

# ROCKBURN HILL PUMP STATION

## SITE DEVELOPMENT PLAN CAPITAL PROJECT S-6260 CONTRACT NO. 14-4715 SDP-12-081 HOWARD COUNTY, MARYLAND

### GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY SPECIFICATIONS AND DETAILS FOR CONSTRUCTION PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS (410) 313-6125 AND BUREAU OF ENVIRONMENTAL SERVICES AT (410) 313-6444 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE SUBJECT PROPERTY IS ZONED R0D PER THE FEBRUARY 2, 2004 COMPREHENSIVE ZONING PLAN AND PER THE "COMP LITE" ZONING REGULATION AMENDMENTS EFFECTIVE JULY 28, 2006.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAM(S) OR THEIR REQUIRED BUFFERS AND FOREST CONSERVATION EASEMENTS.
- WAIVER PETITION WP-12-144, APPROVED DATE MARCH 29, 2012 FOR THE WAIVER OF SUBSECTION 16.116 OF THE HOWARD COUNTY CODE WAS APPROVED TO ALLOW FOR GRADING AND REMOVAL OF VEGETATIVE COVER AND TREES WITHIN THE BUFFER OF STREAMS AND WETLANDS; SUBSECTION 16.1205(g)(7) AND (10) TO ALLOW FOR THE REMOVAL OF TREES 30 INCHES AND LARGER; SUBSECTION 16.115 & 16.133(d) TO ALLOW THE PROJECT LIMIT OF DISTURBANCE TO BE WITHIN THE 100-YEAR FLOODPLAIN. DISTURBANCE TO THE ENVIRONMENTAL FEATURES WAS CONSIDERED ESSENTIAL AND NECESSARY FOR THE CONSTRUCTION OF THE PUMP STATION.
- 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. #37CA AND #38BA WERE USED FOR THIS PROJECT.
- TOPOGRAPHICAL FIELD SURVEYS OF THE SITE WERE PERFORMED BY WHITMAN REQUARDT AND ASSOCIATES LLP (WRA) IN OCTOBER 2010. ADDITIONAL UTILITY INFORMATION WAS PROVIDED BY HOWARD COUNTY RECORDS AND MAY NOT REFLECT CURRENT CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY CURRENT TOPOGRAPHIC AND UTILITY INFORMATION.
- APPROXIMATE LOCATION AND INVERTS OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN AN UNINTERRUPTED SERVICE. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES BY TEST PIT OR OTHER MEANS OF INVESTIGATION APPROVED BY THE OWNER WELL IN ADVANCE OF CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- NONSTRUCTURAL TECHNIQUES, SPECIFICALLY N-2 DISCONNECTION OF NON ROOFTOP RUNOFF, ARE USED. THESE PRACTICES ONLY CAPTURE AND TREAT UP TO 1 INCH OF RAINFALL. THEREFORE, AN M-3 BIO-SWALE WILL BE USED IN COMBINATION WITH THE NONSTRUCTURAL TECHNIQUES TO FULLY ADDRESS ENVIRONMENTAL SITE DESIGN (ESD) REQUIREMENTS. OWNERSHIP AND MAINTENANCE OF THE FACILITIES WILL BE THE RESPONSIBILITY OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
- THE CONTRACTOR SHALL PERMANENTLY STABILIZE AND SEED ALL DISTURBED AREAS THAT ARE NOT TO BE PAVED.
- ALL DRIVEWAYS ARE MAINTAINED BY THE COUNTY.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT AS GOVERNMENT FACILITIES ARE EXEMPT TO APFO IN GENERAL PER DESIGN MANUAL VOLUME III, SECTION 4.7.
- THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS SO AS NOT TO DAMAGE EXISTING ADJACENT FACILITIES AND STRUCTURES. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION OR BETTER, UNLESS NOTED OTHERWISE.
- ACCESS TO ALL EXISTING FACILITIES SHALL BE MAINTAINED AT ALL TIMES.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNER OF ANY DEVIATION FROM THESE PLANS PRIOR TO ANY CHANGES. ANY DEVIATION FROM THESE PLANS WITHOUT WRITTEN AUTHORIZATION BY THE OWNER WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- DAMAGE TO EXISTING SIGNS, GUARDRAILS AND OTHER MINOR SITE FEATURES IN THE LIMIT OF PROPOSED CONSTRUCTION, WHETHER OR NOT SHOWN ON THESE PLANS, SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- OTHER DPZ FILE REFERENCES RELATED TO THIS PROJECT: ECP-12-043, WP-12-144.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THE FLOODPLAIN INFORMATION FOR THIS PROJECT IS BASED ON THE FEMA FLOOD INSURANCE RATE MAP (FIRM), COMMUNITY PANEL NUMBER 240044 0030B, DATED DECEMBER 4, 1986.
- THE WETLAND DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY WHITMAN, REQUARDT AND ASSOCIATES, LLP, DATED AUGUST 25, 2011, AND WAS APPROVED ON FEBRUARY 28, 2012.
- PERIMETER LANDSCAPING IS REQUIRED IN ACCORDANCE WITH SECTION 16.124 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL.
- A FOREST STAND DELINEATION WAS PREPARED BY WHITMAN, REQUARDT AND ASSOCIATES, LLP DATED JANUARY 12, 2012.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- ROCKBURN HILL ROAD IS DESIGNATED AS A SCENIC ROAD BY HOWARD COUNTY.
- ENVIRONMENTAL DISTURBANCES HAVE BEEN APPROVED BY MDE UNDER AUTHORIZATION NUMBER 12-NT-0013/201260068, AND APPROVED LETTER DATED FEBRUARY 28, 2012.
- THE FOREST CONSERVATION OBLIGATION FOR 1.76 ACRES WILL BE FULFILLED BY THE PAYMENT OF A FEE-IN-LIEU IN THE AMOUNT OF \$57,499.

### GENERAL NOTES (CONT.)

- OUTDOOR LIGHTING FOR THE PUMP STATION IS COMPLIANCE WITH SECTION 134 OF THE ZONING REGULATIONS.
- THE PROPERTY IS CURRENTLY ZONE RE-D, BUT WILL BE PROCESSED AS R-20.
- DUE TO THE LIMITED NEED TO ACCESS THE PUMP STATION, THE PROPOSED ACCESS DRIVE WILL ALSO SERVE AS A PARKING AREA. A WAIVER IS BEING FILED WITH HOWARD COUNTY PLANNING AND ZONING.

DIRECTIONS: FROM BALTIMORE TAKE I-895 SOUTH TO EXIT 1, TRAVEL NORTH ON LEVERING AVE, CONTINUE NORTH/NORTHWEST ON RIVER ROAD, JUST PAST I-95 BRIDGE, TRAVEL WEST/SOUTHWEST ON AN ACCESS DRIVE, BEFORE ROCKBURN HILL ROAD.

NOTE: HORIZONTAL AND VERTICAL INFORMATION SHOWN HEREON BASED ON HOWARD COUNTY GEODETIC CONTROLS AS ESTABLISHED BY A GPS SURVEY PERFORMED BY WHITMAN, REQUARDT AND ASSOCIATES FROM THE FOLLOWING HOWARD COUNTY GEODETIC CONTROL POINTS (MARYLAND STATE REFERENCE SYSTEM NAD '83 & NAVD '88)

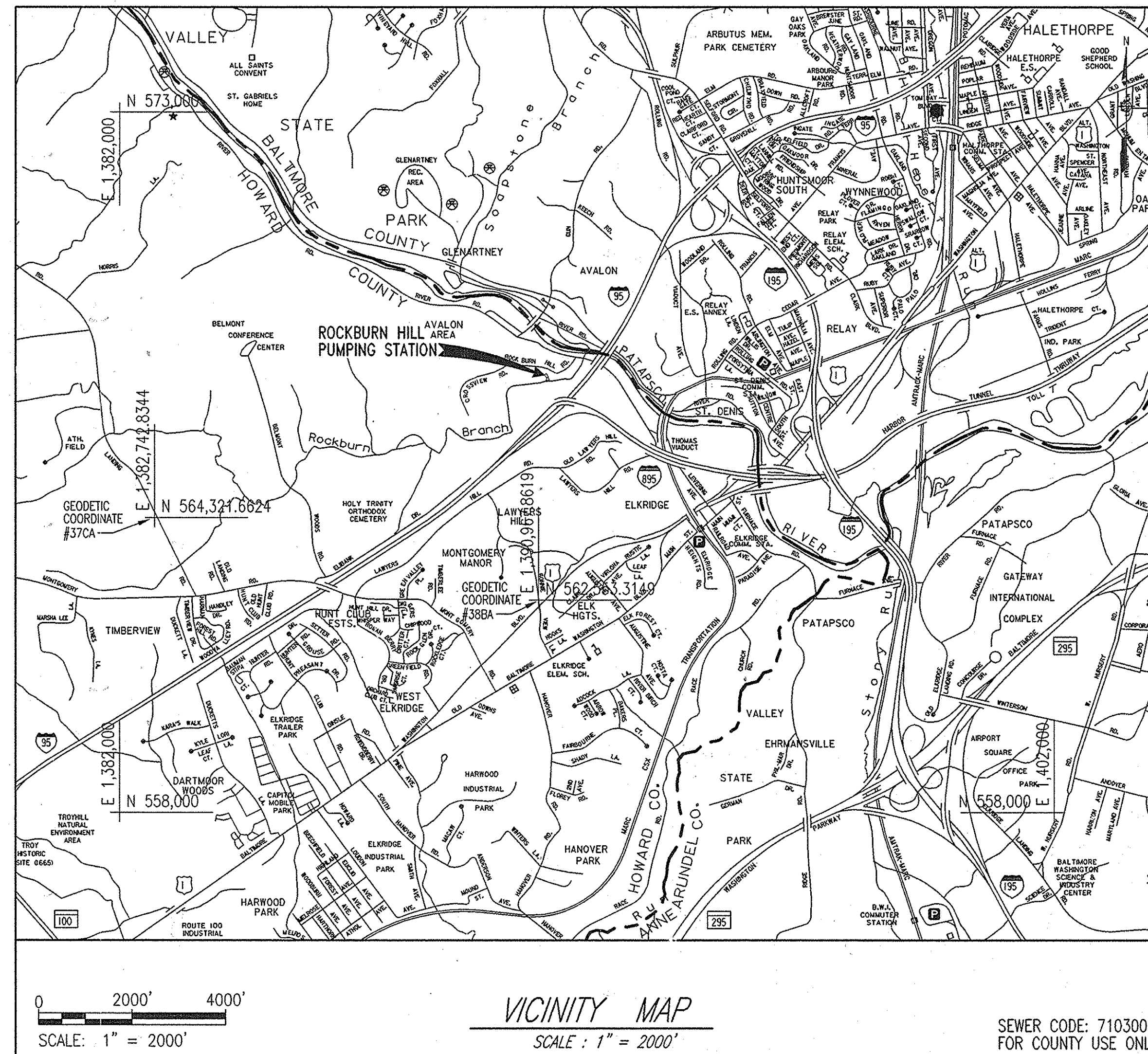
	NORTH	EAST	ELEVATION
HOWARD COUNTY #38BA	562,553.3149	1,390,967.8619	166.177
HOWARD COUNTY #37CA	564,321.6624	1,382,742.8344	256.964

