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ROADWAY AND STORM DRAINS

EMERSON

SECTION THREE AREA TWO

6th ELECTION DISTRICT

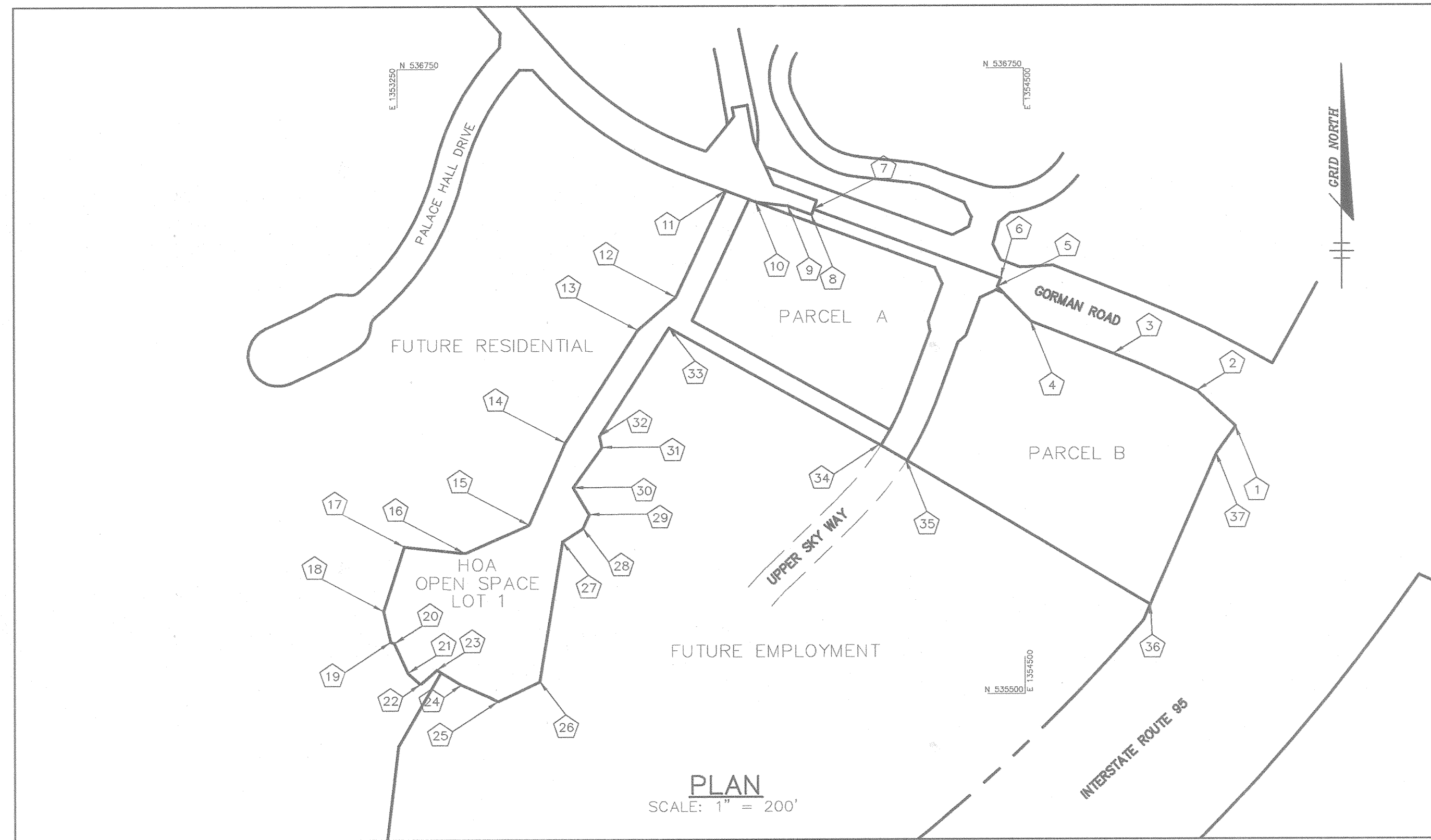
HOWARD COUNTY, MARYLAND

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" 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 ON 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 (1995) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS, (JANUARY 1998)," A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY MAPS WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY AIR SURVEY CORP. FLOWN IN APRIL 1998.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 47 E4 ALONG WITH 2 TRAVERSE POINTS WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC.
- SEWER IS PUBLIC.
- THE STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED VIA THE GRASS CHANNEL CREDIT, AND A PUBLIC WET POND.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY DAFT McCUNE & WALKER, INC.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY WELLS & ASSOCIATES DATED FEBRUARY 2000.
- THE NOISE STUDY FOR THIS PROJECT WAS PREPARED BY CENTURY ENGINEERING DATED MARCH 1999.
- THIS PROJECTS FALLS UNDER THE APPROVED AFPO STUDY OF 5-99-12.
- THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY DAFT, McCUNE & WALKER, INC. JULY 2000.
- SUBJECT PROPERTY ZONED PEC-MXD-3 AND R-SC-MXD-3 PER ZONING BOARD CASE ZB-979-M.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S.: S-99-12, PB-339, ZB-979-M, P-02-22, PB-359.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOL. III. ALL 60' RIGHT OF WAYS 30 M.P.H.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T190.
- ALL STREET CURB RETURNS SHALL HAVE 35' RADII UNLESS OTHERWISE NOTED.
- ALL STREET LIGHTS SHALL BE LOCATED BETWEEN 2'-0" AND 4'-0" BEHIND FACE OF CURB.
- STREET TREES LOCATION, TYPE AND NUMBER OF TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS INCLUDING 20' CLEARANCE OF ANY STREET LIGHT AND SHALL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. BOND RELEASE IS CONTINGENT UPON SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.
- STREAM BUFFERS ARE DETERMINED BY LAND USE ADJOINING THE OPEN SPACE. EMPLOYMENT USE = 50' BUFFER FROM ANY STREAM. RESIDENTIAL USES= 50' BUFFER FOR INTERMITTENT STREAMS AND 75' BUFFER FOR PERENNIAL STREAMS.
- THE 100-YEAR FLOODPLAIN FOR HAMMOND BRANCH WAS OBTAINED FROM THE HOWARD COUNTY FLOODPLAIN STUDY DATED NOV. 1980 REF. D-6-10-26 & AUG 1986 REF. D-1065. THE 100 YEAR FLOODPLAIN FOR THE REMAINING STREAMS ARE FROM THE FLOODPLAIN STUDY PREPARED BY DAFT McCUNE AND WALKER MARCH 2000.
- DEVELOPMENT OF EMERSON SECTION 3, AREA 2 UNDER THE CURRENT FOREST CONSERVATION ACT INVOLVES THE CLEARING OF APPROXIMATELY 2.20 ACRES OF FOREST AND 0 ACRES OF RETENTION. WHEN CONSIDERED CUMULATIVELY WITH PREVIOUS PHASES OF THE PROJECT, NO REFORESTATION IS REQUIRED.
- THERE ARE NO KNOWN CEMETARIES OR GRAVE SITES ON THIS PROPERTY.
- SOIL MAP #33.
- THE LIMITS OF ALL STREAMS AND WETLANDS SHOWN HEREON HAVE BEEN APPROVED BY THE US ARMY CORPS OF ENGINEERS WITH JURISDICTIONAL DETERMINATION # CEHAB-OP-RMS00-61707-11, DATED APRIL 13, 2001.
- THE WATER MANAGEMENT ADMINISTRATION INTENDS TO ISSUE A MODIFICATION OF AUTHORIZATION FOR THE PROPOSED WORK WITHIN THE FLOODPLAIN AND STREAM AREA, NON-TIDAL WETLANDS AND WATERWAYS PERMIT NO. 01-NI-0222/200164-079.

FOREST CONSERVATION GOALS AND OBJECTIVES

The goals and objectives of this Forest Conservation Plan are to identify forests to be cleared under Emerson 3, Section 2, and to evaluate the reforestation requirement generated by this clearing. Under this phase, approximately 2.20 +/- acres of forest will be cleared, and no retention is proposed. When evaluated cumulatively with previous phases of the Emerson project, no reforestation is required. Please note that the gross site acreage used for this phase's forest conservation calculations include 1.07 +/- acres for the proposed sanitary sewer extension, including 0.08 +/- acres of floodplain. This "off-site" area is included in the forest conservation calculations in order to account for forest clearing associated with the sewer extension, and it should be noted that this acreage is slightly higher than that identified on the plat for this phase.



FOREST CONSERVATION CALCULATIONS

BASIC SITE DATA	ACRES (1/100)
GROSS SITE AREA	220.27
AREA WITHIN 100 YEAR FLOODPLAIN	21.27
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	0.0
NET TRACT AREA	199.00
LAND USE CATEGORY	COMMERCIAL/INDUSTRIAL/OFFICE

INFORMATION FOR CALCULATIONS	ACRES
A. NET TRACT AREA	199.00
B. REFORESTATION THRESHOLD (15% x A)	29.85
C. AFFORESTATION MINIMUM (15% x A)	29.85
D. EXISTING FOREST ON NET TRACT AREA	87.50
E. FOREST AREAS TO BE CLEARED	41.67
F. FOREST AREAS TO BE RETAINED	45.83

REFORESTATION CALCULATIONS	ACRES
A. NET TRACT AREA	199.00
B. REFORESTATION THRESHOLD (15% x A)	29.85
C. EXISTING FOREST ON NET TRACT AREA	87.50
D. FOREST AREAS TO BE CLEARED	41.67
E. FOREST AREAS TO BE RETAINED	45.83
F. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	41.67
G. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0.00
H. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	15.98

CLEARING ABOVE THE THRESHOLD ONLY	ACRES
IF FOREST AREAS TO BE RETAINED ARE GREATER THAN THE REFORESTATION THRESHOLD (IF E IS GREATER THAN B), THE FOLLOWING CALCULATIONS APPLY:	
REFORESTATION FOR CLEARING ABOVE THRESHOLD (F1/4)	10.42
REFORESTATION FOR CLEARING BELOW THRESHOLD (Gx2)	0.00
TOTAL REFORESTATION REQUIRED (F1/4) + (Gx2)	10.42
CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	15.98
REFORESTATION REQUIRED	0.00 ACRES
REFORESTATION PROVIDED	5.03 ACRES
TOTAL	5.03 ACRES

FOREST CONSERVATION TRACKING CHART

SECTION PHASE	GROSS AREA	FLOODPLAIN AREA	NET TRACT AREA	EX. FOREST AREA	FOREST * CLEARED	FOREST RETAINED	REFOR./AFFOR. REQUIRED	REFOR./AFFOR. PROVIDED	EXCESS REFOR./AFFOR.	FUTURE FOREST CLEARING	FUTURE REFOR./AFFOR.	COMMENTS
2/1A&1B	106.20	3.50	102.70	24.70	7.93	16.77	0.61	5.03	4.42	4.48	3.41	
2/2	118.90	3.50	115.40	24.80	8.03	16.77	2.95	5.03	2.08	3.28	3.41	SEE NOTE A
2/3	137.35	4.00	133.35	34.40	12.53	21.87	1.27	5.03	3.76	2.18	3.91	SEE NOTE B
3/1	206.85	21.19	185.66	85.30	39.47	45.83	0.00	5.03	5.03	2.18	3.91	
3/2	220.27	21.27	199.00	87.50	41.67	45.83	0.00	5.03	5.03	2.18	3.91	SEE NOTE C

TABULATIONS SHOWN ABOVE FOR EACH PHASE WILL REFLECT CUMULATIVE TOTALS FOR THIS PHASE AND ALL PREVIOUS PHASES. THE FOREST CLEARED INCLUDES THE ACREAGE OF POSSIBLE FUTURE FOREST CLEARING.
 A. 1.20 +/- ACRES OF FUTURE FOREST CLEARING SHOWN ON F-01-137 WAS CLEARED FOR SWM ON OPEN SPACE LOT 174.
 B. 1.10 +/- ACRES OF FUTURE FOREST CLEARING SHOWN ON F-01-137 WAS CLEARED FOR SWM ON OPEN SPACE LOT 176.
 C. GROSS AREA INCLUDES 1.07 +/- ACRES FOR SANITARY SEWER EXTENSION, AND CONTAINS 0.08 +/- ACRES OF FLOODPLAIN.

ROAD & STORM
 AS-BUILT
 G. SCOTT SHANBERGER
 PROFESSIONAL LAND SURVEYOR
 DATE
 PROF. L.S. # 100899

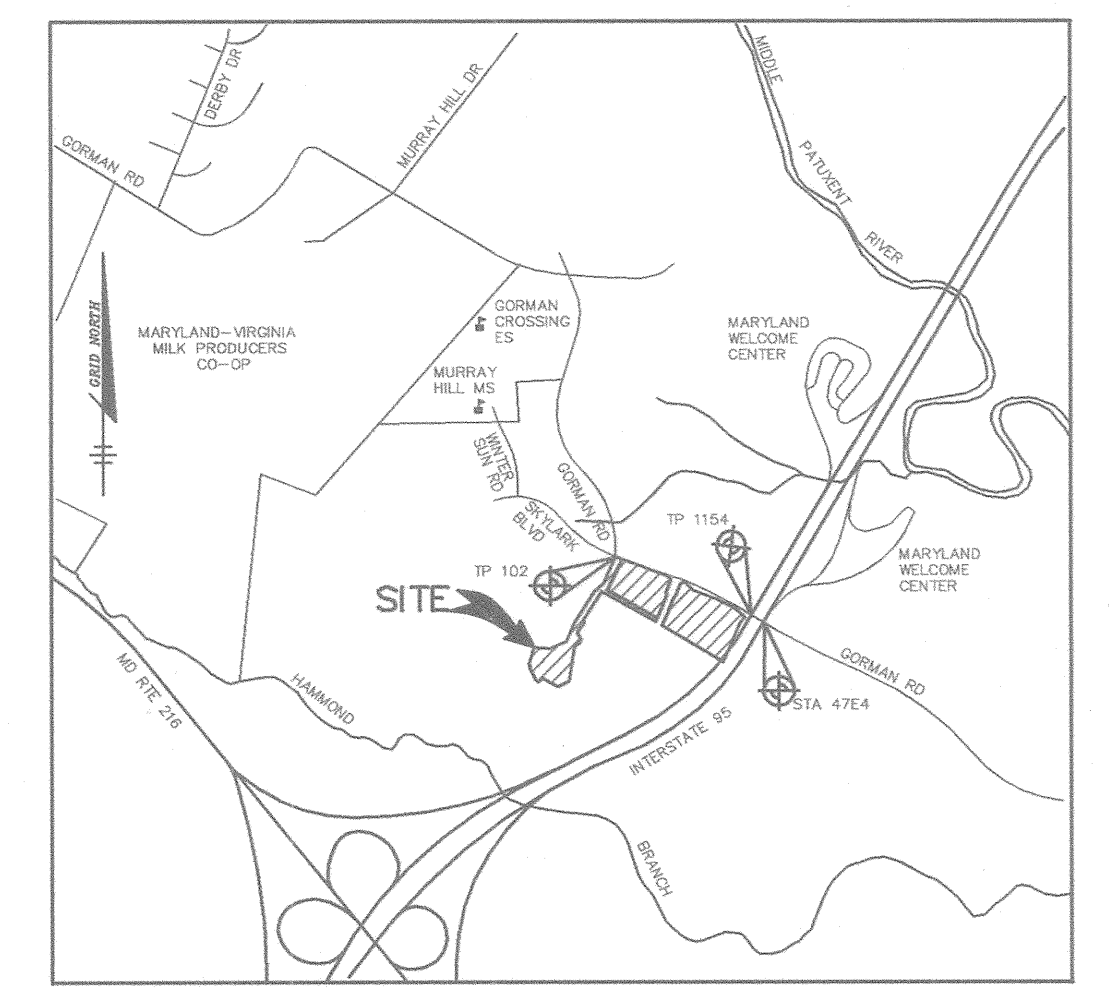
SHANBERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 201
 ELLICOTT CITY, MARYLAND 21043

BENCHMARKS

TRAVERSE POINT 102
 ELEVATION 346.19
 N 536,499.165
 E 1,353,974.017
 LOCATED NEAR THE
 INTERSECTION OF GORMAN
 ROAD AND SKYLARK BLVD.

TRAVERSE POINT 1154
 ELEVATION 347.45
 N 536,018.069
 E 1,355,129.333
 LOCATED NEAR THE
 I-95 BRIDGE ALONG
 GORMAN ROAD

CONTROL STATION 47E4
 ELEVATION 339.00
 N 535,846.16
 E 1,355,431.23
 LOCATED NEAR THE
 I-95 BRIDGE ALONG
 GORMAN ROAD



APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
William M. Quake 11-8-02
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Wanda Hamer 11/29/02
 CHIEF, DIVISION OF LAND USE DEVELOPMENT DATE

Christopher J. Reid 11/14/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

OWNER/DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

PROJECT
EMERSON
 SECTION THREE AREA TWO

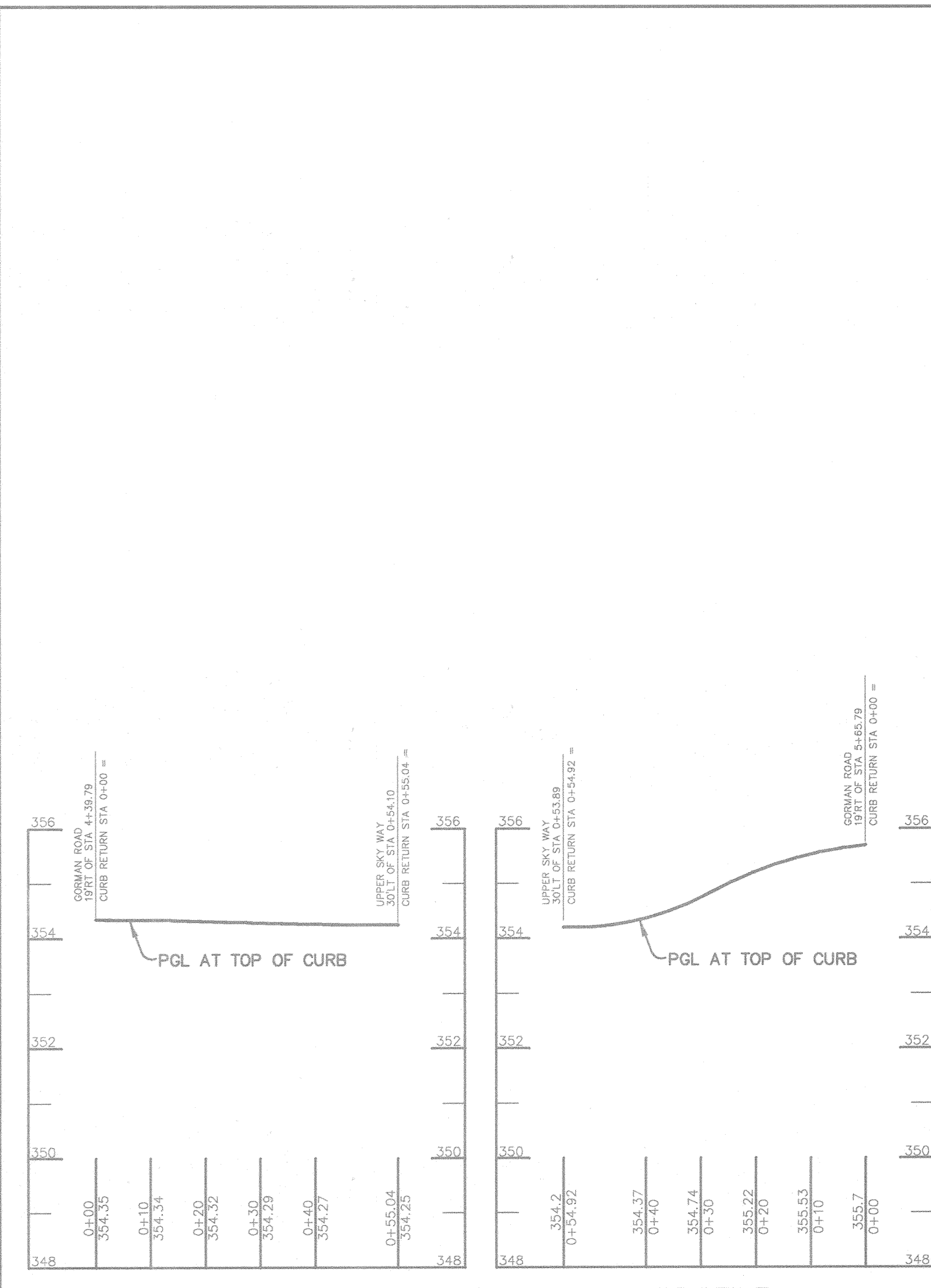
AREA TAX MAP 47 BLOCK 8 & 9
 ZONED: PEC-MXD-3 PART OF PARCELS: 462 & 837
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
TITLE SHEET

