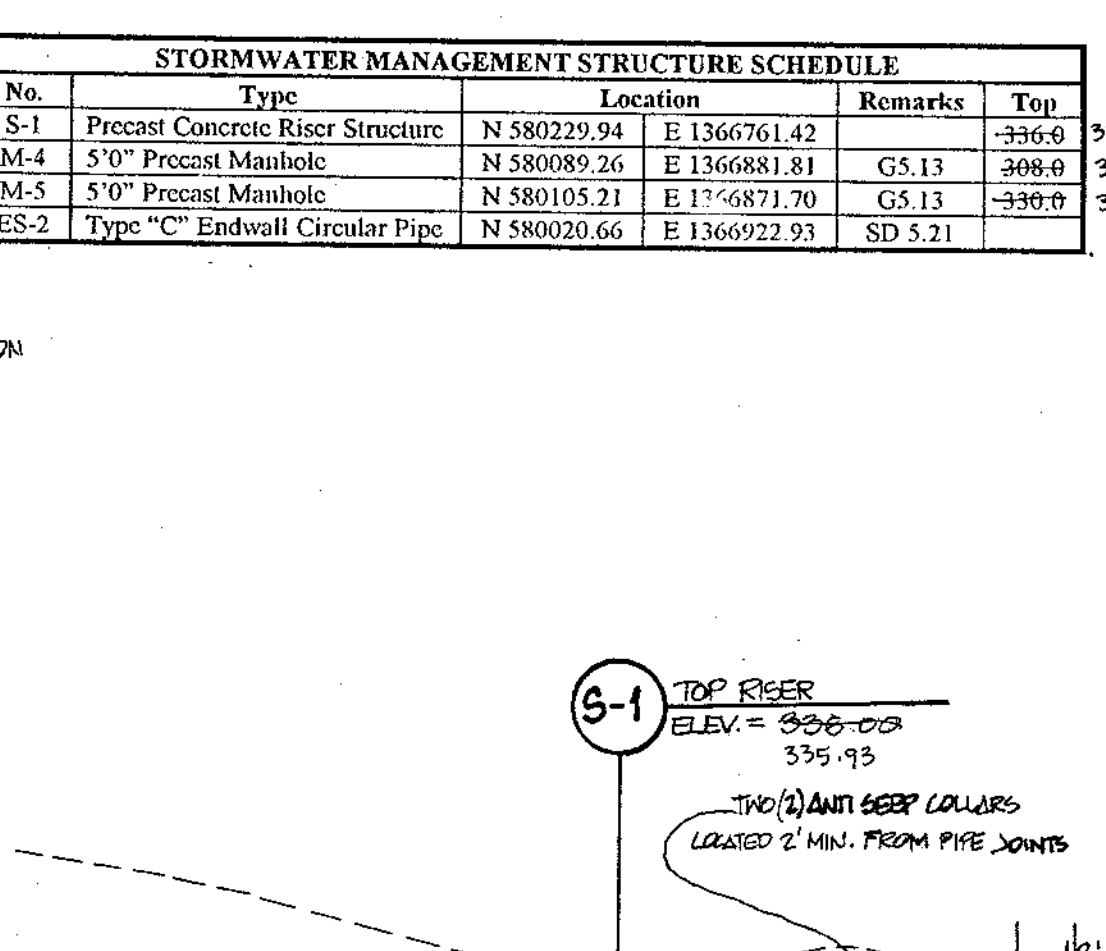
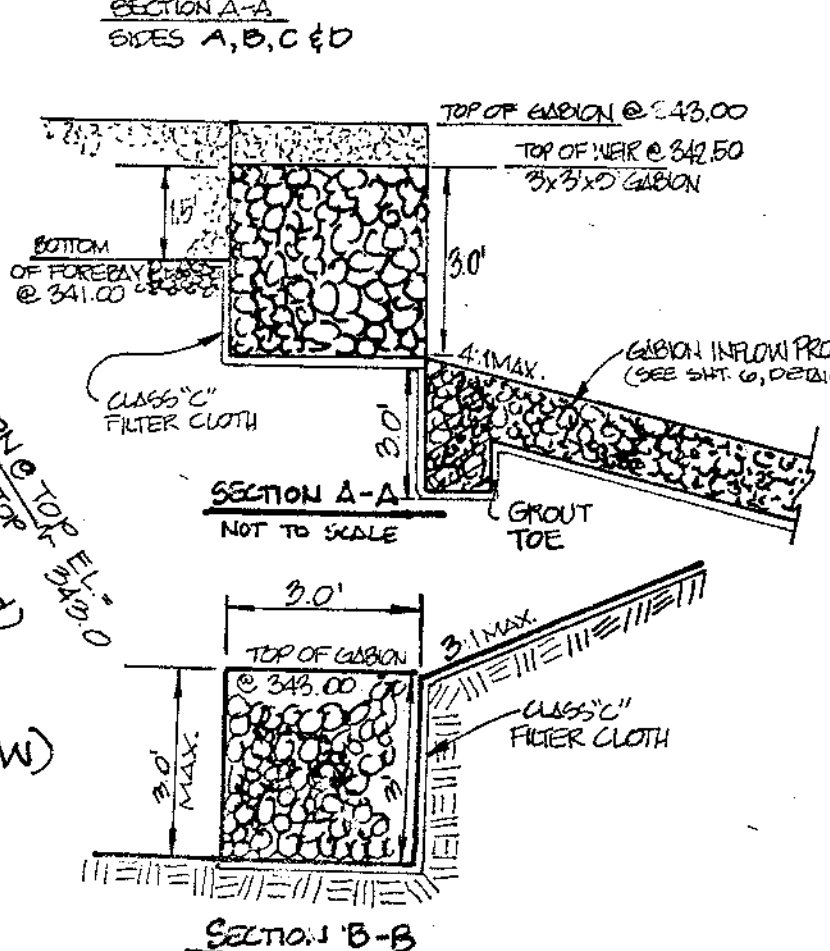
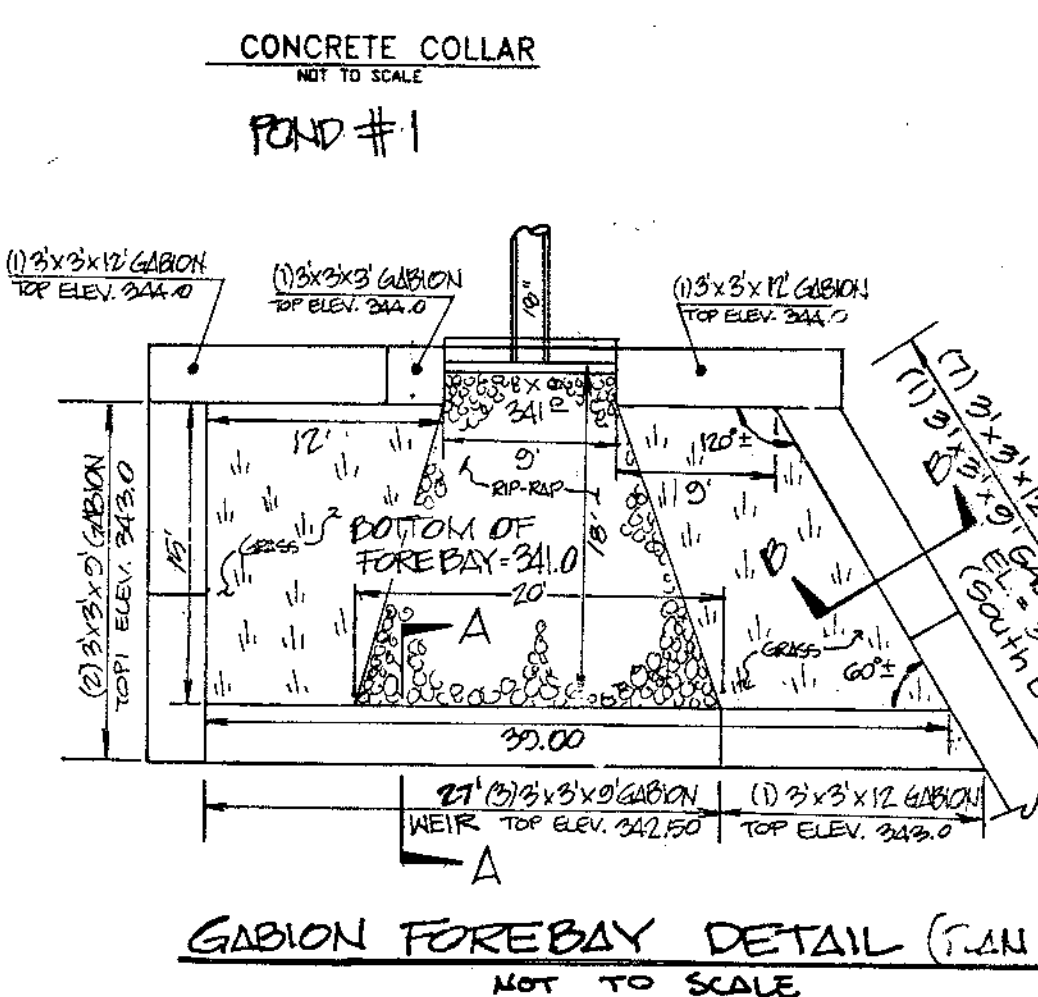
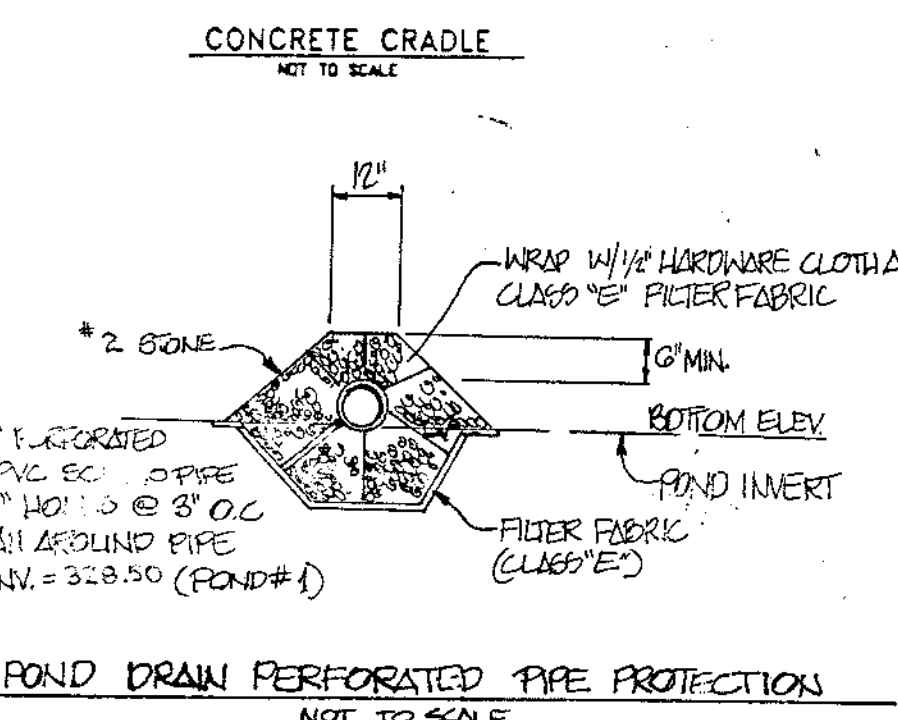
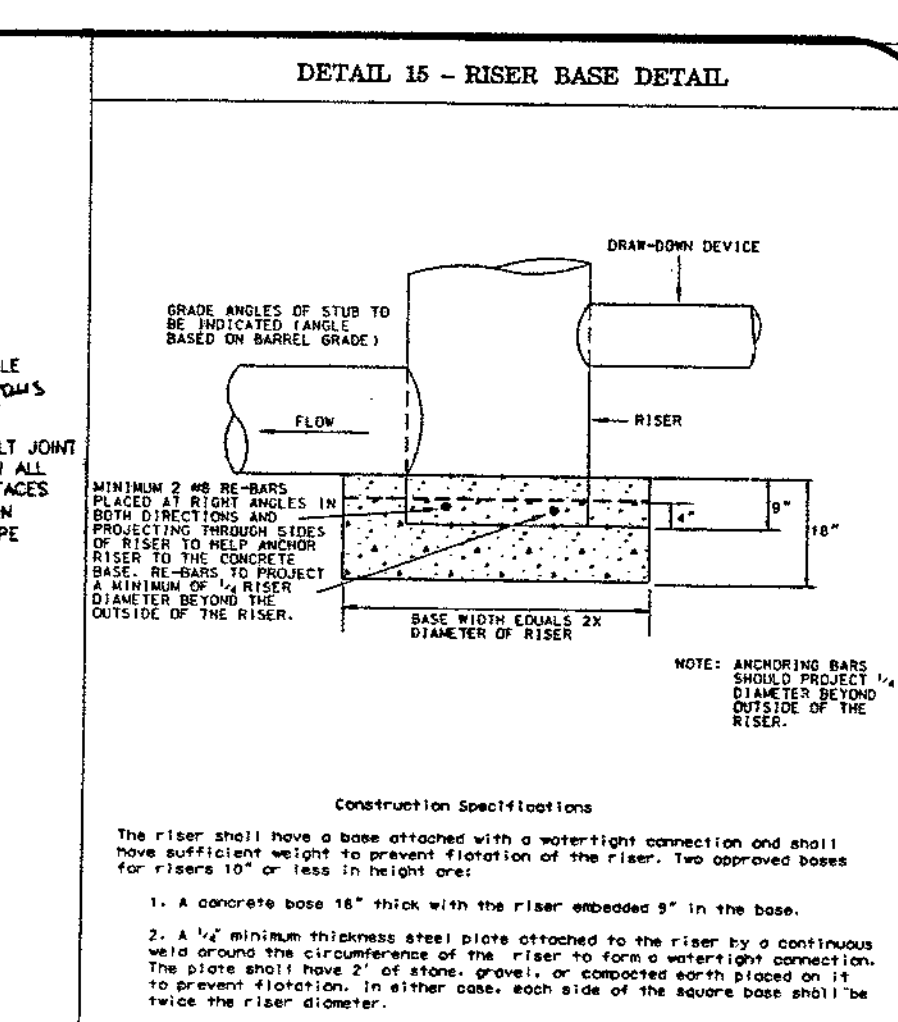
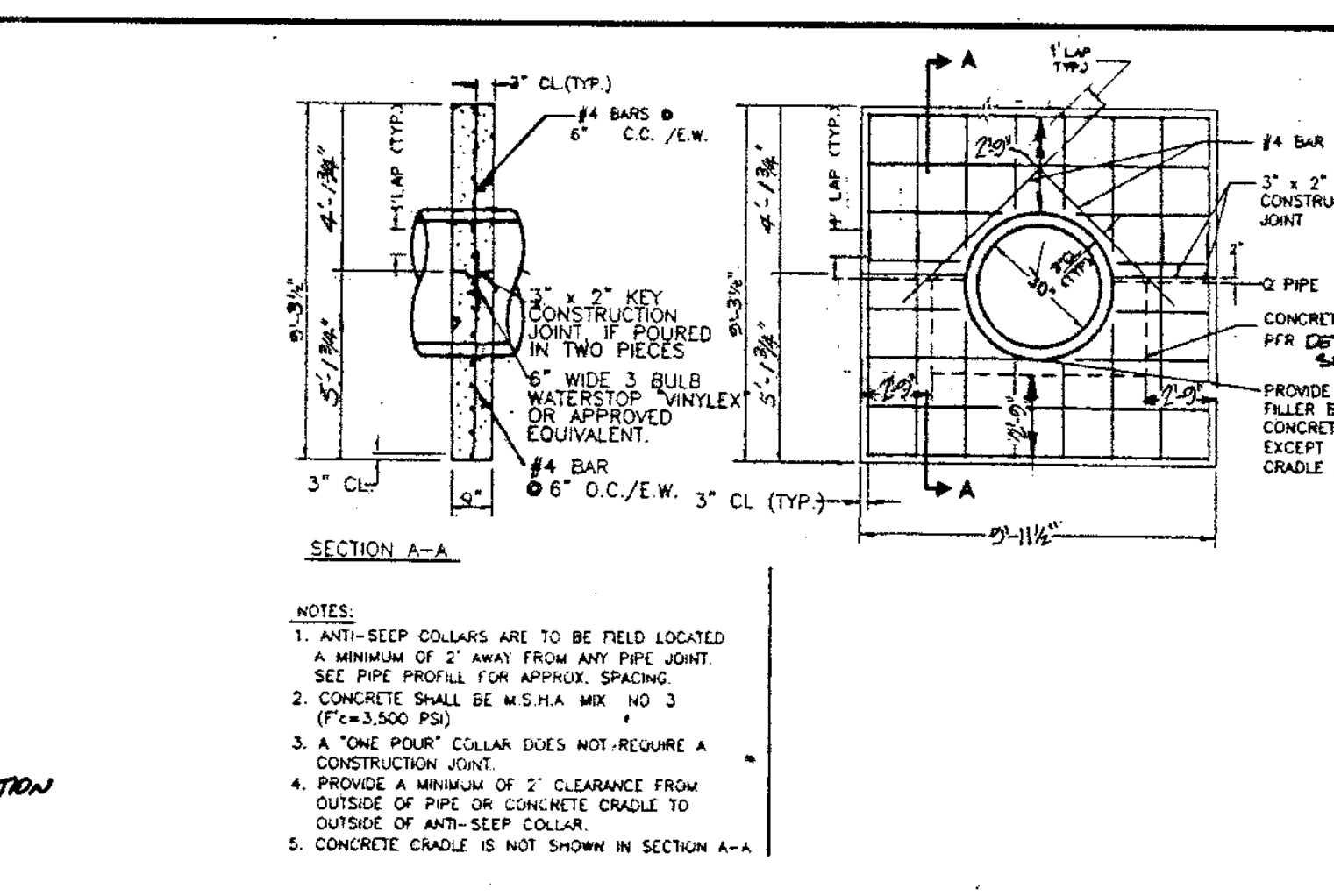
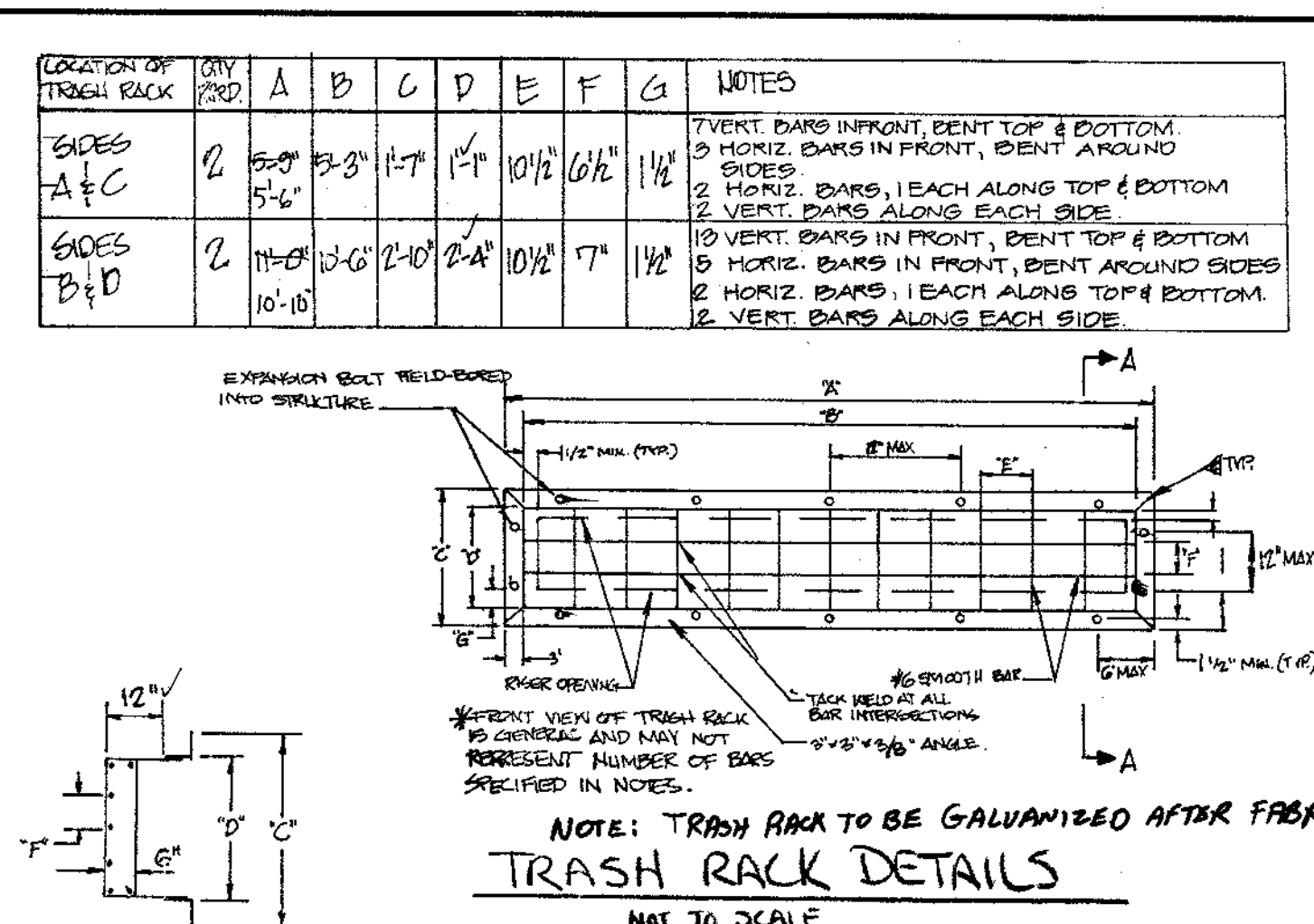
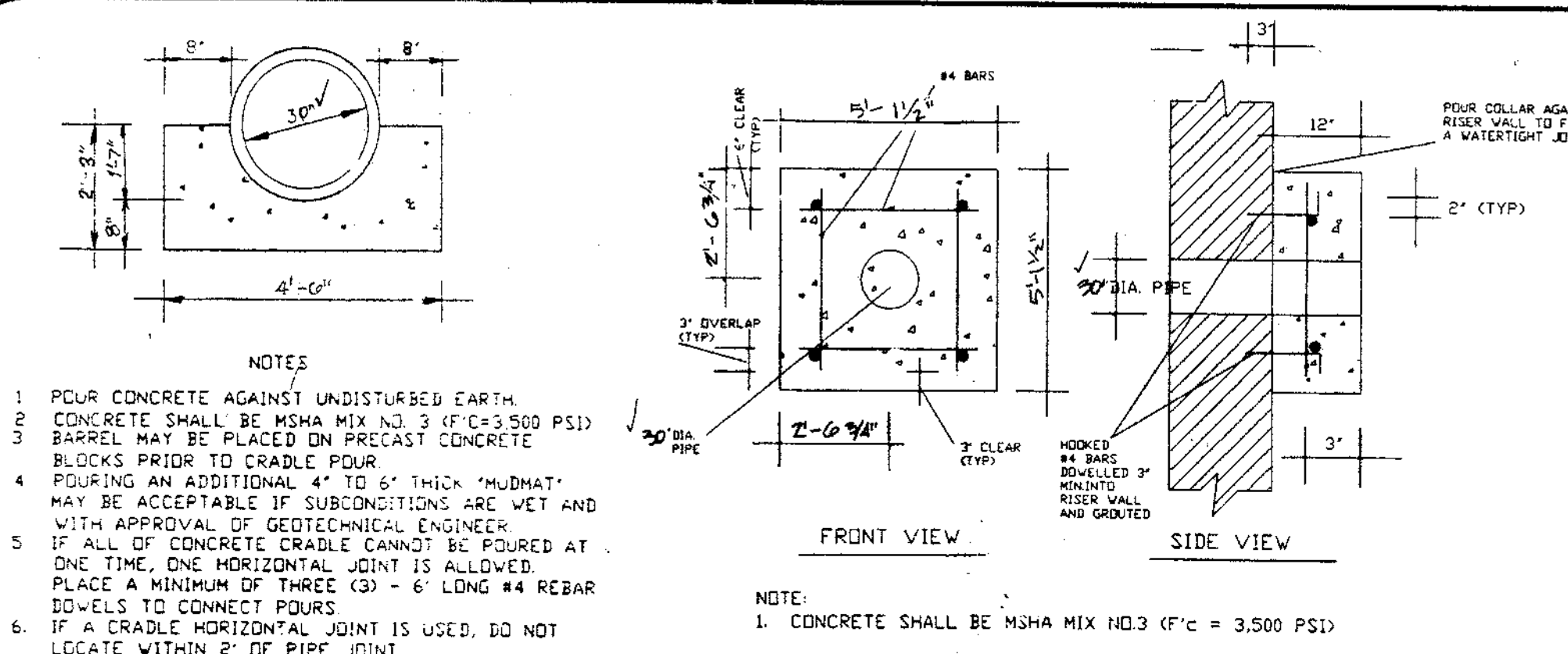
Surveyor:
Vogel & Associates
3691 Park Ave., Suite 101
Ellicott City, MD. 21043
(410) 461-5828
Fax (410) 465-3966