### SITE ANALYSIS DATA CHART

TOTAL PROJECT AREA (LOD).....	0.25 AC.
AREA OF PLAN SUBMISSION.....	0.25 AC.
WETLANDS.....	0 AC.
WETLAND BUFFER.....	0 AC.
FOREST.....	0 AC.
SLOPES 15% TO <25%.....	586 SF.
SLOPES 25%>.....	981 SF.
PROPOSED SITE USE.....	PUMPING STATION
PROPOSED IMPERVIOUS AREA.....	0.06 AC.
FLOOD PLAIN AND BUFFER.....	0.16 AC.
GREEN AREA.....	0.17 AC.
ERODIBLE SOILS.....	0.03 AC.
OPEN SPACE.....	0 AC.
PRESENT ZONING.....	R0D
APPLICABLE DPZ REFERENCES.....	ECP-12-043, WP-12-144

### DRAWING/SHEET INDEX

DWG.	SHEET	DESCRIPTION
SDP-1	1	COVER SHEET
SDP-2	2	EXISTING CONDITIONS PLAN
SDP-3	3	DRAINAGE AREA PLAN
SDP-4	4	SITE DEVELOPMENT PLAN
SDP-5	5	PUMP STATION SITE AND UTILITY PLAN
SDP-6	6	EROSION AND SEDIMENT CONTROL GENERAL NOTES
SDP-7	7	EROSION AND SEDIMENT CONTROL GENERAL NOTES/DETAILS
SDP-8	8	EROSION AND SEDIMENT CONTROL DETAILS
SDP-9	9	EROSION AND SEDIMENT CONTROL DETAILS AND FOREST CONSERVATION
SDP-10	10	EROSION AND SEDIMENT CONTROL DETAILS



### APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 6/10/13  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] 6/12/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 6/13/13  
 DIRECTOR

### ENGINEERS/ARCHITECT DESIGN CERTIFICATION

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] P.E. 24478 5/3/13  
 SIGNATURE REGISTRATION NUMBER DATE

LOT/PARCEL #	STREET ADDRESS
63	6151 ROCKBURN HILL DRIVE, ELKRIDGE, MD 21075
80	6159 ROCKBURN HILL ROAD, ELKRIDGE, MD 21075

THIS DEVELOPMENT PLAN IS APPROVED  
 FOR CONSTRUCTION AND EQUIPMENT  
 INSTALLATION ON THE ABOVE SOIL  
 CONSERVATION DISTRICT.  
 [Signature] 5/3/13  
 APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.  
 [Signature] 5/15/13  
 DIRECTOR OF PUBLIC WORKS  
 [Signature] 5/15/13  
 CHIEF, BUREAU OF UTILITIES  
 [Signature] 5/10/13  
 CHIEF, UTILITY DESIGN DIVISION

**WR&A**  
 WHITMAN, REQUARDT AND ASSOCIATES, LLP  
 801 SOUTH CAROLINE STREET  
 BALTIMORE, MARYLAND  
 410 - 235 - 3450



DES:	F.B.	WRA	AS-BUILTS	10/15
DRN:	F.B.			
CHK:	W.H.			
MA:	2013			
BY	NO.	REVISION	DATE	

COVER SHEET

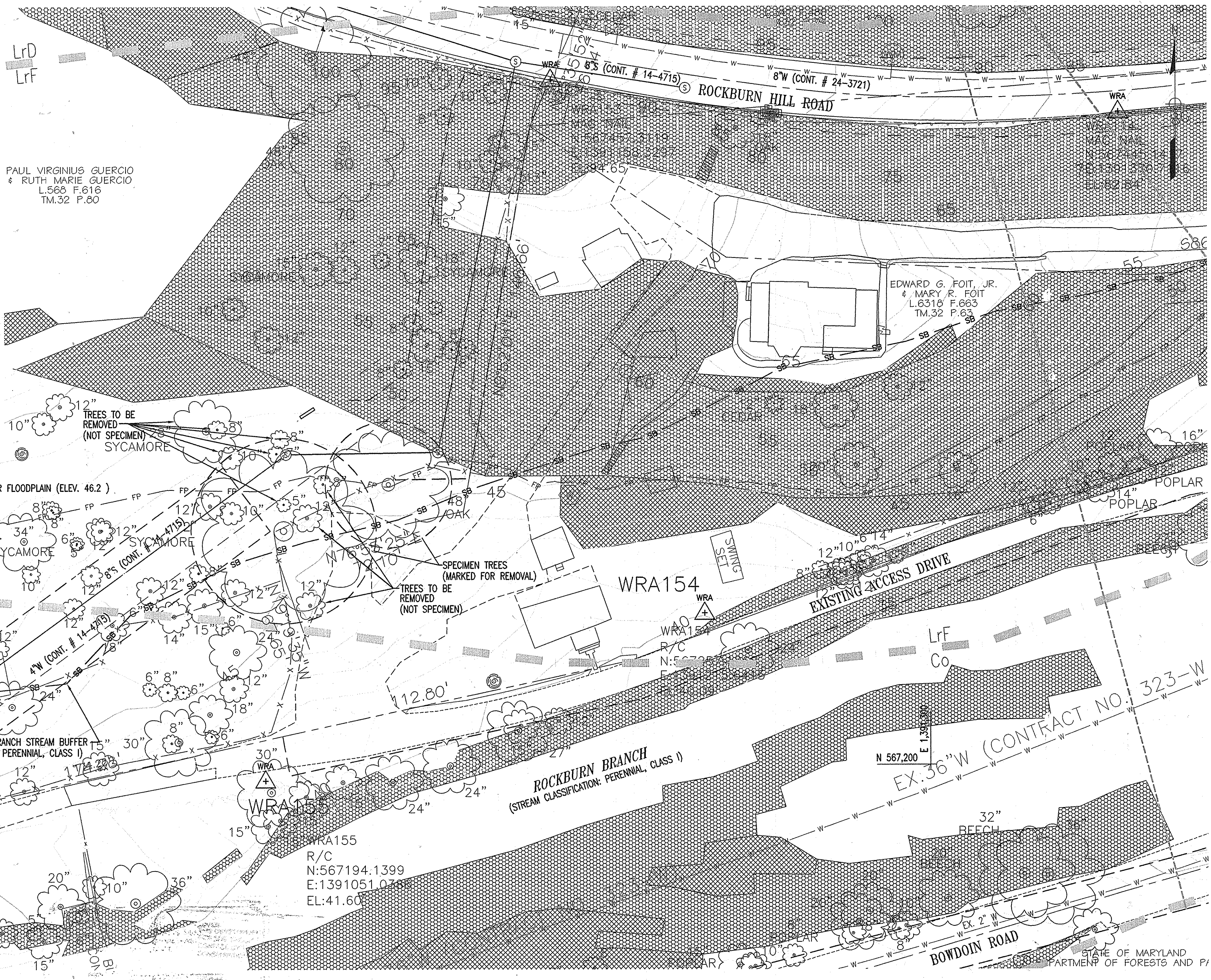
600 SCALE MAP NO. 32 BLOCK NO. 21.

ROCKBURN HILL PUMP STATION  
 CAPITAL PROJECT NO. S-6260  
 CONTRACT NO. 14-4715  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

AS-BUILT  
 EP-12-024  
 SDP-1  
 SCALE  
 AS SHOWN  
 SHEET  
 1 OF 10  
 SDP-12-081

**LEGEND**

SLOPES 15% TO <25%		EXISTING		PROPOSED	
SLOPES >25%					
CONTOUR	145			145	
SANITARY SEWER					
SANITARY SEWER MANHOLE					
STORM DRAIN					
TREE LINE					
TREE					
SPECIMEN TREE MARKED FOR REMOVAL					
TREES TO BE REMOVED					
STREAM BUFFER	SB				
SILT FENCE	SF				
SUPER SILT FENCE	SSF				
STABILIZED CONSTRUCTION ENTRANCE					
BIO-SWALE/PLANTING BED					
IMPERVIOUS AREA					
LIMIT OF DISTURBANCE	LOD				



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

DATE: 6/12/13  
 DATE: 6/12/13  
 DATE: 6/12/13

OWNER:	PERMIT INFORMATION CHART				
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. WES DAUB VOICE 410-313-6194	WATER CODE:	SEWER CODE:	BUILDING:	STREET ADDRESS:	
	PUBLIC	PUBLIC	N/A	ROCKBURN HILL RD/RIVER RD	
	PROJECT NAME:		TAX MAP/GRID:	PARCEL NO.:	
	ROCKBURN HILL SEWER/PUMP STATION AND CROSSVIEW ROAD WATER EXTENSION		32/21	63/80	
	L/F:	L/F:	ZONING:	TAX MAP BLOCK:	ELEC. DIST.:
	6318/663	568/616	Rd	32	1
	568/616	226/294			
					CENSUS TRACT:
					606903

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

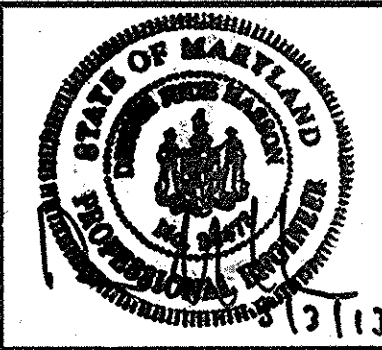
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

DIRECTOR OF PUBLIC WORKS  
 CHIEF, BUREAU OF UTILITIES

DATE: 5/13/13  
 DATE: 5/13/13

DATE: 5/13/13  
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**WR&A**  
 WHITMAN, REQUARD AND ASSOCIATES, LLP  
 801 SOUTH CAROLINE STREET  
 BALTIMORE, MARYLAND  
 410 - 235 - 3450



DES:	WRA	AS-BUILTS	10/5
DRN:			
CHK:			
MAY 2013	BY	NO.	REVISION
			DATE

EXISTING CONDITIONS PLAN

600 SCALE MAP NO. 32 | BLOCK NO. 21.

ROCKBURN HILL PUMP STATION

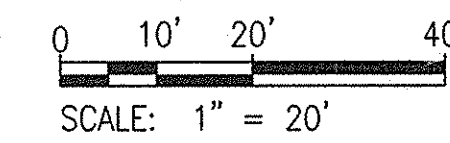
CAPITAL PROJECT NO. S-6260  
 CONTRACT NO. 14-4715  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 10