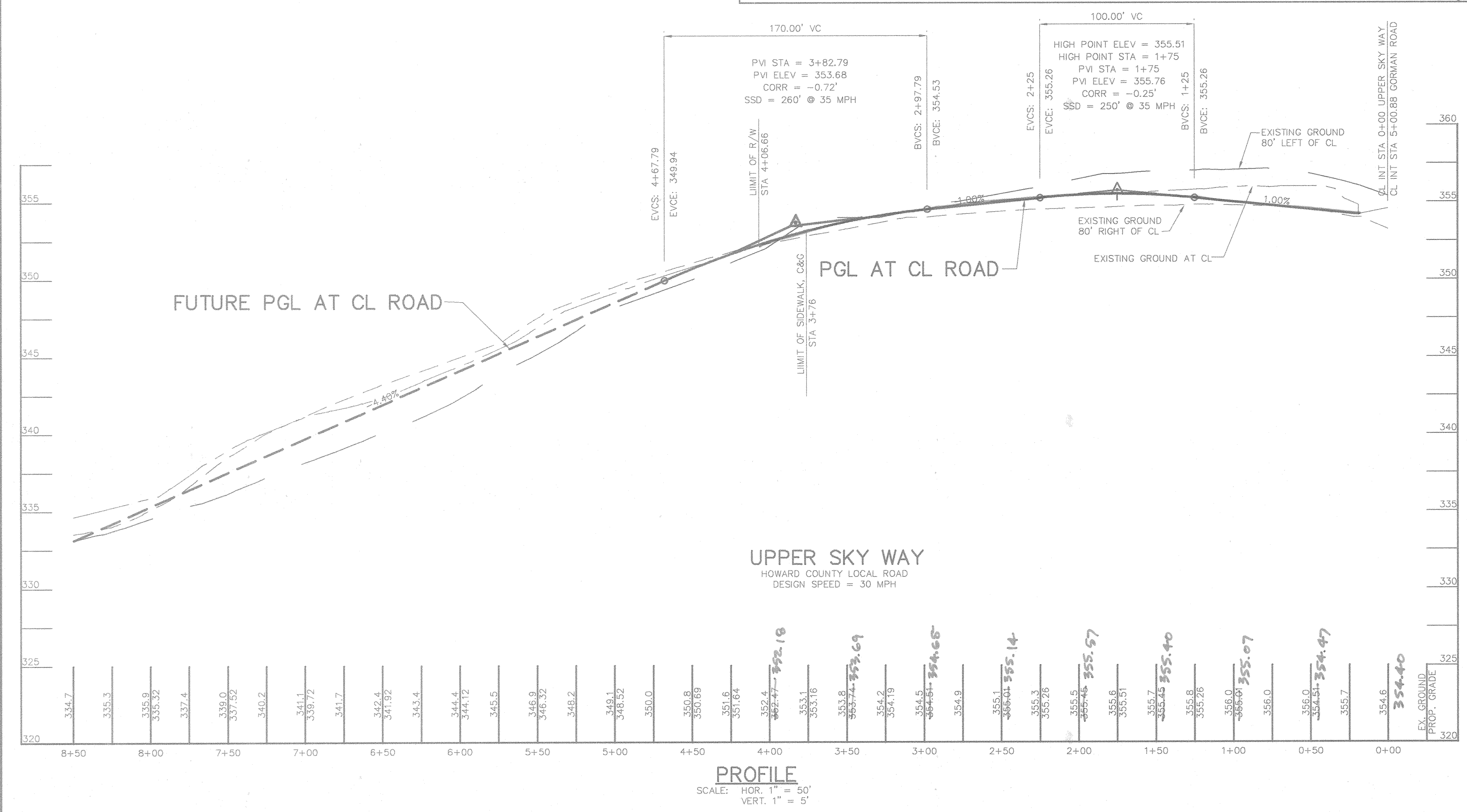
Patton Harris Rust & Associates, pc
 Engineers, Surveyors, Planners, Landscape Architects.
 PHRA
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

DESIGNED BY : A.C.R.
 DRAWN BY : DAM
 CHECKED BY : C.J.R.
 PERMIT TRACKING NUMBER
 01-NI-0222/200164079
 DATE : OCTOBER 21, 2002
 SCALE : AS SHOWN
 DRAWING NO. 1 OF 12

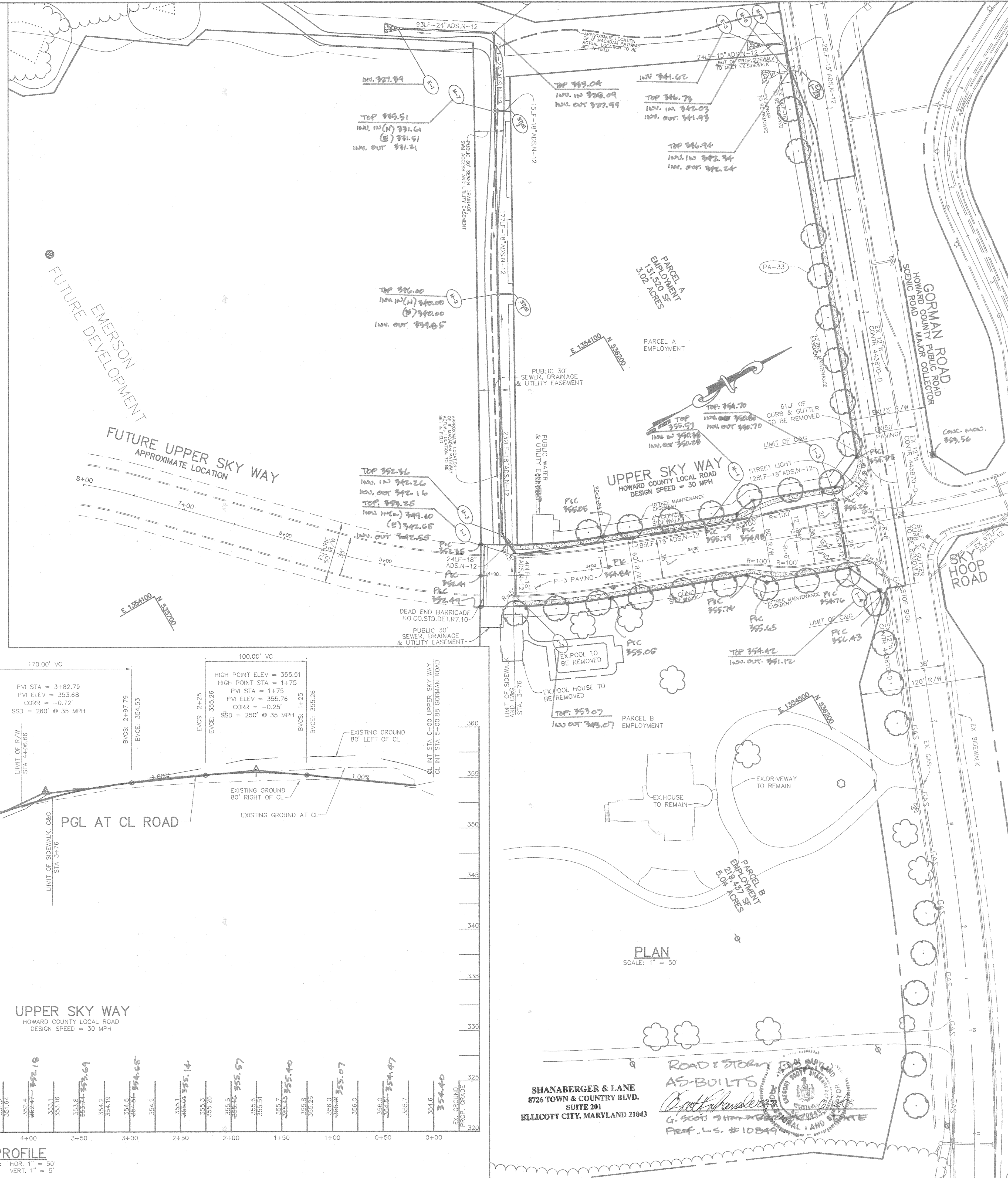
CHRISTOPHER J. REID #19949
 F-02-178 C-RD1.DWG



PROFILE
SCALE: HOR. - 1" = 20'
VERT. - 1" = 2'



PROFILE
SCALE: HOR. - 1" = 50'
VERT. - 1" = 5'



PLAN
SCALE: 1" = 50'

STREET TREE PLANT LIST

KEY	QTY	BOTANICAL AND COMMON NAME	SIZE	ROOT
PA	33	Platanus xacerifolia London Plane Tree	2-1/2" - 3"	B & B

CL CURVE DATA
FROM CL STA 2+84 TO STA 5+52
RADIUS = 600.0
LENGTH = 268.18
TANGENT = 136.37
DELTA = 25° 36' 32"
CHORD = S 33° 14' 56" W 265.95'

CURB TRANSITION DATA RIGHT
FROM CL STA 1+19 TO STA 1+51
RADIUS = 100.00'
LENGTH = 33.32'
TANGENT = 16.82'
DELTA = 19° 5' 28"
CHORD = N 10° 53' 56" E 33.17'

CURB TRANSITION DATA RIGHT
FROM CL STA 1+51 TO 1+84
RADIUS = 100.00'
LENGTH = 33.32'
TANGENT = 16.82'
DELTA = 19° 5' 28"
CHORD = N 10° 53' 56" E 33.17'

CURB TRANSITION DATA LEFT
FROM CL STA 1+19 TO STA 1+51
RADIUS = 100.00'
LENGTH = 33.32'
TANGENT = 16.82'
DELTA = 19° 5' 28"
CHORD = S 29° 59' 29" W 33.17'

CURB TRANSITION DATA LEFT
FROM CL STA 1+51 TO 1+84
RADIUS = 100.00'
LENGTH = 33.32'
TANGENT = 16.82'
DELTA = 19° 5' 28"
CHORD = S 29° 59' 24" W 33.17'

STREET LIGHT DATA
LOCATE 37' RIGHT OF CL STA 0+35 UPPER SKY WAY.
POLE HEIGHT = 30' LIGHT FIXTURE = 250w HPS
POLE TYPE = BRONZE ALUMINUM

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Daulton 11-8-02
CHIEF, BUREAU OF HIGHWAYS #S DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Cindy Hamada 11/2/02
CHIEF, DIVISION OF LAND DEVELOPMENT #S DATE

Chris Compton 11/14/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

DATE NO. REVISION

OWNER/DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

PROJECT
EMERSON
SECTION THREE AREA TWO

AREA TAX MAP 47 BLOCK 8 & 9
ZONED: PEC-MXD-3 PART OF PARCELS: 462 & 837
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
PLAN AND PROFILE OF UPPER SKY WAY

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DESIGNED BY: A.C.R.
DRAWN BY: DAM
CHECKED BY: C.J.R.
PERMIT TRACKING NUMBER 01-NT-0222/200164079
DATE: OCTOBER 21, 2002
SCALE: AS SHOWN
DRAWING NO. 2 OF 12

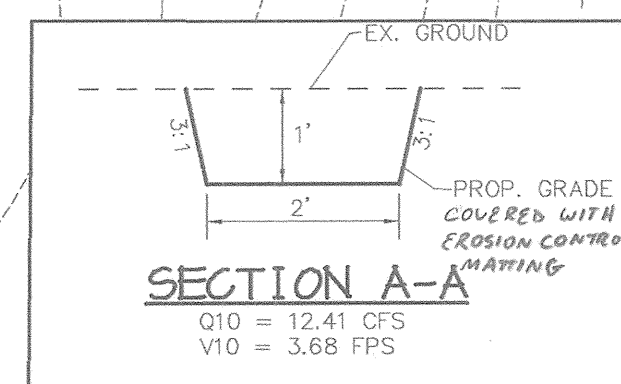
SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 201
ELLICOTT CITY, MARYLAND 21043

ROAD ESTABLISHED AS-BUILTS
Chris Compton
G. SCOTT SHANABERGER
PROF. L.S. # 10249

DAM CENTERLINE DATA

①	N 555714.74 E 1355246.46	⑨-⑩	R=518.61' L=54.48'
②	S 15°17'41" 42.71'	⑩-⑪	R=15.48' L=24.77'
③	R=36.48' L=27.43'	⑪-⑫	R=11470.62' L=11.31'
④	R=36.48' L=11.48'	⑫-⑬	R=252.25' L=34.16'
⑤	R=76.76' L=8.83'	⑬-⑭	R=91417.31' L=85.75'
⑥	R=128.81' L=44.14'	⑭-⑮	R=63.05' L=60.67'
⑦	R=349.06' L=3.19'	⑮-⑯	R=154.21' L=26.13'
⑧	R=16.00' L=20.84'	⑯-⑰	N 66°24'46" E 10.87'
⑨	R=40.17' L=24.81'	⑰	N 535781.65 E 1353484.27

BASIN #1
 DRAINAGE AREA 8.3 ACRES
 STOR. REQ'D (WET STOR.) 14940 CF
 STOR. REQ'D (DRY STOR.) 14940 CF
 STOR. PROV. (WET STOR.) 22130 CF @ 307.00
 STOR. PROV. (DRY STOR.) 81240 CF @ 311.08
 RISER CREST ELEVATION 311.08
 TOP OF DAM 314.18
 BOTTOM EL. 305.40
 SIDE SLOPES 4:1
 Q_{EX} 4.34 cfs
 Q_{PR} 0.02cfs
 N 5353600
 E 13553600



DRAINAGE AREA DATA

INLET NO.	D.A.	'C' FACTOR	% IMP
I 1	0.14	0.86	100
I 2	0.14	0.86	100
I 3	0.08	0.86	100
I 4	0.08	0.86	100
STUB-1	1.9	0.73	80
STUB-2	1.2	0.73	80

PUBLIC SWM WET POND SUMMARY CHART

SIZING CRITERIA	VOLUME REQUIRED	VOLUME PROVIDED	NOTES
WQV	0.79 AC.FT.	0.79 AC.FT.	WET POND
Rev	0.19 AC.FT. (OR 2.26 AC)	(3.16 AC)	GRASS CHANNEL CREDIT
CPV	1.37 AC.FT.	1.51 AC.FT.	WET POND
QP	N/A	N/A	
GF	N/A	N/A	

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 8726 TOWN & COUNTRY BLVD.
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 ELLICOTT CITY, MARYLAND 21043

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

DEVELOPER: *Paul Cavanaugh* 10-18-02
 DATE

BY THE ENGINEER:
 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.

ENGINEER: *Chris J. Reid* 10-18-02
 DATE

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.

Jim Ryan / ccs 10/30/02
 NATURAL RESOURCES CONSERVATION SERVICE / DATE

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

John St... 10/30/02
 HOWARD SOIL CONSERVATION DISTRICT / DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Daniels 11-8-02
 CHIEF, BUREAU OF HIGHWAYS / DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Cindy Hamble 11/28/02
 CHIEF, DIVISION OF LAND DEVELOPMENT / DATE

Mike Drummond 11/14/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION / DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

PROJECT
EMERSON
 SECTION THREE AREA TWO

AREA TAX MAP 47 BLOCK 8 & 9
 ZONED: PEC-MXD-3 PART OF PARCELS: 462 & 837
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
**GRADING, SEDIMENT CONTROL
 PLAN AND DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
 Engineers, Surveyors, Planners, Landscape Architects.
 PHRA
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

DESIGNED BY: A.C.R.
 DATE: 10-18-02

DRAWN BY: DAM
 CHECKED BY: C.J.R.

PERMIT TRACKING NUMBER
 01-NI-0222/200164079
 DATE: OCTOBER 21, 2002
 SCALE: 1"=50'

CHRISTOPHER J. REID #19949
 DRAWING NO. 3 OF 12





NOTE:
PLACE TRENCH EXCAVATION ON UPHILL SIDE OF TRENCH.
CONTRACTOR TO LIMIT EXCAVATION TO THREE PIPE
LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND
STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS
SHORTER.

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

Paul Cavanaugh
DEVELOPER
PAUL CAVANAUGH
10.18.02
DATE

BY THE ENGINEER :
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.

Charles J. Reid
ENGINEER
CHARLES J. REID
10.18.02
DATE

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.

Jim Myers / CS
NATURAL RESOURCES CONSERVATION SERVICE
JIMMY MYERS / CS
10/30/02
DATE

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

John S. ...
HOWARD SOIL CONSERVATION DISTRICT
JOHN S. ...
10/30/02
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC
WORKS.

Andrew M. ...
CHIEF, BUREAU OF HIGHWAYS
ANDREW M. ...
11-9-02
DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING
AND ZONING.