date	07-29-99	engineering	P.F.B.	approval	R.M.M.
project	99011.13	illustration	KMB	scale	1"=60'

5-24-00	REVISED PER JPC COMMENTS DATED 5/16/00
04-18-00	MYLARS SUBMITTED FOR SIGNATURES
02-03-00	DIRECT SUBMITTAL TO DPZ & DEED
11-08-99	REVISED SUBMITTAL PER HOWARD COUNTY COMMENTS
08-07-99	1ST SUBMITTAL TO HO. CO. DPZ FOR REVIEW
07-01-99	DATE
description	revisions

Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MD.
GRADING AND SEDIMENT CONTROL PLAN

R.M. MOCHI GROUP, P.C.
P.O. Box 10
New Market, MD 21774-0010
10750 A, Old National Pike
Jamasville, MD 21754-9706
(301) 865-5858
Fax: (301) 865-5111



PROFILE ALONG E TOP OF DAM
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.

PRINCIPAL SPILLWAY PROFILE FOR SWM POND #1
SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew W. Pauley
CHIEF, BUREAU OF HIGHWAYS
4-25-00

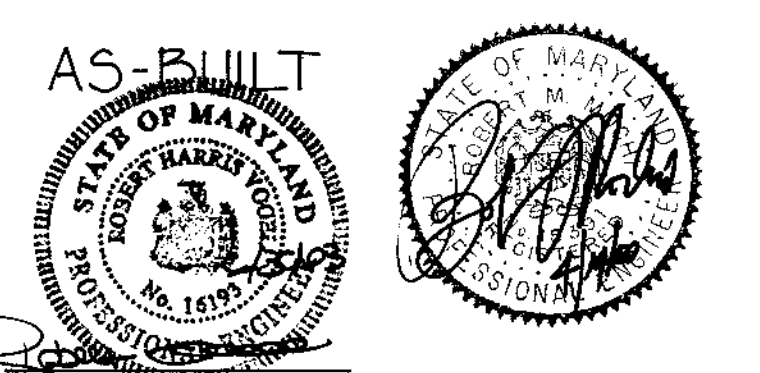
HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cathy Hamilton
CHIEF, DIVISION OF LAND DEVELOPMENT
6/6/00

APPROVED:
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Yakov A. [Signature]
HOWARD SOIL CONSERVATION DISTRICT
4/20/00

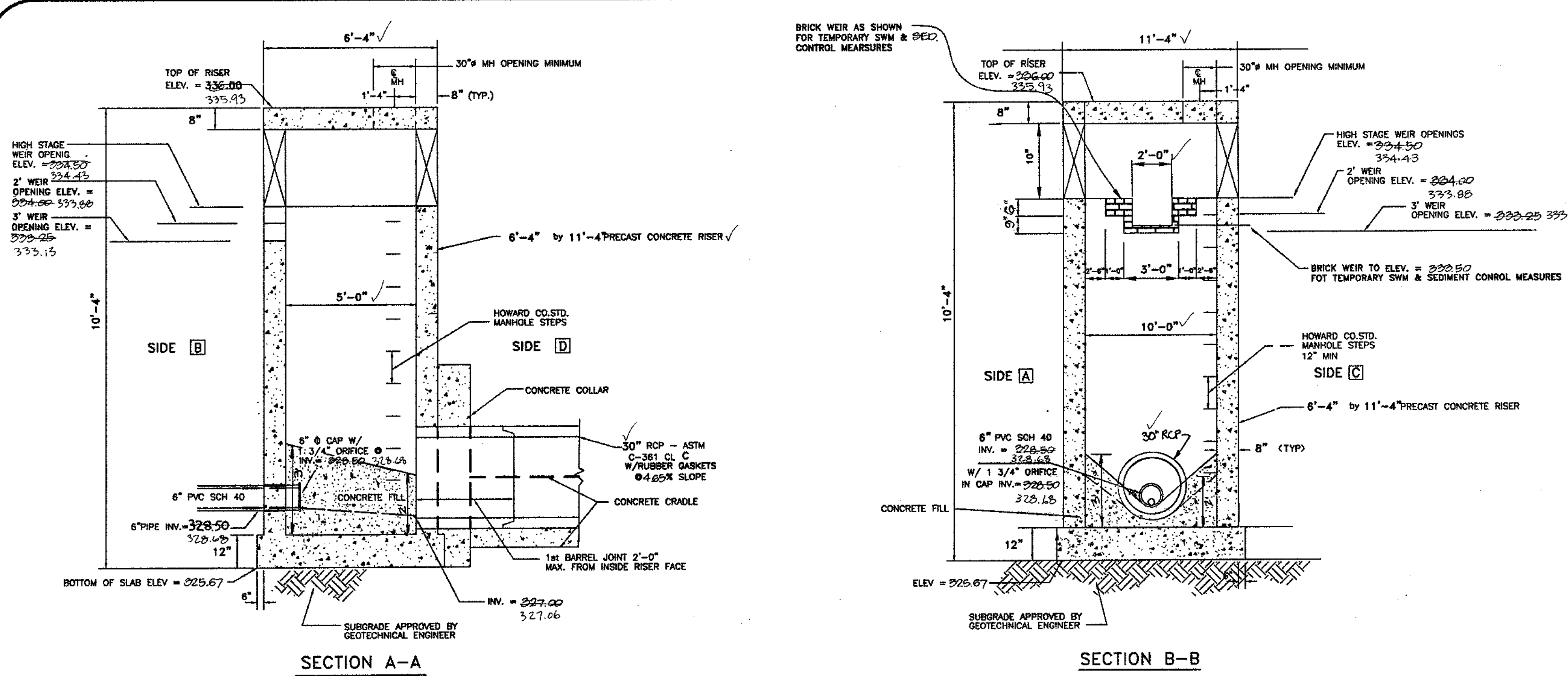
APPROVED:
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Charles Simon / GS
USDA - NATIONAL RESOURCES CONSERVATION SERVICE
9/20/00

DEVELOPER'S CERTIFICATE
I certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this project will have a certificate of attendance at a Department of the Environment approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic onsite inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.
ZS [Signature]
Signature of Developer
4-13-00
DATE

ENGINEER'S CERTIFICATE
I hereby certify that this plan for erosion and sediment control represents a practical and workable plan, based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.
Robert M. Mochi, P.E.
Robert M. Mochi, P.E.
4/16/00
DATE



Project 980113
Illustration G.E.M.
Scale as shown
Date 2/6/00
Revision 1
Description MILL TOWNE OVERLOOK
NO. 2
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MD.
S.W.M. PROFILES AND DETAILS
3 OF 10
F-00-14



DESIGN Storm	WSEL	AS BUILT
EXT. DETENTION	322.09	
2 YEAR	322.26	
10 YEAR (ULT.)	324.40	
100 YEAR (ULT.)	324.88	

STORMWATER MANAGEMENT POND MAINTENANCE SCHEDULE (H.O.A.)

ROUTINE MAINTENANCE
FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.

TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE REVIEWED BY AN ENGINEER AND APPROVED BY HOWARD COUNTY PRIOR TO FABRICATION.

IF ANY DIMENSIONS ARE CHANGED OR REDUCED, REVISED ANTI-EROSION COMPUTATION MUST BE SUBMITTED WITH THE SHOP DRAWINGS TO HOWARD COUNTY FOR APPROVAL.

TRASH RACKS ARE NOT SHOWN IN THIS VIEW FOR CLARITY.

THE RISER STRUCTURE SHOWN IS NOT TO SCALE. SEE THIS SHEET FOR ACTUAL DIMENSIONS.

CAST FRAME (30" DIAM MIN. OPENING) INTO TOP SLAB (MINIMUM 18" THICK) IN RC OR APPROVED EQUIVALENT). PROVIDE BOLTABLE FRAME AND COVER WITH (3) 1/2" DIA. BOLTS HORIZONTALLY AND (3) 1/2" DIA. BOLTS VERTICALLY. 5/8" DIA. STAINLESS STEEL BOLTS SPACED AT 120."

REMOVAL OF SILT WHEN ACCUMULATION EXCEEDS SIX (6) INCHES IN BASINS WITHOUT FOREBAYS. IN BASINS WITH FOREBAYS, REMOVAL OF SILT SHALL OCCUR WHEN THE ACCUMULATION EXCEEDS FOUR (4) INCHES IN THE FOREBAY.

REMOVAL OF ACCUMULATED PAPER, TRASH AND DEBRIS AS NECESSARY.

VEGETATION GROWING ON THE EMBANKMENT TOP AND FACES IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANY TIME.

ANNUAL INSPECTION AND REPAIR OF THE STRUCTURE. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME AN EXTENDED DETENTION BASIN DOES NOT DRAIN THE EQUIVALENT OF THE WATER QUANTITY VOLUME WITHIN 60 HOURS (I.E., NO STANDING WATER IS ALLOWED).

CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME THE FOREBAY DOES NOT DRAIN COMPLETELY WITHIN 60 HOURS (I.E., NO STANDING WATER ALLOWED).

RISER STRUCTURE GENERAL NOTES:

I. PRECAST RISER AND TOP SLAB TO BE MANUFACTURED AND SUPPLIED BY FREDERICK PRECAST CONCRETE, INC. OR APPROVED EQUIVALENT.

II. SHOP DRAWINGS FOR RISER AND TOP SLAB MUST BE REVIEWED BY AN ENGINEER AND APPROVED BY HOWARD COUNTY PRIOR TO FABRICATION.

III. STRUCTURE BACKFILL
BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE DEPTH OF THE TRENCH SHALL BE FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT TO MAINTAIN THE REQUIRED PERMEABILITY.

ADDITIONAL MAINTENANCE REQUIREMENTS (H.O.A.)