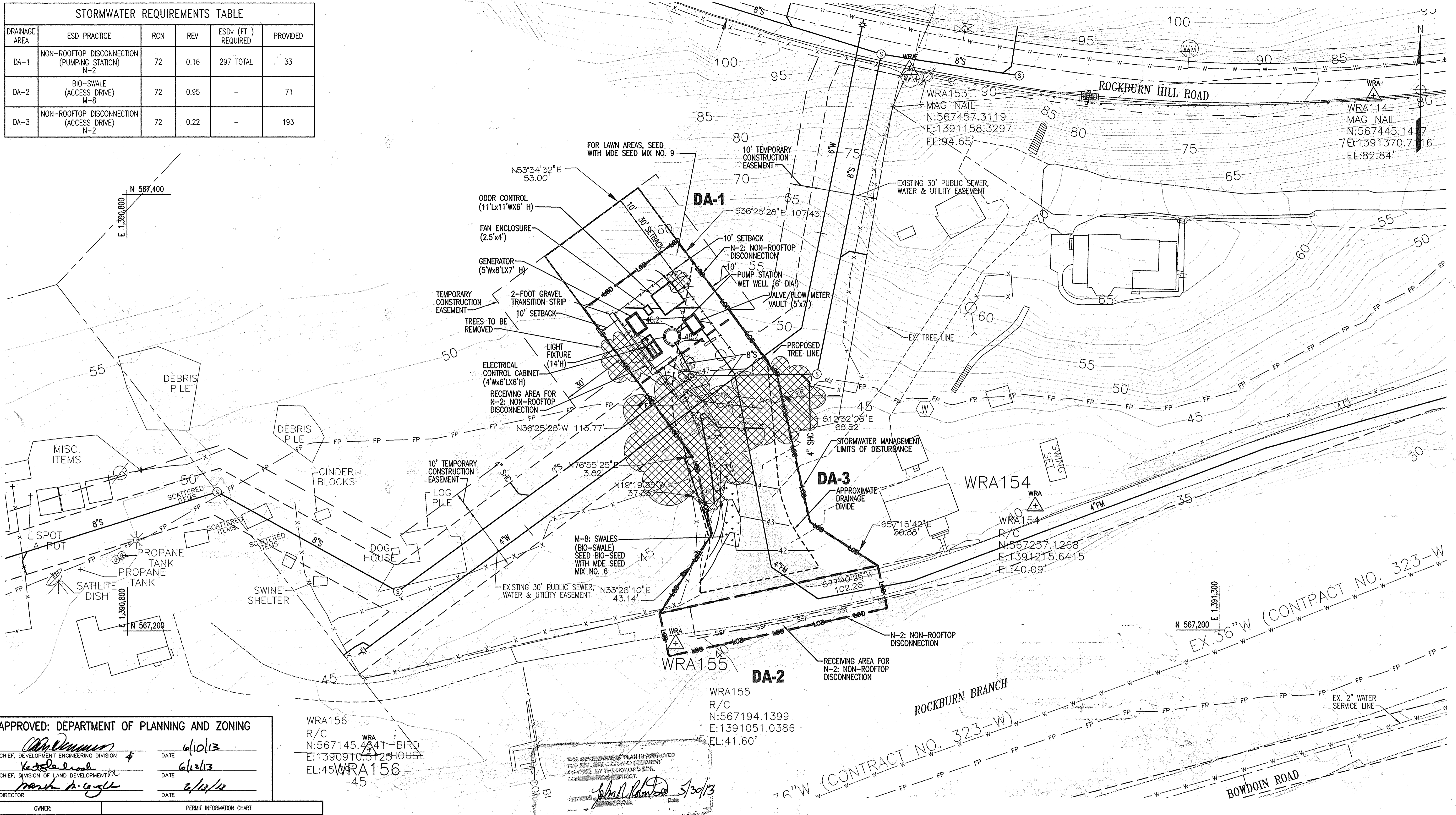
**AS-BUILT**

SOIL SYMBOL	HSG	SOIL DESCRIPTION
Lf	B	LEGORE - RELAY GRAVELLY LOAM, 25-65% SLOPES
Co	D	CODORUS & HATBORO SILT LOAM, 0-3% SLOPES



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STORMWATER REQUIREMENTS TABLE					
DRAINAGE AREA	ESD PRACTICE	RCN	REV	ESDv (FT) REQUIRED	PROVIDED
DA-1	NON-ROOFTOP DISCONNECTION (PUMPING STATION) N-2	72	0.16	297 TOTAL	33
DA-2	BIO-SWALE (ACCESS DRIVE) M-8	72	0.95	-	71
DA-3	NON-ROOFTOP DISCONNECTION (ACCESS DRIVE) N-2	72	0.22	-	193



APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 6/10/13  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] 6/12/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 6/12/13  
 DIRECTOR

WRA156  
 R/C  
 N:567145.4841 BIRD  
 E:1390910.5125 HOUSE  
 EL:45  
 WRA156  
 45

OWNER:	PERMIT INFORMATION CHART			
	WATER CODE:	SEWER CODE:	BUILDING	STREET ADDRESS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. WES DAUB VOICE 410-313-6194	PUBLIC	PUBLIC	N/A	ROCKBURN HILL RD/RIVER RD
	PROJECT NAME: ROCKBURN HILL SEWER/PUMP STATION AND CROSSVIEW ROAD WATER EXTENSION		TAX MAP/GRID 32/21	PARCEL NO. 63/80
	L/F 6318/663 568/616	L/F 568/616 228/294	ZONING ReD	ELEC. DIST. 1
			TAX MAP BLOCK 32	CENSUS TRACT 606903

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.

[Signature] 5/12/13  
 DIRECTOR OF PUBLIC WORKS  
 [Signature] 5/12/13  
 CHIEF, BUREAU OF UTILITIES

[Signature] 5/12/13  
 CHIEF, BUREAU OF ENGINEERING  
 [Signature] 5/12/13  
 CHIEF, UTILITY DESIGN DIVISION

**WR&A**  
 WHITMAN, REQUART AND ASSOCIATES, LLP  
 801 SOUTH CAROLINE STREET  
 BALTIMORE, MARYLAND  
 410 - 235 - 3450



DES:	WRA	AS-BUILTS	10/5
DRN:			
CHK:			
MAY 2013	BY	NO.	REVISION
			DATE

600 SCALE MAP NO. 32  
 BLOCK NO. 21.

ROCKBURN HILL PUMP STATION

CAPITAL PROJECT NO. 14-6260  
 CONTRACT NO. 14-4715  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

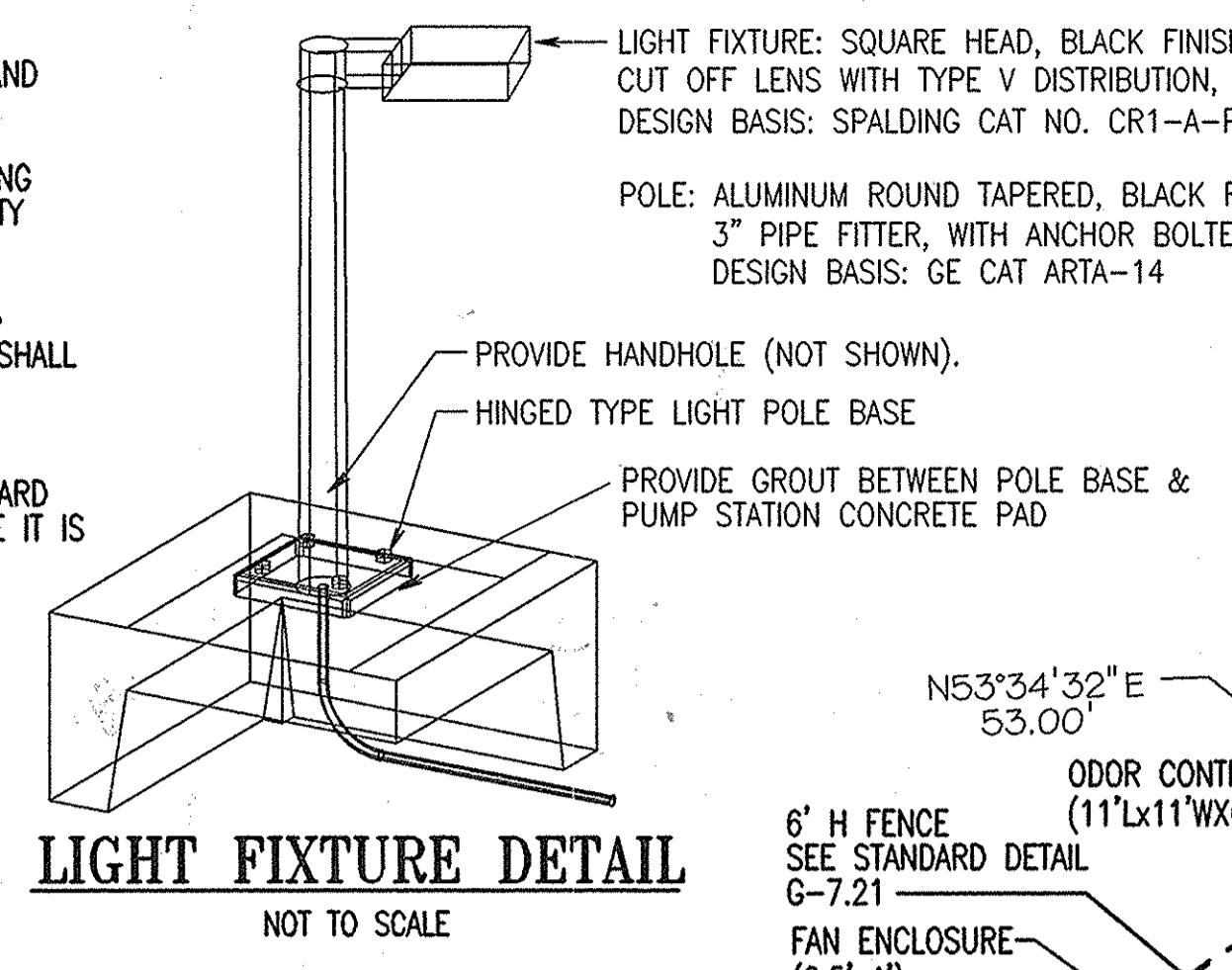
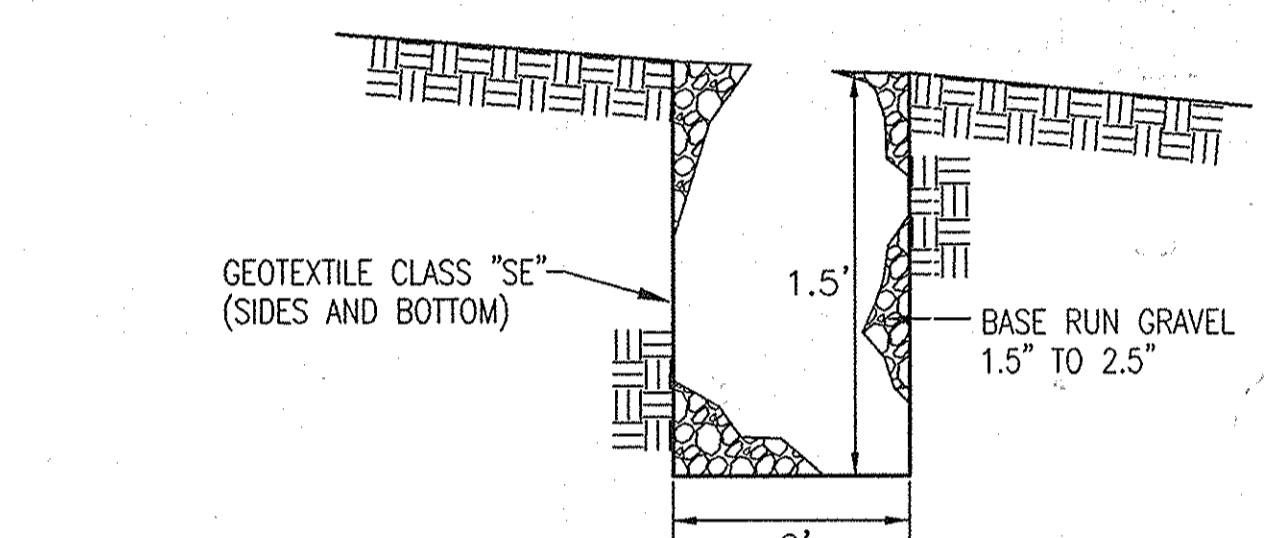
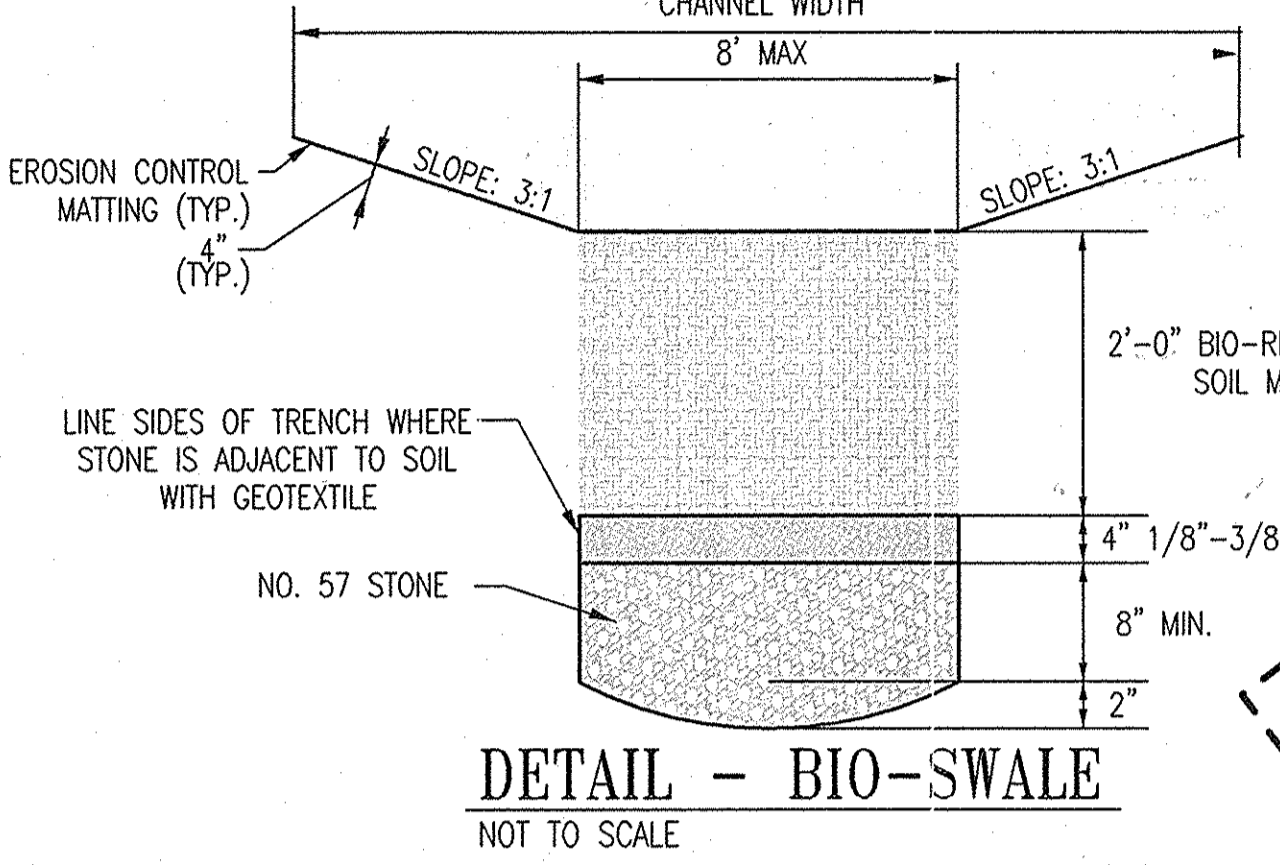
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SHEET 3 OF 10