...
CHIEF, DIVISION OF LAND
DEVELOPMENT
...
11/20/02
DATE

...
CHIEF, DEVELOPMENT
ENGINEERING DIVISION
...
11/14/02
DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

PROJECT
EMERSON
SECTION THREE AREA TWO

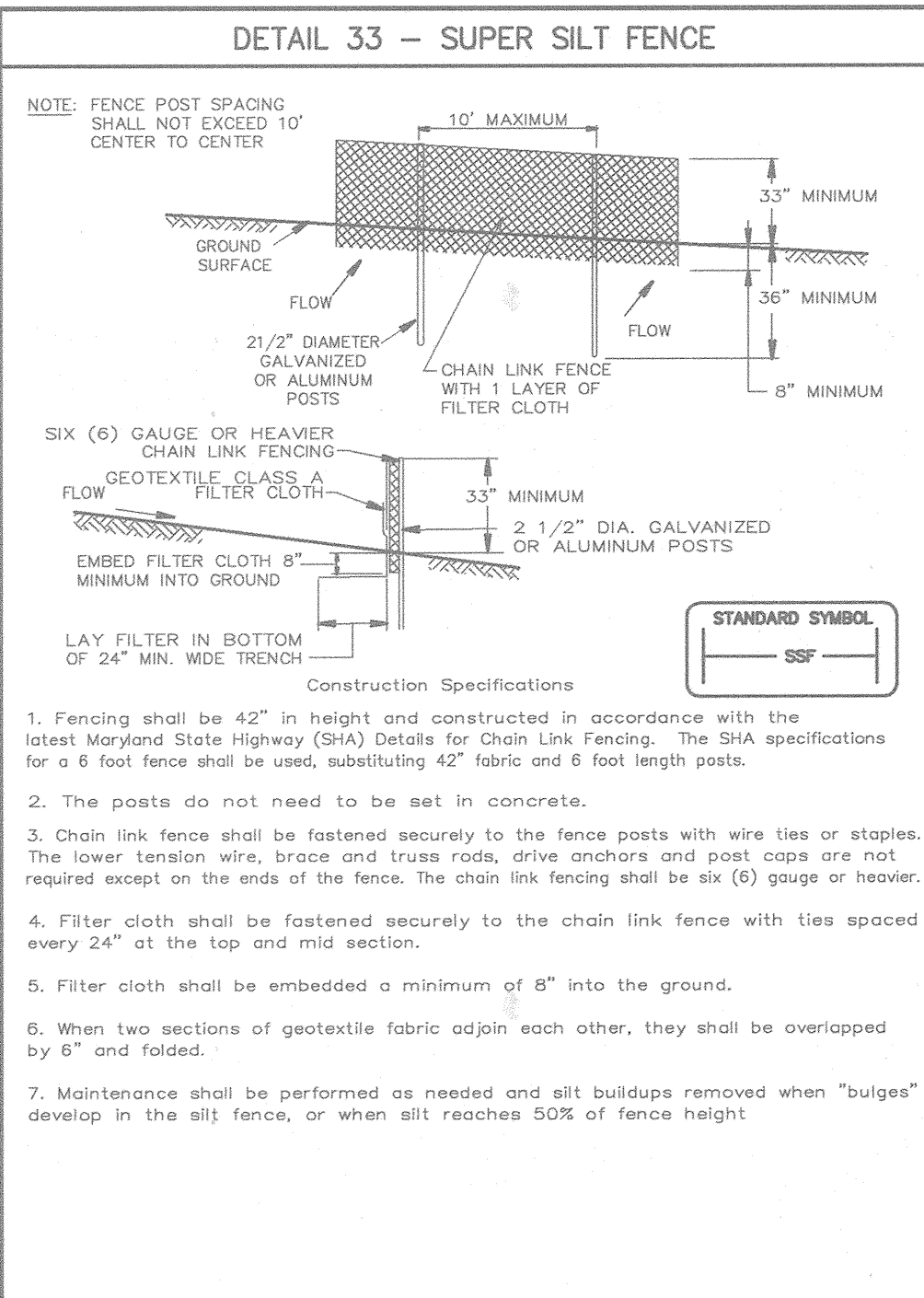
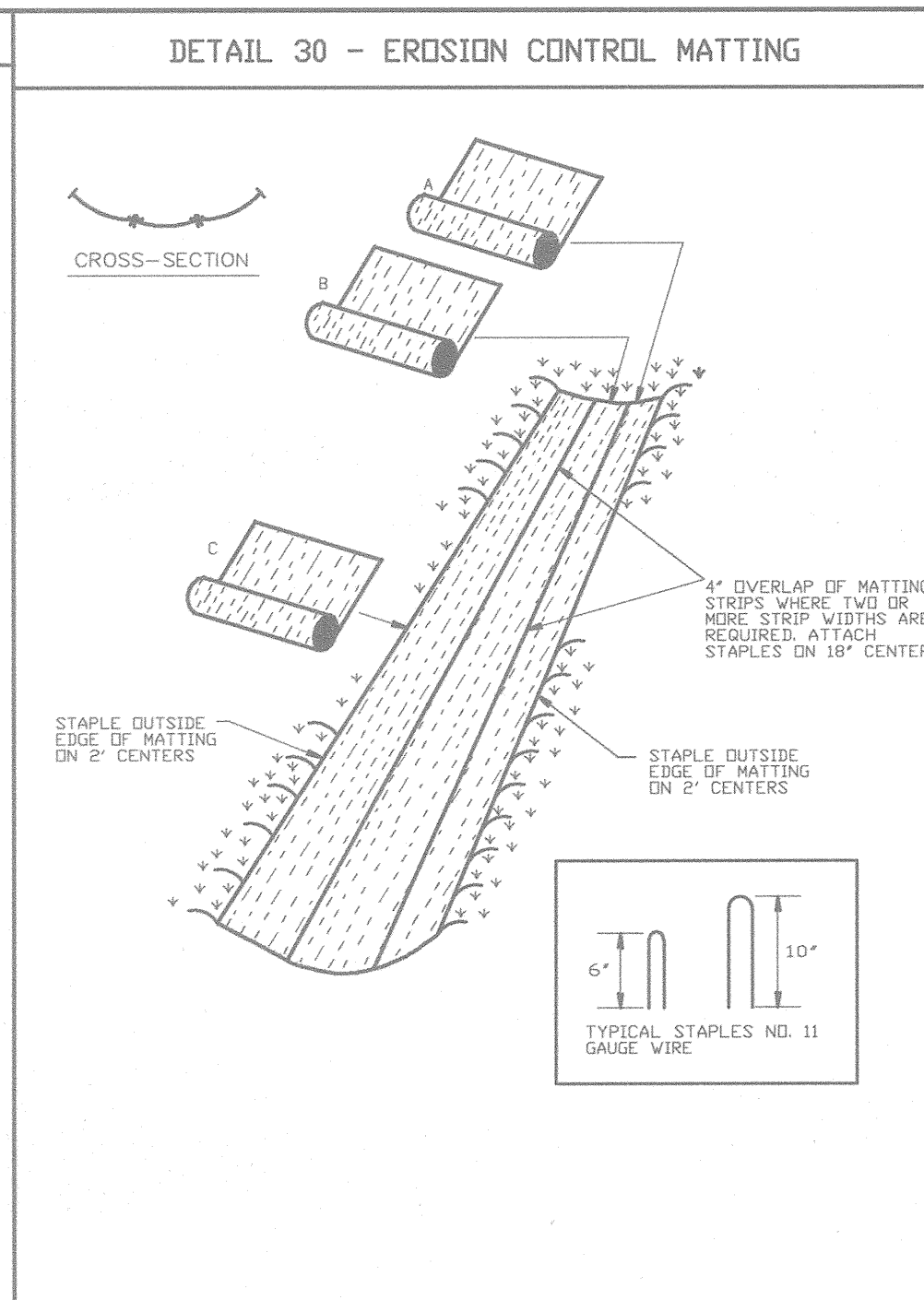
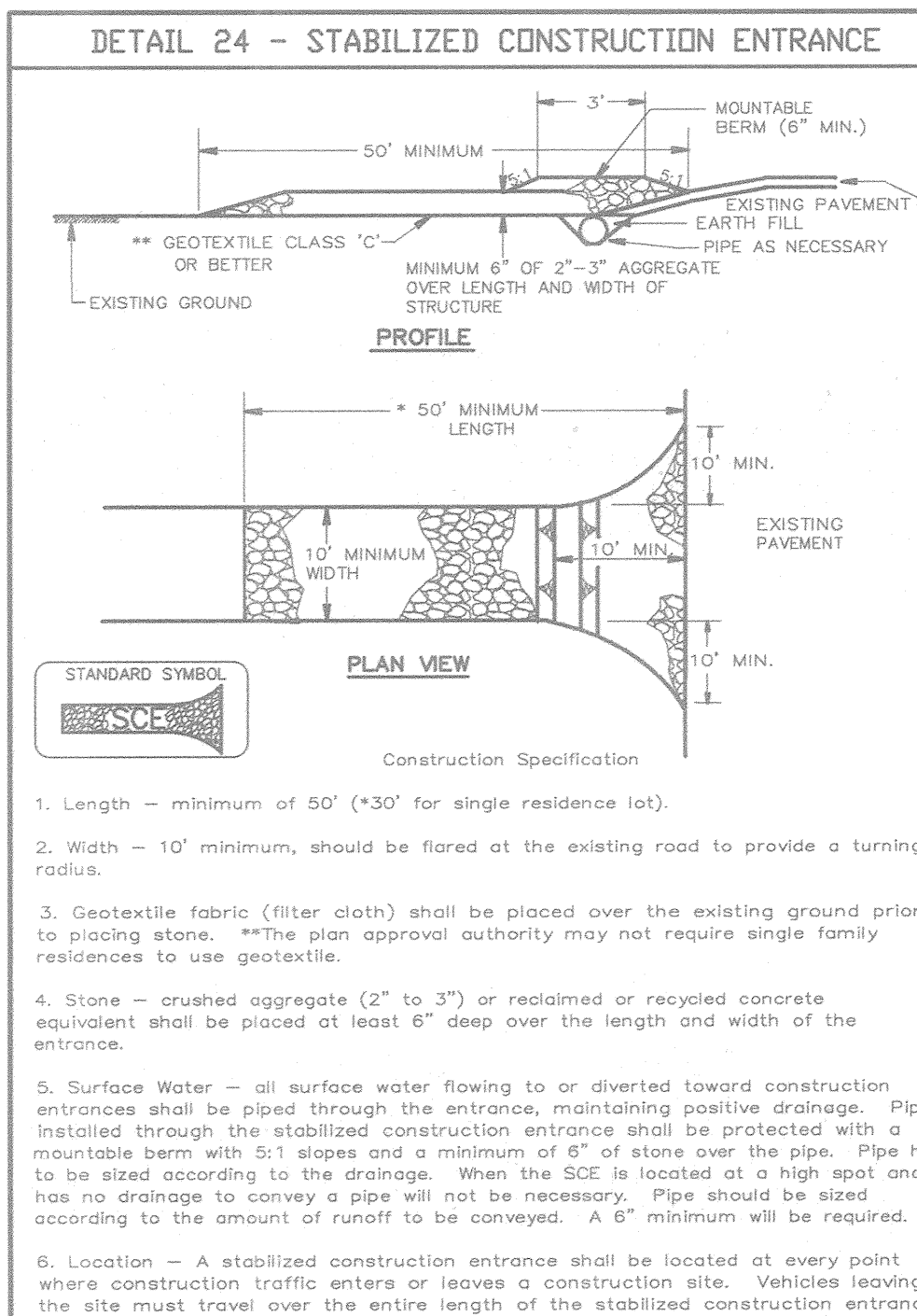
AREA TAX MAP 47 BLOCK 8 & 9
ZONED: PEC-MXD-3 PART OF PARCELS: 462 & 837
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
GRADING AND
SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
PHRA
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

10.18.02
DATE
DESIGNED BY : A.C.R.
DRAWN BY : DAM
CHECKED BY : C.J.R.
PERMIT TRACKING NUMBER
01-NI-0222/200164079
DATE : OCTOBER 21, 2002
SCALE : 1"=50'

CHRISTOPHER J. REID #19949
DRAWING NO. 4 OF 12
C-RD4.DWG



STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	A-5 2.5" WIDE	N 536029.85 E 1354273.34	345.00 (18")	346.00 (18")	353.2	HOCO STD. DETAIL SD-4.40
I-2	A-5 2.5" WIDE	N 536001.65 E 1354273.34	345.00 (18")	346.00 (18")	353.2 07	HOCO STD. DETAIL SD-4.40
I-3	A-5 2.5" WIDE	N 536314.22 E 1354349.60	350.00 (15")	350.66 (18")	354.970	HOCO STD. DETAIL SD-4.40
I-4	A-5 2.5" WIDE	N 536294.83 E 1354401.74	350.00 (15")	351.26 (15")	354.842	HOCO STD. DETAIL SD-4.40
M-1	4'-0" DIA.	N 536255.8 E 135379.6	328.10 (24")	328.00 (24")	332.54	HOCO STD. DETAIL G-5.11
M-2	4'-0" DIA.	N 536132.7 E 135401.3	340.44 (18")	340.96 (18")	346.0	HOCO STD. DETAIL G-5.11
M-3	4'-0" DIA.	N 536019.7 E 1354218.6	348.78 (18")	348.66 (18")	352.94	HOCO STD. DETAIL G-5.11
M-4	4'-0" DIA.	N 536185.4 E 1354307.1	350.02 (18")	349.94 (18")	355.6	HOCO STD. DETAIL G-5.11
M-5	4'-0" DIA.	N 536489.7 E 1353942.4	342.05 (15")	342.70 (15")	346.673	HOCO STD. DETAIL G-5.11
M-6	4'-0" DIA.	N 536482.7 E 1353986.9	342.05 (15")	342.70 (15")	346.674	HOCO STD. DETAIL G-5.11
M-7	4'-0" DIA.	N 536218.4 E 1353856.6	331.88 (18")	331.89 (18")	335.051	HOCO STD. DETAIL G-5.11
E-1	24" ADS END SECTION	N 536176.2 E 1353742.7	327.80 (24")	-	-	HOCO STD. DETAIL SD-5.51
E-2	36" TYPE 'A' HEADWALL	N 535588.9 E 1353326.7	305.00 (36")	-	-	HOCO STD. DETAIL SD-5.51
E-3	16" ADS END SECTION	N 536470.7 E 1353932.2	341.98 (15")	-	-	HOCO STD. DETAIL SD-5.51
S-1	MODIFIED STRUCTURE	N 535630.1 E 1353333.2	305.4 (8")	305.4 (36")	314.17 93	SEE SHEET 14

PIPE SCHEDULE

PIPE LENGTH	SIZE	TYPE
104	15"	ADS, N-12
776	18"	ADS, N-12
168	24"	ADS, N-12
50	36"	RCCP

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY PROJECT 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.

Paul Caranagh 10-18-02
DEVELOPER DATE

BY THE ENGINEER :

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Clayton J. Feis 10-18-02
ENGINEER DATE

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 MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John A. Lucas 10/30/02
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John A. Lucas 10/30/02
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Dauske 11-8-02
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Windy Hamrick 11/20/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John A. Lucas 11/14/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION