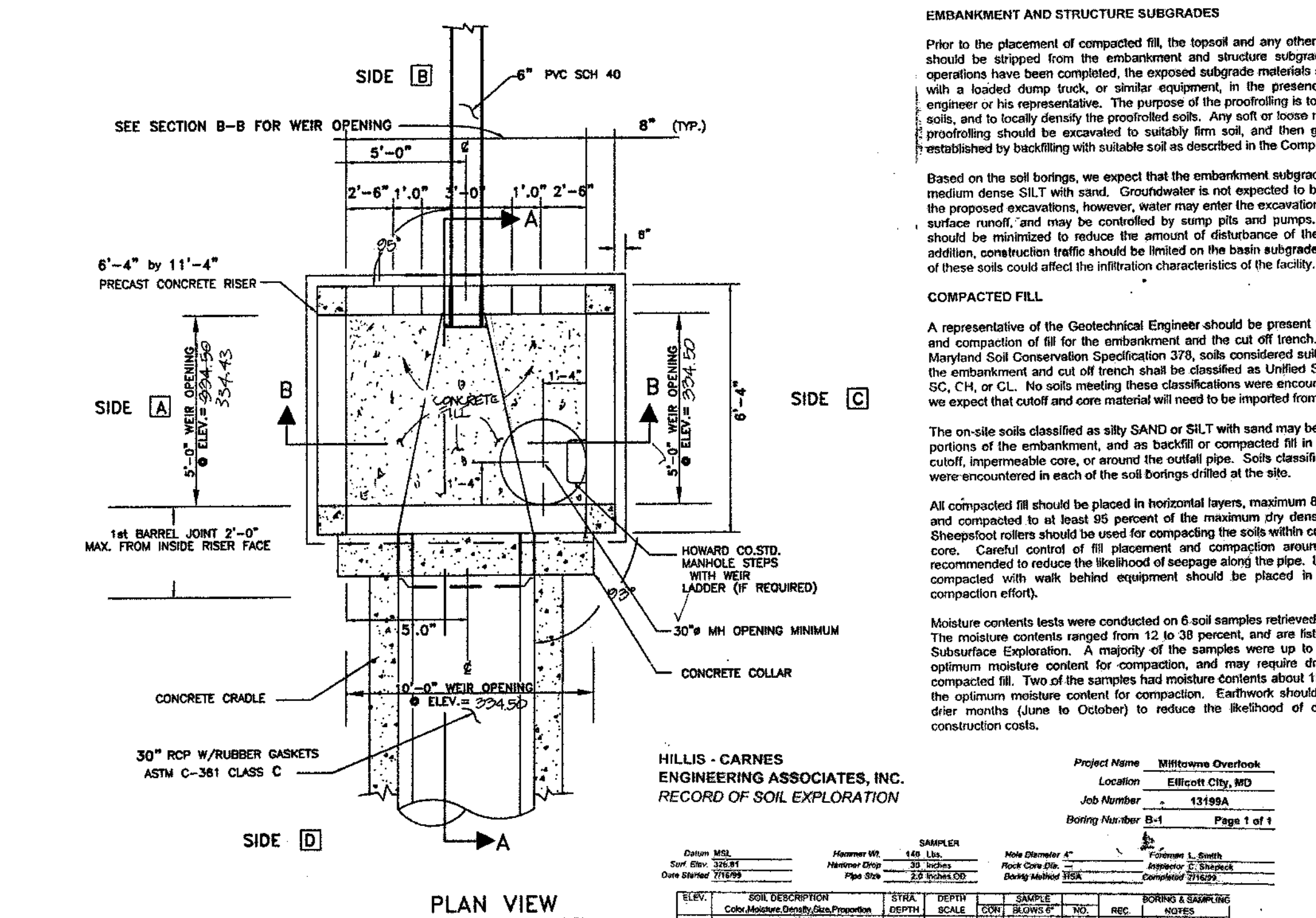
I. REMOVAL OF SILT WHEN ACCUMULATION EXCEEDS SIX (6) INCHES IN BASINS WITHOUT FOREBAYS. IN BASINS WITH FOREBAYS, REMOVAL OF SILT SHALL OCCUR WHEN THE ACCUMULATION EXCEEDS FOUR (4) INCHES IN THE FOREBAY.

II. CARE OF WATER DURING CONSTRUCTION
ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE WORK FROM INTERFERENCE BY WATER. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER PROTECTIVE WORKS REQUIRED TO MAINTAIN THE VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LOEDED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR THROUGH THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PART OF THE WORK. THE REMOVAL OF THE STRUCTURE, STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PART OF THE WORK. THE REMOVAL OF THE STRUCTURE, STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PART OF THE WORK. THE REMOVAL OF THE STRUCTURE, STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PART OF THE WORK.

RUNOFF SUMMARY TABLE - MILL TOWNE OVERLOOK

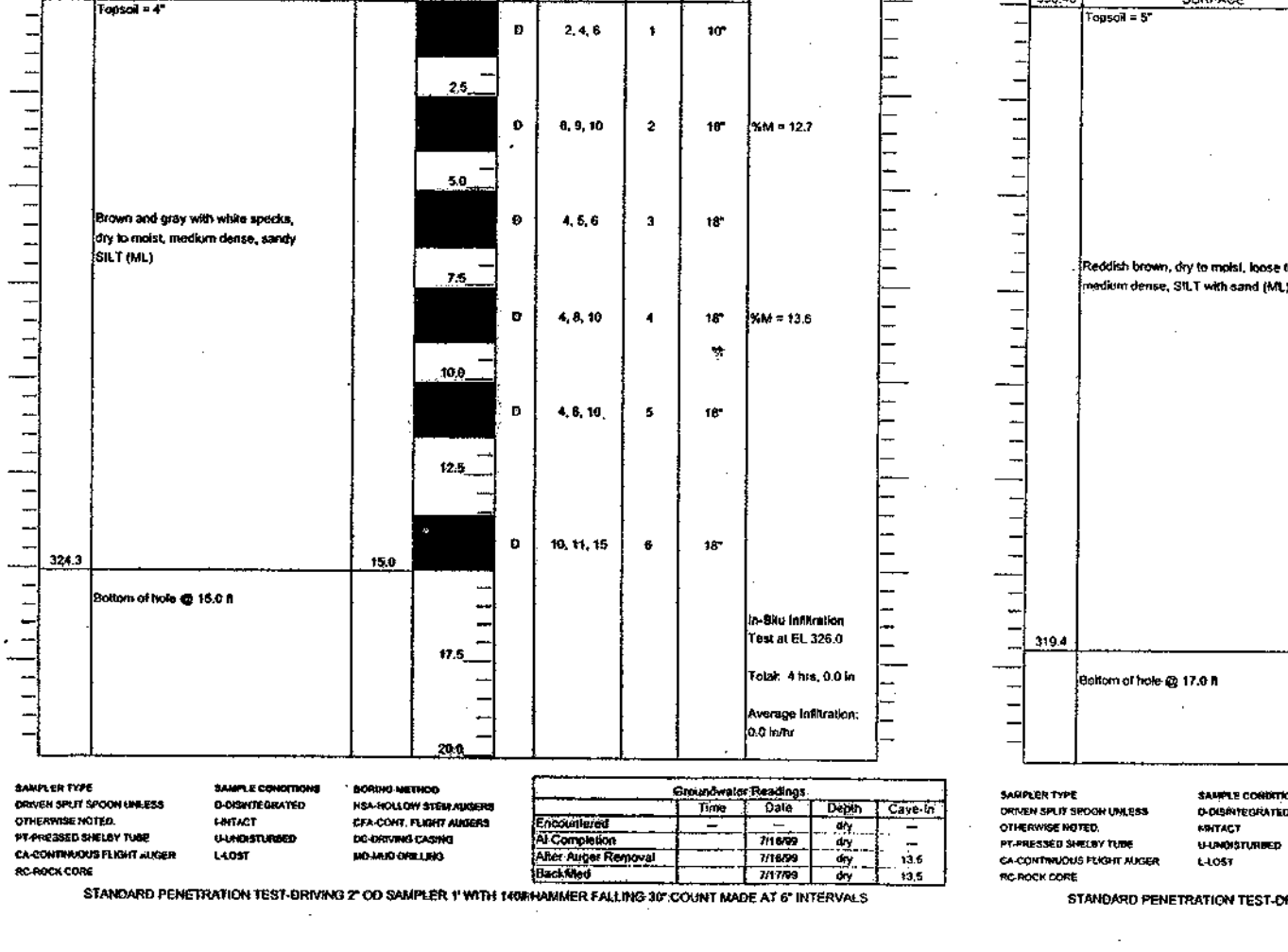
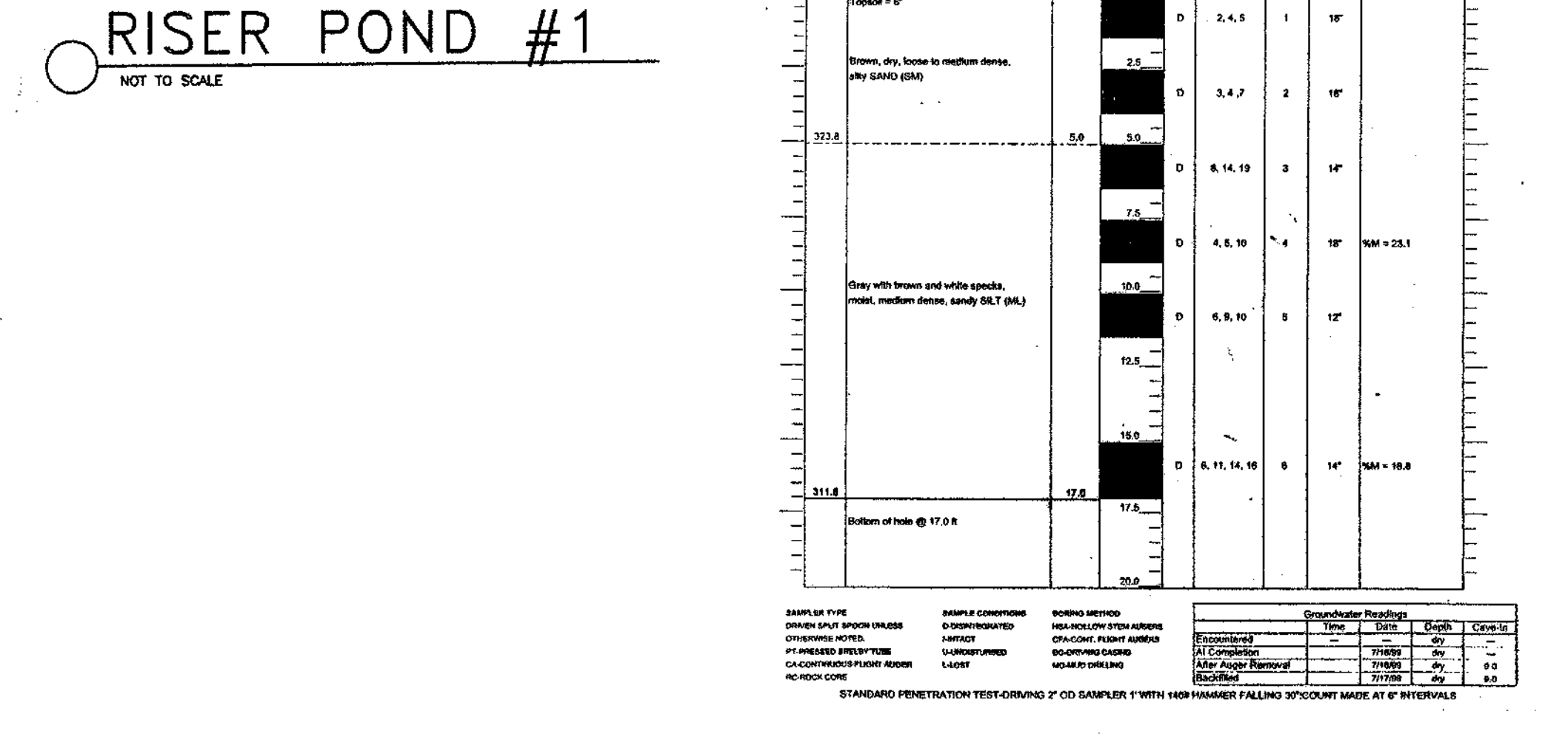
DRAINAGE AREA (ACRES)	EXISTING DISCHARGE (CFS)	PROPOSED DISCHARGE (CFS)	POND ELEV. STORAGE (FT)
0.1	3.05	1.15	N/A
0.2	3.05	1.15	10.9
0.3	3.05	1.15	10.9
0.4	3.05	1.15	10.9
0.5	3.05	1.15	10.9

DRAINAGE AREA (ACRES)	EXISTING DISCHARGE (CFS)	PROPOSED DISCHARGE (CFS)	POND ELEV. STORAGE (FT)
1.0	4.45	6.35	6.1
2.0	4.45	6.35	14.2
3.0	4.45	6.35	24.2
4.0	4.45	6.35	24.2
5.0	4.45	6.35	24.2



SOIL EXPLORATION RECORDS

PROJECT NAME	LOCATION	JOB NUMBER	BORING NUMBER	DATE
Milltowne Overlook	Elliott City, MD	13198A	B-1	6/5/10
Milltowne Overlook	Elliott City, MD	13198A	B-2	6/5/10
Milltowne Overlook	Elliott City, MD	13198A	B-3	6/5/10



AS-BUILT RECORDS

PROJECT NAME	LOCATION	JOB NUMBER	BORING NUMBER	DATE
Milltowne Overlook	Elliott City, MD	13198A	B-1	6/5/10
Milltowne Overlook	Elliott City, MD	13198A	B-2	6/5/10
Milltowne Overlook	Elliott City, MD	13198A	B-3	6/5/10

STORMWATER MANAGEMENT CONSTRUCTION SPECIFICATIONS SCS MD - 378 NOV. 1992

- REINFORCED CONCRETE PIPE SHALL BE MANUFACTURED AND SUPPLIED BY FREDERICK PRECAST CONCRETE, INC. OR APPROVED EQUIVALENT.
- CONCRETE PIPE SHALL BE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM DESIGNATION C-361.
- REINFORCED CONCRETE PIPE JOINTS SHALL BE LAP IN A CONCRETE BEDDING FOR THEIR ENTIRE LENGTH. THE BEDDING SHALL BE MADE OF HIGH STRENGTH CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST ONE INCH OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 3 INCHES, OR AS SHOWN ON THE DRAWINGS.
- BACKFILL SHALL CONFORM TO "STRUCTURE BACKFILL" (NO. 18 ABOVE).
- OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE SHOWN ON THE DRAWINGS.
- OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE SHOWN ON THE DRAWINGS.

- CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 608, MIX NO. 3.
- ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 605.
- THE RIPRAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE RIPRAP SHALL BE DELIVERED AND PLACED IN MANNEER THAT WILL INSURE THE RIPRAP IS PLACED AS THICKLY AS POSSIBLE. THE RIPRAP SHALL BE UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SMALLER ROCKS PLACING THE Voids BETWEEN THE LARGER ROCKS. FILTER CLOTH SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 919.12.
- CARE OF WATER DURING CONSTRUCTION
- ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE WORK FROM INTERFERENCE BY WATER. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER PROTECTIVE WORKS REQUIRED TO MAINTAIN THE VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LOEDED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR THROUGH THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PART OF THE WORK. THE REMOVAL OF THE STRUCTURE, STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PART OF THE WORK. THE REMOVAL OF THE STRUCTURE, STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PART OF THE WORK.
- STABILIZATION
- ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN SLOPE TO STABILIZE. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPILL AND BORROW AREAS, AND BEAMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE MARYLAND SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.
- EROSION AND SEDIMENT CONTROL
- CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.

Surveyor
Vogel & Associates
3631 Park Ave., Suite 101
Elliott City, MD. 21043
(410) 481-5828
Fax (410) 465-3966

Owner:
L. Earl & Mary T. Armiger
3979 Old Columbia Pike
Elliott City, MD. 21043
(410) 750-1800

Developer:
Orchard Development Corporation
ATTN: Mr. Scott Armiger
3979 Old Columbia Pike
Elliott City, MD. 21043
(410) 750-1800

Engineer:
R.M. Mochi Group, P.C.
10120A Old National Pike
Ijamesville, MD. 21754-9706
(301) 865-8588
Attn: Mr. Robert M. Mochi, P.E.