SDP-12-081

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- NOTES:**
- PERIMETER LANDSCAPING IS REQUIRED IN ACCORDANCE WITH SECTION 16.124 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL.
  - AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPING PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL.
  - THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS.
  - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY IS NOT REQUIRED FOR THIS PROJECT BECAUSE IT IS A COUNTY CAPITAL PROJECT.



**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	C	C
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	102	459
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO
NUMBER OF PLANTS REQUIRED		
SHADE TREES (1 PER 40')	3	12
EVERGREEN TREES (1 PER 20')	5	23
SHRUBS	0	0
NUMBER OF PLANTS PROVIDED		
SHADE TREES	2	12
EVERGREEN TREES	5	20
OTHER TREES (2:1 SUBSTITUTION)	0	3
SHRUB (10:1 SUBSTITUTION)	10	20
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)		

**LANDSCAPE PLANT SCHEDULE**

QUANTITY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	MATURE SIZE	MIN. SPACING
<b>DECIDUOUS TREES</b>							
3	CV	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE	5'-6' HT.	B&B	HEIGHT: 10'-15' SPREAD: 10'-15'	20' O.C.
4	LS	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2.5"-3" CAL.	B&B	HEIGHT: 60'-70' SPREAD: 30'-40'	20' O.C.
5	PA	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANETREE	2.5"-3" CAL.	B&B	HEIGHT: 80'-90' SPREAD: 60'-70'	25' O.C.
5	QC	QUERCUS COCCINEA	SCARLET OAK	2.5"-3" CAL.	B&B	HEIGHT: 40'-60' SPREAD: 40'-50'	20' O.C.
<b>EVERGREEN TREES</b>							
11	IO	ILEX OPACA	AMERICAN HOLLY	6'-7' HT.	B&B	HEIGHT: 40'-50' SPREAD: 18'-40'	10' O.C.
14	PS	PINUS STROBUS 'FASTIGIATA'	COLUMNAR EASTERN WHITE PINE	6'-7' HT.	B&B	HEIGHT: 35'-50' SPREAD: 12'-15'	10' O.C.
<b>EVERGREEN SHRUBS</b>							
10	IG	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	2.5"-3" HT.	B&B/CONT.	HEIGHT: 4'-6' SPREAD: 6'-8'	5' O.C.
9	KL	KALMA LATIFOLIA	MOUNTAINLAUREL	2.5"-3" HT.	B&B/CONT.	HEIGHT: 4'-6' SPREAD: 4'-6'	5' O.C.
11	RH	RHODODENDRON P.J.M.	P.J.M. RHODODENDRON	2.5"-3" HT.	B&B/CONT.	HEIGHT: 4'-6' SPREAD: 4'-6'	5' O.C.

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 6/10/13

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 6/12/13

DIRECTOR: *[Signature]* DATE: 6/13/13

**PERMIT INFORMATION CHART**

WATER CODE	SEWER CODE	BUILDING	STREET ADDRESS
PUBLIC	PUBLIC	N/A	ROCKBURN HILL RD/RIVER RD
PROJECT NAME	TAX MAP/GRID	PARCEL NO.	
ROCKBURN HILL SEWER/PUMP STATION AND CROSSVIEW ROAD WATER EXTENSION	32/21	63/90	
L/F	L/F	ZONING	TAX MAP BLOCK
6318/663	568/616	ReD	32
ELEC. DIST.	CENSUS TRACT		
1	606903		