OWNER/DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
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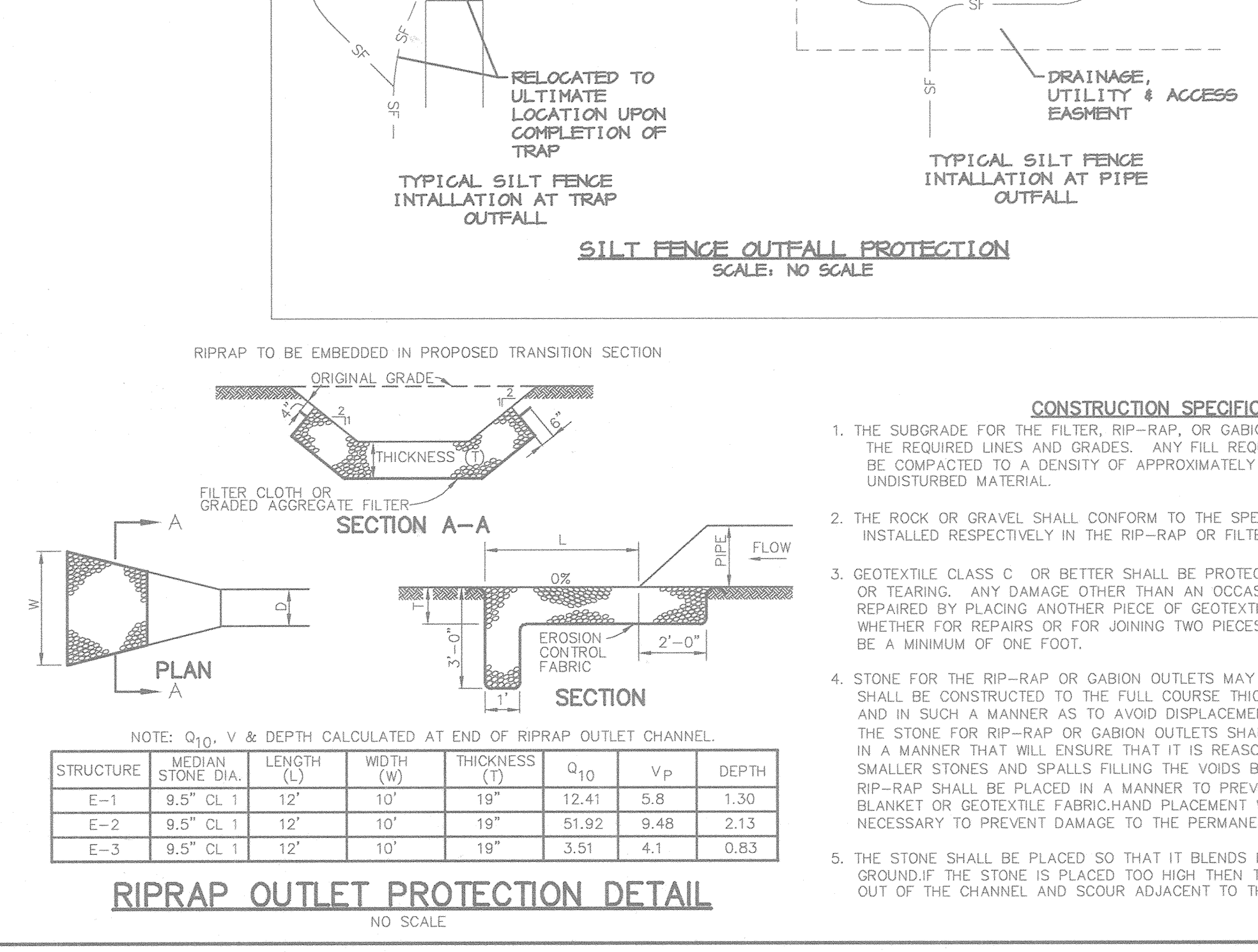
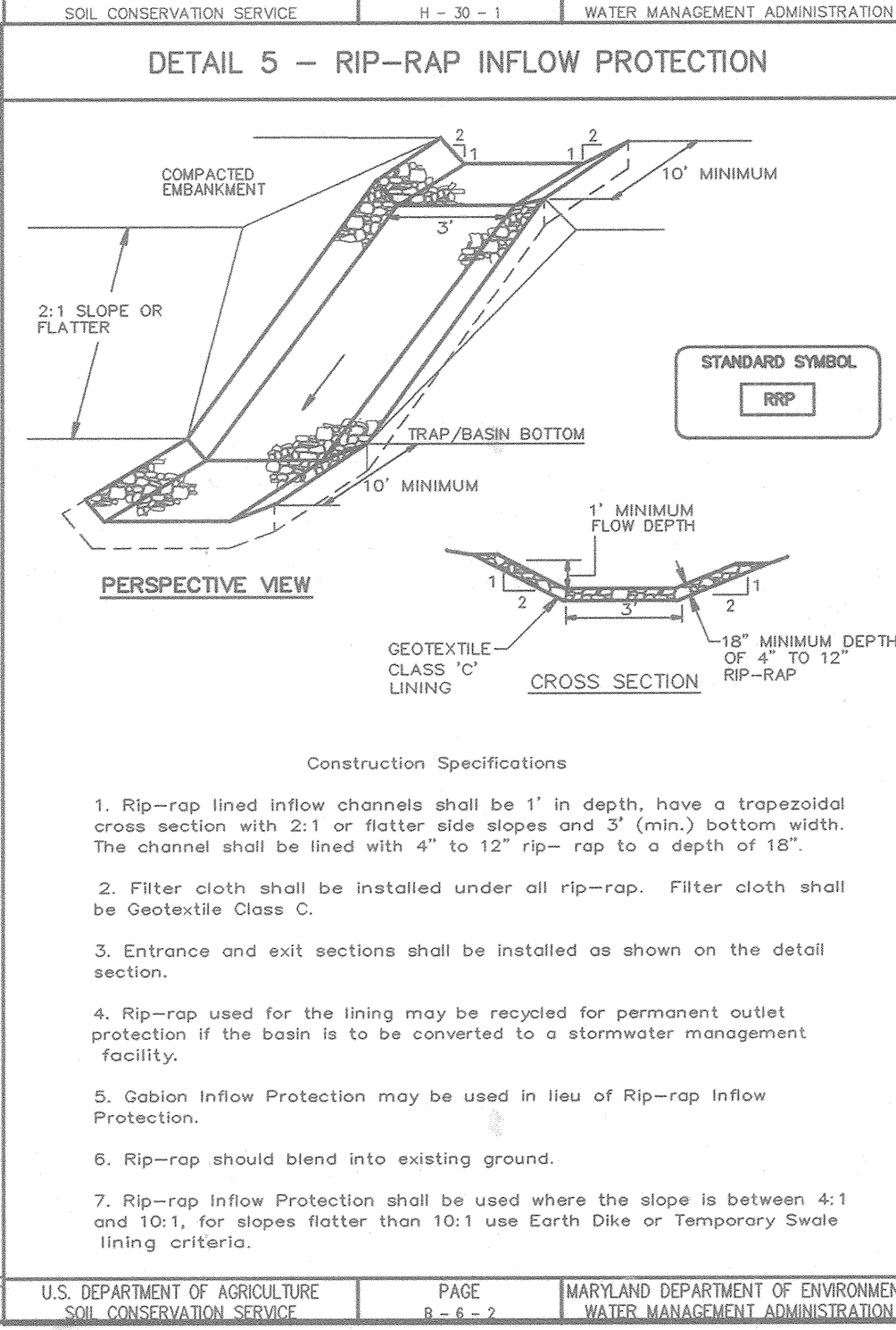
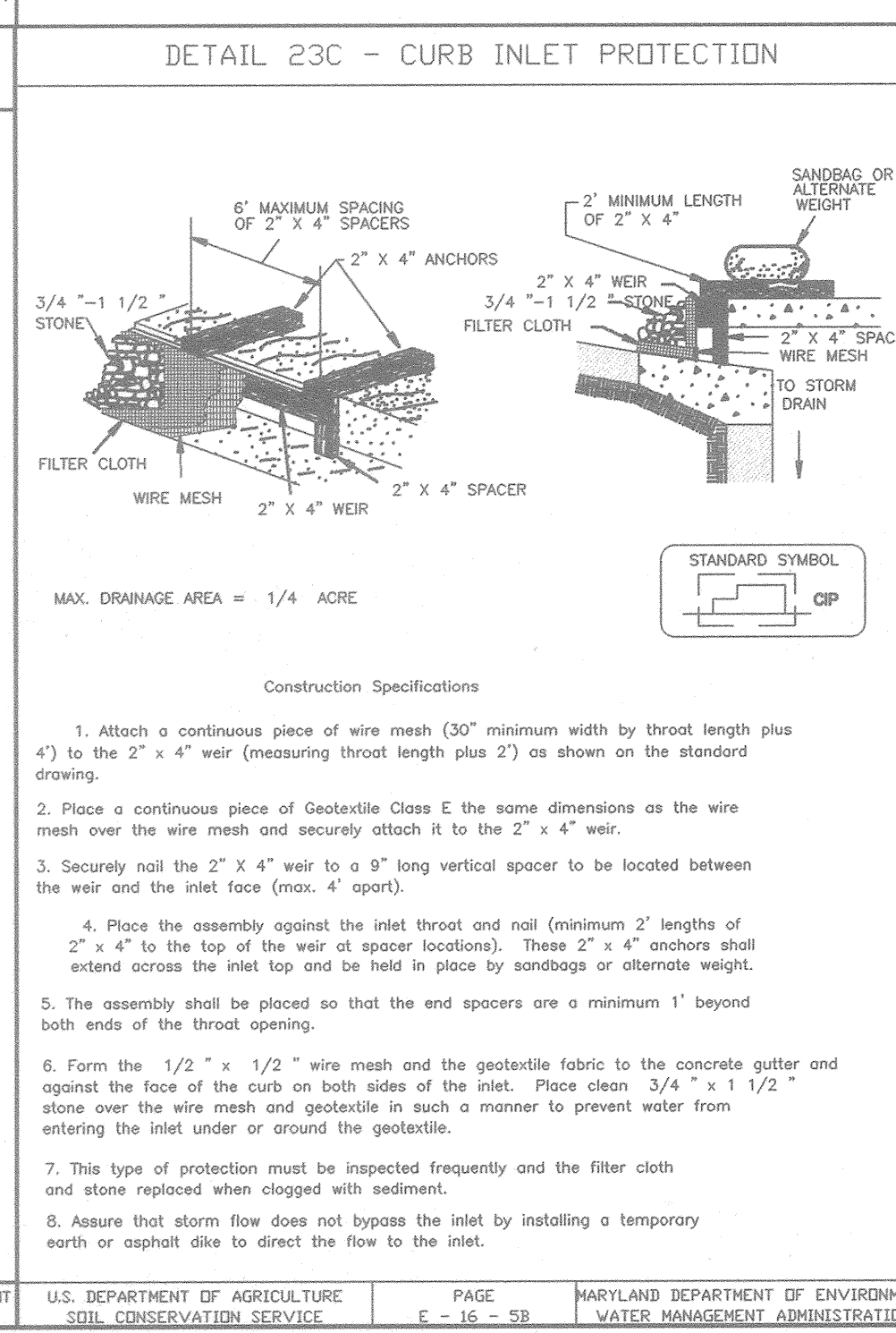
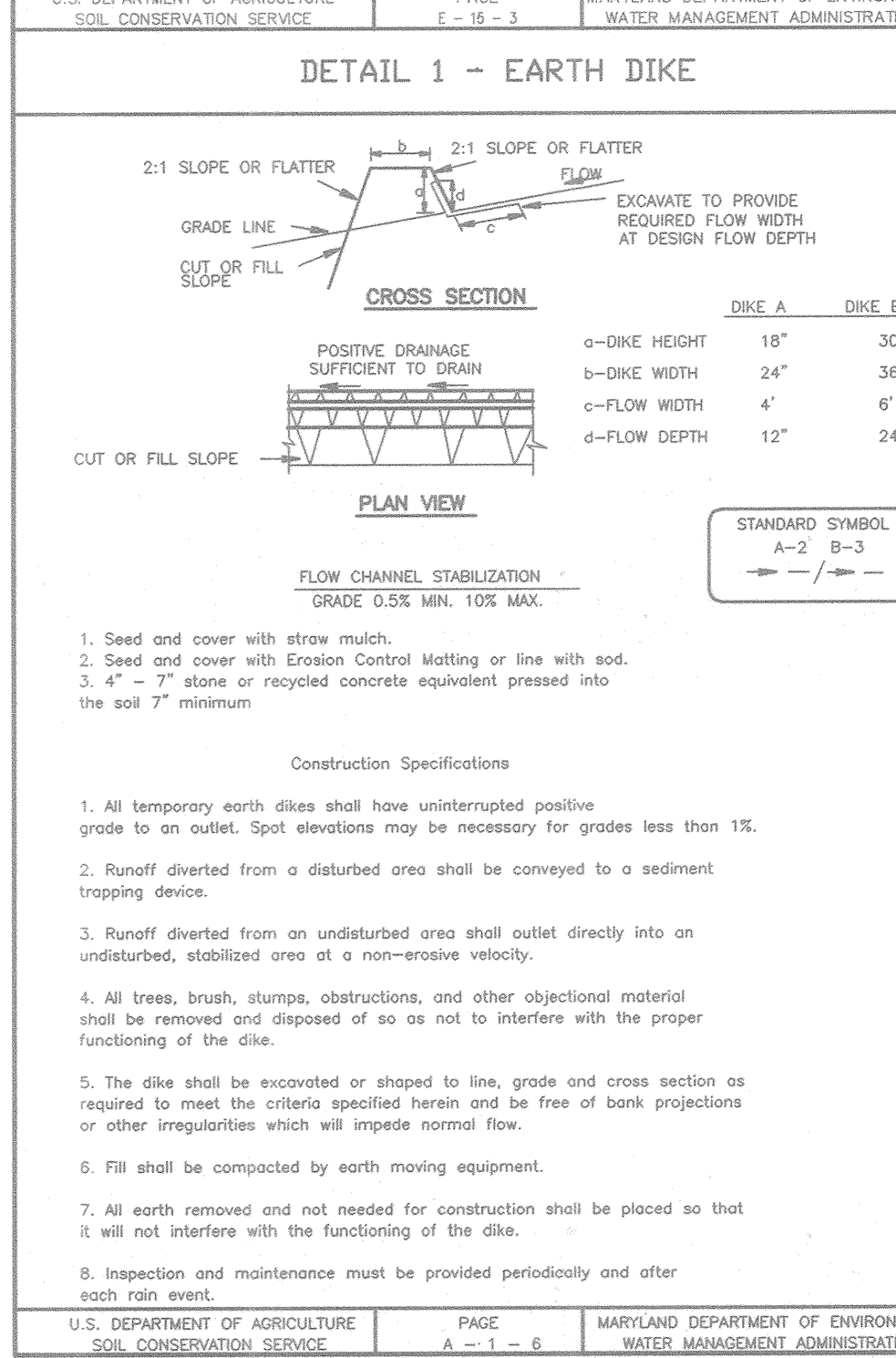
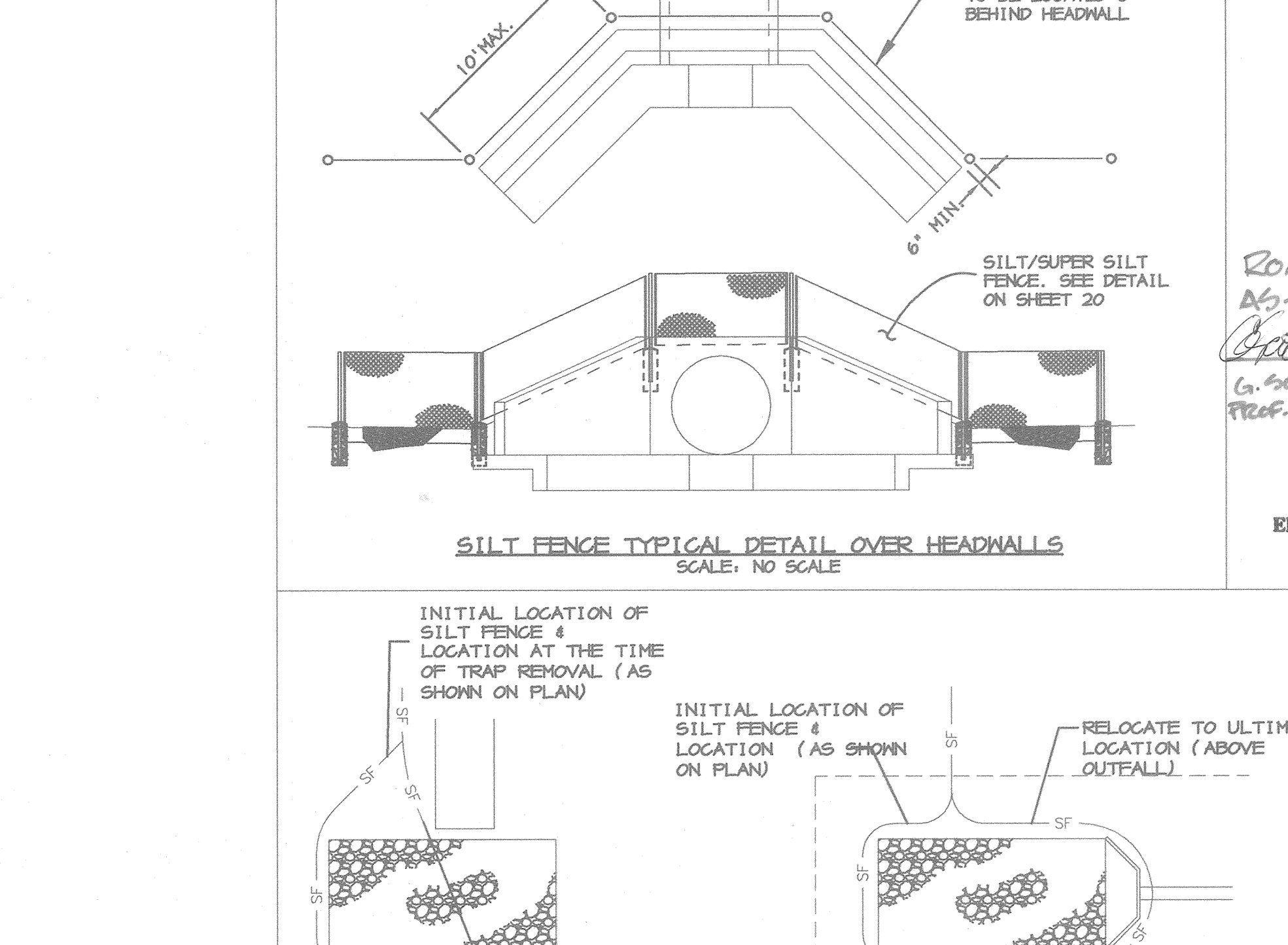
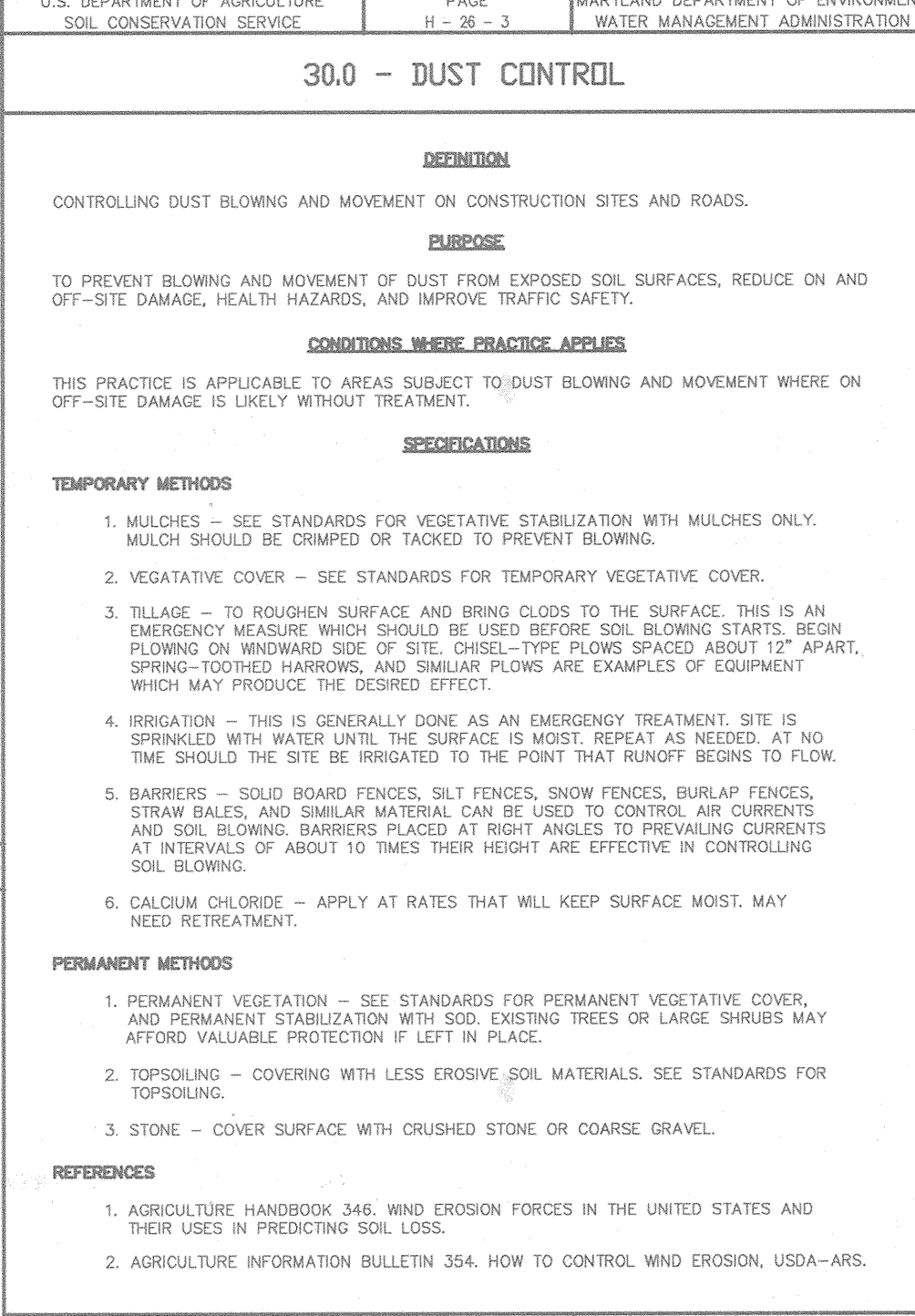
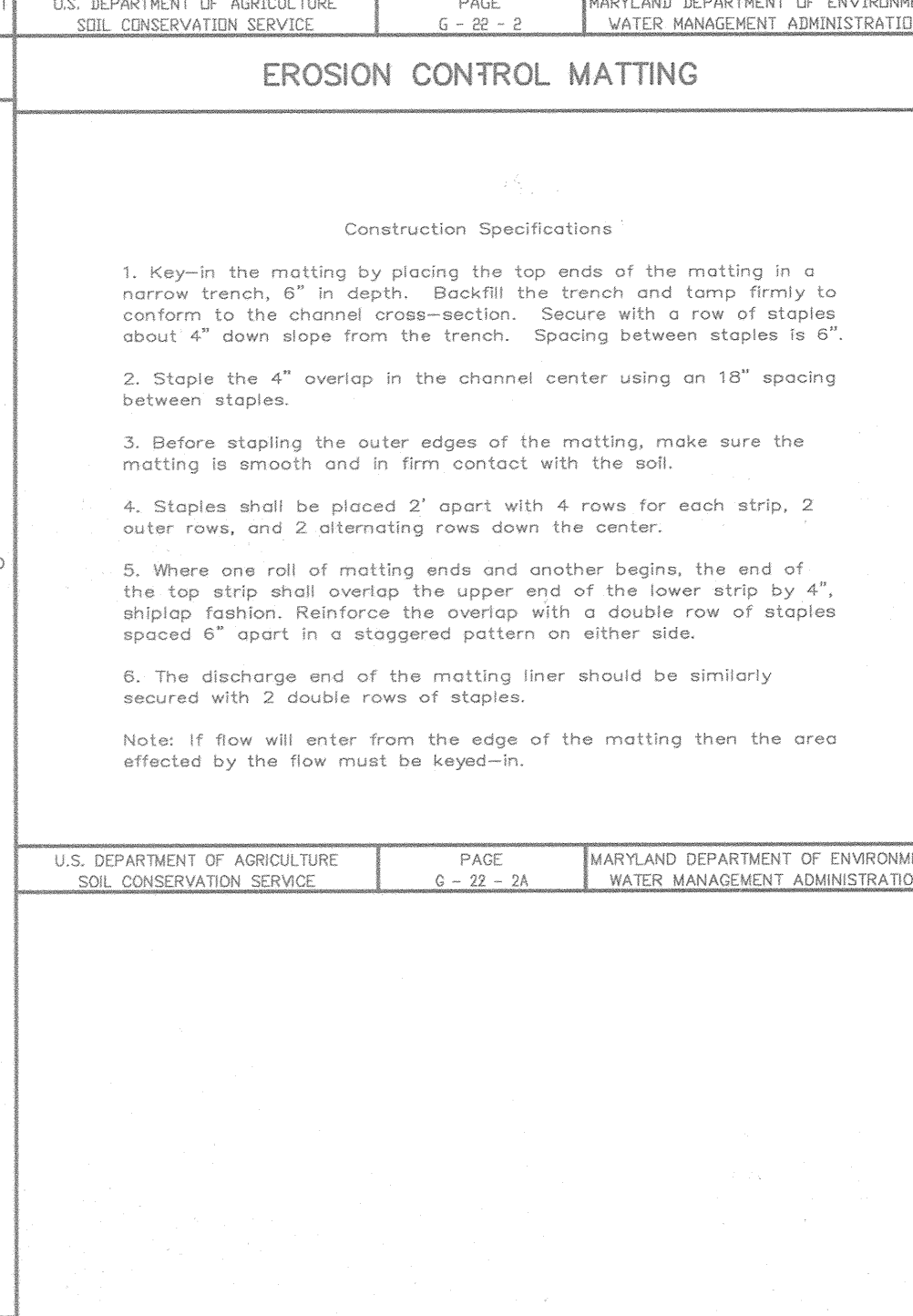
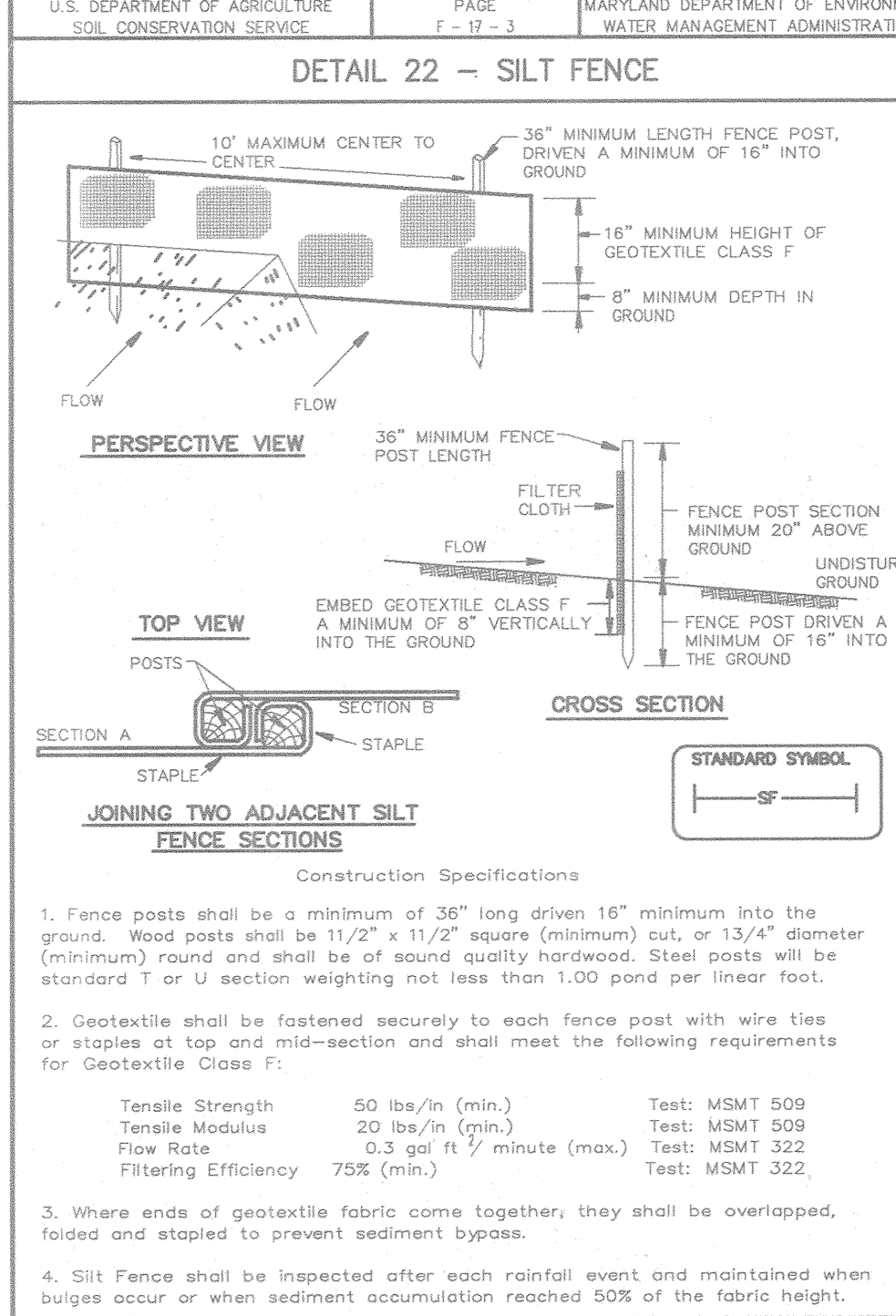
PROJECT
EMERSON
SECTION THREE AREA TWO

AREA TAX MAP 47 BLOCK 8 & 9
ZONED: PEC-MXD-3 PART OF PARCELS: 462 & 837
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL DETAILS

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

10-18-02
DATE
DESIGNED BY : A.C.R.
DRAWN BY : DAM
CHECKED BY : C.J.R.
PERMIT TRACKING NUMBER
01-NI-0222/200164079
DATE : OCTOBER 21, 2002
SCALE : AS SHOWN
DRAWING NO. 5 OF 12
CHRISTOPHER J. REID #19949



SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 201
ELLICOTT CITY, MARYLAND 21043