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
6/5/10
DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
6/5/10
DATE

APPROVED:
HOWARD SOIL CONSERVATION DISTRICT
6/5/10
DATE

APPROVED:
USDA - NATURAL RESOURCES CONSERVATION SERVICE
6/26/10
DATE

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done according to these plans, and that my personal and professional liability insurance shall cover the construction project. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

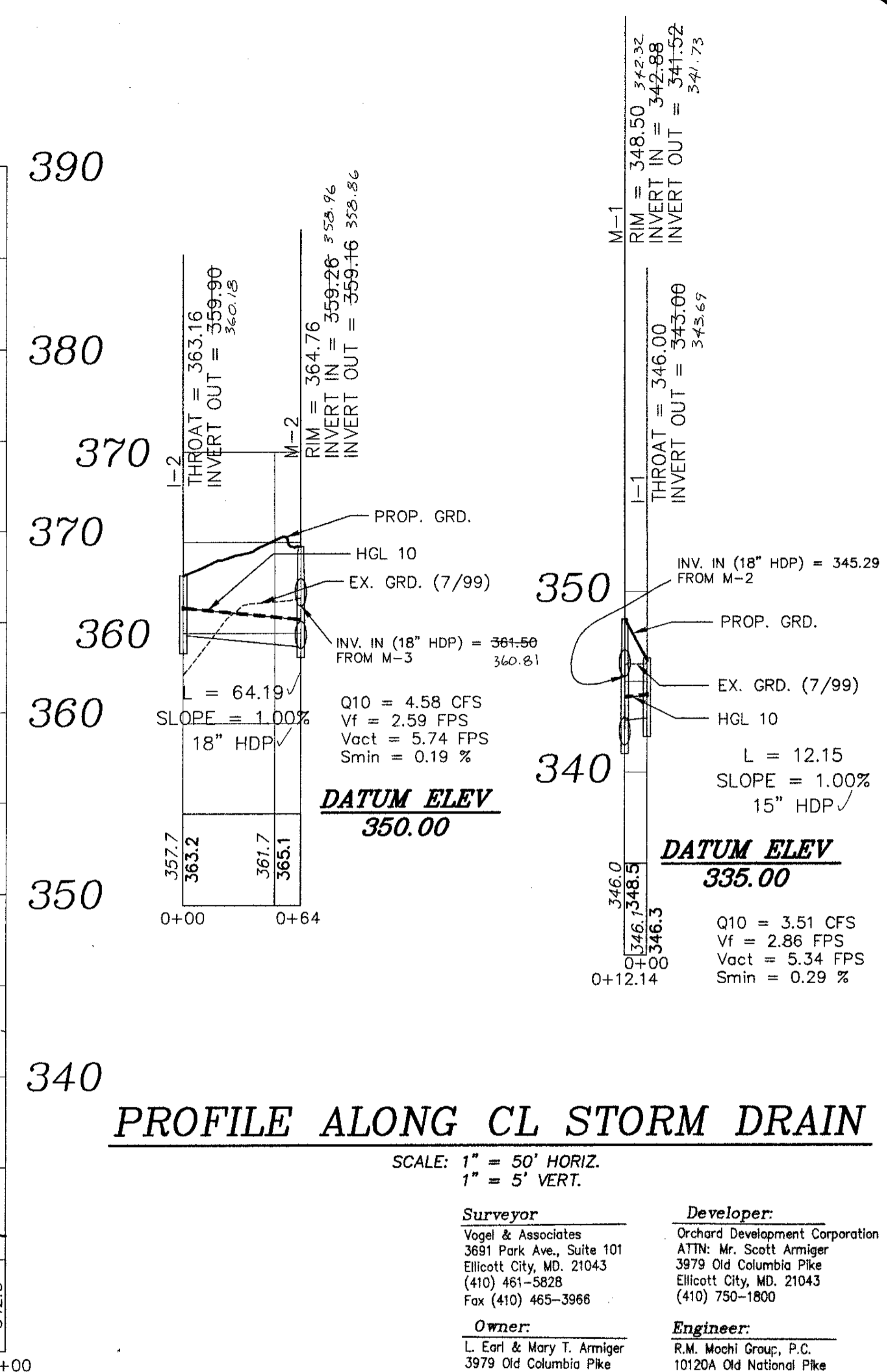
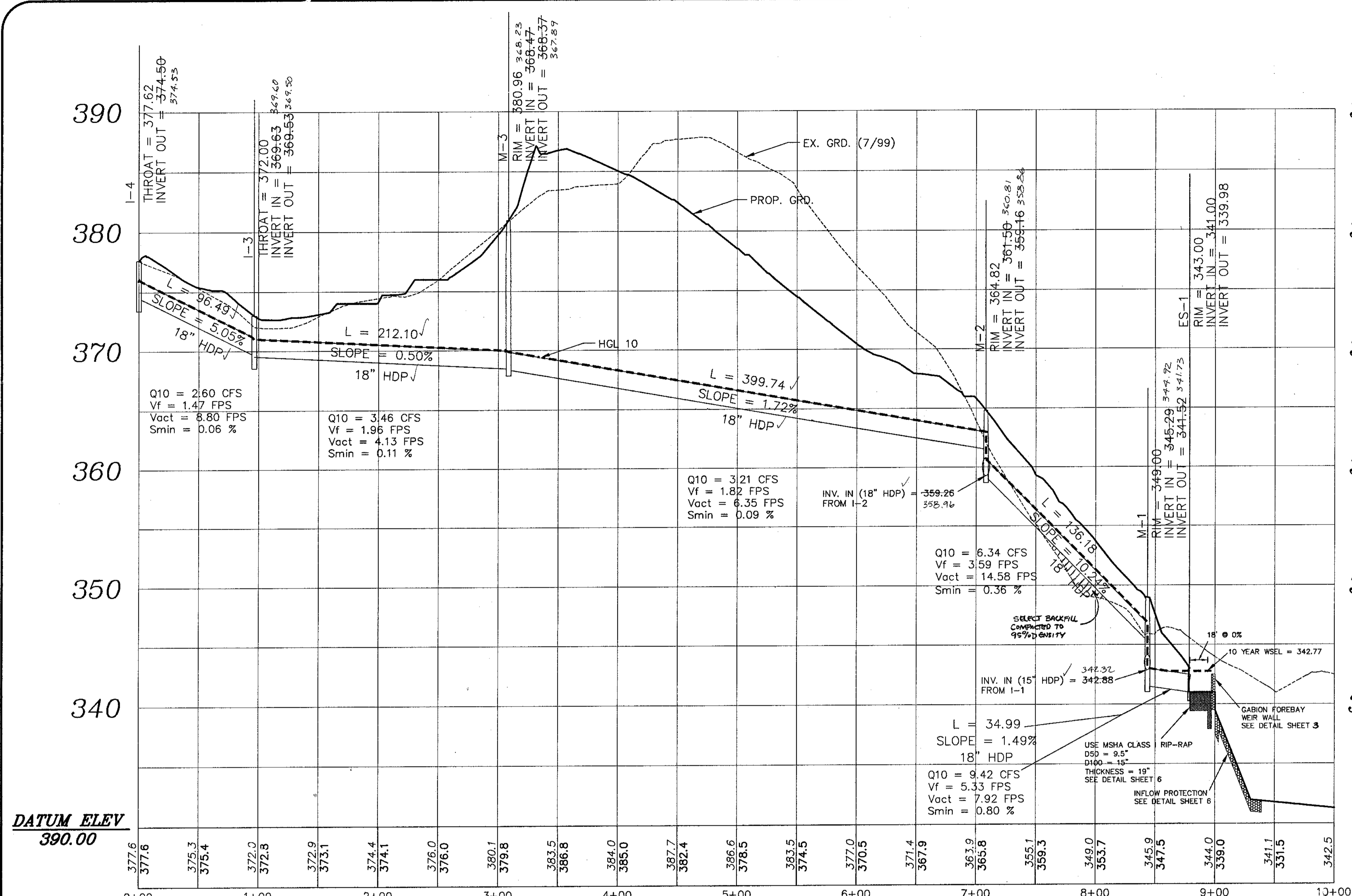
ENGINEER'S CERTIFICATE
I certify that this plan for pond construction, erosion and sediment control represents a practical and reliable design on my personal and professional liability insurance. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Project: 990113
Date: 08/99
Approved: PFB
Illustration: GEM
Scale: AS SHOWN
Revisions: 2
Date: 10-09-99
Submitted: 10-09-99
Checked: 10-09-99
Reviewed: 10-09-99
Submitted: 10-09-99

Tax Map 25, Grid 19, Parcel 220
MILL TOWNE OVERLOOK
SWM - PROFILE & DETAILS
HOWARD COUNTY, MD
ELECTION DISTRICT 2
RM MOCHI GROUP, P.C.
10120A Old National Pike
Ijamesville, MD 21754-9706
(301) 865-8588
Fax: (301) 865-3777

4 OF 10
F-00-14

BASE DWG. = J:\99011-00\99011-13\99011BAS.DWG Sheet Manager = J:\99011-13\13.ctb (AutoCAD) Wed Jun 23 10:00:00 AM 2004



STORM DRAIN DRAINAGE AREAS

Subarea (B)	Zoning (Z)	Area (ac) (A)	Area (sq mi) (A)	"C" Factor (C)	% Impervious (P)	T _c (hr)
I-1	3.6% R-ED 96.4% R-20	1.97	0.0031	0.32	23.9	0.23
I-2	R-ED	1.19	0.0019	0.56	67.6	0.15
I-3	R-ED	0.41	0.0006	0.38	65.0	0.10
I-4	R-ED	1.13	0.0018	0.35	26.7	0.17

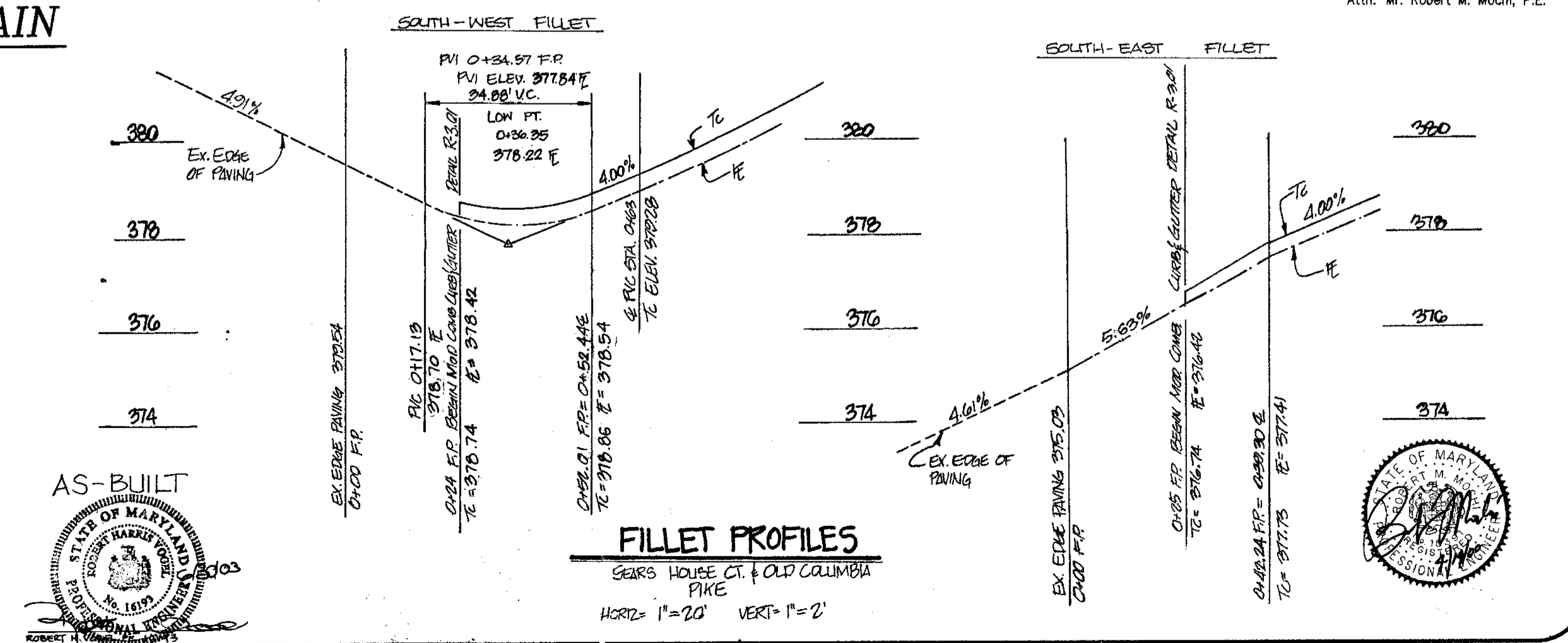
STORM DRAIN STRUCTURE SCHEDULE

No.	Type	Location	Remarks
I-1	Precast Open End Grate	N 580429.54 E 1366695.35	SD 4.36
I-2	Precast Standard Type "A-10" Inlet	STA. 1+61.66 O/S 1.85 L	SD 4.41
I-3	Precast Standard Type "D" Inlet	N 581059.06 E 1366289.69	SD 4.39
I-4	Precast Standard Type "A-10" Inlet	STA. 0+47.33 O/S 12.76 L	SD 4.41
M-1	4'0" Precast Manhole	N 580423.22 E 1366682.16	G5.12
M-2	4'0" Precast Manhole	N 580538.92 E 1366612.54	G5.12
M-3	4'0" Precast Manhole	N 580877.04 E 1366398.59	G5.12
ES-1	Type "C" Endwall Circular Pipe	N 580388.28 E 1366683.74	SD 5.21

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daulton 4-25-00
 CHIEF, BUREAU OF HIGHWAYS MS DATE

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamlett 6/5/04
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Williams 5/5/00
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



STORM DRAIN PROFILES

Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
 HOWARD COUNTY, MARYLAND
 ELECTION DISTRICT No. 2

project 99011.19 date 07-27-99
 illustration JMK
 scale As Shown
 approval RMM

2/10/04
 08-01-99
 343.67

no. 4
 description
 revisions

Developer:
 Orchard Development Corporation
 ATTN: Mr. Scott Amiger
 3691 Park Ave., Suite 101
 Ellicott City, MD, 21043
 (410) 461-5828
 Fax (410) 465-3966