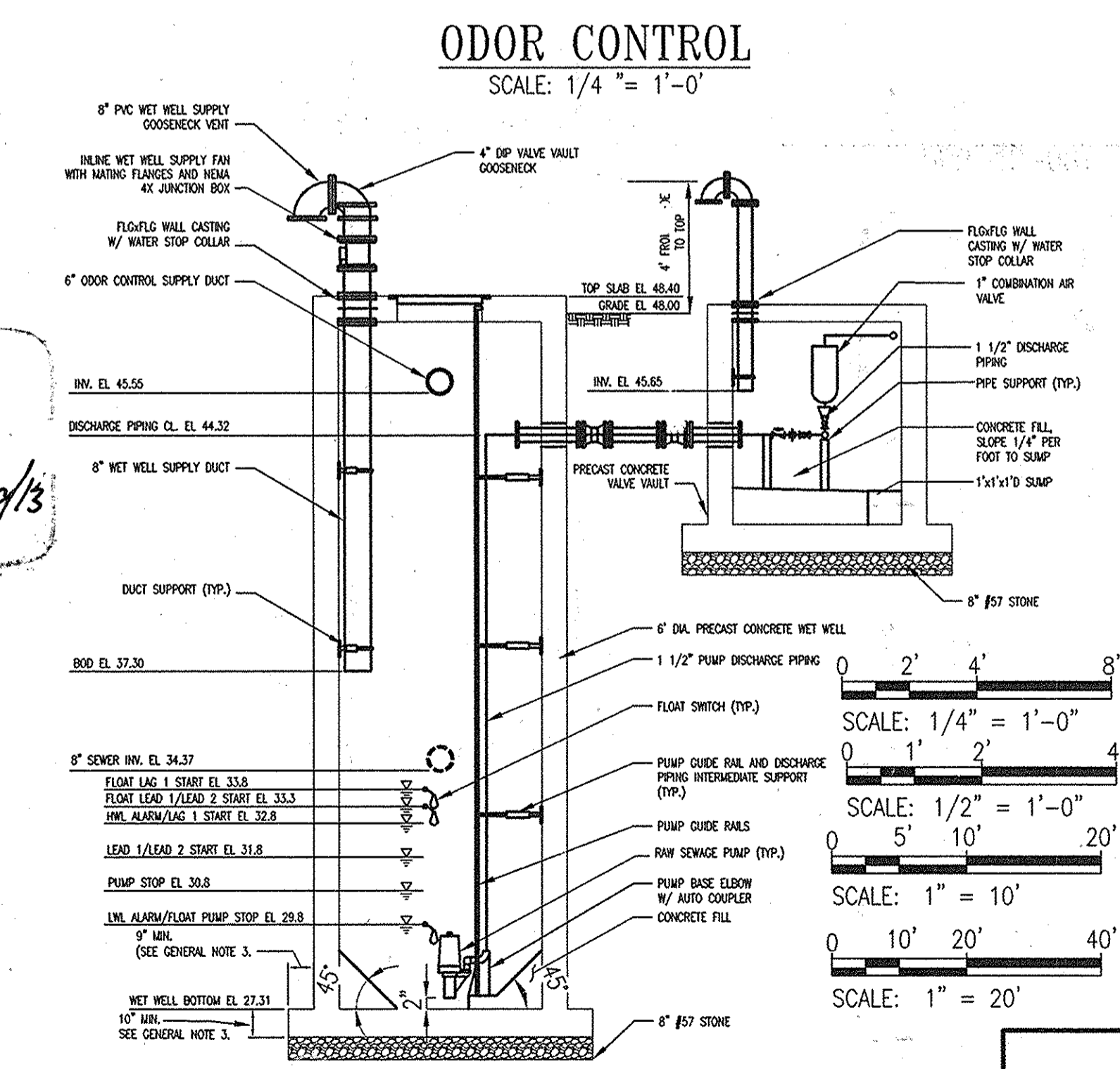
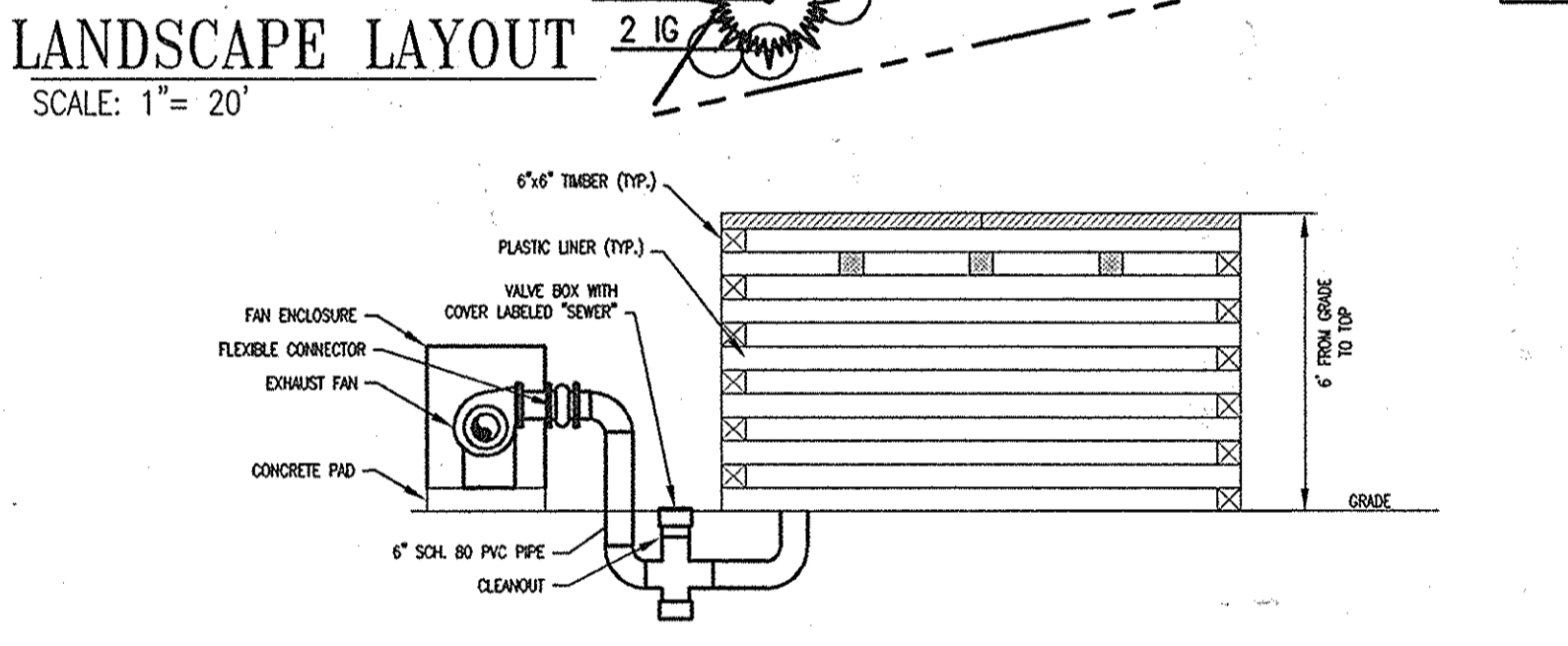
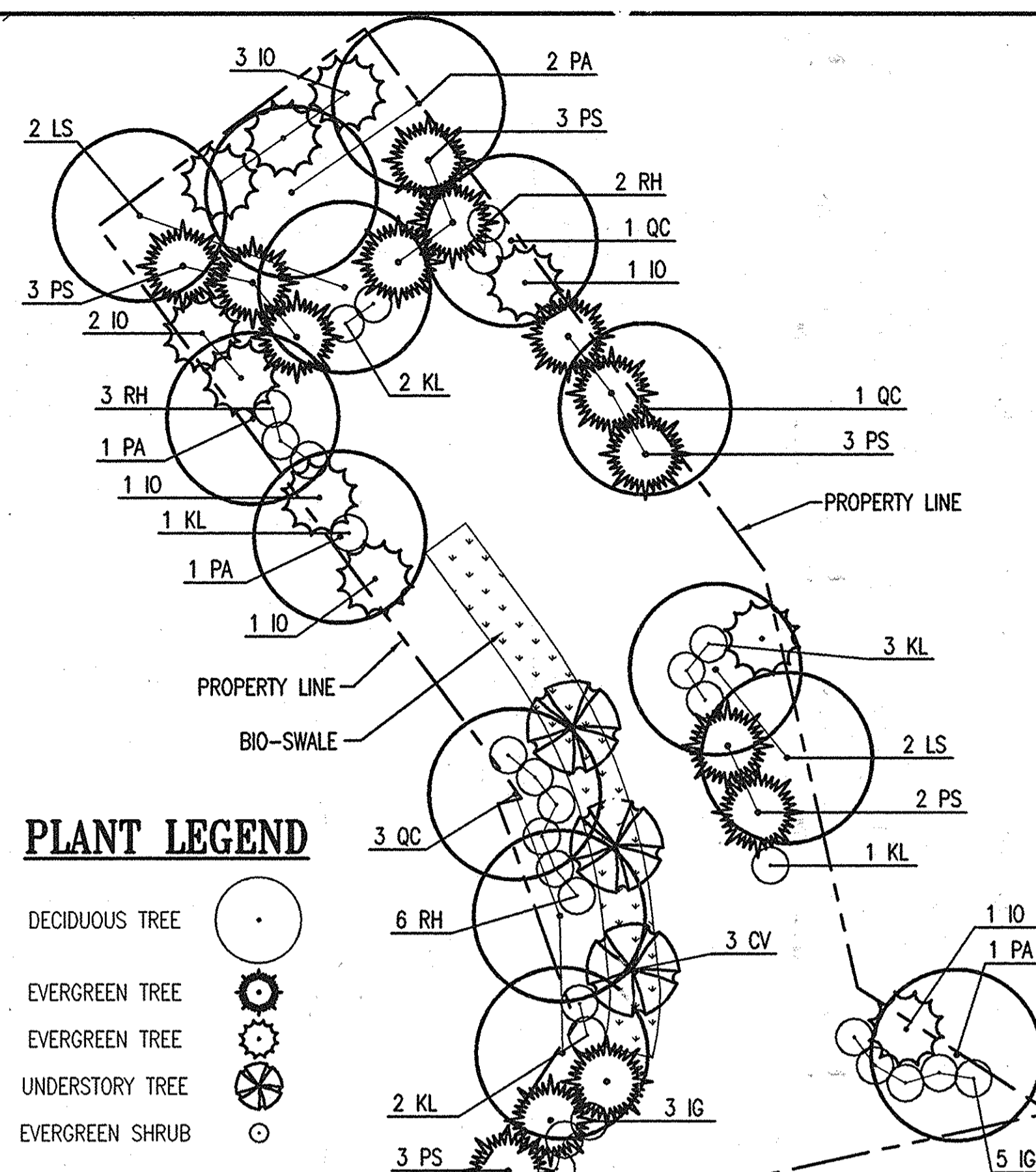
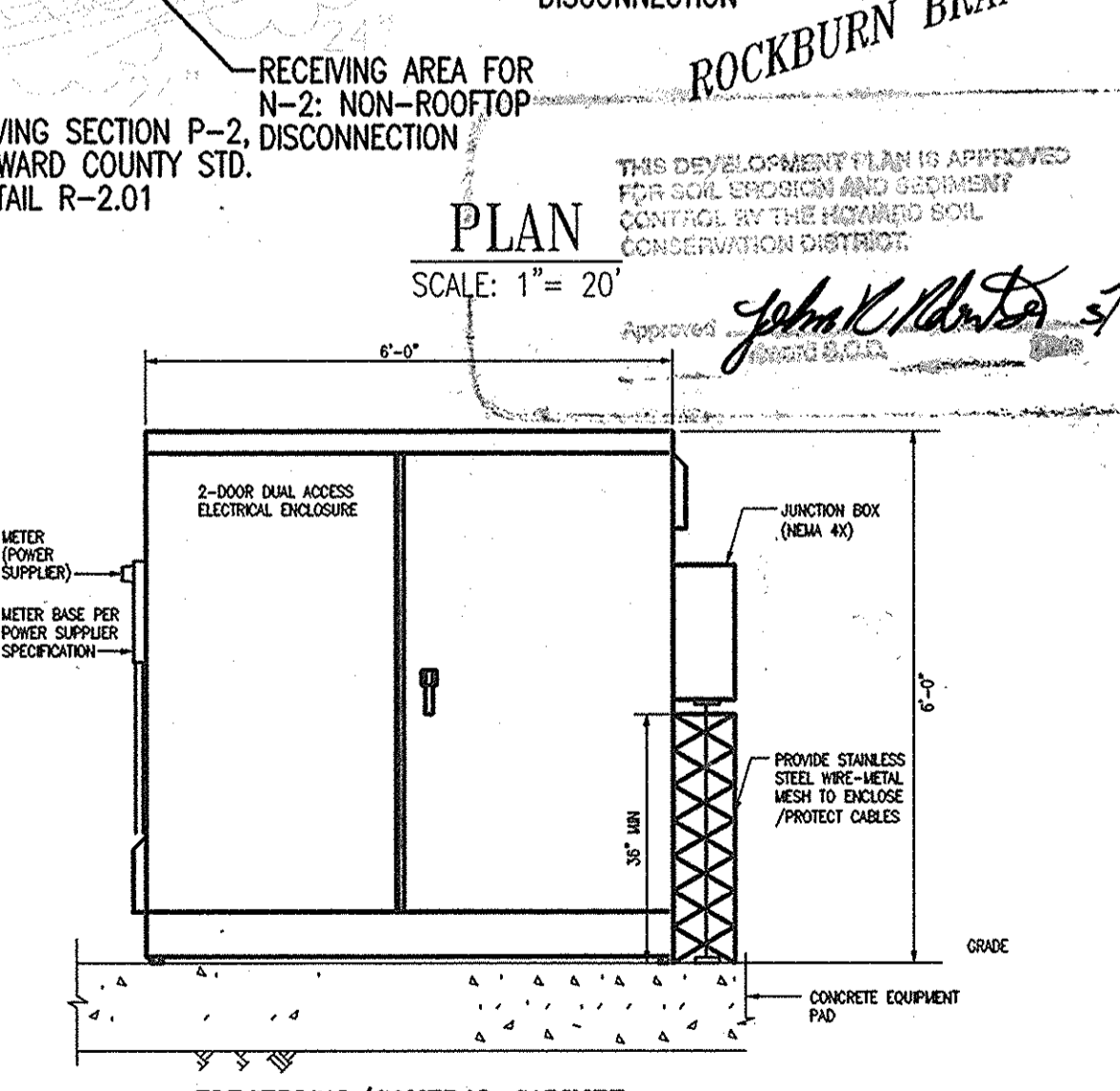
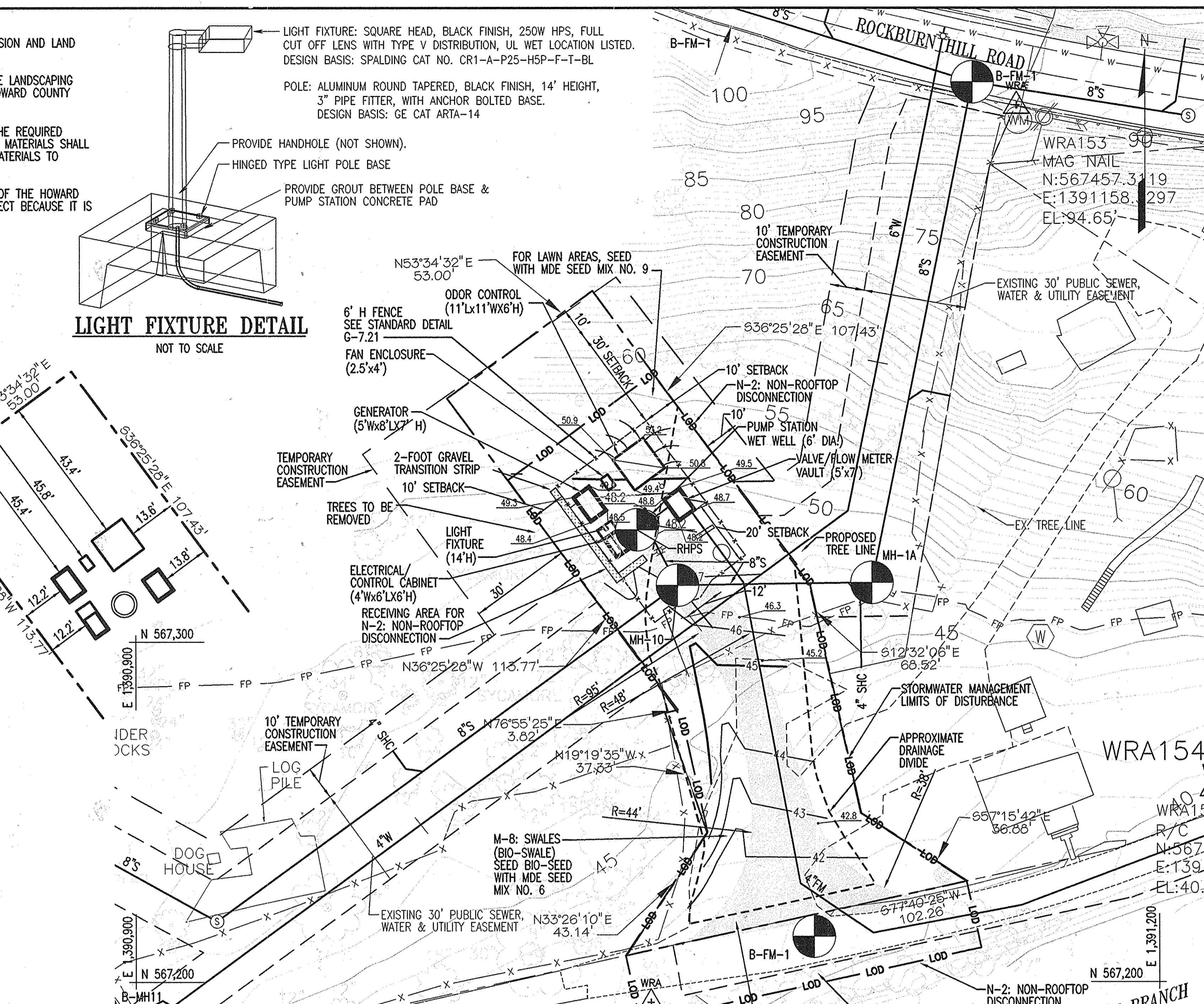
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND.