DATE NO. REVISION

OWNER/DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
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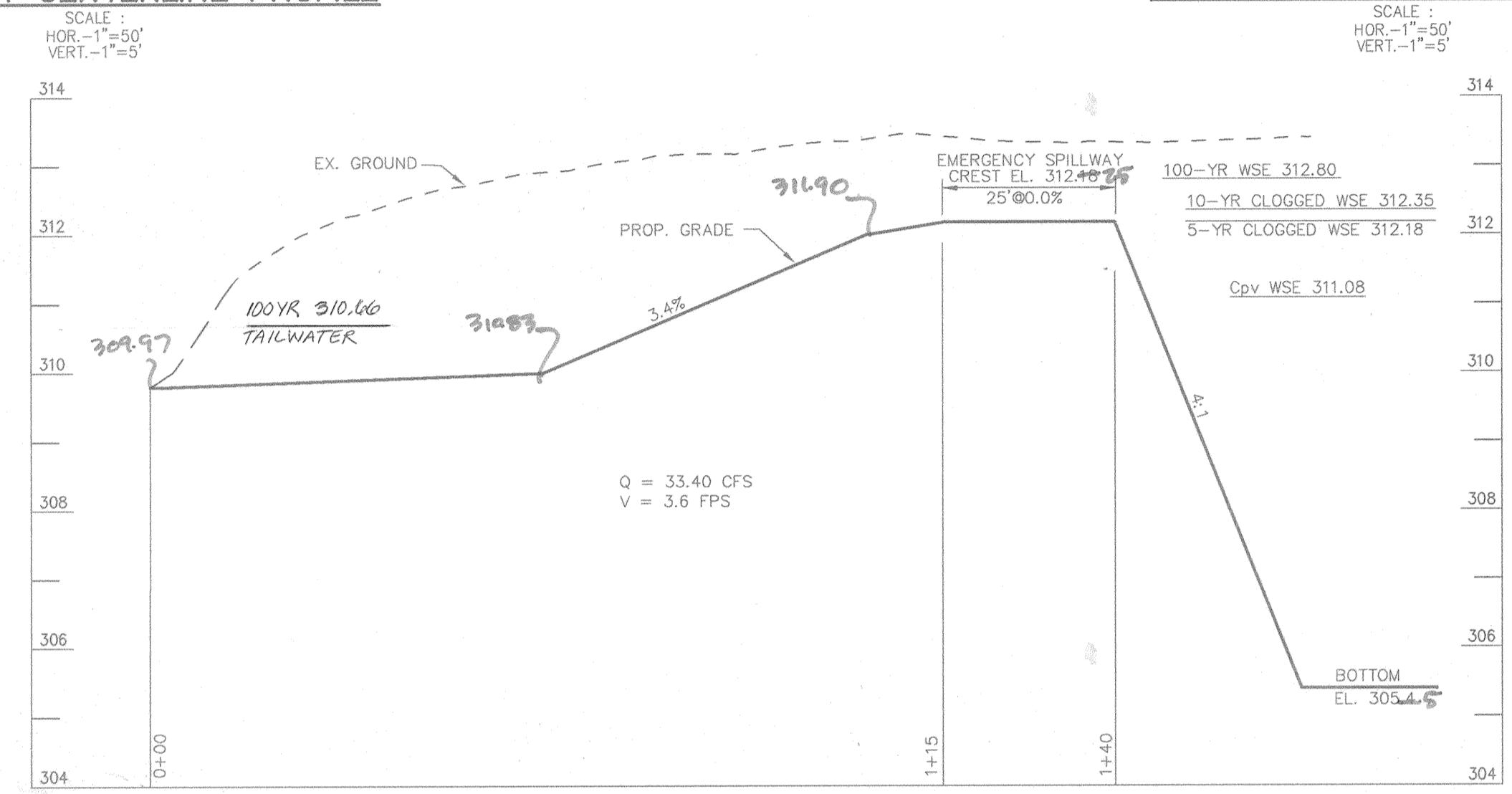
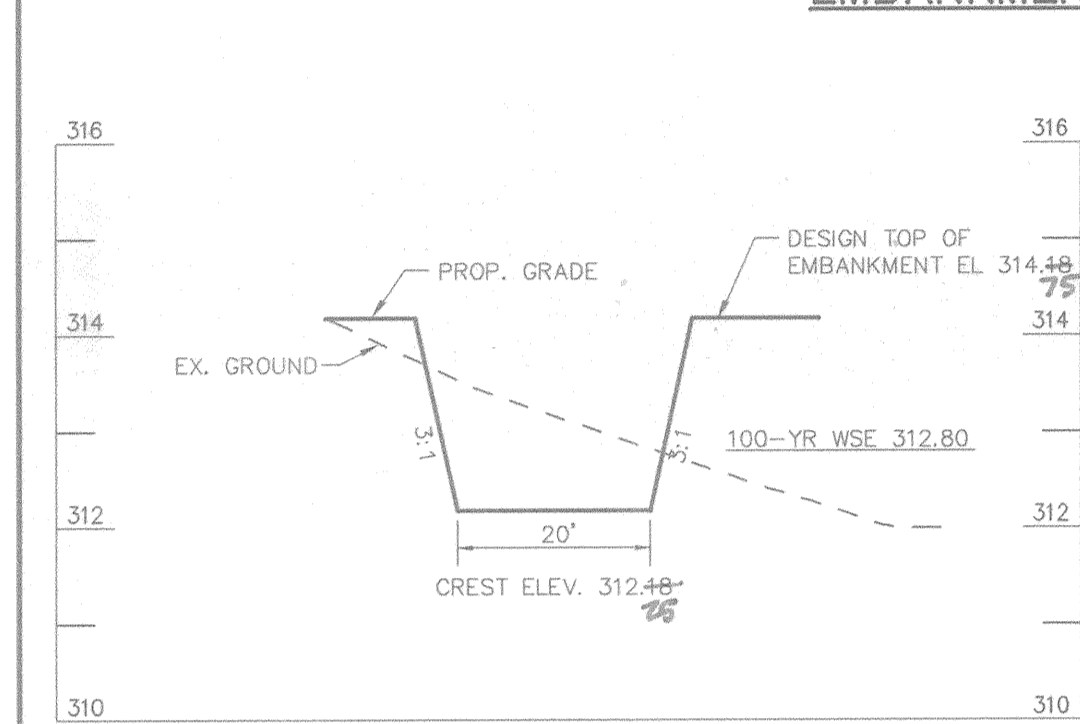
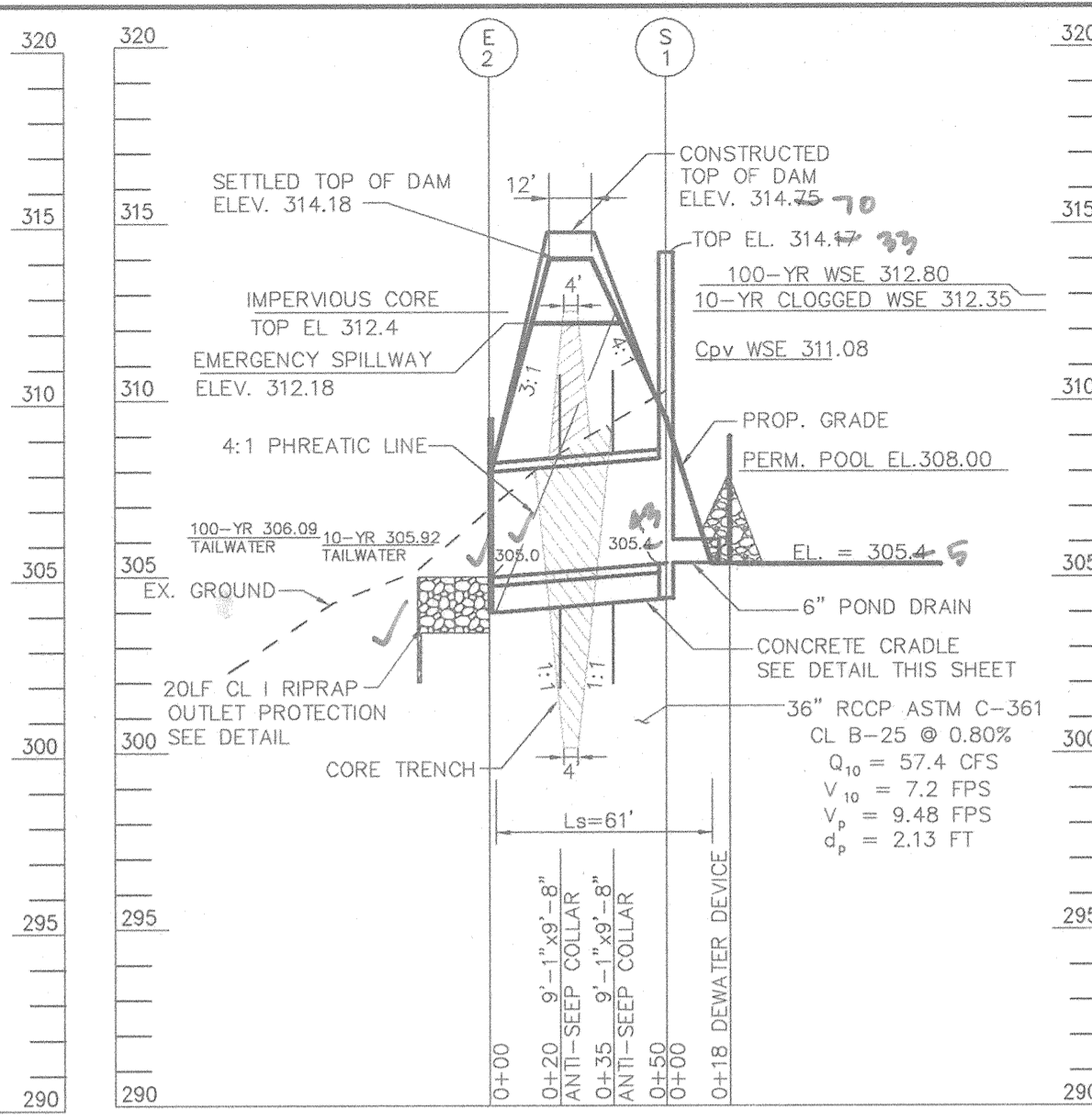
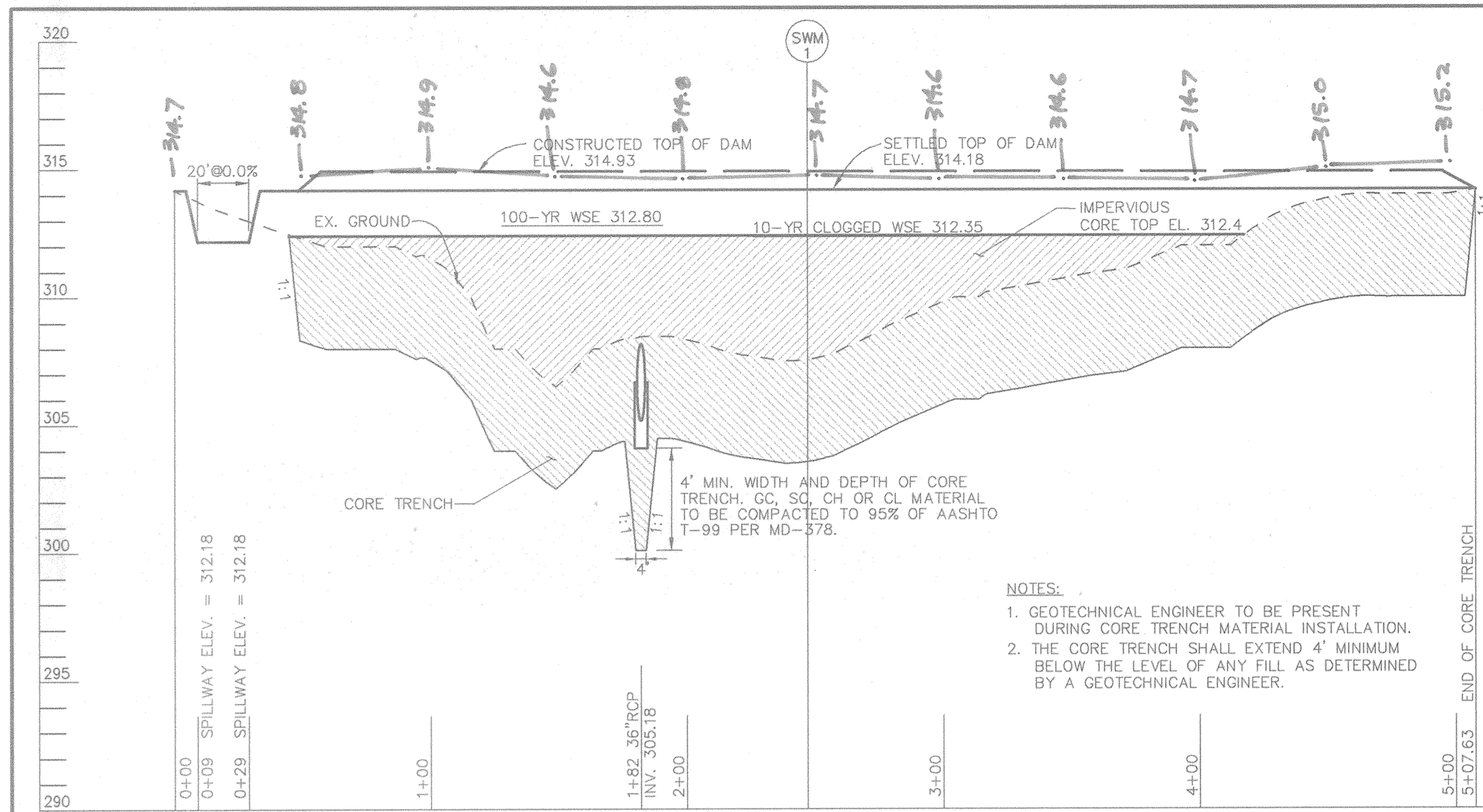
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SECTION THREE AREA TWO

AREA TAX MAP 47 BLOCK 8 & 9
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6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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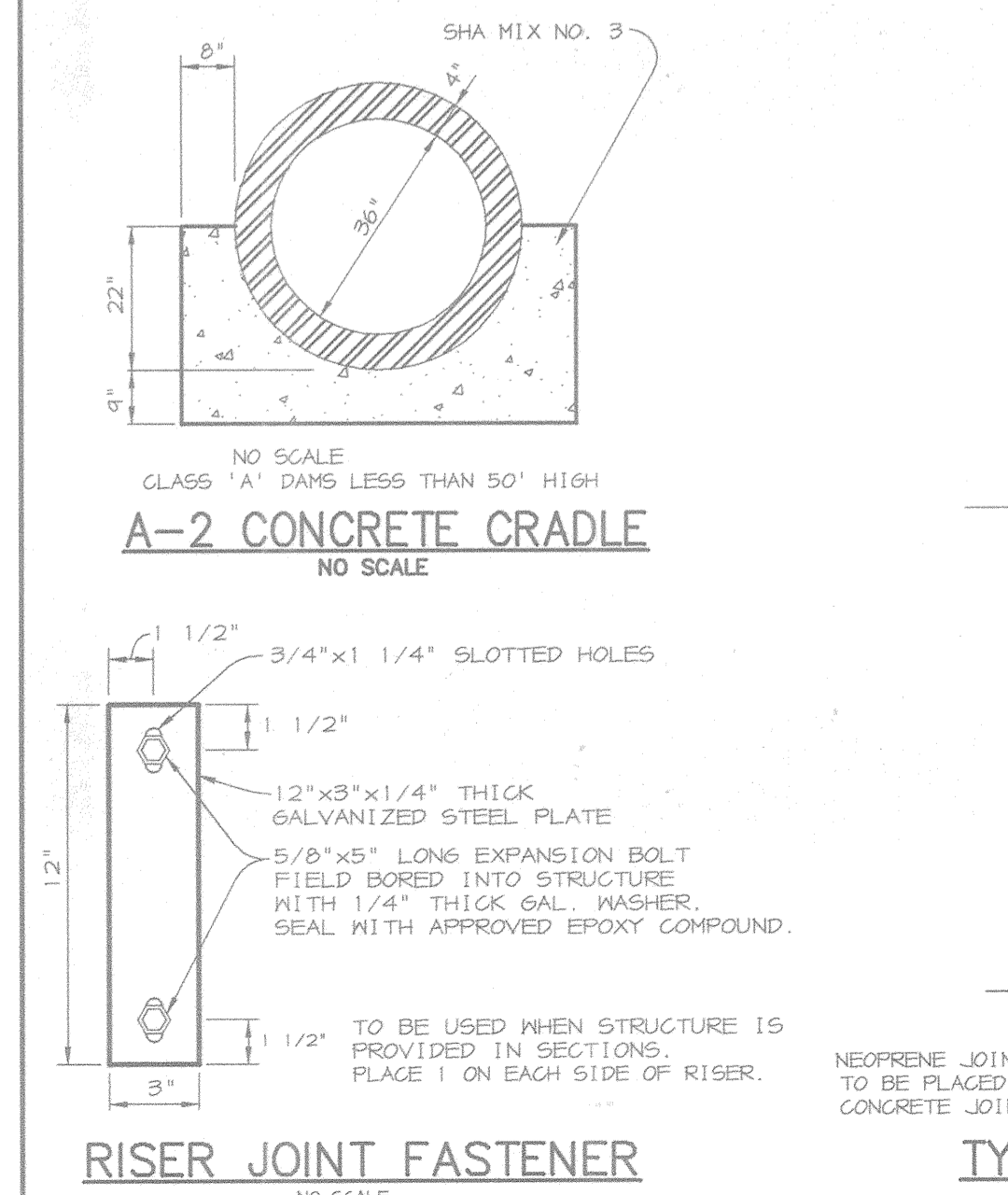
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CHRISTOPHER J. REID #19949



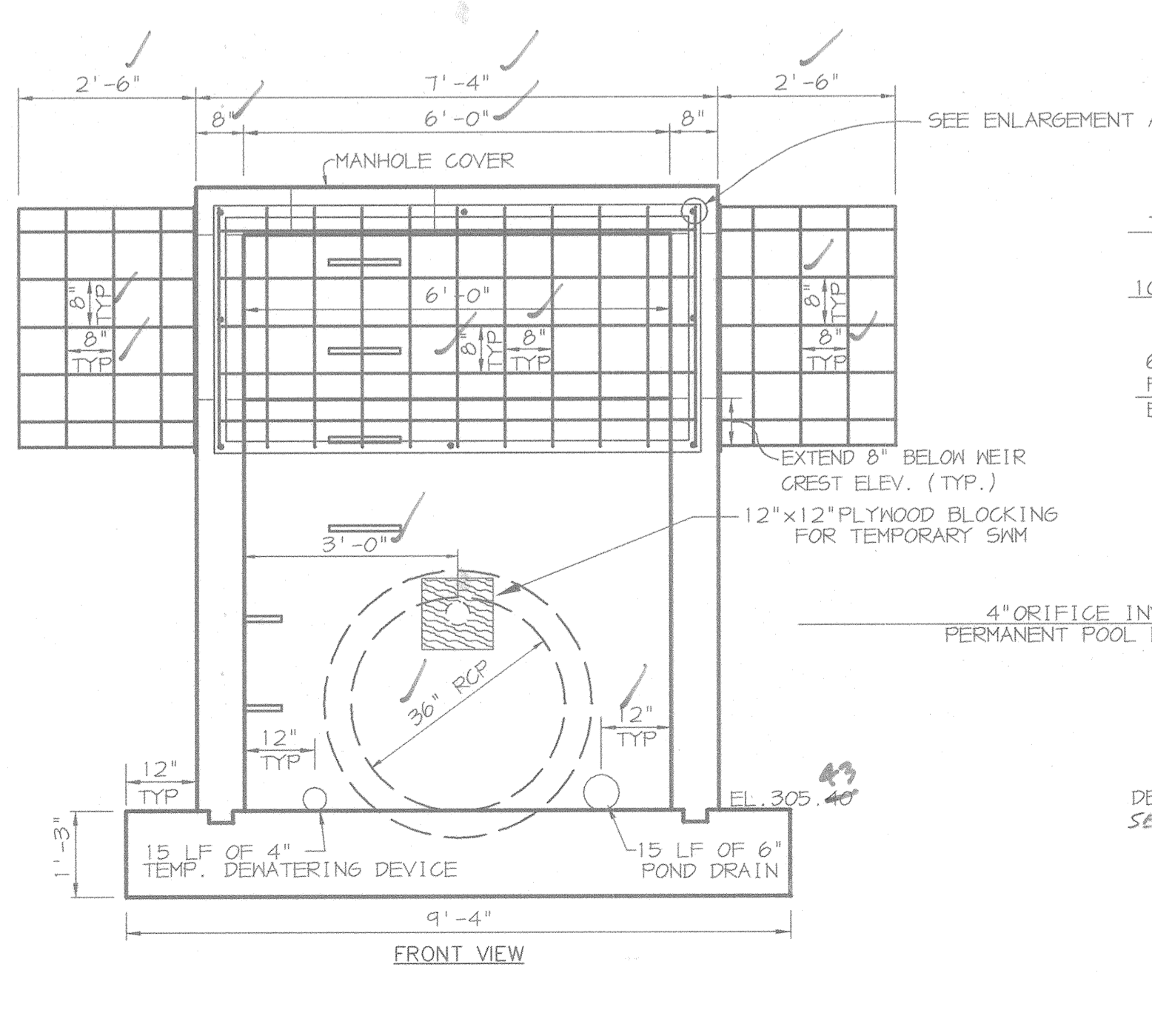
OPERATION AND MAINTENANCE SCHEDULE OF PUBLICLY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY WET POND

- 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 mowed 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 mowed as needed.
 - Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
 - Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.
- NON-ROUTINE MAINTENANCE**
- Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. 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's Department of Public Works.



SHANABERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 201
 ELLICOTT CITY, MARYLAND 21043

ROAD STOP OF MARYLAND
 AS-BUILT
 G. SLOTT SHANABERGER & LANE
 PROF. L.S. 10/20/02



BORING SWM-1	BORING SWM-2	BORING SWM-3
0' TOPSOIL	0' TOPSOIL	0' TOPSOIL
0.3' GRAY AND BROWN MOIST SILT & CLAY, SOME SAND (ML)	0.2' BROWN MOIST CLAYEY SILT, SOME SAND (ML)	0.7' BROWN MOIST CLAYEY SILT AND SAND (ML)
2.0' BROWN MOIST SAND, SOME SILT, LITTLE GRAVEL (SM)	4.0' BROWN MOIST MICACEOUS CLAYEY SILT AND SAND (ML)	6.0' GRAY MOIST MICACEOUS SAND, LITTLE SILT (SM)
5.5' BROWN MOIST MICACEOUS SAND, SOME SILT (SM)	6.0' BROWN MOIST MICACEOUS SAND, SOME CLAYEY SILT (SM)	8.0' BROWN MOIST MICACEOUS SAND AND ROCK FRAGMENTS, TRACE SILT (SP-SM) (DECOMPOSED ROCK)
13.0' GRAY MOIST SAND, SOME SILT, TRACE ROCK FRAGMENTS (SM) (DECOMPOSED ROCK)	13.5' BLACK & WHITE MOIST MICACEOUS SAND, LITTLE SILT (SM) (DECOMPOSED ROCK)	18.5' BROWN WET MICACEOUS SAND, SOME SILT (SM) (DECOMPOSED ROCK)
13.7'	18.9'	14.9'

RISER STRUCTURE NOTES FOR S-1

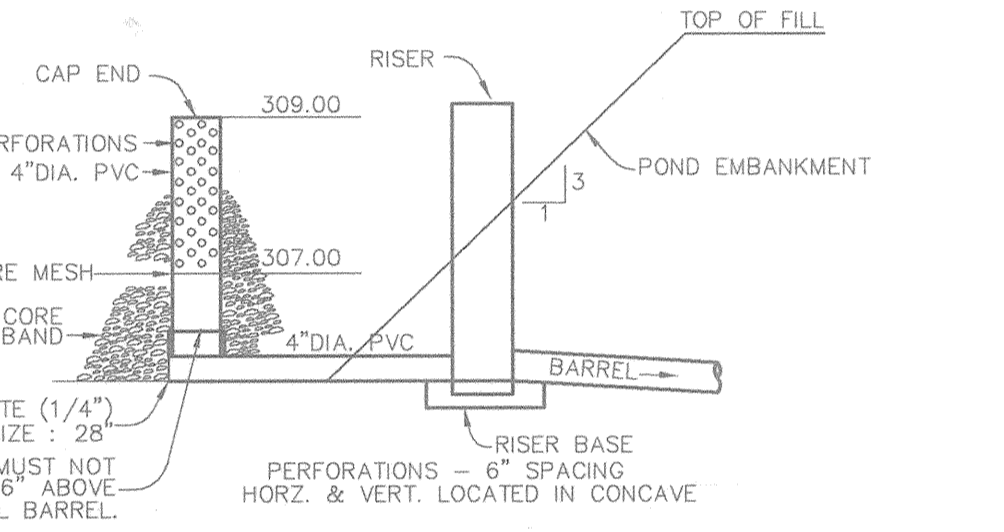
- RISER TO BE PRECAST. SHOP DRAWINGS FOR THIS CONCRETE STRUCTURE SHALL MEET THE MINIMUM ASTM REQUIREMENTS FOR PRECAST STRUCTURES. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
- CONCRETE SHALL BE MSHA MIX NO. 3 (f_c=3,500 psi MINIMUM)
- REFER TO HOWARD COUNTY STD. 6-5.21 FOR MANHOLE STEP DETAILS.
- RISER JOINTS SHALL BE WATERTIGHT USING NEOPRENE GASKETS.
- ALL PIPE CONNECTIONS SHALL PROVIDE RUBBER GASKET FOR WATERTIGHTNESS.
- RISER SHALL BE PLACED ON A FIRMLY COMPACTED SUBGRADE AND SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.
- A 6" BUTTERFLY VALVE SHALL BE CONNECTED TO THE RISER WALL WITH ALL-THREADED ROD AND A FLANGE JOINT.

REMOVABLE TRASH RACK NOTES:

- STEEL TO CONFORM TO ASTM A-36. #5 BARS TO BE SMOOTH. SEE DETAIL FOR SPACING.
- ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
- ALL BENDS TO BE 2" RADIUS. 2" x 2" ANGLE IRON AND 1/2" DIAMETER ANCHOR BOLTS TO BE USED FOR TRASH RACK FRAME.
- GALVANIZE TRASH RACK AFTER FABRICATION AND PAINT BATTLESHIP GRAY.

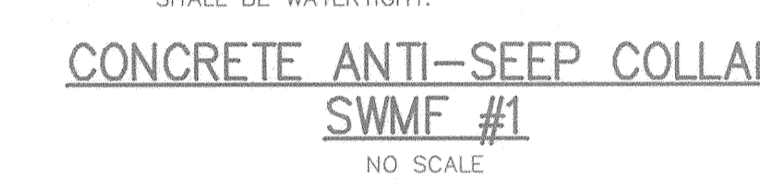
RISER REINFORCEMENT NOTES:

- REINFORCING TO BE #4 DEFORMED BARS @ 6" C/C, 2 WAYS, WITH 2" COVER IN TOP SLAB
- REINFORCING TO BE #4 DEFORMED BARS @ 6" C/C, 2 WAYS WITH 2" COVER IN WALLS AND BOTTOM SLAB.



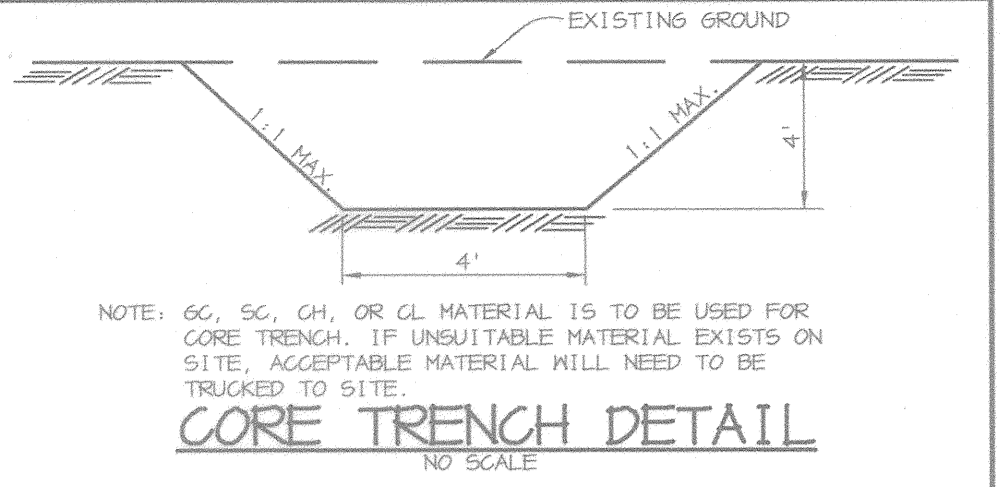
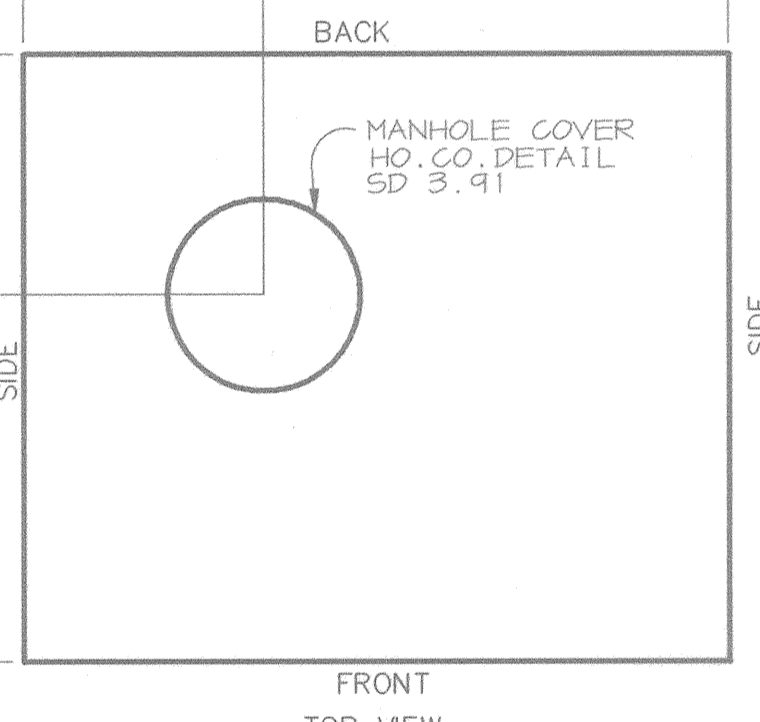
SEDIMENT BASIN DEWATERING DEVICE WITH 4\"/>

- PERFORATIONS ON THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
- THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 2 TIMES THE AREA OF THE INTERNAL DRIFCE.
- THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
- PROVIDED SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATATION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 1" BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.



CONCRETE ANTI-SEEP COLLAR SWMF #1

- NOTES: 1. LOCATE COLLAR A MINIMUM OF TWO FEET FROM PIPE JOINT.
 2. COLLAR/PIPE CONNECTION SHALL BE WATERTIGHT.



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

DEVELOPER: PAUL CAVANUGH
 DATE: 10-18-02

BY THE ENGINEER:
 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.

ENGINEER: CHUCK J. REID
 DATE: 10-18-02

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.

NATURAL RESOURCES CONSERVATION SERVICE
 DATE: 10/30/02

HOWARD SOIL CONSERVATION DISTRICT
 DATE: 10/30/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 11-9-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 11/29/02

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 11/14/02

DATE NO. REVISION

OWNER/DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

PROJECT
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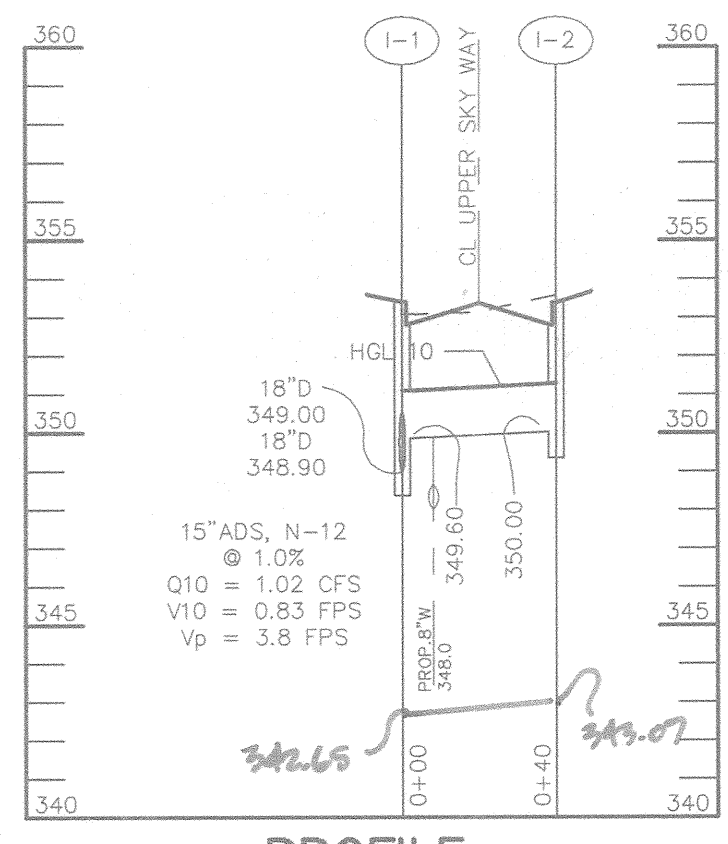
AREA TAX MAP 47 BLOCK 8 & 9
 ZONED: PEC-MXD-3 PART OF PARCELS: 462 & 837
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
STORMWATER MANAGEMENT DETAILS AND PROFILES

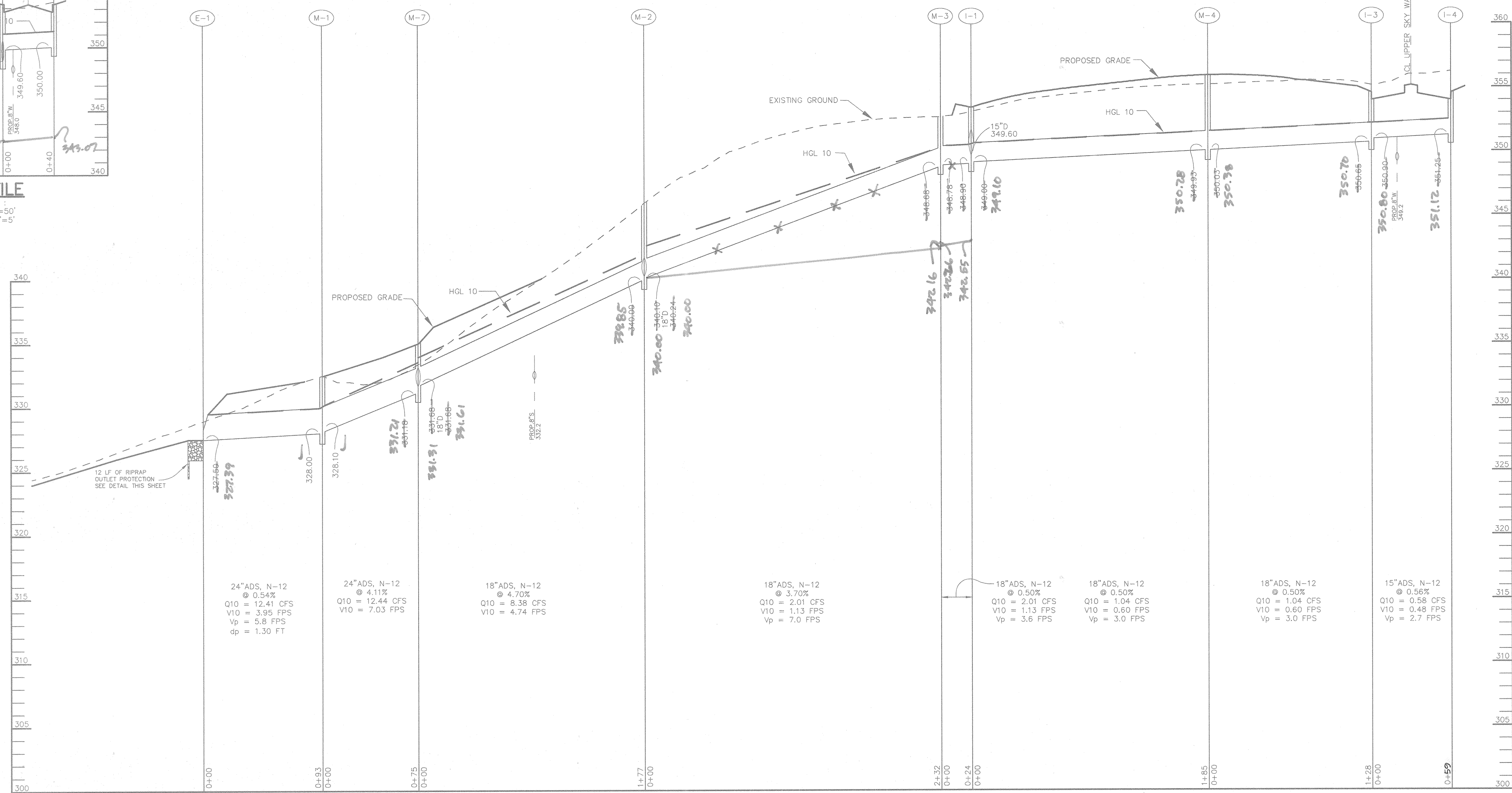
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DESIGNED BY: A.C.R.
 DRAWN BY: DAM
 CHECKED BY: C.J.R.
 PERMIT TRACKING NUMBER 01-NI-0222/200164079
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 SCALE: AS SHOWN
 DRAWING NO. 7 OF 12

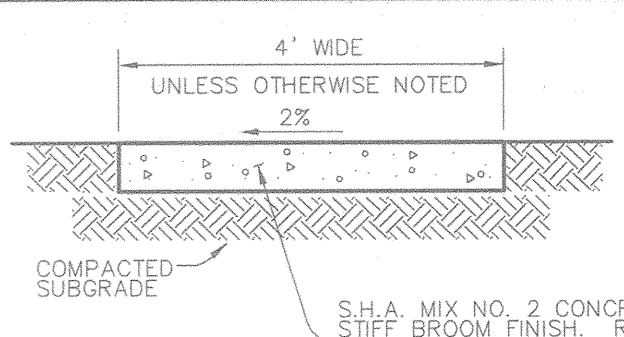
CHRISTOPHER J. REID #19949
 F-02-178 C-DETAILS3.DWG



PROFILE
SCALE:
HOR. - 1"=50'
VERT. - 1"=5'

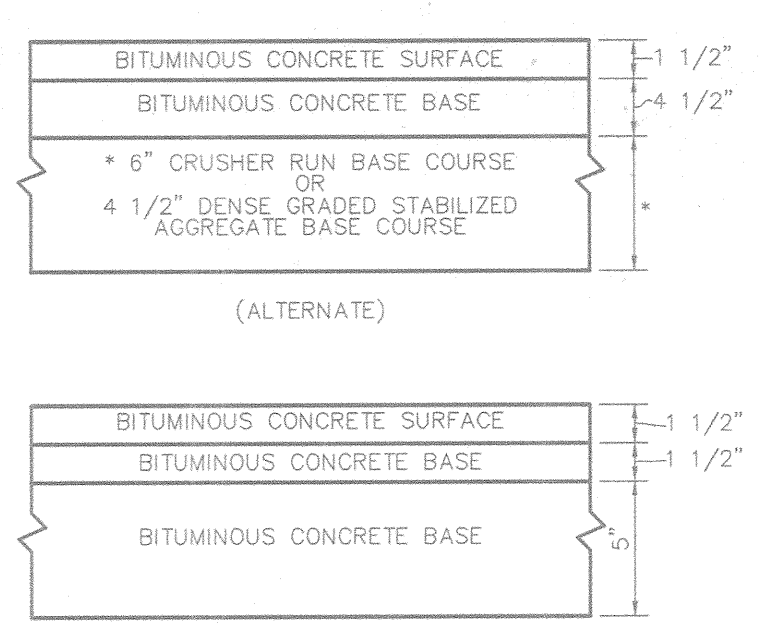


PROFILE
SCALE:
HOR. - 1"=50'
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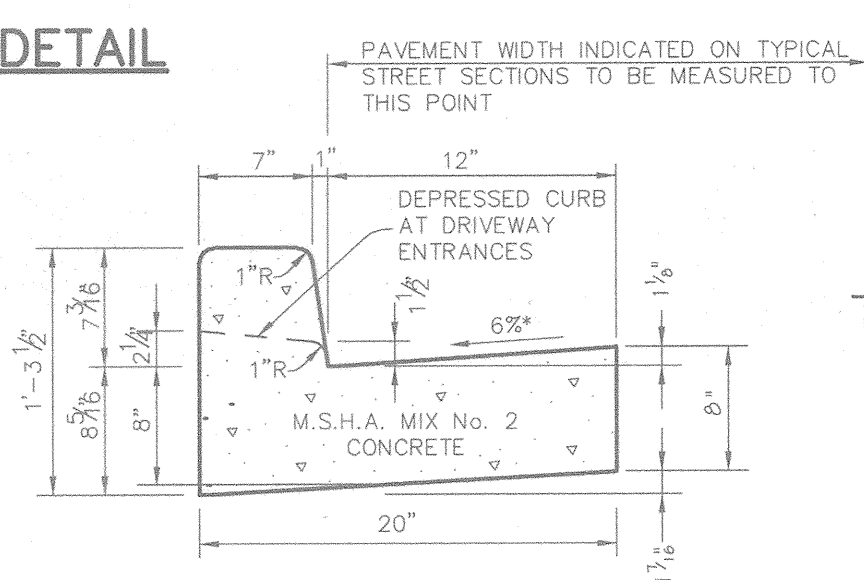


NOTES:
PROVIDE LATERAL EXPANSION JOINTS AT 15' O.C. (MAX.)
PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS
BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCRIBED IN
5' MAX. SQUARES.