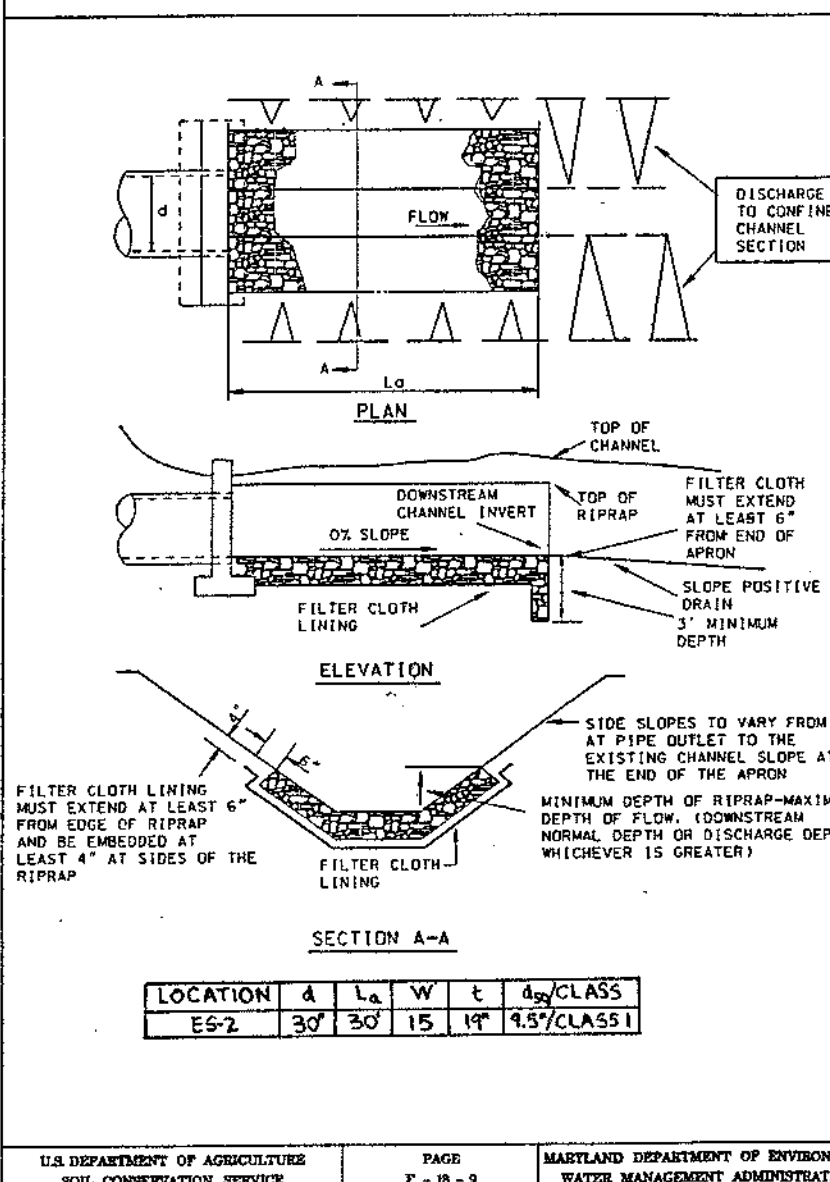
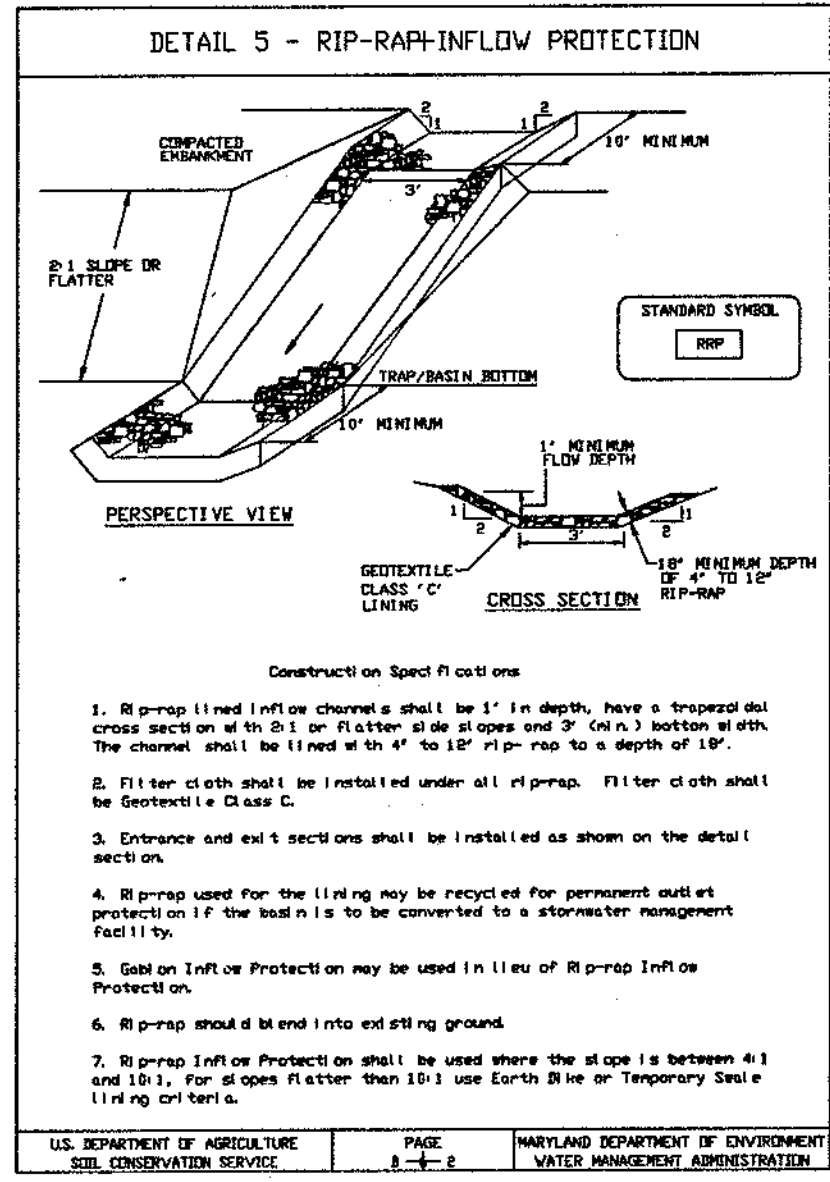
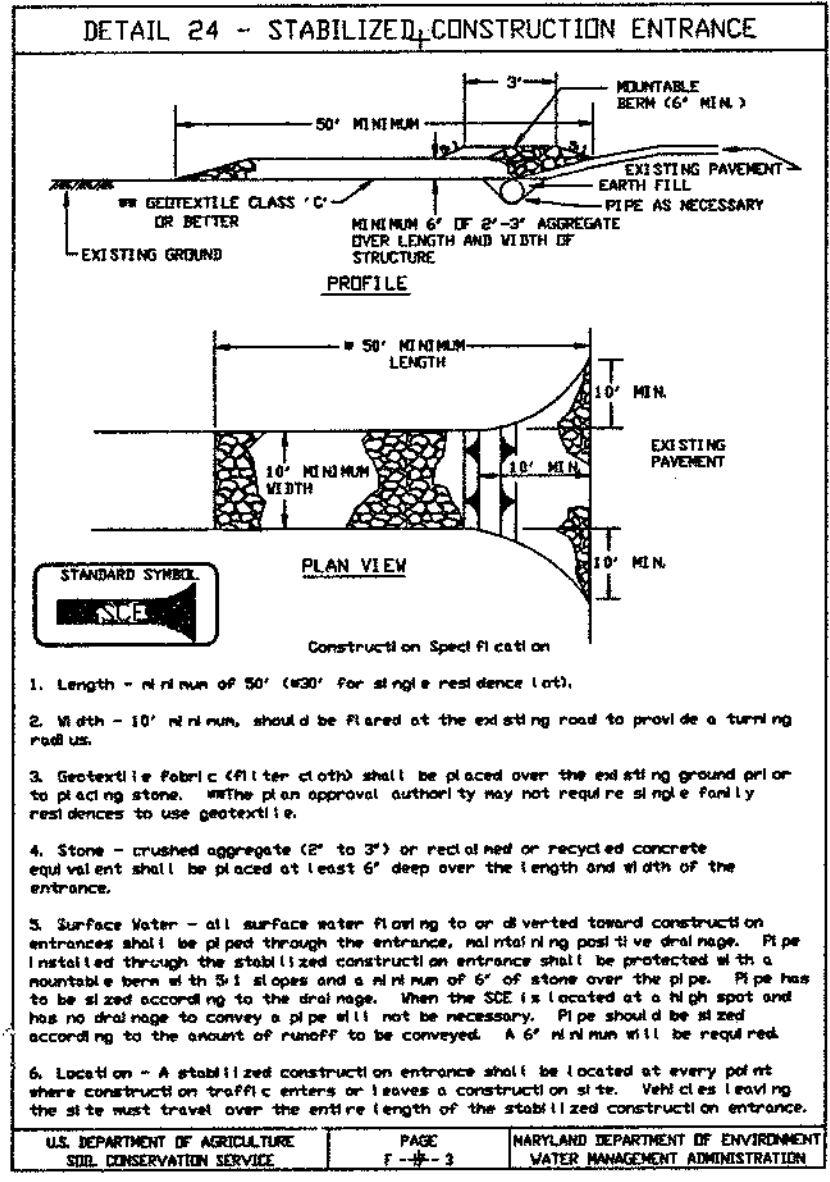
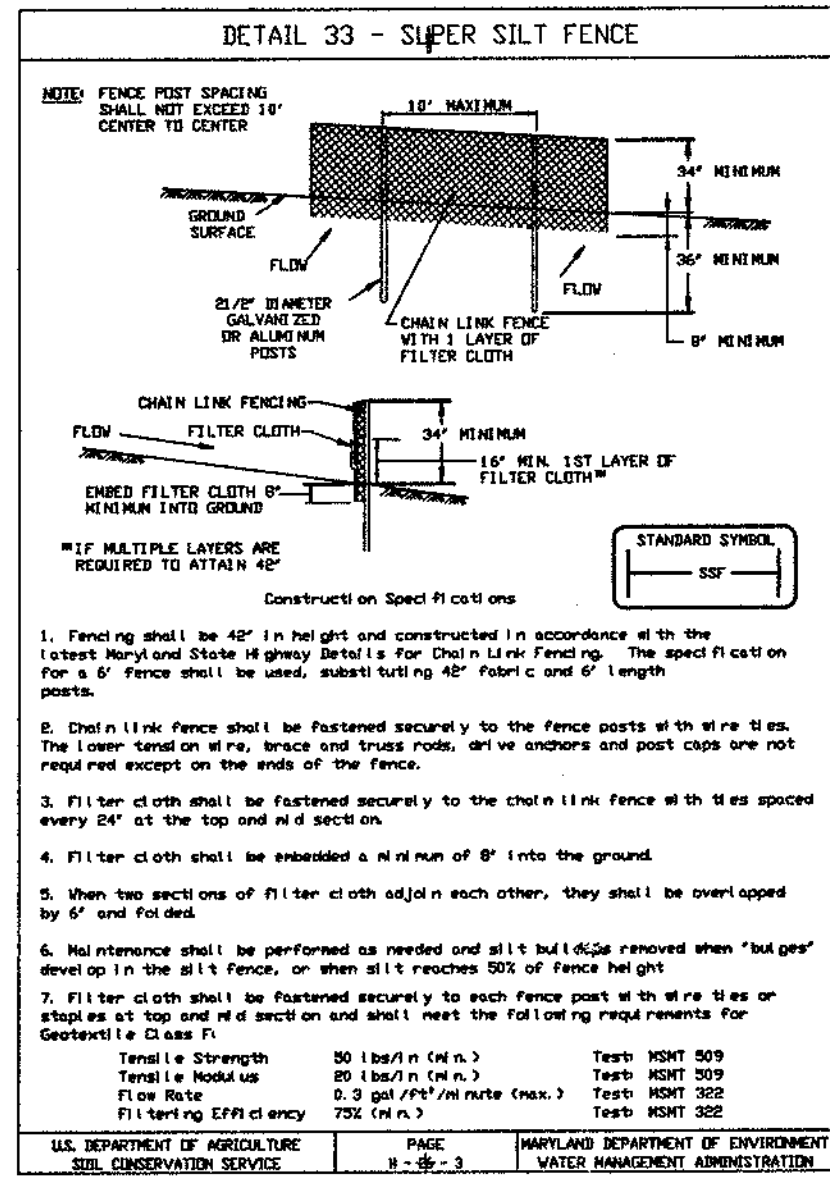
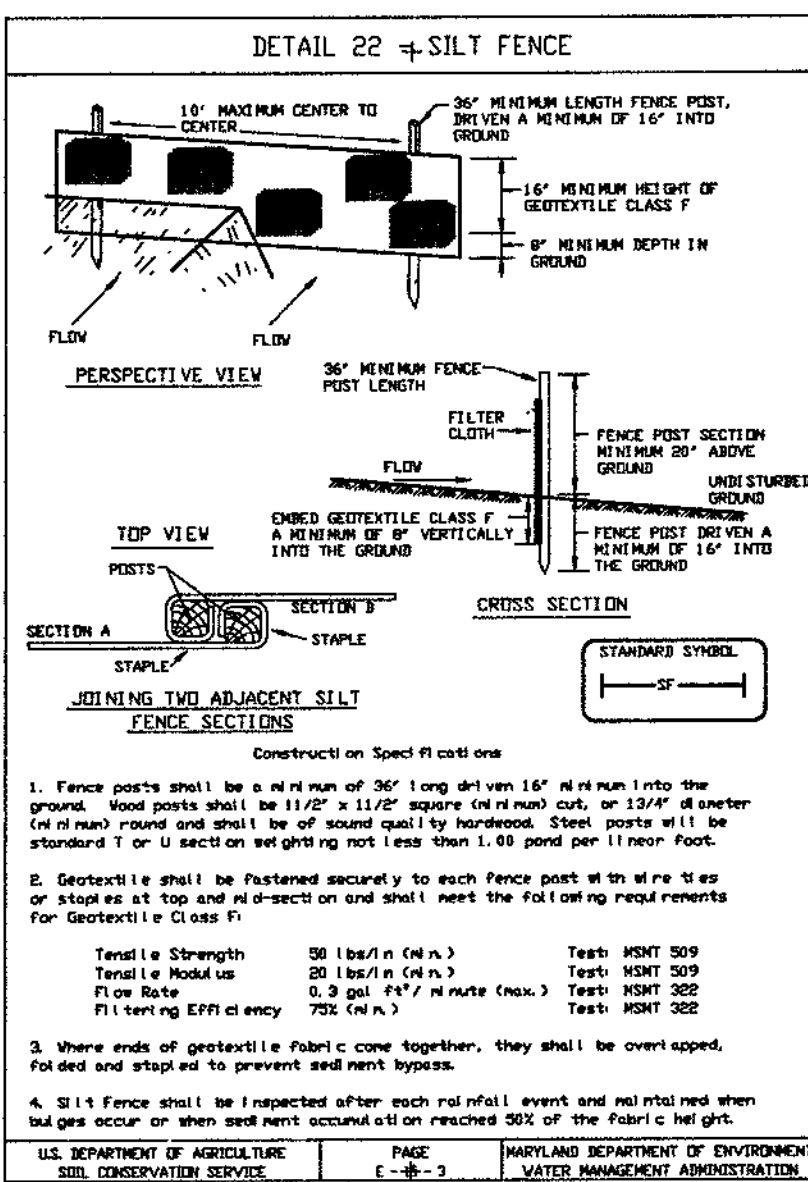
Engineer:
 R.M. Mochi Group, P.C.
 10120A Old National Pike
 Jemmisville, MD, 21754-9706
 (301) 865-5858
 Attn: Mr. Robert M. Mochi, P.E.

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Owner:
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 Fax: (301) 865-5111

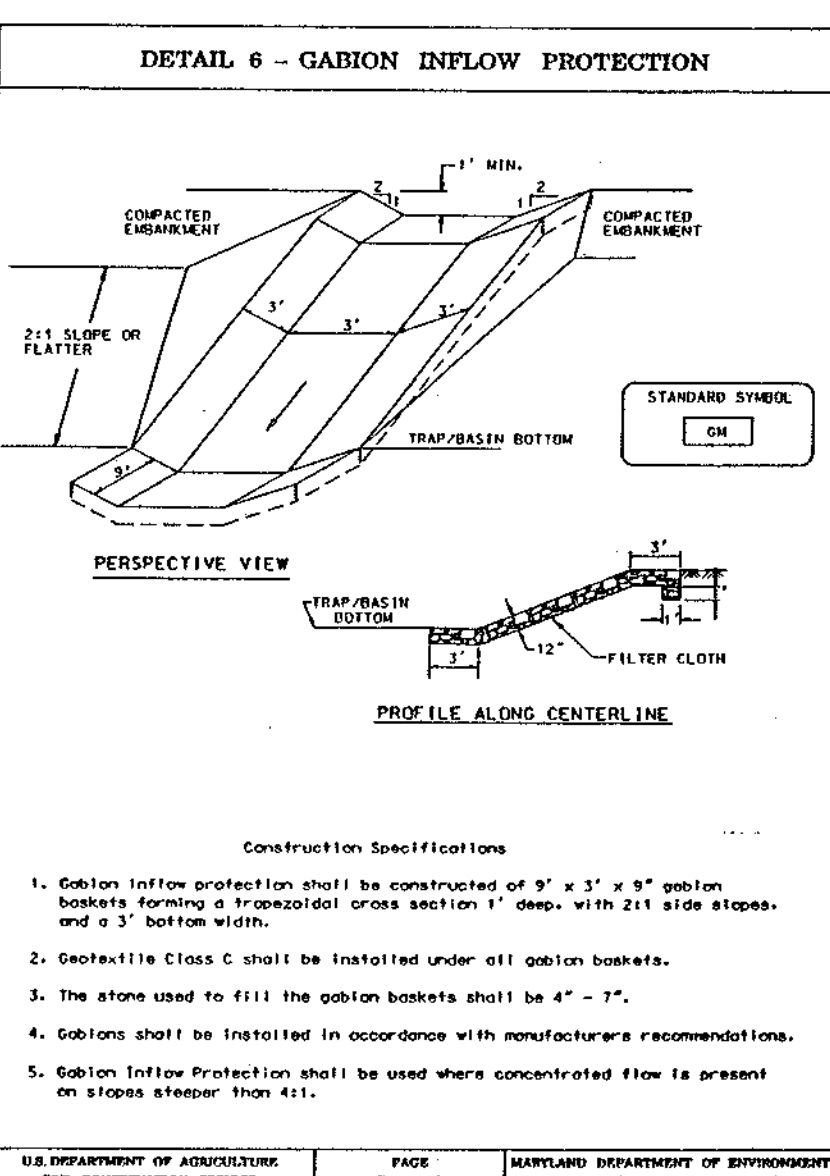
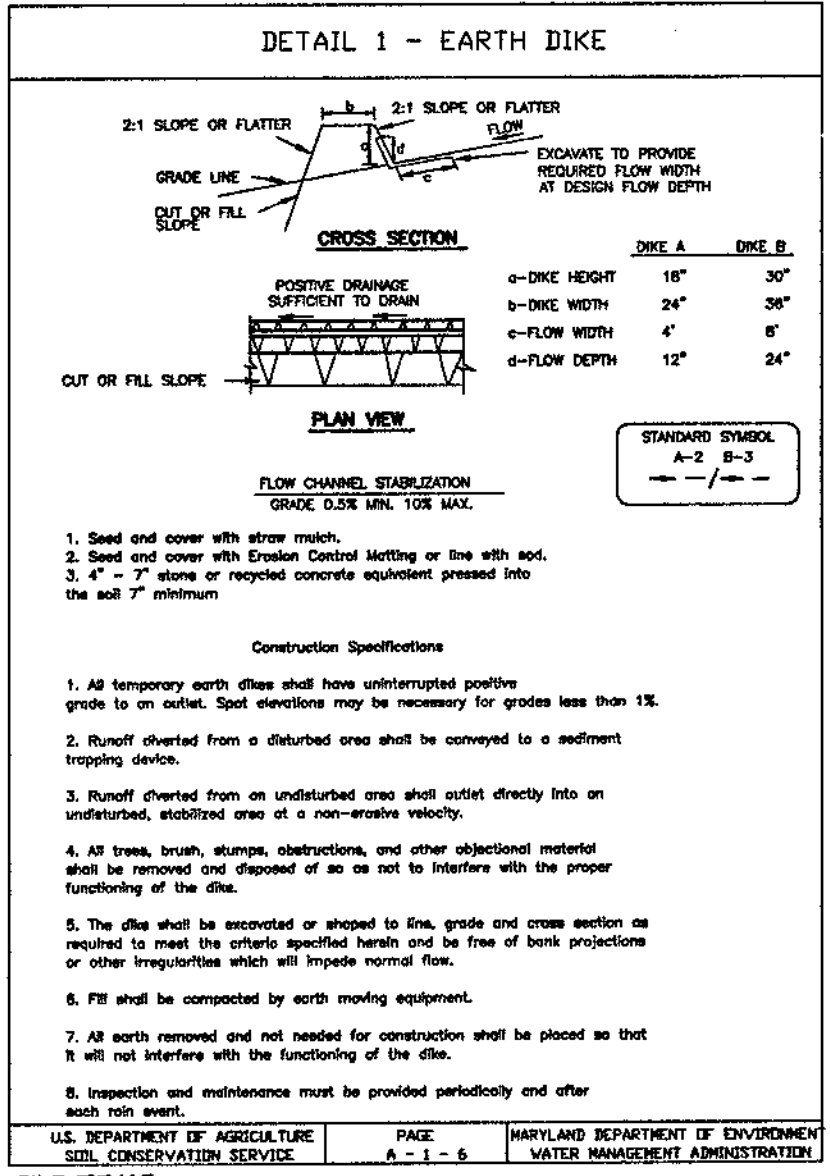
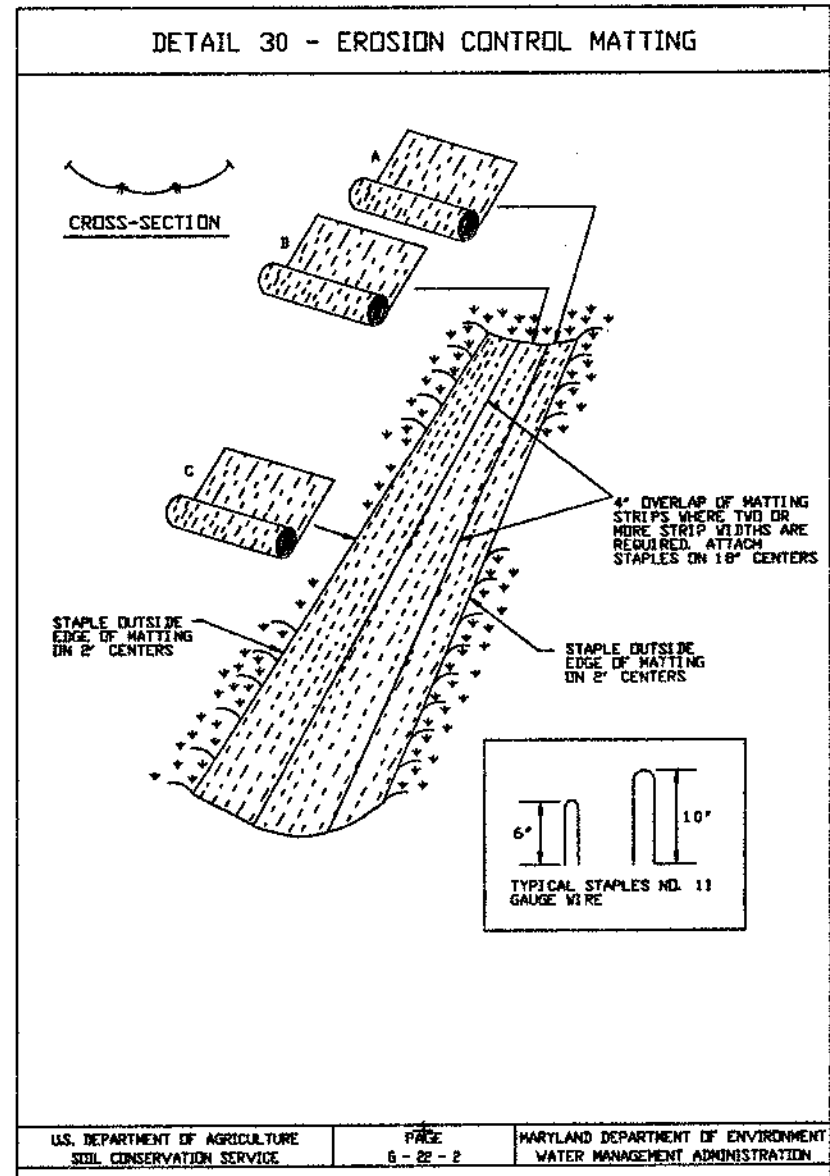
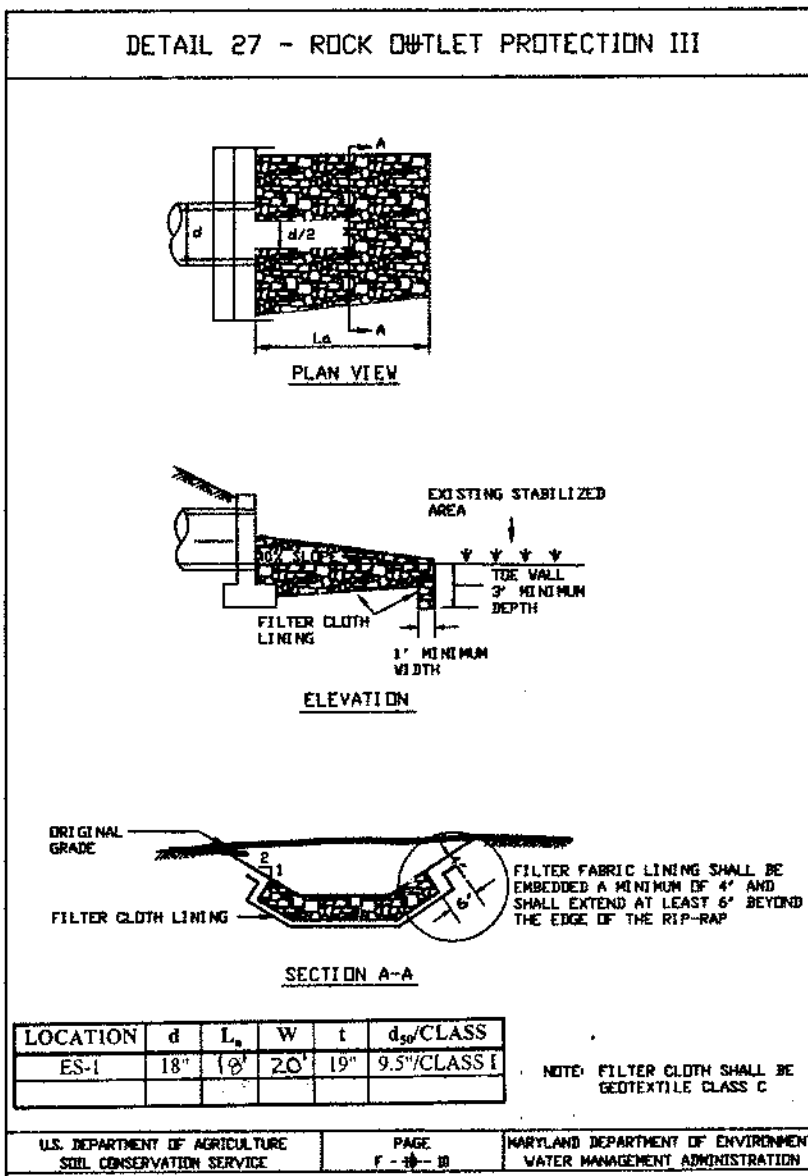
5 of 10
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ROCK OUTLET PROTECTION II