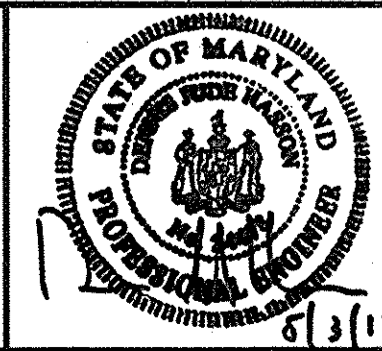
Director of Public Works: *[Signature]* DATE: 5/15/13

Chief, Bureau of Engineering: *[Signature]* DATE: 5/10/13

Chief, Bureau of Utilities: *[Signature]* DATE: 5/10/13



**WR&A**  
WHITMAN, REQUARDT AND ASSOCIATES, LLP  
801 SOUTH CAROLINE STREET  
BALTIMORE, MARYLAND  
410 - 235 - 3450



**REVISIONS**

NO.	BY	NO.	REVISION	DATE
1	WR&A	1	AS-BUILTS	10/15
2				
3				
4				
5				

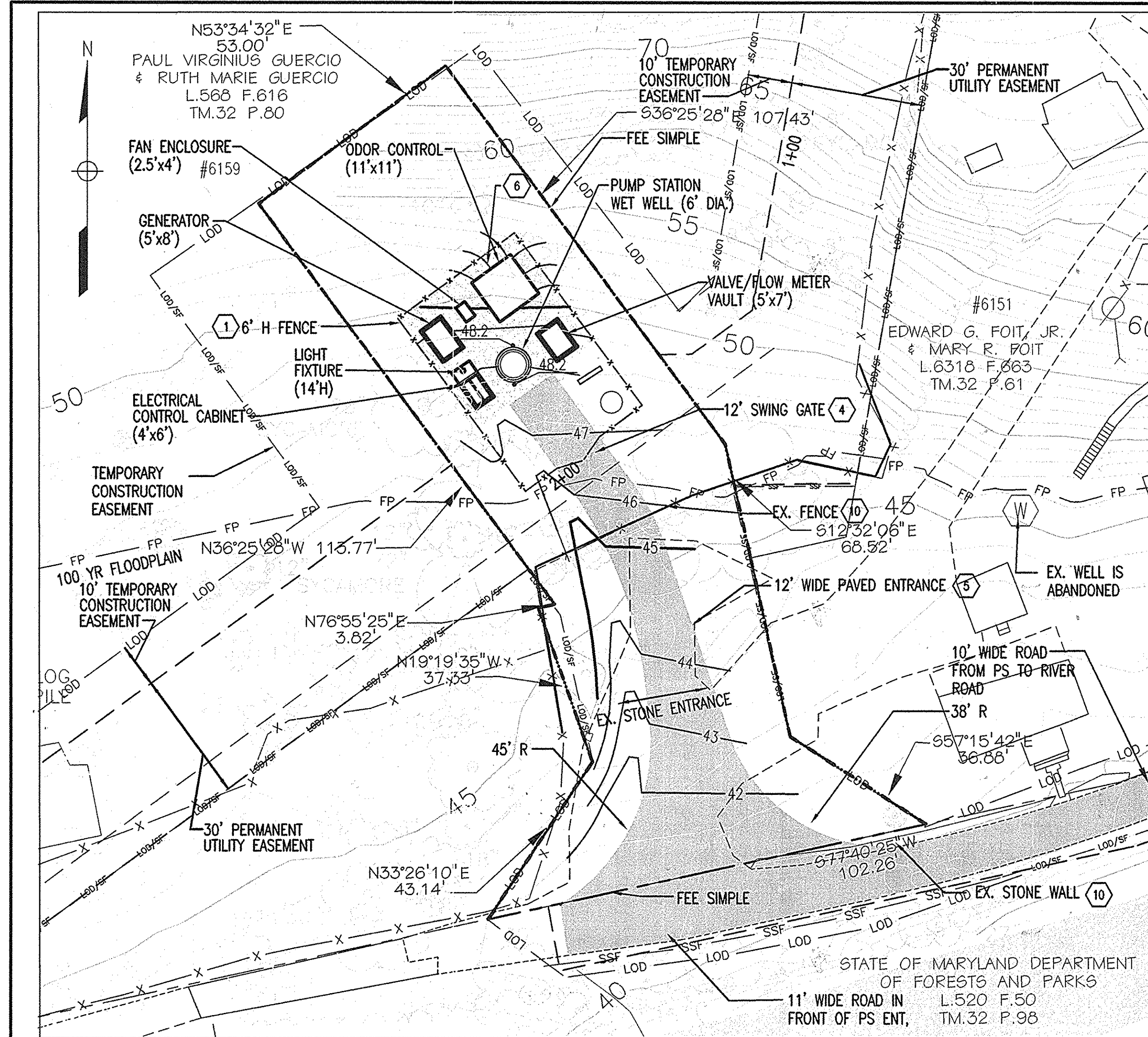
**SITE DEVELOPMENT PLAN**

600 SCALE MAP NO. 32 BLOCK NO. 21.

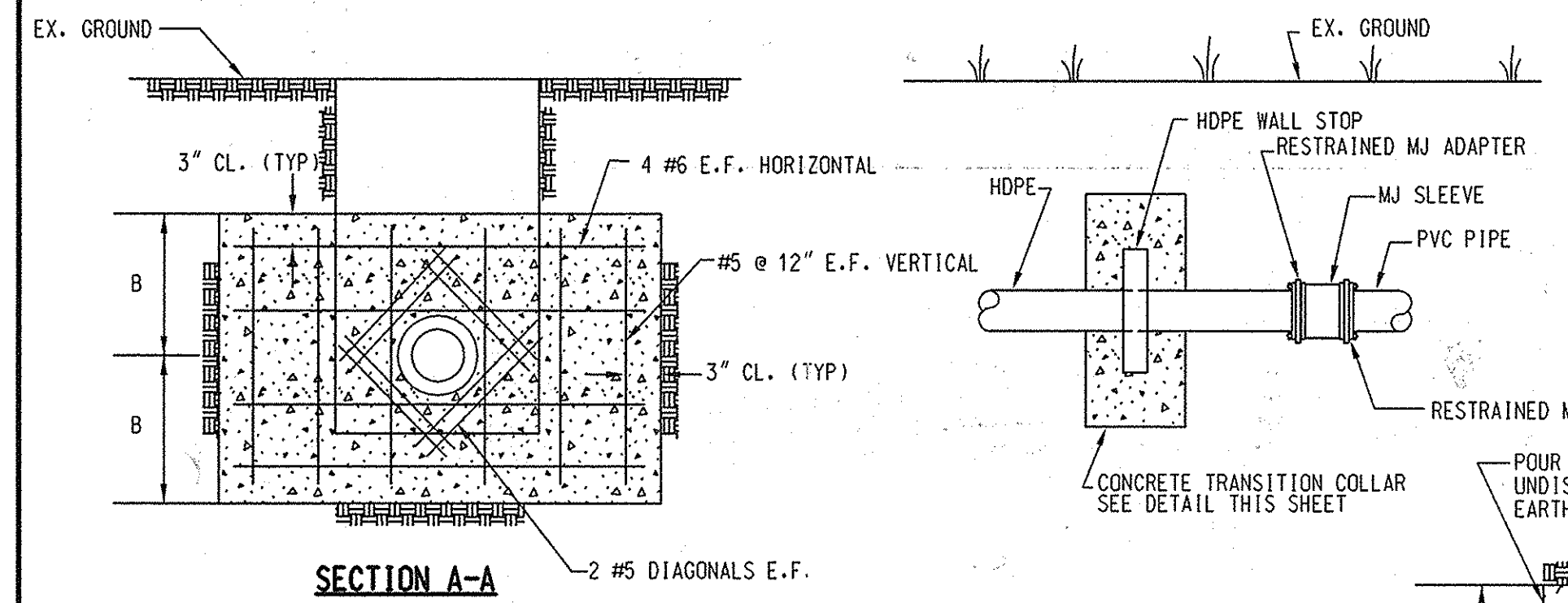
**ROCKBURN HILL PUMP STATION**

CAPITAL PROJECT NO. S-6260  
CONTRACT NO. 14--715  
1ST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 4 OF 10  
SDP-12-081



**GRADING AND EROSION & SEDIMENT CONTROL PLAN (11)**  
SCALE: 1"=20'



NOMINAL DIA	A	B	C
4" & LESS	18"	12"	14"

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

\_\_\_\_\_ DATE 6/10/13  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 \_\_\_\_\_ DATE 6/12/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 \_\_\_\_\_ DATE 4/23/13  
 DIRECTOR

OWNER:	PERMIT INFORMATION CHART					
	WATER CODE:	SEWER CODE:	BUILDING	STREET ADDRESS	TAX MAP/GRID	PARCEL NO.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. WES DAUB VOICE 410-313-6194	PUBLIC	PUBLIC	N/A	ROCKBURN HILL RD/RIVER RD	32/21	63/80
	PROJECT NAME: ROCKBURN HILL SEWER/PUMP STATION AND CROSSVIEW ROAD WATER EXTENSION		ZONING	ELEC. DIST.	CENSUS TRACT	
	L/F 6318/663 S/S 568/616	L/F 568/616 S/S 226/234	Red	32	1	606903

"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 24478, EXPIRATION DATE: 10-28-2013."

**DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.**

\_\_\_\_\_ DATE 5/15/13  
 DIRECTOR OF PUBLIC WORKS  
 \_\_\_\_\_ DATE 5/15/13  
 CHIEF, BUREAU OF UTILITIES

\_\_\_\_\_ DATE 5/10/13  
 CHIEF, UTILITY DESIGN DIVISION

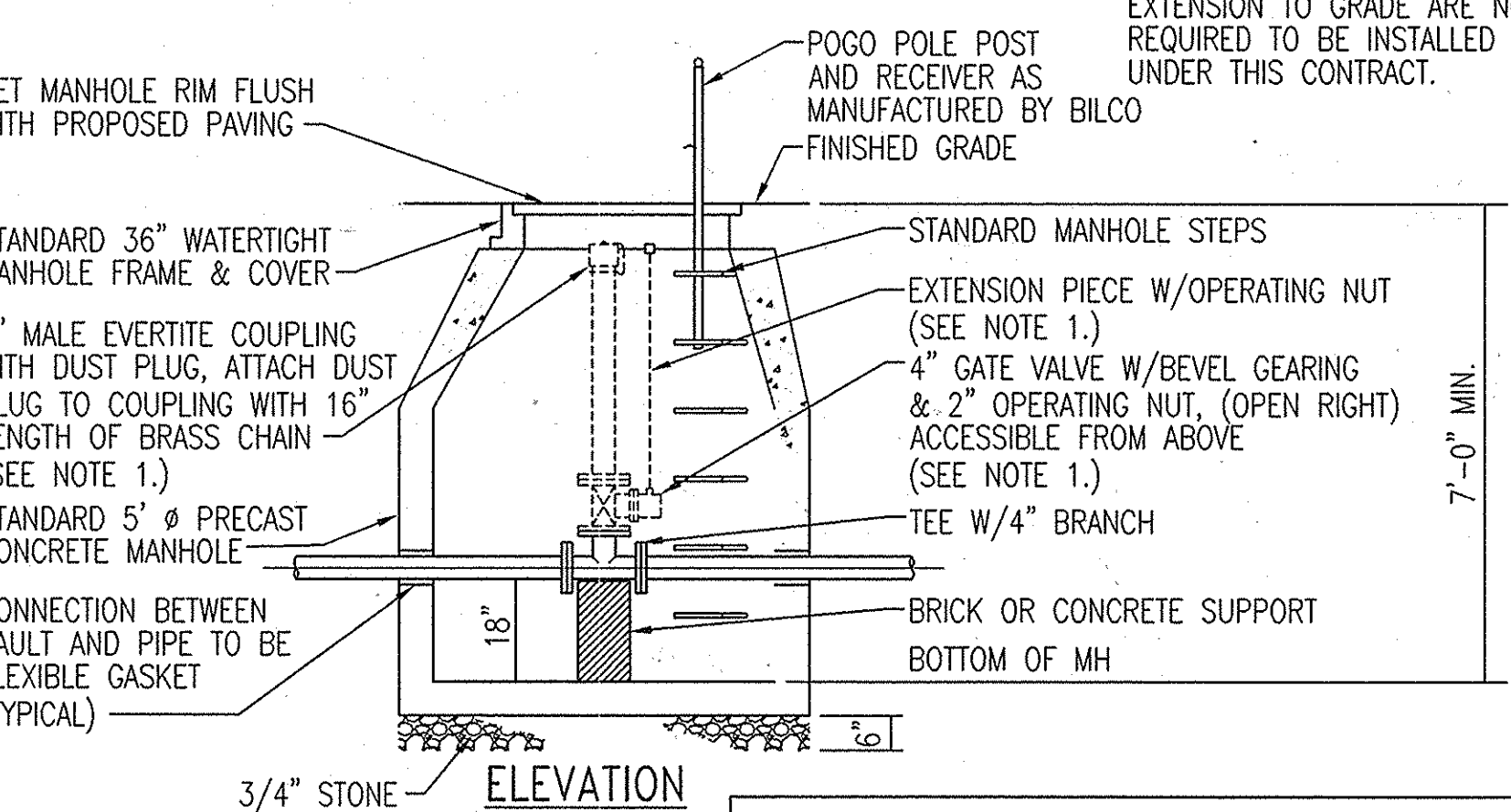
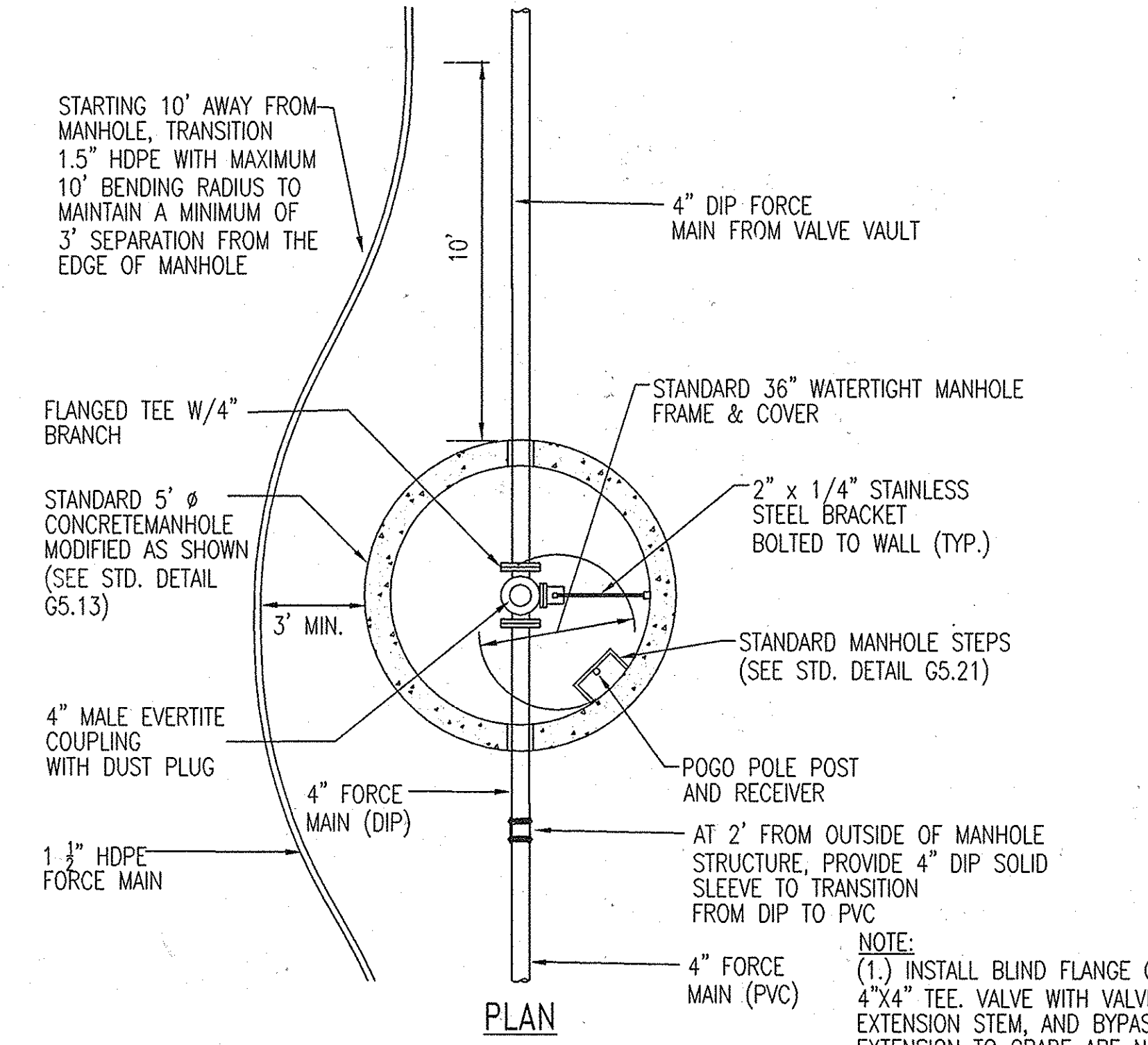
**TRANSITION DETAIL FROM PVC TO HDPE**  
SCALE: NONE

NAME OF UTILITY CONTRACTOR:

**WR&A**  
WHITMAN, REQUARDT AND ASSOCIATES, LLP  
801 SOUTH CAROLINE STREET  
BALTIMORE, MARYLAND  
410 - 235 - 3450

**CONSTRUCTION NOTES:**

- SEE HOWARD COUNTY DETAIL G-7.21 AND 7.22 FOR FENCE DETAILS.
- SEE MECHANICAL DRAWINGS FOR WETWELL, VALVE VAULT AND ODOR CONTROL DETAILS.
- SEE ELECTRICAL DRAWINGS FOR ELECTRICAL/CONTROL CABINET DETAILS.
- SEE HOWARD COUNTY DETAIL G-7.23 FOR CHAIN LINK FENCE GATE DETAIL.
- SEE DETAIL B ON DRAWING G-2 FOR PAVEMENT DETAILS.
- INSTALL 5-INCHES OF #7 STONE OVER LANDSCAPE CLOTH.
- SEE DETAIL B THIS DRAWING FOR BYPASS CONNECTION DETAIL.
- PS INFLUENT SEWER SHALL BE DR-18 C-900 PVC.
- INSTALL ISOLATION GATE VALVE. SEE HOWARD COUNTY DETAIL W-5.01 FOR PVC VALVE ANCHORAGE. RESTRAIN JOINTS ON BOTH SIDES OF THE VALVE.
- REMOVE EX. STONE WALL AS REQUIRED TO INSTALL PUMP STATION ENTRANCE. REINSTALL STONE WALL ALONG PERIMETER OF NEW FEE SIMPLE ENTRANCE AS INDICATED. REMOVE EX. FENCE IN FRONT OF PUMP STATION AS REQUIRED TO CONSTRUCT PUMP STATION
- LUMP SUM PAYMENT FOR PUMP STATION IS ALL REQUIRED WORK FOR THE CONSTRUCTION OF THE PUMP STATION WITH THE EXCEPTION OF THE INSTALLATION OF MANHOLES, SEWERS, HYDRANTS, PUMP STATION ENTRANCE ROAD, 4" 7/8" WATER MAINS, AND FORCE MAINS SOUTH OF THE 4" BYPASS CONNECTION. THESE ITEMS SHALL ALL BE MEASURED AND PAID FOR AS UNIT PRICE ITEMS.