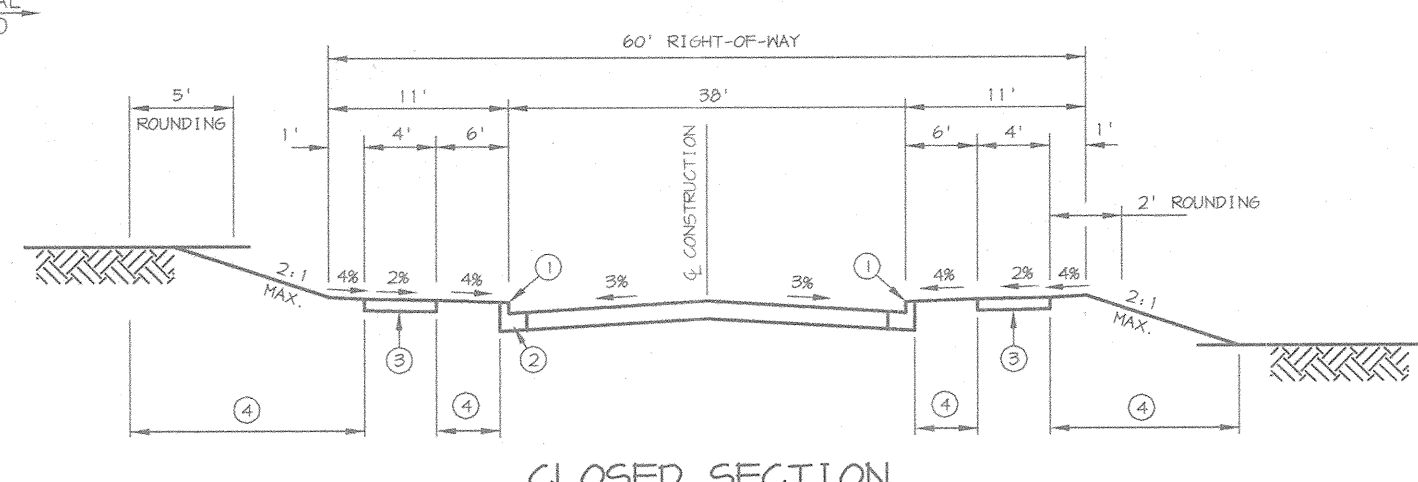
SIDEWALK DETAIL
NO SCALE



P-3 PAVING
NO SCALE

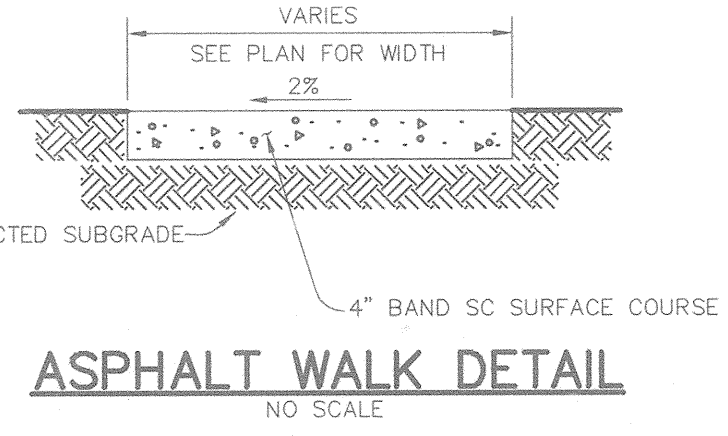


STANDARD 7" COMBINATION CURB AND GUTTER
NO SCALE

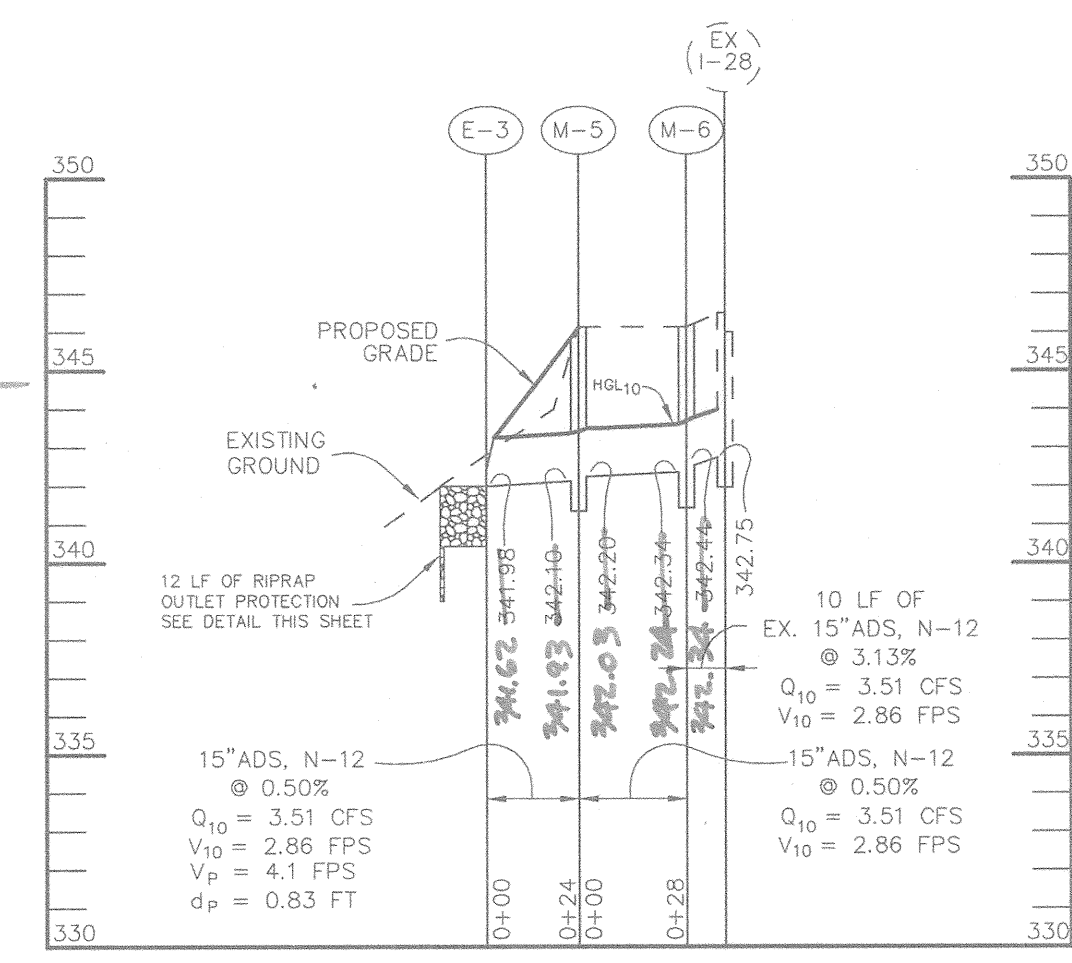


TYPICAL SECTION LOCAL ROAD
NO SCALE

ROAD & DRAIN AS-BUILTS
Patton Harris Rust & Associates, PC
SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 201
ELLCOTT CITY, MARYLAND 21043

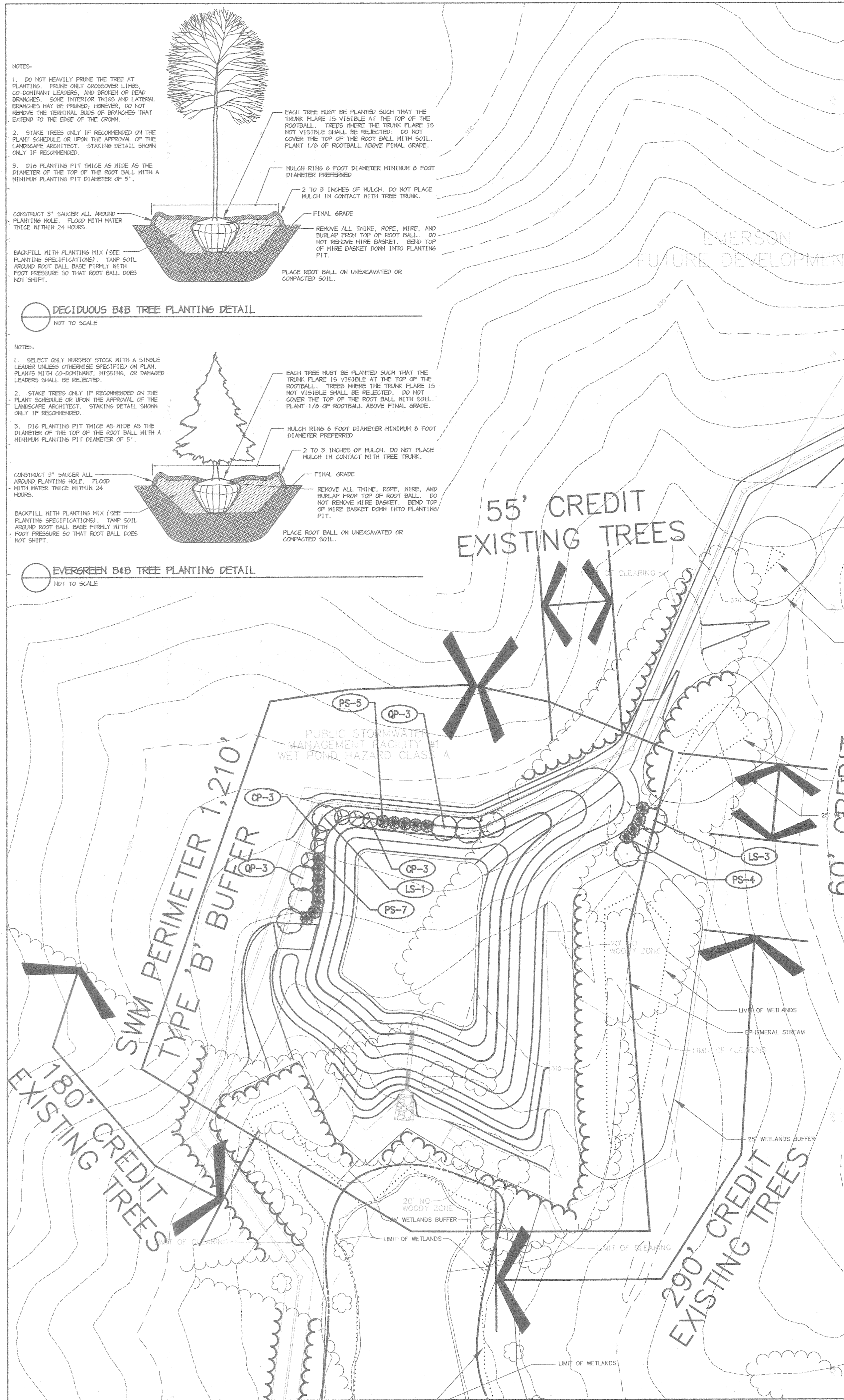


ASPHALT WALK DETAIL
NO SCALE



PROFILE
SCALE:
HOR. - 1"=50'
VERT. - 1"=5'

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	
<i>Andrew M. Danek</i> CHIEF, BUREAU OF HIGHWAYS	11/8/02 DATE
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Wanda Hamel</i> CHIEF, DIVISION OF LAND DEVELOPMENT	11/20/02 DATE
<i>Chris Domonius</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	11/14/02 DATE
DATE	REVISION
OWNER/DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000	
PROJECT	
EMERSON SECTION THREE AREA TWO	
AREA	TAX MAP 47 BLOCK 8 & 9
ZONED:	PEC-MXD-3 PART OF PARCELS: 462 & 837
	6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE	
PROFILES AND DETAILS	
Patton Harris Rust & Associates, PC Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282	
DATE	DESIGNED BY : A.C.R.
10.19.02	
DRAWN BY :	DAM
CHECKED BY :	C.J.R.
PERMIT TRACKING NUMBER	01-NI-0222/200164079
DATE :	OCTOBER 21, 2002
SCALE :	AS SHOWN
DRAWING NO. 8 OF 12	
CHRISTOPHER J. REID #19949	



PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
SHADE TREES					
LS	4	LIQUIDAMBAR STRYCIFLUA/ AMERICAN SWEETGUM	2.5"-3" cal.	B&B	plant as shown
OP	6	QUERCUS PALUSTRIS/ PIN OAK	2.5"-3" cal.	B&B	plant as shown
EVERGREEN TREES					
PS	16	PINUS STROBUS/ EASTERN WHITE PINE	6"-8" ht.	B&B	plant as shown
ORNAMENTAL TREES					
CP	6	CRATAEGUS PHAENOPYRUM/ WASHINGTON HAWTHORN	1.5"-2" cal.	B&B	plant as shown

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING	
S.W.M. POND PERIMETER	1
LANDSCAPE TYPE	B
LINEAR FEET OF TOTAL PERIMETER	±1,210'
CREDIT FOR EX. VEGETATION (NO OR YES & %)	YES, 585'
CREDIT FOR OTHER PROP. LANDSCAPING (NO OR YES & %)	NO
LINEAR FEET OF REMAINING PERIMETER	625'
NUMBER OF TREES REQUIRED:	
SHADE TREES	13
EVERGREEN TREES	16
NUMBER OF PLANTS PROVIDED:	
SHADE TREES	10
EVERGREEN TREES	16
OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	6

GENERAL NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$ 2,500.00
10 SHADE TREES @ \$300 = \$3,000.00
6 ORNAMENTAL TREES @ \$150 = \$900.00
16 EVERGREEN TREES @ \$150 = \$2,400.00
- THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK" LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERMEN.
- ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN MAY RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.
- LANDSCAPING FOR PARCELS A & B IS DEFERRED UNTIL SITE PLAN STAGE.

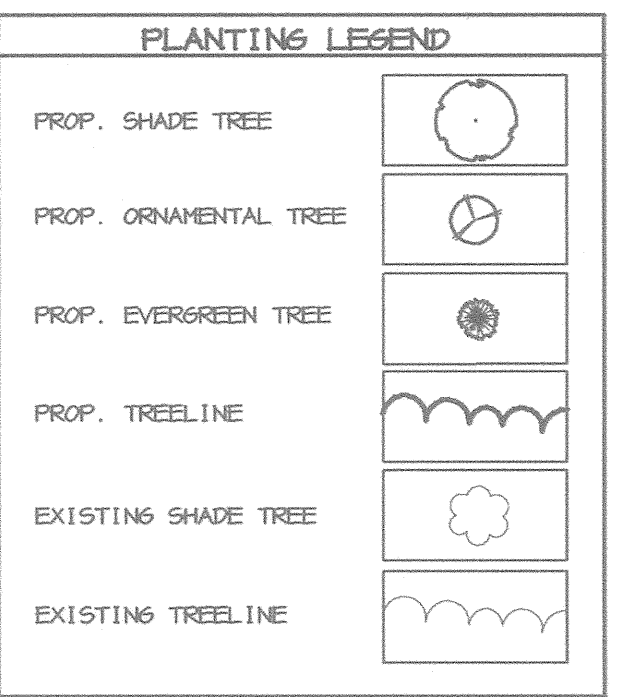
PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description, as given on the plans and as described herein. Where discrepancies exist between Standards & guidelines referenced within these specifications and the Howard County Landscape Manual, the latter takes precedence.
- All plant material, unless otherwise specified, that is not nursery grown, uniformly branched, does not have a vigorous root system, and does not conform to the most recent edition of the American Association of Nurserymen (AAN) Standards will be rejected. Plant material that is not healthy, vigorous, free from defects, decay, disfiguring roots, sunscald, insect injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestation or objectionable distortions will be rejected. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will be rejected. All B & B plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.
- Unless otherwise specified, all general conditions, planting operations, details and planting specifications shall conform to the most recent edition of the "Landscape Specification Guidelines by the Landscape Contractors Association of MD, DC, & VA", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects.
- Contractor shall guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section on the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
- Contractor shall be responsible for notifying all relevant and appropriate utility companies, utility contractors, and "Miss Utility" a minimum of 48 hours prior to the beginning of any work. Contractor may make minor adjustments in spacing and location of plants to avoid conflicts with utilities. Major changes will require the approval of the landscape architect. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- Protection of existing vegetation to remain shall be accomplished via the temporary installation of 4 foot high snow fence at the drip line, see detail.
- Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant Pinus strobus or Xcupressocyparis leylandii between November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.
- Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.
- Bid shall be based on actual site conditions. No extra payment shall be made for work arising from actual site conditions differing from those indicated on drawings and specifications.
- Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.
- All shrubs and groundcover areas shall be planted in continuous planting beds prepared as specified, unless otherwise indicated on plans. (See specification 13) Beds to be mulched with minimum 2" and maximum 3" of composted, double-shredded hardwood mulch throughout.
- Positive drainage shall be maintained on planting beds (minimum 2 percent slope).
- Bed preparation shall be as follows: Till into a minimum depth of 6" 1 yard of Compro or Leafgro per 200 SF of planting bed, and 1/2 yard of topsoil per 100 SF of bed. Add 3 lbs of standard 5-10-5 fertilizer per cubic yard of planting mix and till. Ericaceous plants (Azaleas, Rhododendrons, etc.); top dress after planting with iron sulfate or comparable product according to package directions. Taxus baccata 'Repandens' (English keeping yews): Top dress after planting with 1/4 to 1/2 cup lime each.
- Planting mix: For trees not in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.
- Need & insect control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. For tree planting, apply a pre-emergent on top of soil and root ball before mulching. Caution: For areas to be planted with a ground cover, be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated. Maintain the mulch weed-free for the extent of the warranty period. Under no circumstances is a pesticide containing chlorpyrifos to be used as a means of pest control.
- Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. At a minimum, water unplanted plant material daily and as necessary to avoid desiccation.
- Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.

DEVELOPER'S/BUILDER'S CERTIFICATE:

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

Paul Cavanaugh 10.18.02
SIGNATURE DATE



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Daniels 11-8-02
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Windy Hancock 11/8/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Paul Cavanaugh 11/14/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

PROJECT
EMERSON
SECTION THREE AREA TWO

AREA TAX MAP 47 BLOCK 8 & 9
ZONED: PEC-MXD-3 PART OF PARCELS: 462 & 837
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

10.18.02 DATE
DESIGNED BY: DMD
DRAWN BY: DMD
CHECKED BY: DTD
PERMIT TRACKING NUMBER
01-NI-0222/200164079
DATE: OCTOBER 21, 2002
SCALE: 1" = 50'
DRAWING NO. 9 OF 12

David T. Dows #830
DAVID T. DOWS



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

Paul Cavanaugh
 DEVELOPER
 10-18-02
 DATE

BY THE ENGINEER :
 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.

Christy J. Reid
 ENGINEER
 10-18-02
 DATE

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.

NATURAL RESOURCES CONSERVATION SERVICE
 DATE

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

HOWARD SOIL CONSERVATION DISTRICT
 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

William M. Duvall
 CHIEF, BUREAU OF HIGHWAYS
 11-8-02
 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Windy Hensley
 CHIEF, DIVISION OF LAND DEVELOPMENT
 11/23/02
 DATE

Mark
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 11/14/02
 DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

PROJECT
EMERSON
 SECTION THREE AREA TWO

AREA TAX MAP 47 BLOCK 8 & 9
 ZONED: PEC-MXD-3 PART OF PARCELS: 462 & 837
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
EXISTING CONDITIONS
SWM DRAINAGE AREA MAP

Patton Harris Rust & Associates, p.c.
 Engineers, Surveyors, Planners, Landscape Architects.
PHRA
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

10-19-02
 DATE
 DESIGNED BY : A.C.R.
 DRAWN BY : DAM
 CHECKED BY : C.J.R.
 PERMIT TRACKING NUMBER
 01-NT-0222/200164079
 DATE : OCTOBER 21, 2002
 SCALE : 1" = 100'

CHRISTOPHER J. REID #19949
 DRAWING NO. 10 OF 12
 C-410XDA.DWG



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

Paul Cavanaugh
 DEVELOPER 10-18-02
 DATE

BY THE ENGINEER :
 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.

Christy J Reed
 ENGINEER 10-18-02
 DATE

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.

John M. ...
 NATURAL RESOURCES CONSERVATION SERVICE 10/30/02
 DATE

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

John M. ...
 HOWARD SOIL CONSERVATION DISTRICT 10/30/02
 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. ...
 CHIEF, BUREAU OF HIGHWAYS 11-8-02
 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Andy ...
 CHIEF, DIVISION OF LAND DEVELOPMENT 11/20/02
 DATE

Mike ...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 11/14/02
 DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

PROJECT
EMERSON
 SECTION THREE AREA TWO

AREA TAX MAP 47 BLOCK 8 & 9
 ZONED: PEC-MXD-3 PART OF PARCELS: 462 & 837
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

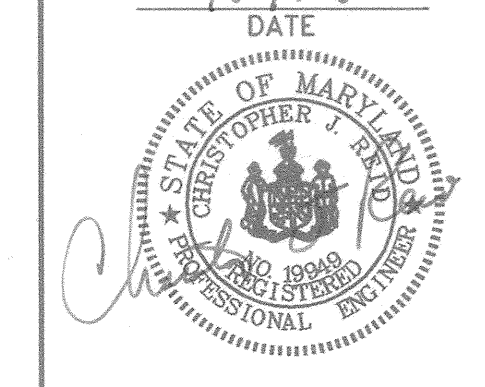
TITLE
PROPOSED CONDITIONS
SWM DRAINAGE AREA MAP

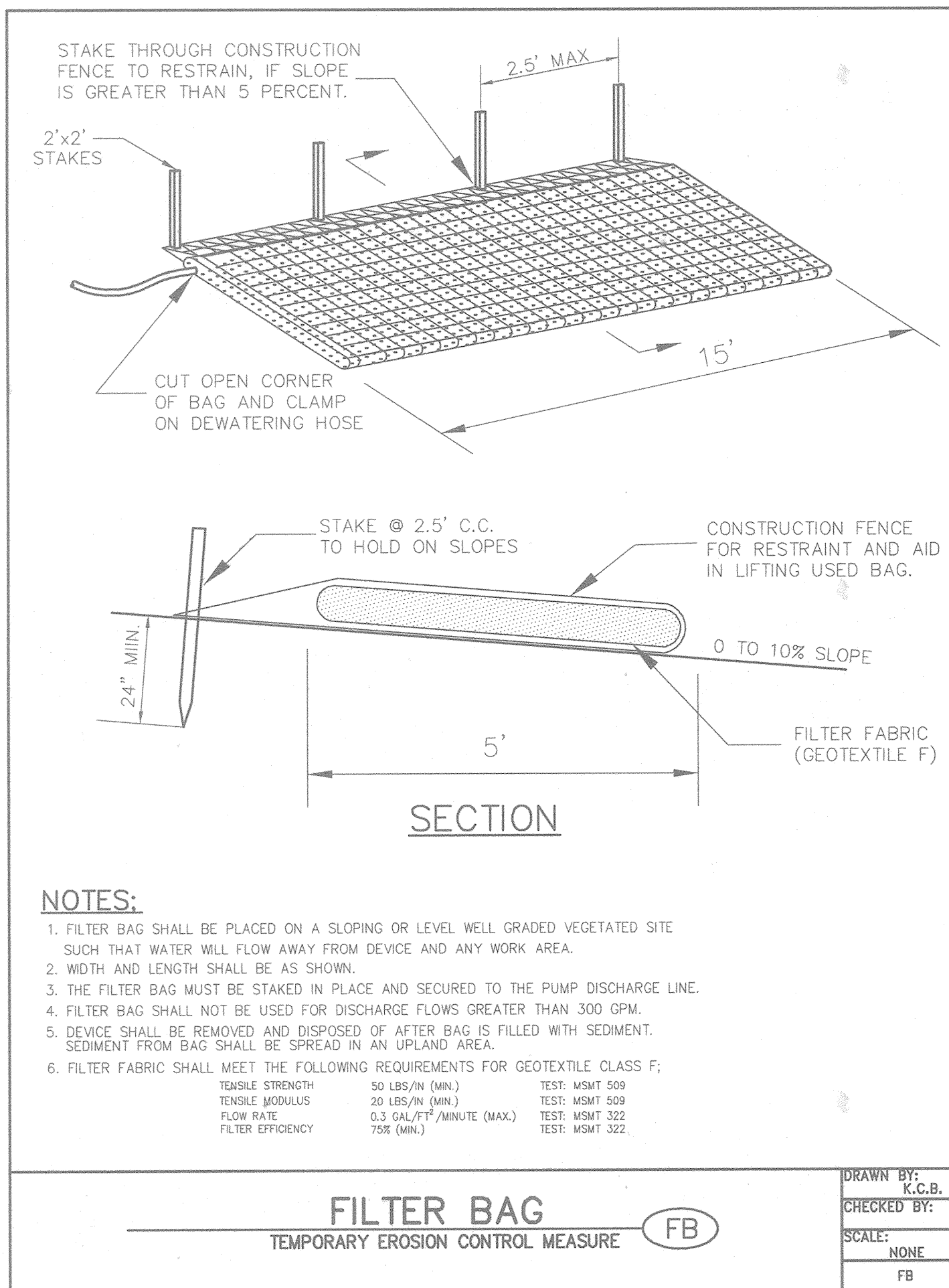
Patton Harris Rust & Associates, pc
 Engineers, Surveyors, Planners, Landscape Architects.
PHRA
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

10-18-02
 DATE
 DESIGNED BY : A.C.R.