Construction Specifications

- The substrate for the filter, rip-rap, or gabion shall be prepared to the required final grade. Any fill required in the substrate shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Gabion shall be protected from punching, cutting, or tearing. Any damage other than on occasional still water shall be repaired by placing another piece of gabion or filter, or by completely replacing the gabion. All openings shall be repaired or for joining two pieces of gabion shall be a minimum of one foot.
- Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full capacity in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spots filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter fabric or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
- The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.



STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose
To provide a suitable soil medium for vegetative growth. Soils of concern have low nutrient levels, low pH, toxicants toxic to plants, and/or unacceptable soil gradation.

Conditions: Where Practice Applies
This practice is limited to areas having 2:1 or flatter slopes where the texture of the exposed subsoil/parent material is not adequate to produce vegetative growth. The soil material is so shallow that the rooting zone is not deep enough to support plants or plants containing supplies of moisture and plant nutrients. The original soil to be vegetated contains material toxic to plant growth. The soil is so acidic that treatment with limestone is not feasible.

For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special construction and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization on the plans.

Construction and Material Specifications
Topsoil salvaged from the existing site may be used provided that it meets the standards on soil tests. In these specifications, typically, the depth of topsoil to be salvaged for a given soil type can be used.

Topsoil having suitable soil content of at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 100 lbs/1,000 square feet, and 1/2 the normal lime application rate.

Topsoil must be free of plants of plant parts such as Bermuda grass, Quackgrass, Johnsongrass, Nutgrass, Poison Ivy, Thistle, or others as specified. Where the subsoil is either heavy silt or composed of heavy clay, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Limes shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas over 5 acres:
Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

For sites having disturbed areas over 5 acres:
On site meeting Topsoil specifications, obtain test results detailing fertilizer and lime amendments required to bring the soil into compliance with the following:
pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher. Organic content of topsoil shall be not less than 1.5 percent by weight. Topsoil having suitable soil content greater than 500 parts per million shall not be used. No soil or seed shall be placed on the soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

Notes: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate authority, may be used in lieu of material specified.

Placement (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

PERMANENT SEEDING NOTES

Apply to graded or cleared area not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. (If not previously loosened)

Soil Amendments: In lieu of soil test recommendations, use on the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf) after seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 urea fertilizer (9 lbs/1000 sf).
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sf) after seeding. Harrow or disc into upper three inches of soil.

Seeding: For the periods March 1 through April 30 and August 1 through October 15, seed with 60 lbs per acre (1.4 lbs/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through February 28, protect site by Option 1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2) seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of unrattled straw grain immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

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

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. (If not previously loosened)

Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf).

Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushel per acre of annual ryegrass (3.2 lbs/1000 sf). For the period May 1 through August 14, seed with 3 lbs per acre of Weeping Lovegrass (0.07 lbs/1000 sf). For the period November 16 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use seed.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of unrattled straw grain immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Refer to the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction. (313-1855)
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control.
- Following initial soil disturbances or redistribution, permanent or temporary stabilization shall be completed within: a) 72 hours for all disturbed areas must be stabilized within the time period specified above in accordance with the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control for Permanent Seeding (Sec. G-III) and Sediment Control Structures (Sec. G-I) and Mulching (Sec. G-II). Temporary stabilization with mulch shall only be done when recommended seeding does not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Total Area of Site: Area to be Disturbed: Ac. 7.06
Area to be roofed or paved: Ac. 3.79
Area to be vegetatively stabilized: Ac. 3.27
Total: Ac. 10.600
Total Fill: cu. 10,000
- Offsite Waste/Borrow Area:
Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance. Additional sediment control structures must be provided, if deemed necessary by the Howard County DIL Sediment Control Inspector.
- Quantities and estimates shown are for sediment control purposes only. Final quantities shall be determined by the contractor's estimate of final soil stabilization.
- 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 initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day whichever is shorter. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7 of the Howard County Design Manual, Storm Drainage.
- WASTE MATERIAL SHALL BE TRANSPORTED TO A SITE WITH AN APPROVED ACTIVE GRADING PERMIT.

SEQUENCE OF CONSTRUCTION

- Obtain all required permits, approvals and licenses from appropriate agencies. 2 weeks
- Notify Howard County Construction Inspection Division (410-313-1880) at least five (5) working days prior to starting work. 1 day
- Install sediment control structures, install tree conservation signs and tree protection fences as required (see Sign & Fence Detail on Sheet 10). 2 days
- Construct principal driveway per approved plan and install SWM facilities. 1 week
- Obtain proper professional engineer and certifications, backfill principal driveway. Install temporary SWM/road. Control vertical draw-down device and back wells per details on Sheets 3 and 4. 2 days
- Complete embankment fill and excavate for pond volumes per plan. Delay gabion foray, gabion wall installation. 4 days
- Install remaining sediment control structures, clear and grub remainder of site and construct storm drains. 3 weeks
- Install gabion foray and walls. Finish access around pond. 1 week
- Remove temporary SWM/road. Control vertical draw-down device and replace with extended detention draw-down pipe as shown on principal driveway profile. 1 week
- Notify Howard County Office of Inspections and Permits for Final Inspection of completed project. 1 week

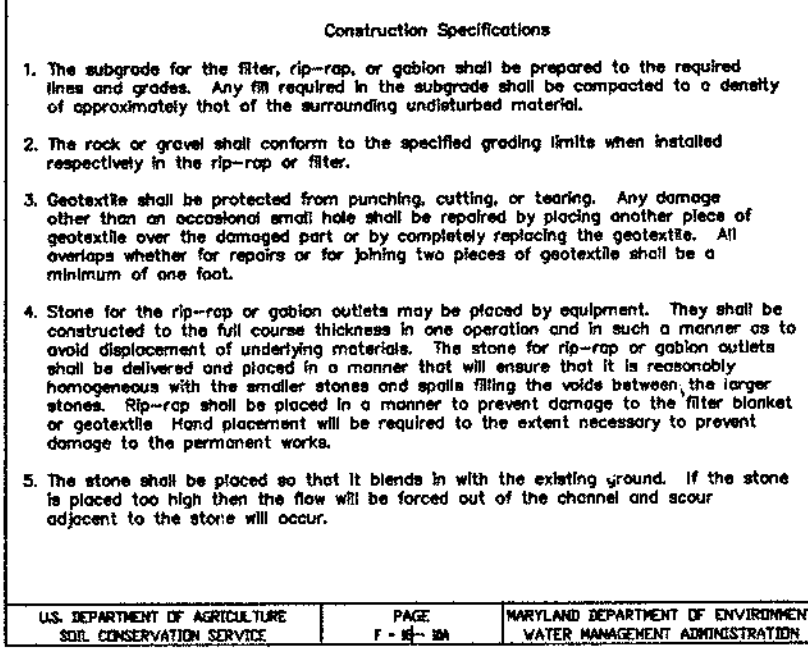
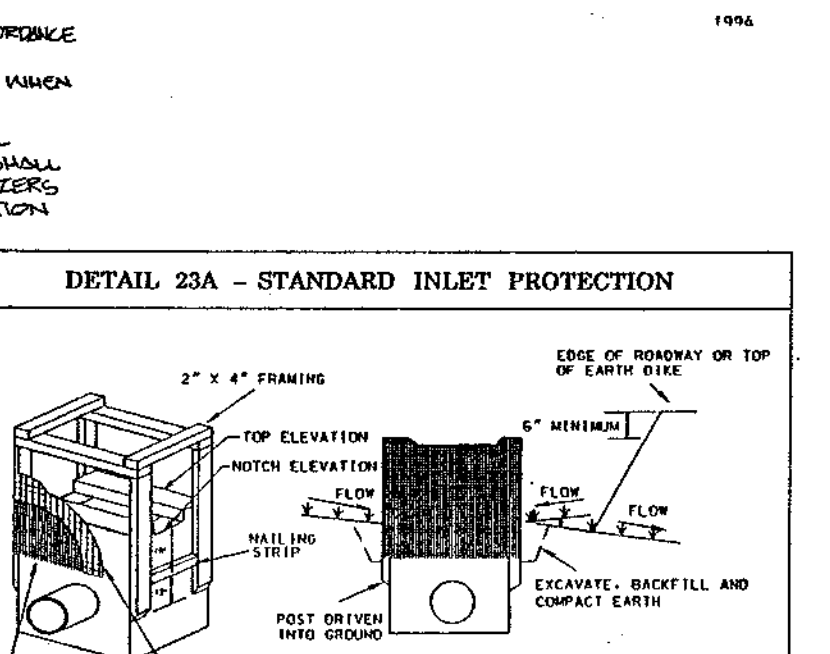
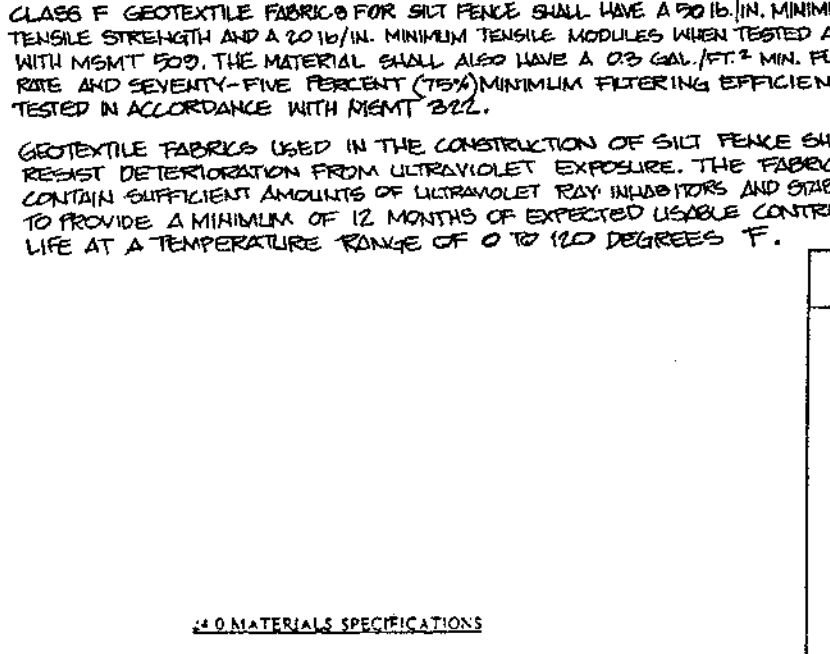


Table 20.1 Geotextile Fabrics

CLASS	APPROXIMATE OPENING SIZE	GRAB TENSILE STRENGTH LB. MIN. MAX.	BURST STRENGTH PSI. MIN. MAX.
A	0.30	300	300
B	0.60	300	300
C	0.30	300	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.80	90	145



Engineer: R.M. Mochi Group, P.C. Orchard Development Corporation
10120A Old National Pike
Ijomsville, MD. 21754-9706
(301) 865-5858
Attn: Mr. Robert M. Mochi, (410) 750-1800

Developer: Orchard Development Corporation
ATTN: Mr. Scott Armiger
3979 Old Columbia Pike
Elicott City, MD. 21043
(410) 750-1800

Surveyor: Vogel & Associates
3691 Park Ave., Suite 101
Elicott City, MD. 21043
(410) 461-5828
Fax (410) 465-3966

Owner: L. Earl & Mary T. Armiger
3979 Old Columbia Pike
Elicott City, MD. 21043
(410) 750-1800

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Daulton 4-25-00
CHIEF, BUREAU OF HIGHWAYS MS

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

David H. Smith 6/1/00
CHIEF, DIVISION OF LAND DEVELOPMENT

William J. ... 5/5/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Table 20.2 Basket Specifications

BASKET THICKNESS INCHES	MIN. INCHES	SIZE OF INDIVIDUAL STONES INCHES	MIN. INCHES
6	150	3-5	75-125
9	215	4-7	100-175
12	300	4-7	100-175
18	460	4-7	100-175
24	910	4-12	100-300

APPROVED:
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.