DRAWN BY : DAM
 CHECKED BY : C.J.R.
 PERMIT TRACKING NUMBER
 01-NI-0222/200164079
 DATE : OCTOBER 21, 2002
 SCALE : 1" = 100'

CHRISTOPHER J. REID #19949
 DRAWING NO. 11 OF 12





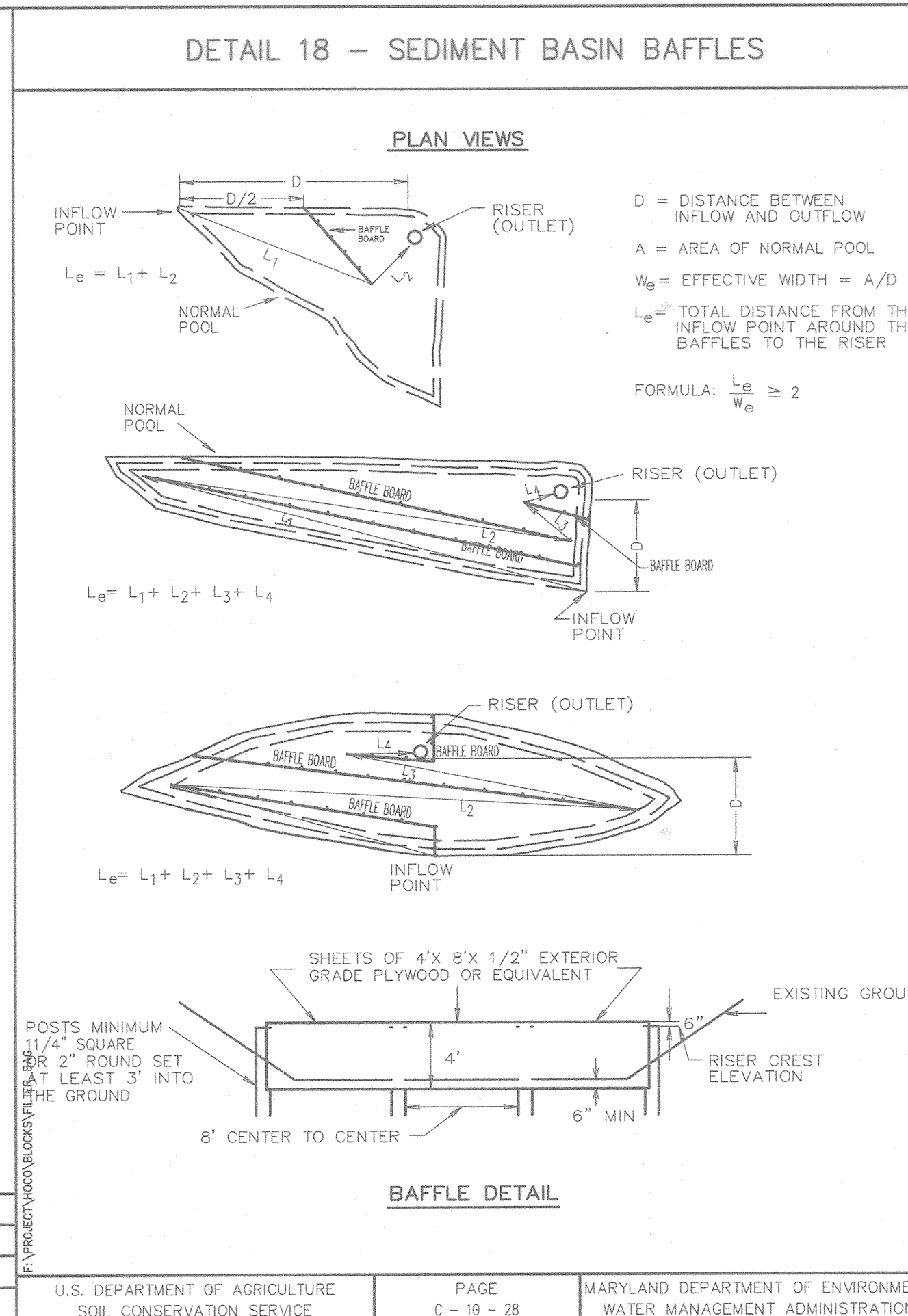
NOTES:

1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREA.
2. WIDTH AND LENGTH SHALL BE AS SHOWN.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.
6. FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

TENSILE STRENGTH	50 LBS/FT (MIN)	TEST: MSMT 509
TENSILE MODULUS	20 LBS/FT (MIN)	TEST: MSMT 509
FLOW RATE	6.3 GAL/FT²/MINUTE (MAX)	TEST: MSMT 322
FILTER EFFICIENCY	75% (MIN)	TEST: MSMT 322

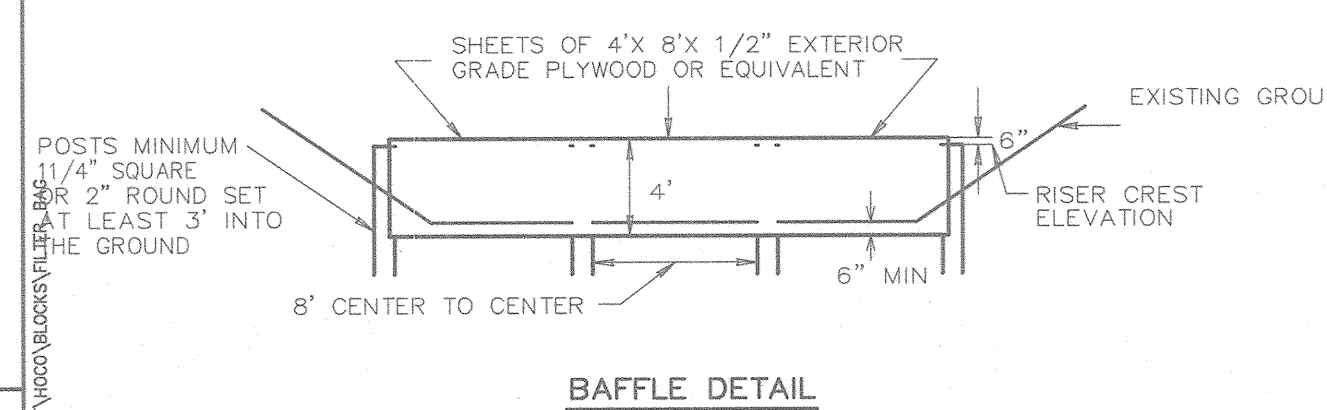
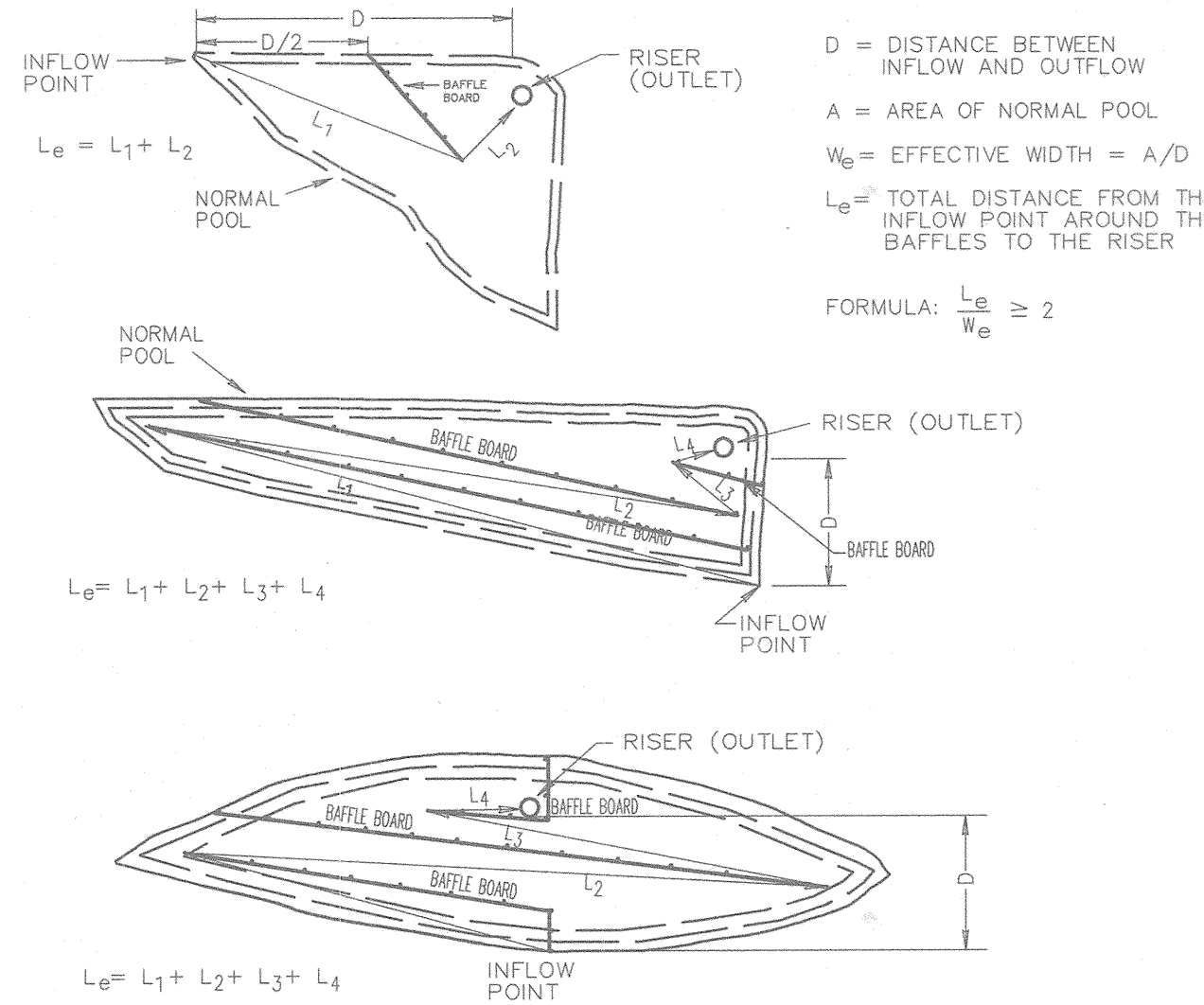
FILTER BAG
TEMPORARY EROSION CONTROL MEASURE (FB)

DRAWN BY: K.C.B.
CHECKED BY:
SCALE: NONE
FB

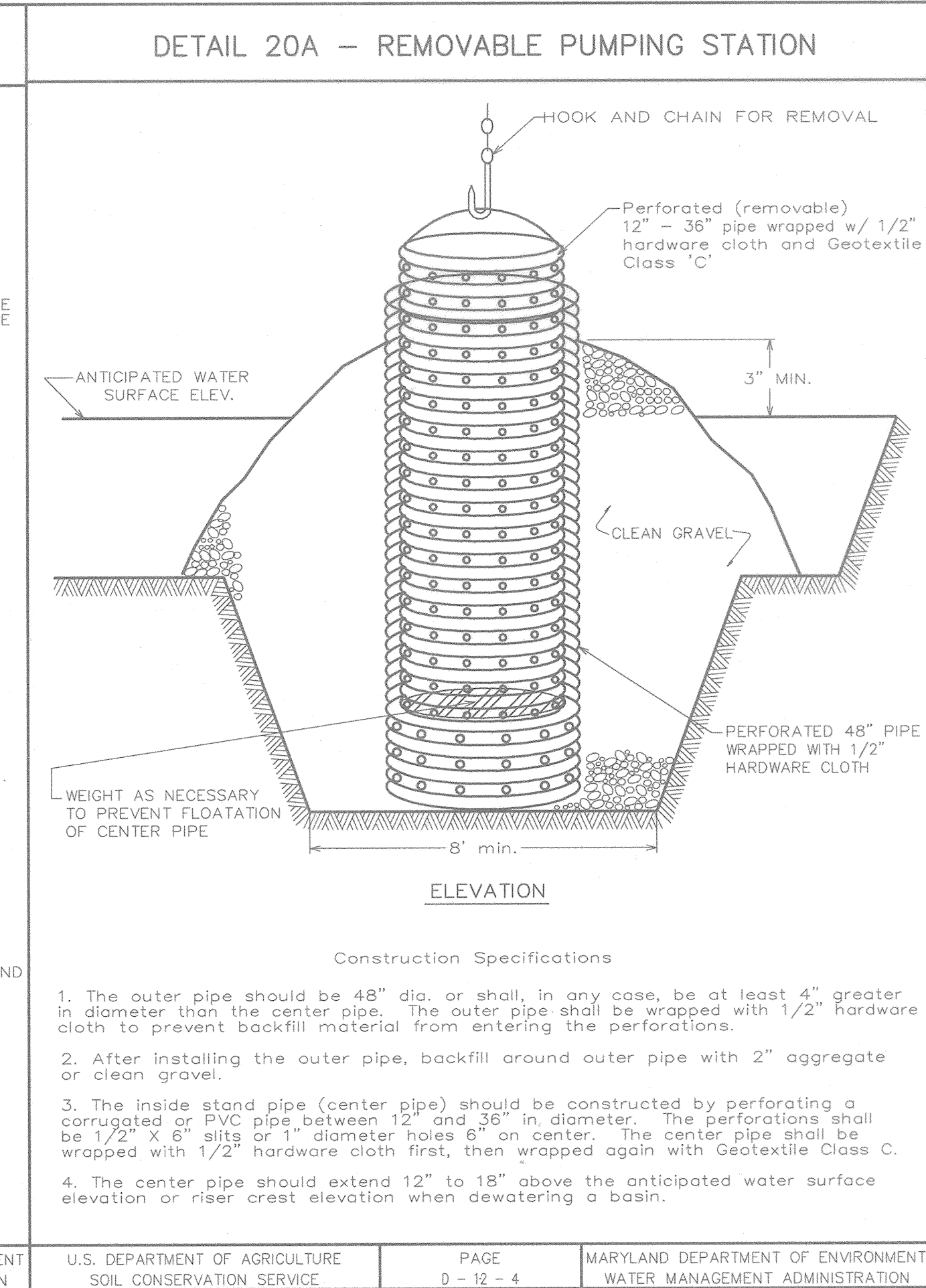


DETAIL 18 - SEDIMENT BASIN BAFFLES

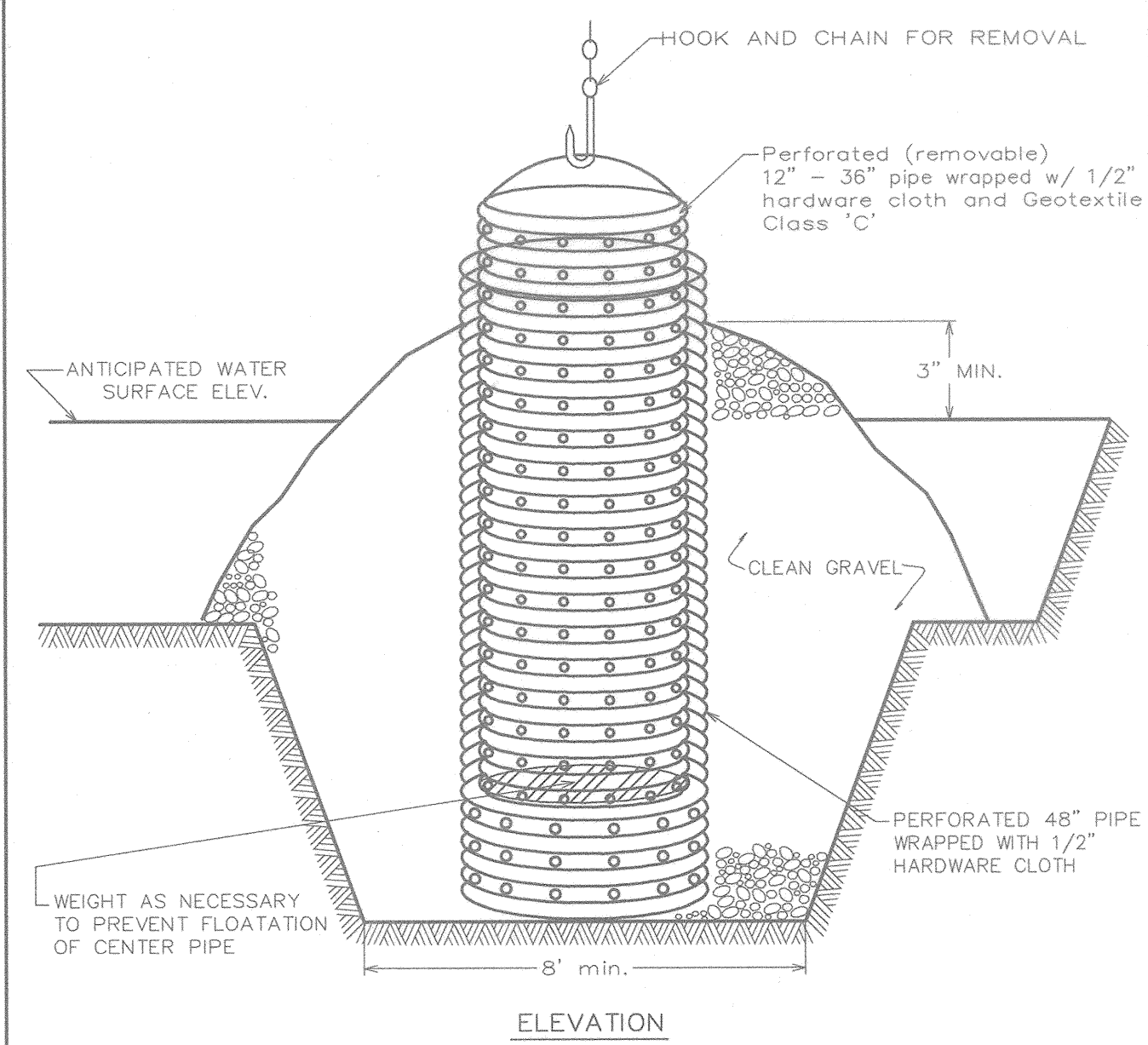
PLAN VIEWS



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-19-28 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



DETAIL 20A - REMOVABLE PUMPING STATION



- Construction Specifications**
1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
 2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
 3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" x 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
 4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE D-12-4 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

- 1) NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 2) PLACE MATERIALS IN A LOCATION AND MANNER THAT DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 3) DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
- 4) PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 5) REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- 6) RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- 7) ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- 8) AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- 9) TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:

USE 1 WATER: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
- 10) STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
- 11) CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I 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.
Paul Cavanaugh 10-18-02
DEVELOPER DATE

BY THE ENGINEER:
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.
Christopher J. Reid 10-18-02
ENGINEER DATE

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.

Jim Ayres 10/30/02
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John S. ... 10/30/02
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. ... 11-8-02
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Amie ... 11/2/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mike ... 11/14/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION
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OWNER/DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

PROJECT
EMERSON
SECTION THREE AREA TWO

AREA TAX MAP 47 BLOCK 8 & 9
ZONED: PEC-MXD-3 PART OF PARCELS: 462 & 837
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL DETAILS

Patton Harris Rust & Associates, PC
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

10-18-02
DATE
DESIGNED BY: A.C.R.
DRAWN BY: DAM
CHECKED BY: C.J.R.
PERMIT TRACKING NUMBER
01-NI-0222/200164079
DATE: OCTOBER 21, 2002
SCALE: AS SHOWN

CHRISTOPHER J. REID #19949
DRAWING NO. 12 OF 12