Charles J. ... 4/26/00
HOWARD COUNTY CONSERVATION DISTRICT

APPROVED:
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD COUNTY CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Charles J. ... 4/26/00
USDA - NATIONAL RESOURCES CONSERVATION SERVICE

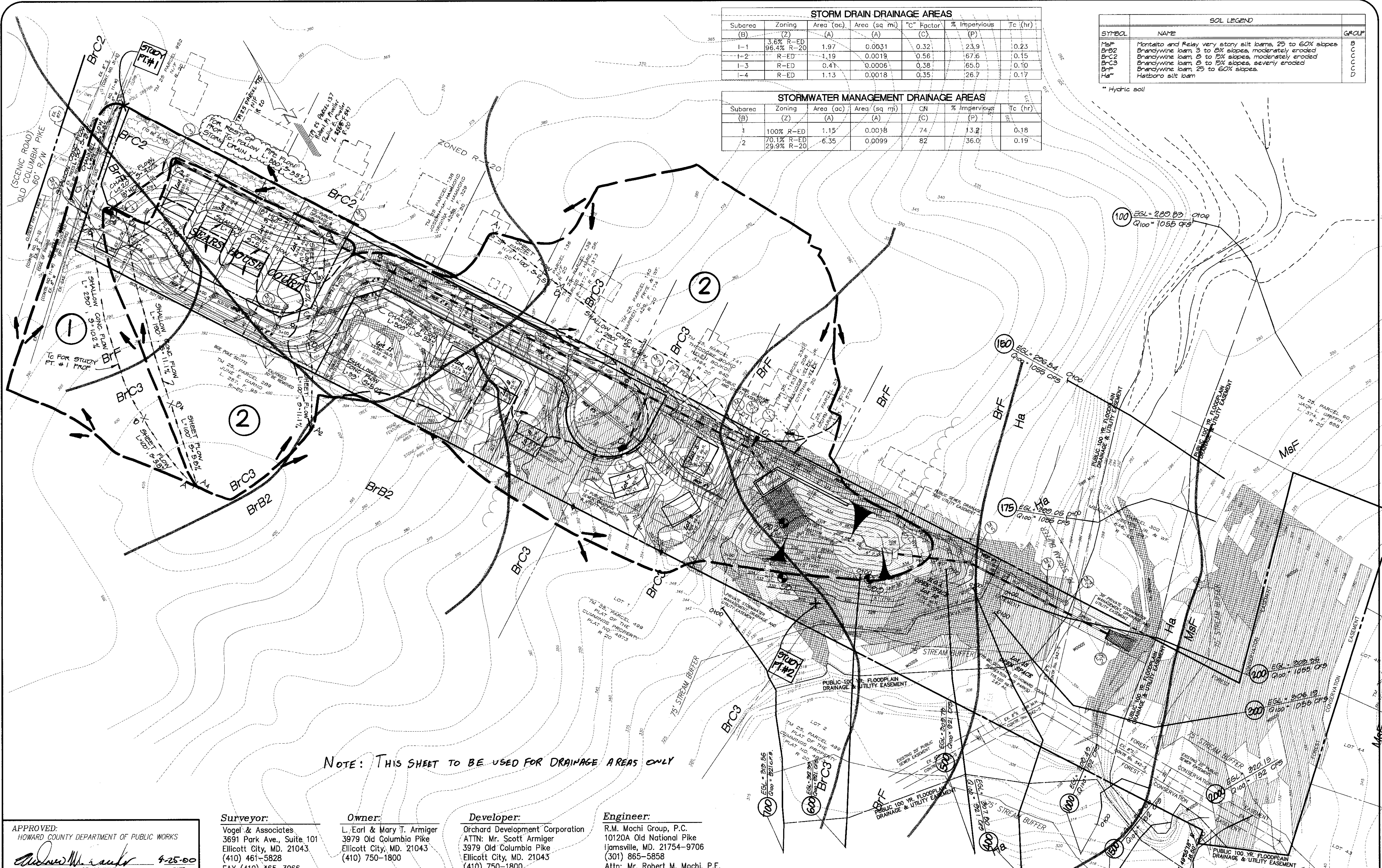
DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this project will have a certificate of attendance at a Department of the Environment approved training program for the control of sediment and erosion before beginning the project. I also authorize periodic onsite inspection by the Howard County Soil Conservation District or their authorized agents, as are deemed necessary.

Robert M. Mochi 4-13-00
Signature of Developer DATE

ENGINEER'S CERTIFICATE
I hereby certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Robert M. Mochi 4/14/00
Signature of Engineer DATE

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NOTE: THIS SHEET TO BE USED FOR DRAINAGE AREAS ONLY

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Sauls 4-25-00
CHIEF, BUREAU OF HIGHWAYS

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chris Hamstra 6/5/00
CHIEF, DIVISION OF LAND DEVELOPMENT

William D. ... 5/5/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Surveyor:
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10120A Old National Pike
Ijamsville, MD. 21754-9706
(301) 865-5858
Attn: Mr. Robert M. Mochi, P.E.

APPROVED:
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 5/30/00
HOWARD SOIL CONSERVATION DISTRICT

APPROVED:
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Cheryl Simmon 5/30/00
USDA - NATIONAL RESOURCES CONSERVATION SERVICE

DEVELOPER'S CERTIFICATE
I/We certify that all development and construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

[Signature] 5/25/00
Signature of Developer

ENGINEER'S CERTIFICATE
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

[Signature] 5/23/00
Robert M. Mochi, P.E.

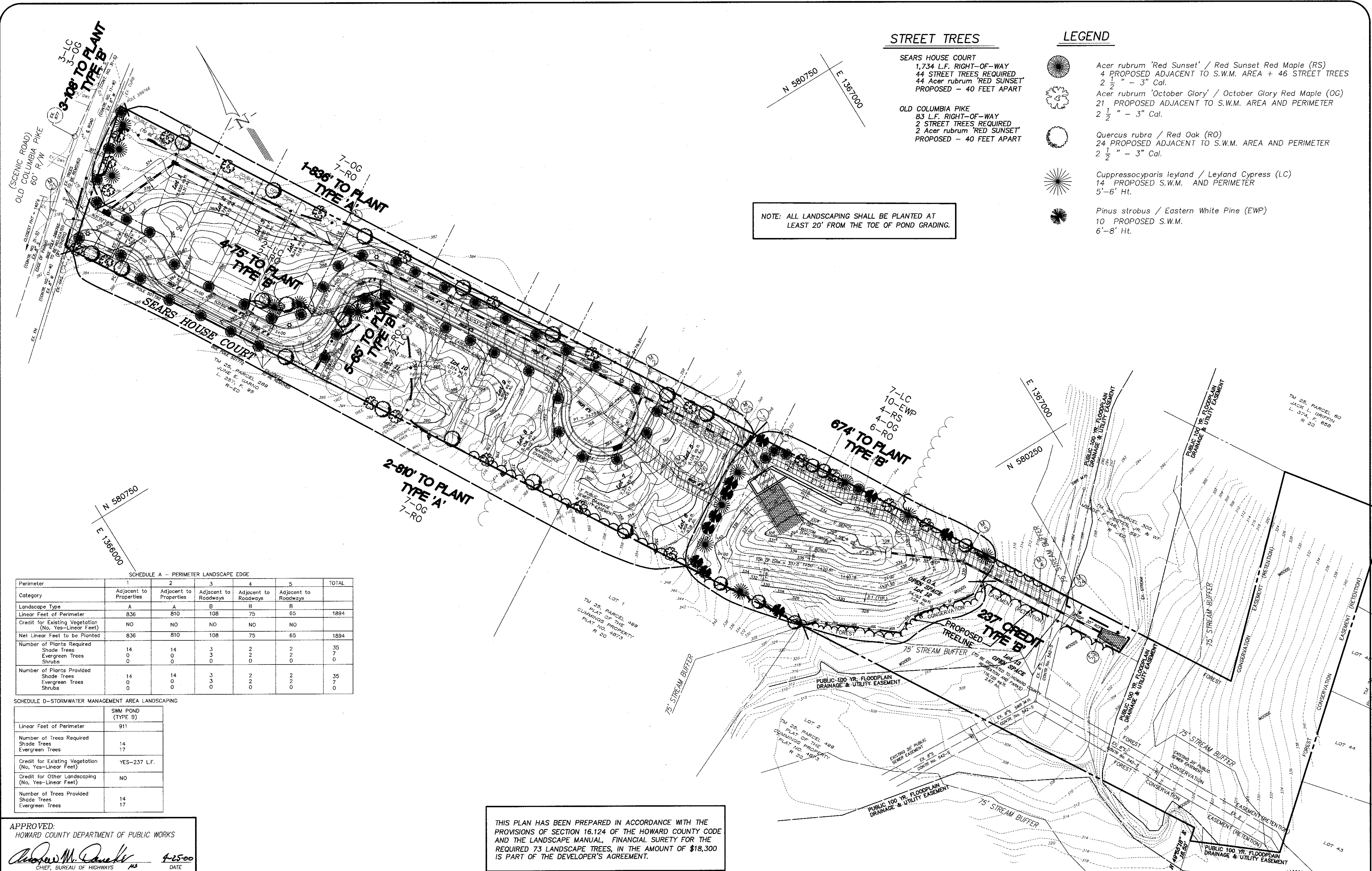


project	99011.13	date	07-23-99
illustration	KMB/GEN	engineering	P.F.B.
scale	1"=50'	approval	R.M.M.

05-23-00	REVISED ADJOINING PROPERTY OWNERS
04-18-00	MYLARS SUBMITTED FOR SIGNATURES
02-03-00	DIRECT SUBMITTALS TO DPZ & SED
11-08-99	REVISED SUBMITTALS PER HOWARD COUNTY COMMENTS
08-07-99	1ST SUBMITTAL TO HO. CO. DPZ FOR REVIEW
07-01-99	0

Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MD.
S.W.M./STORM DRAIN DA MAP & FLOODPLAIN STUDY

R.M. MOCHI GROUP, P.C.
P.O. Box 10
New Market, MD 21774-0010
Tel: (301) 865-5858
Fax: (301) 865-5111



STREET TREES

SEARS HOUSE COURT
1,734 L.F. RIGHT-OF-WAY
44 STREET TREES REQUIRED
44 Acer rubrum 'RED SUNSET'
PROPOSED - 40 FEET APART

OLD COLUMBIA PIKE
83 L.F. RIGHT-OF-WAY
2 STREET TREES REQUIRED
2 Acer rubrum 'RED SUNSET'
PROPOSED - 40 FEET APART

LEGEND

- Acer rubrum 'Red Sunset' / Red Sunset Red Maple (RS)
4 PROPOSED ADJACENT TO S.W.M. AREA + 46 STREET TREES
2 1/2" - 3" Cal.
- Acer rubrum 'October Glory' / October Glory Red Maple (OG)
21 PROPOSED ADJACENT TO S.W.M. AREA AND PERIMETER
2 1/2" - 3" Cal.
- Quercus rubra / Red Oak (RO)
24 PROPOSED ADJACENT TO S.W.M. AREA AND PERIMETER
2 1/2" - 3" Cal.
- Cupressocyparis leyland / Leyland Cypress (LC)
14 PROPOSED S.W.M. AND PERIMETER
5'-6' Ht.
- Pinus strobus / Eastern White Pine (EWP)
10 PROPOSED S.W.M.
6'-8' Ht.

NOTE: ALL LANDSCAPING SHALL BE PLANTED AT LEAST 20' FROM THE TOE OF POND GRADING.

SCHEDULE A - PERIMETER LANDSCAPE EDGE

Perimeter	1	2	3	4	5	TOTAL
Category	Adjacent to Properties	Adjacent to Properties	Adjacent to Roadways	Adjacent to Roadways	Adjacent to Roadways	
Landscape Type	A	B	A	B	B	
Linear Feet of Perimeter	836	810	108	75	65	1884
Credit for Existing Vegetation (No, Yes-Linear Feet)	NO	NO	NO	NO	NO	
Net Linear Feet to be Planted	836	810	108	75	65	1884
Number of Plants Required						
Shade Trees	14	14	3	2	2	35
Evergreen Trees	0	0	0	0	0	0
Shrubs	0	0	0	0	0	0
Number of Plants Provided						
Shade Trees	14	14	3	2	2	35
Evergreen Trees	0	0	0	0	0	0
Shrubs	0	0	0	0	0	0

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING

	SWM POND (TYPE B)
Linear Feet of Perimeter	911
Number of Trees Required	
Shade Trees	14
Evergreen Trees	17
Credit for Existing Vegetation (No, Yes-Linear Feet)	YES-237 L.F.
Credit for Other Landscaping (No, Yes-Linear Feet)	NO
Number of Trees Provided	
Shade Trees	14
Evergreen Trees	17

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 4/25/00
CHIEF, BUREAU OF HIGHWAYS MS DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hunte 4/4/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Bill Dammann 5/5/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 73 LANDSCAPE TREES, IN THE AMOUNT OF \$18,300 IS PART OF THE DEVELOPER'S AGREEMENT.

THE DEVELOPER WILL BE RESPONSIBLE FOR STREET TREE INSTALLATION. FINANCIAL SURETY FOR THE 46 PROPOSED STREET TREES, IN THE AMOUNT OF \$ 13,800 IS PART OF THE DEVELOPER'S AGREEMENT.

Surveyor:
Vogel & Associates
3691 Park Ave., Suite 101
Ellicott City, MD. 21043
(410) 461-5828
FAX (410) 465-3966

Owner:
L. Earl & Mary T. Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Developer:
Orchard Development Corporation
ATTN: Mr. Scott Armiger
3979 Old Columbia Pike
Ellicott City, MD. 21043
(410) 750-1800

Engineer:
R.M. Mochi Group, P.C.
10120A Old National Pike
Ijamsville, MD. 21754-9706
(301) 865-5858

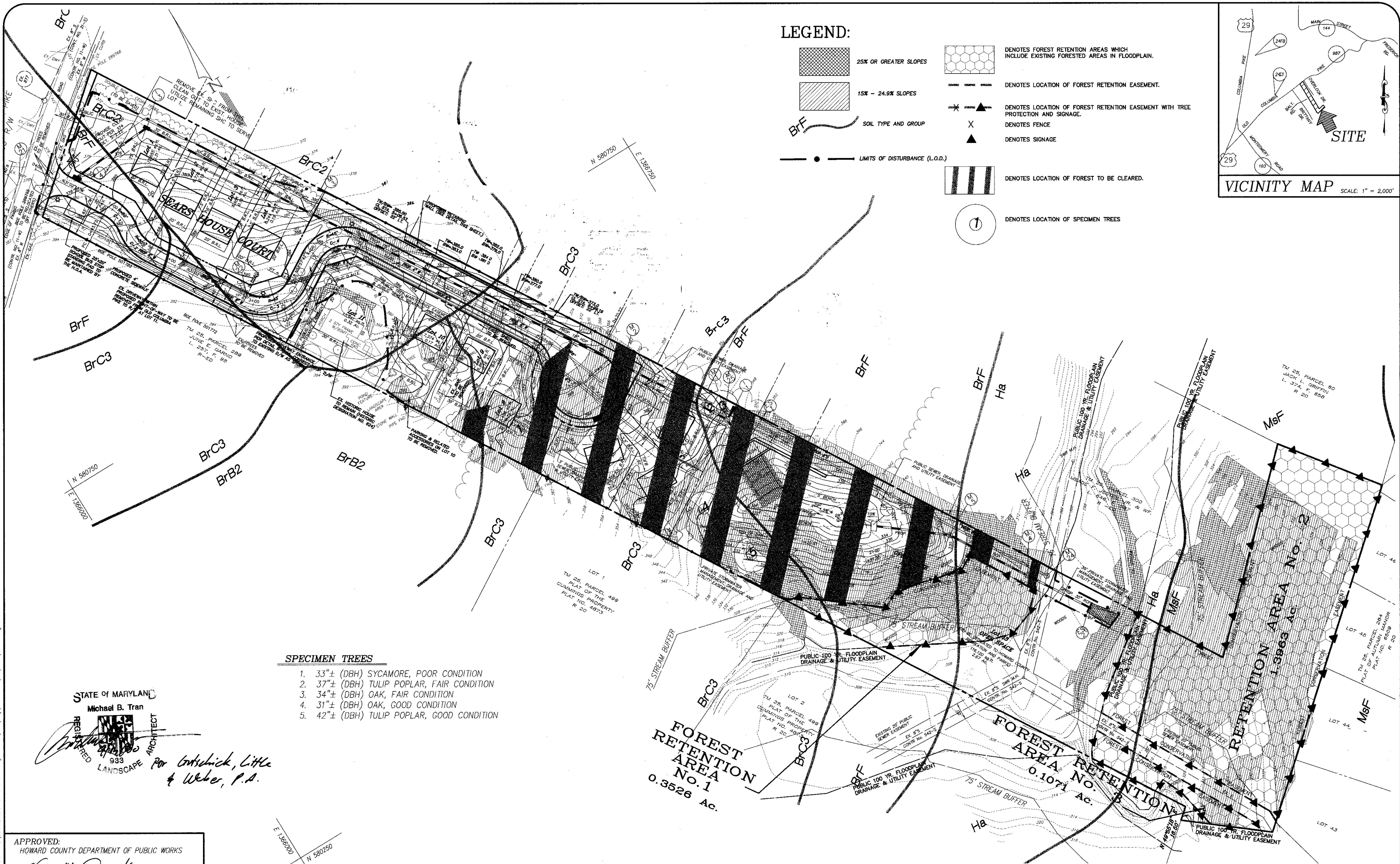


date	07-28-09
project	98011.13
illustration	KMB
scale	1"=50'
approval	R.M.M.

date	5-26-00
description	REVISED PER DPZ COMMENTS DATED 5/14/00
date	04--00
description	MYLARS SUBMITTED FOR SIGNATURES
date	02-03-00
description	DIRECT SUBMITTAL TO DPZ & DED
date	11-08-99
description	REVISED SUBMITTAL PER HOWARD COUNTY COMMENTS
date	09-01-99
description	1ST SUBMITTAL TO HO. CO. DPZ FOR REVIEW
date	0
description	0

Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MD.
STREET TREE AND LANDSCAPING PLAN

R.M. MOCHI GROUP, P.C.
P.O. Box 10, MD 21754-0010
10120 A Old National Pike
Ijamsville, MD 21754-9706
(301) 865-5858
Fax: (301) 865-5111



LEGEND:

- 25% OR GREATER SLOPES
- 15% - 24.9% SLOPES
- SOIL TYPE AND GROUP
- LIMITS OF DISTURBANCE (L.O.D.)
- DENOTES FOREST RETENTION AREAS WHICH INCLUDE EXISTING FORESTED AREAS IN FLOODPLAIN.
- DENOTES LOCATION OF FOREST RETENTION EASEMENT.
- DENOTES LOCATION OF FOREST RETENTION EASEMENT WITH TREE PROTECTION AND SIGNAGE.
- DENOTES FENCE
- DENOTES SIGNAGE
- DENOTES LOCATION OF FOREST TO BE CLEARED.
- DENOTES LOCATION OF SPECIMEN TREES

- SPECIMEN TREES**
1. 33"± (DBH) SYCAMORE, POOR CONDITION
 2. 37"± (DBH) TULIP POPLAR, FAIR CONDITION
 3. 34"± (DBH) OAK, FAIR CONDITION
 4. 31"± (DBH) OAK, GOOD CONDITION
 5. 42"± (DBH) TULIP POPLAR, GOOD CONDITION

STATE OF MARYLAND
 Michael B. Tran
 REGISTERED ARCHITECT
 933 LANDSCAPE ARCHITECT
 FOR GUTSCHICK, LITTLE & WEBER, P.A.

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 4-25-00
 CHIEF, BUREAU OF HIGHWAYS MS DATE

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cinda Hamlin 4/8/00
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John Williams 5/5/00
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Surveyor
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 3691 Park Ave., Suite 101
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 Fax (410) 465-3966

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 Ellicott City, MD. 21043
 (410) 750-1800

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 (410) 750-1800

Engineer:
 R.M. Mochi Group, P.C.
 10120A Old National Pike
 Jomsville, MD. 21754-9706
 (301) 865-5858

GUTSCHICK, LITTLE & WEBER, P.A.
 3909 NATIONAL DRIVE SUITE 250
 BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 (301) 421-4024

QUALIFIED PROFESSIONAL PER THE
 MARYLAND FOREST CONSERVATION ACT.
 DATE

project	9901113	date	07-28-00
illustration	KMB	engineering	PPB
scale	1"=50'	approval	RAM

5-26-00	REVISED PER THE COMMENTS DATED 5/16/00
04-00	MYLARS SUBMITTED FOR SIGNATURES
02-03-00	DIRECT SUBMITTALS TO DPZ & DED
11-08-99	REVISED SUBMITTAL PER HOWARD COUNTY COMMENTS
08-07-99	SUBMITTED TO HOWARD COUNTY DPZ FOR REVIEW
02	description
	revisions

Tax Map 25, Grid 13, Parcel 220
MILL TOWNE OVERLOOK
 ELECTION DISTRICT No. 2 HOWARD COUNTY, MARYLAND
FOREST CONSERVATION PLAN

R.M. MOCHI GROUP, P.C.
 P.O. Box 10
 New Market, MD 21774-2010
 16150 A Old National Pike
 Jomsville, MD 21754-9706
 (301) 865-5858
 Fax: (301) 865-5111

FOREST CONSERVATION WORKSHEET

BASIC SITE DATA

ACRES (1/10 acre)	
GROSS SITE AREA	7.05
AREA WITHIN 100 YEAR FLOODPLAIN	0.63
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL	N/A
NET TRACT AREA	6.42
LAND USE CATEGORY:	R-ED

INFORMATION FOR CALCULATIONS

A. NET TRACT AREA	6.42
B. REFORESTATION THRESHOLD (20% X A)	1.28
C. AFFORESTATION MINIMUM (15% X A)	0.96
D. EXISTING FOREST ON NET TRACT AREA	3.93
E. FOREST AREAS TO BE CLEARED	2.07
F. FOREST AREAS TO BE RETAINED	1.86

REFORESTATION CALCULATIONS

A. NET TRACT AREA	6.42
B. REFORESTATION THRESHOLD (20% X A)	1.28
D. EXISTING FOREST ON NET TRACT AREA	3.93
E. FOREST AREAS TO BE CLEARED	2.07
F. FOREST AREAS TO BE RETAINED	1.86
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	2.07
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.58

(F-B, Retention Credit, if applicable)

FOR CLEARING ABOVE THE THRESHOLD

REFORESTATION FOR CLEARING ABOVE THRESHOLD (G x 1/4)	0.52
CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD (I)	0.58
TOTAL REFORESTATION REQUIRED (G x 1/4) - I	0

REQUIRED FOREST CONSERVATION EASEMENT AREA (RETENTION AREA + REFORESTATION AREA)

1.86

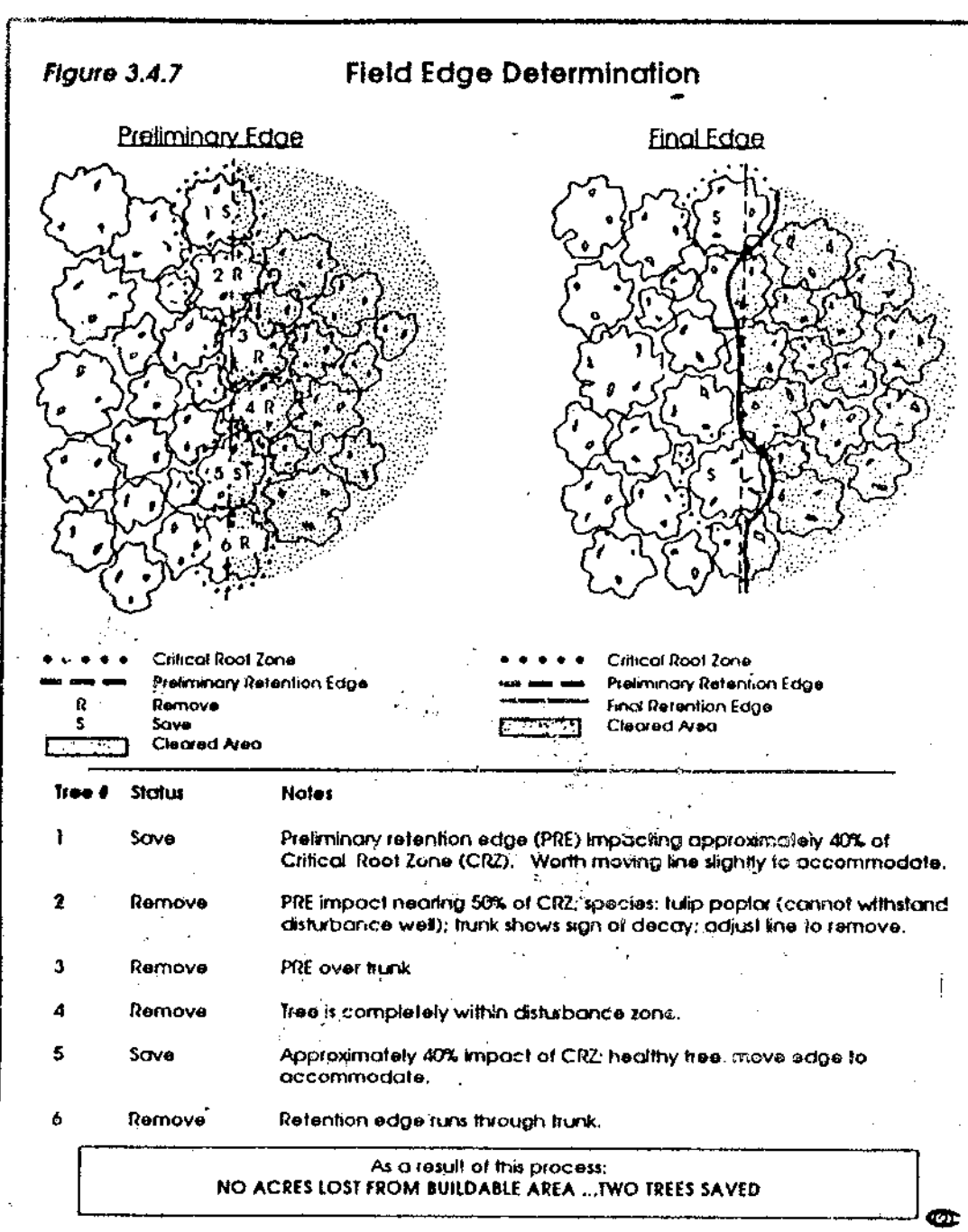
PROPOSED METHOD OF SATISFYING FOREST CONSERVATION OBLIGATIONS

RETENTION AREA 1.86 AC.

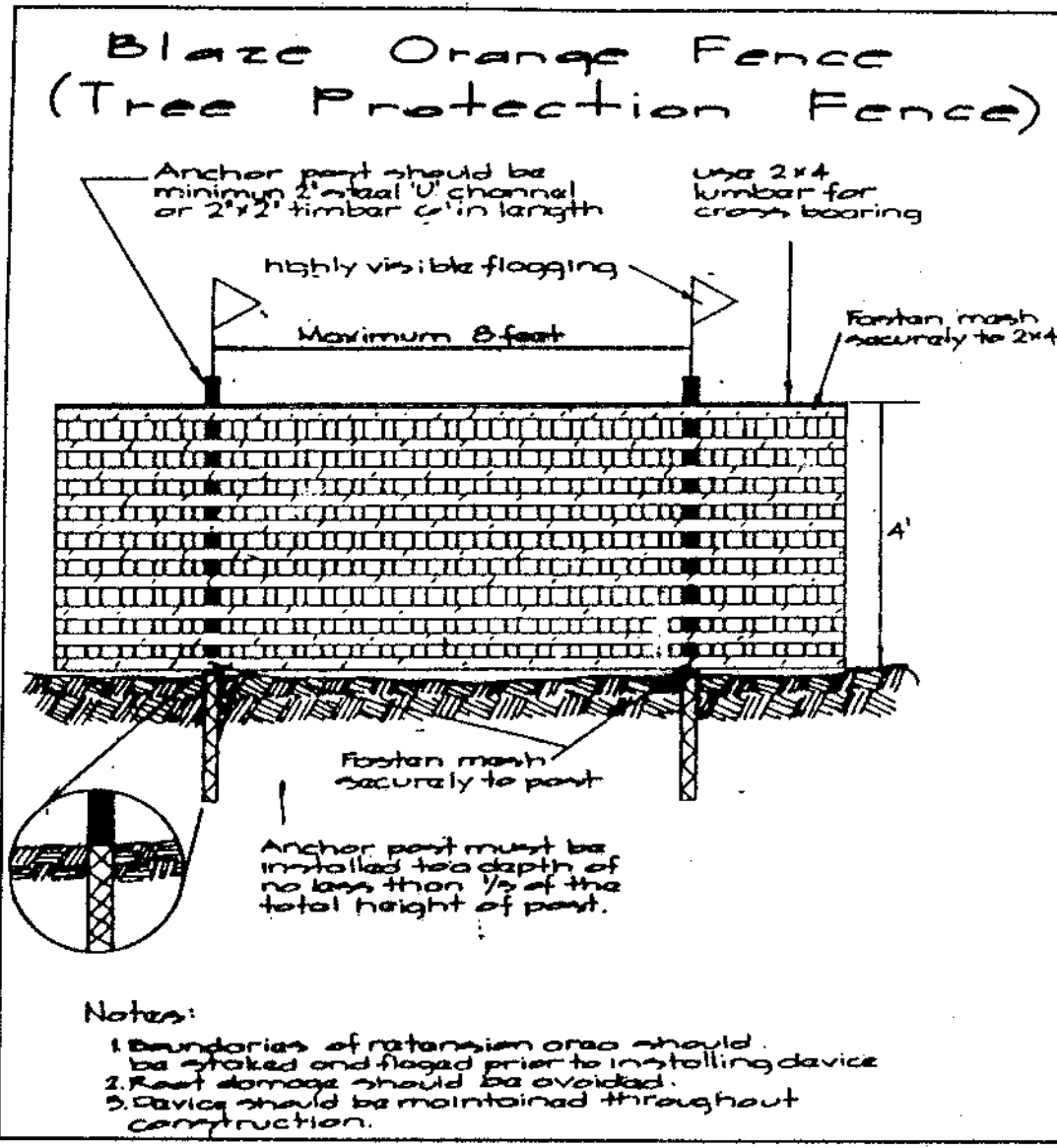
NARRATIVE

By locating the bulk of the development activities as shown and limiting any environmental recourse (stream, buffers, floodplain, etc.) disturbances to a necessary sewer line installation and a SWM outfall, the majority of the existing woodland and environmental resources can be saved.

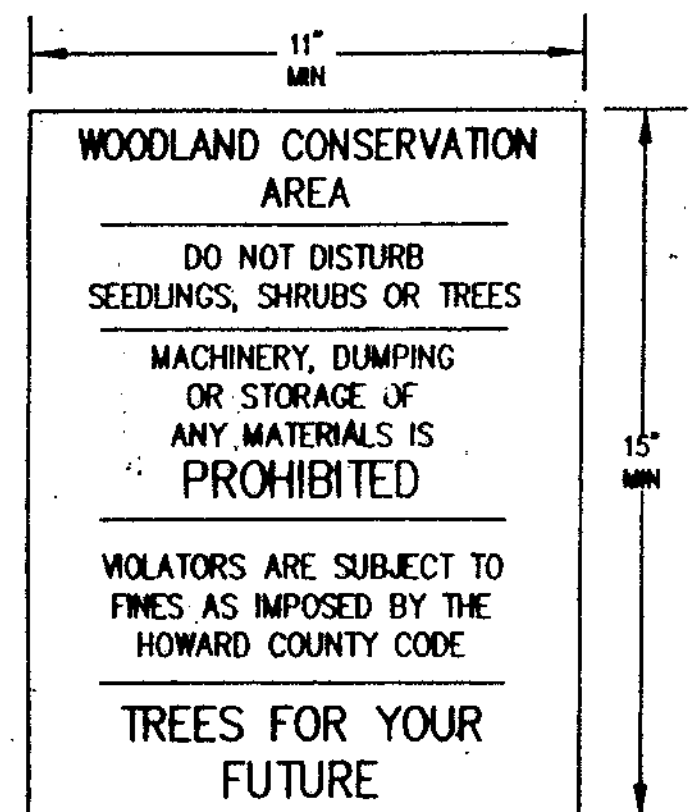
This proposed development anticipates clearing above the forest conservation threshold (to the break-even point). The forest conservation obligation for the development would be met by protecting the woods retained within a forest conservation easement.



Staking Retention Edges in the field requires tree-by-tree decisions. The above example demonstrates the use of the Critical Root Zone, tree health, and tree species in laying out a final, healthy, retention line.



FOREST CONSERVATION SIGN



- NOTE:**
- ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
 - SIGNS SHOULD BE PROPERLY MAINTAINED.
 - AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR THE SIGNS.
 - SIGNS SHOULD BE POSTED TO BE VISIBLE TO ALL CONSTRUCTION PERSONNEL FROM ALL DIRECTIONS.

GENERAL NOTES

- This reforestation plan is provided in accordance with the requirements of Subtitle 12 "Forest Conservation" of the Howard County Code.
- Implementation of this plan must be performed by a contractor that is knowledgeable and experienced in afforestation/reforestation techniques and practices.
- The developer is responsible for a 2-year post-construction maintenance period which involves activities necessary to ensure survival and growth of the conservation area. Two inspection per year by a qualified professional at beginning and end of the growing season, are recommended in order to take remedial steps as necessary. If, after one year, the possibility exists that the original planting will not meet survival standards, the applicant may choose to establish reinforcement plantings. If plant mortality of reforestation or reforestation exceeds 10% of planting materials at the end of the first growing season, such material should be replaced to bring the total number of trees to 90% of the original total. Such material shall be installed by the beginning of the second growing season. If at the end of the second growing season, survival rate drops below 75%, such material as needed to guarantee a 75% survival rate by the end of the subsequent year shall be installed. At the end of the post-construction management and protection period, the designated responsible professional shall convey to the administrator of Howard County Forest Conservation Program Certification that all forest conservation areas have remained intact or have been restored to the appropriate condition, and that the stipulated rates have been achieved, and that any permanent protection measures required by the plan are in place.
- To minimize soil erosion, all reforestation planting areas shall be in a stabilized condition.
- The contractor is responsible for the location of any existing utilities. The repair of any utilities damaged by the contractor shall be at the contractor's expense.

CONSTRUCTION PERIOD PROTECTION PROGRAM

- The limit of forest retention and reforestation shall be staked and flagged. Field adjustments of the edge of surviving forest stand shall be done by the detail labeled "Field Edge Determination".
- A pre-construction meeting at the site should be held to verify the limits of clearing specified. The meeting should include the owner or the owner's representative, the on-site foreman in charge of land disturbance, the environmental consultant and the appropriate Howard County inspectors.
- Forest protection devices and signs (see details) shall be installed prior to any clearing or grading. The protection devices and signs shall be maintained during the entire construction period. None of the devices shall be in any way anchored or attached to the trees to be saved.
- Equipment, vehicles and building materials shall not be allowed within the protected area. Activities strictly to implement any reforestation planting and maintenance (i.e. watering, fertilizing thinning, pruning, removal of dead and diseased trees etc.) of the conservation area are permitted. Clearing for the purpose of sodding or planting grass is not permitted within the forest conservation area.
- At the end of the construction period, the designated qualified professional shall convey to the administrator of the Howard County Forest Conservation Program certification that all forest retention areas have been preserved, all reforestation and/or afforestation plantings (where required) have been installed as required by the forest conservation plan, and that all protection measures required for the post-construction period have been put in place. Upon review of the final certification document for completeness and accuracy, the program coordinator will notify the developer of release from all construction period obligations.

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Charles M. Daniels 4-25-00
 CHIEF, BUREAU OF HIGHWAYS 143

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Claude Hammett 6/8/00
 CHIEF, DIVISION OF LAND DEVELOPMENT

Charles Hammett 5/5/00
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 11

Surveyor
 Vogel & Associates
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 BURTONSVILLE, MARYLAND 20866
 (301) 421-4024

QUALIFIED PROFESSIONAL PER THE MARYLAND FOREST CONSERVATION ACT.

DATE

STATE OF MARYLAND
 Michael B. Tran
 REGISTERED ARCHITECT
 933 LANDSCAPE ARCHITECT
 For Cutschick, Little & Weber P.A.

PROJECT: 99011-13
 ILLUSTRATION: C.E.M.
 SCALE: as shown
 DATE: 4/26/00
 APPROVAL: P.F.B., R.M.M.

DATE: 2/26/00
 DESCRIPTION: DIRECT SUBMITTAL TO DPZ & DEC, REVISED SUBMITTAL PER HOWARD COUNTY COMMENTS, 1ST SUBMITTAL TO HO. CO. DPZ FOR REVIEW

ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MD.
 MILL TOWNE OVERLOOK
 FOREST CONSERVATION NOTES AND DETAILS

R.M. MOCHI GROUP, P.C.
 10120 A Old National Pike
 Ijamsville, MD 21754-9706
 (301) 865-5858
 Fax: (301) 865-3971

FIG. No. 10
 How shown, MD 21774-0010
 10120 A Old National Pike
 Ijamsville, MD 21754-9706

10 OF 10
 F-00-14