**BYPASS CONNECTION DETAIL**  
SCALE: NONE

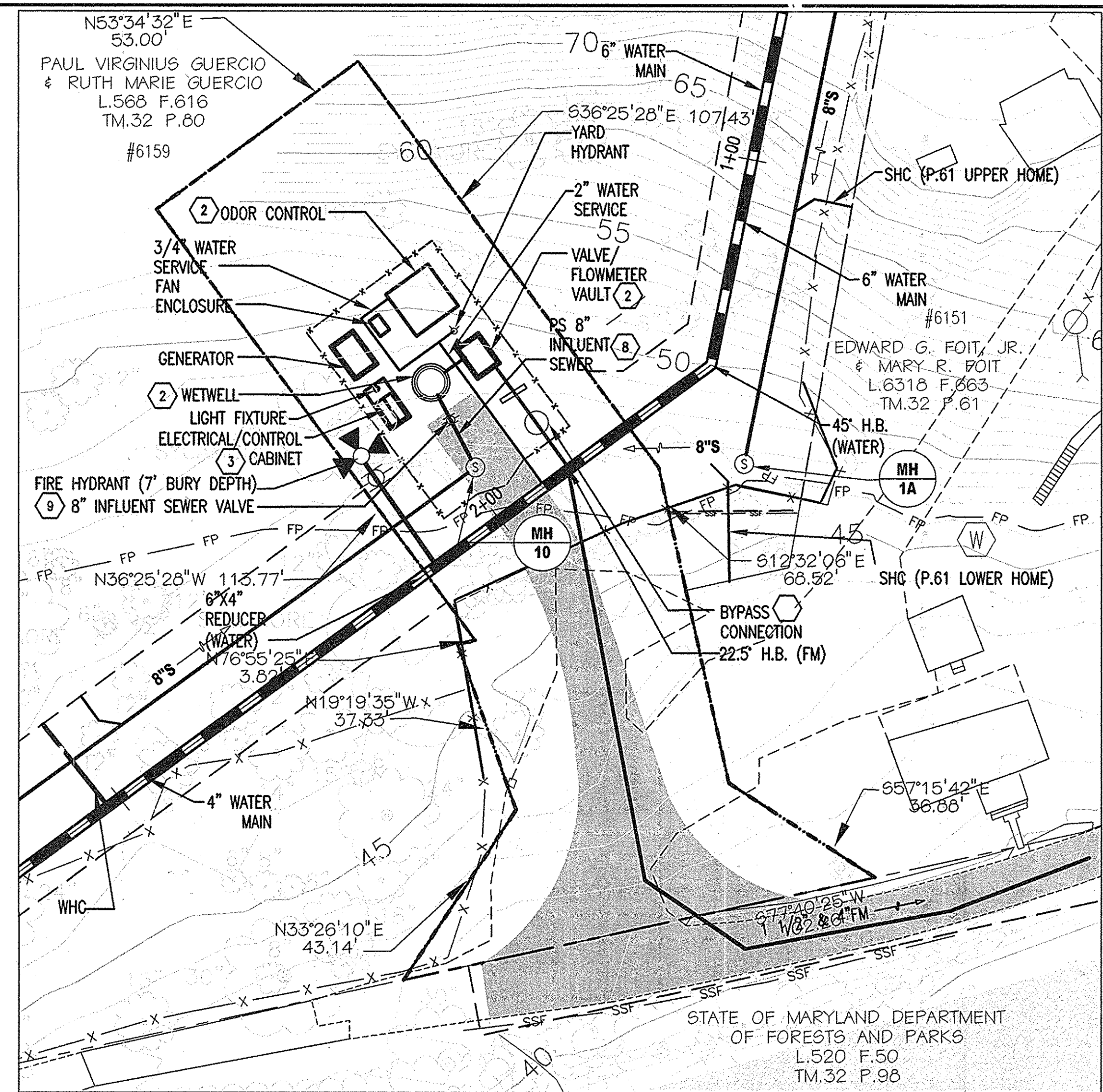
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

**HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION**

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

John R. Roberts  
HOWARD SOIL CONSERVATION DISTRICT

5/30/13  
DATE



**UTILITY PLAN (11)**  
SCALE: 1"=20'

**STAKEOUT WORKING POINTS (WP)**

WORKING POINT	DESCRIPTION	NORTHING	EASTING
WP 1	CENTER OF WETWELL	1,391,049.51	567,334.68
WP 2	SE CORNER OF ELEC/CONTROL CAB. CONC. PAD	1,391,045.17	567,327.39
WP 3	SW CORNER OF ELEC/CONTROL CAB. CONC. PAD	1,391,041.07	567,324.53
WP 4	NE CORNER OF FENCE	1,391,049.52	567,365.34
WP 5	NW CORNER OF FENCE	1,391,021.14	567,345.05
WP 6	NE CORNER OF ODOR CONTROL FAC.	1,391,048.83	567,359.90
WP 7	NW CORNER OF ODOR CONTROL FAC.	1,391,039.95	567,353.40
WP 8	SE CORNER OF GENERATOR	1,391,038.32	567,338.62
WP 9	SW CORNER OF GENERATOR	1,391,033.47	567,335.08
WP 10	CENTERPOINT OF 38' RADIUS AT ENTRANCE	1,391,134.34	567,262.24
WP 11	CENTERPOINT OF 45' RADIUS AT ENTRANCE	1,391,036.86	567,248.52

- STAKEOUT NOTES:**
- SEE MECHANICAL DRAWINGS FOR ORIENTATION OF VALVE VAULT RELATIVE TO THE WETWELL.
  - FENCE CORNERS ARE APPROXIMATE. THE FENCE SHALL BE INSTALLED A MINIMUM 4' CLEAR OF ANY ABOVE GROUND CONCRETE PAD AND/OR STRUCTURE.
  - ELECTRICAL/CONTROL CABINET SHALL BE INSTALLED A MINIMUM OF 4' FROM THE WETWELL.

**AS-BUILT**  
SCALE: 1"=20'

**OWNERS/DEVELOPERS CERTIFICATION:**

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

Wes Daub  
DATE 5-10-2013

NA 13082-000(CADD) SUP - 13082000-05.dwg  
MAY 05, 2013 - 9:24pm

DES:	F.B.	WRA	AS-BUILTS	10/15
DRN:	F.B.			
CHK:	W.H.			
MAY 2013	BY	NO.	REVISION	DATE

**PUMP STATION SITE AND UTILITY PLAN**

600 SCALL MAP NO. 32 | BLOCK NO. 21.

**ROCKBURN HILL PUMP STATION**

CAPITAL PROJECT NO. S-6260  
CONTRACT NO. 14- 715  
1ST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SDP-5  
SCALE AS SHOWN  
SHEET 5 OF 10  
SDP-12-081

# EROSION AND SEDIMENT CONTROL - GENERAL NOTES

## 1. HOWARD COUNTY NOTIFICATION

THE CONTRACTOR MUST NOTIFY THE HOWARD COUNTY ENVIRONMENTAL COMPLIANCE SECTION IN WRITING AND/OR BY TELEPHONE (410) 313-1880 AT THE FOLLOWING POINTS:

- PRE-CONSTRUCTION MEETING (MINIMUM 5 DAYS PRIOR TO START OF CONSTRUCTION)
- FOLLOWING INSTALLATION OF INITIAL SEDIMENT CONTROL MEASURES
- PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL DEVICE
- PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES
- PRIOR TO FINAL ACCEPTANCE BY COUNTY.

## 2. STANDARDS AND SPECIFICATIONS

THIS PLAN IS DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND ALL REVISIONS THEREOF AND ADDITIONS THERETO INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL HAVE A COPY OF THE 2011 "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" ON THE SITE.

## 3. INGRESS/EGRESS CONTROLS

THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ON PUBLIC ROADS. ALL MATERIALS DEPOSITED ON PUBLIC ROADS SHALL BE MECHANICALLY REMOVED IMMEDIATELY. THE FLUSHING OF ROAD SURFACES IS PROHIBITED.

TYPICALLY, ALL INGRESS AND EGRESS POINTS SHALL BE CONTROLLED THROUGH THE USE OF A "STABILIZED CONSTRUCTION ENTRANCE."

## 4. INSPECTION

THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES.

## 5. SHUTDOWNS AND OR PENALTIES

TOTAL COMPLIANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS EXPECTED AT ALL TIMES. IN CASES WHERE THE CONTRACTOR IS FOUND TO BE IN NON-COMPLIANCE THE COUNTY MAY TAKE STEPS TO IMPOSE SELECTED OR TOTAL SHUTDOWNS AND IMPOSE PER DAY PENALTIES FOR NON-COMPLIANCE.

THE COUNTY ENGINEER CAN IMPOSE A TOTAL OR PARTIAL SHUTDOWN IF THE PROJECT MAY ADVERSELY IMPACT THE WATERS OF THE STATE.

## 6. RECORD KEEPING

THE PROJECT'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, APPROVED CHANGE REQUESTS, DAILY LOG BOOKS AND TEST REPORTS WILL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF HOWARD COUNTY AND MDE.

## 7. EROSION AND SEDIMENT CONTROL EXCAVATION

SILT REMOVED FROM CONTROL DEVICES SHALL BE PLACED IN AN APPROVED WASTE SITE EITHER ON OR OFF THE PROJECT. MATERIAL STORED ON SITE MAY BE REUSED ONCE IT IS DRIED AND IF IT MEETS COUNTY REQUIREMENTS FOR EMBANKMENT OR ANY UNSPECIFIED NEED.

## 8. 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL STANDARD REFERENCE DETAILS

DETAIL NO.	TITLE
B-1	STABILIZED CONSTRUCTION ENTRANCE
E-1	SILT FENCE
E-3	SUPER SILT FENCE
E-9-2	AT GRADE INLET PROTECTION
E-4	FILTER BAG

## OTHER PROTECTION MEASURES

-- TREE PROTECTION (SEE DWG. SDP-9) --

## 9. OFF-SITE UTILITY WORK

SEDIMENT CONTROL FOR UTILITY CONSTRUCTION IN AREAS OUTSIDE OF DESIGNATED CONTROLS SHALL FOLLOW THESE ADDITIONAL BEST MANAGEMENT PRACTICES:

- CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK
- EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
- TRENCHING TO BE LIMITED TO THAT DEPTH WHICH CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY, I.E., TRENCHES SHALL NOT BE LEFT OPEN.

## 10. SENSITIVE AREAS

NO CONSTRUCTION ACTIVITIES SHALL BE UNDERTAKEN WITHIN SPECIFIED SENSITIVE AREAS OF THE PROJECT WITHOUT PRIOR NOTIFICATION OF THE ENGINEER. ALL WORK IN THESE AREAS SHALL BE MONITORED BY A RESPONSIBLE PARTY DESIGNATED BY THE CONTRACTOR TO ASSURE THAT REASONABLE CARE IS TAKEN IN OR ADJACENT TO THESE AREAS. AREAS CONSIDERED SENSITIVE ARE DEFINED AS: FLOODPLAINS, WETLANDS (TIDAL, NONTIDAL AND ASSOCIATED BUFFERS) CRITICAL AREAS, FORESTED AREAS, ARCHEOLOGICAL SITES, HISTORIC SITES, PARKLAND AND OPEN WATER.

## 11. SITE INFORMATION

### (FOR ENTIRE WATER, SEWER, AND PUMP STATION PROJECT)

TOTAL AREA OF SITE	5.00	ACRES
AREA DISTURBED	5.00	ACRES
AREA TO BE PAVED	0.05	ACRES
TOTAL CUT	9,400	CU. YDS.
TOTAL FILL	9,400	CU. YDS.

OFFSITE WASTE/BORROW AREA LOCATION (IF KNOWN) NOT KNOWN ACRES

\* (NOT FOR BIDDING PURPOSES)

## 12. CHECKLIST FOR REQUIRED INSPECTIONS

\*\* NOTICE \*\*

THIS LIST IS FOR THE SEQUENCE OF CONSTRUCTION ONLY. HOWARD COUNTY ASSUMES NO RESPONSIBILITY FOR IMPROPER INSTALLATION OF ANY ITEM ON THIS CHECKLIST. A PROFESSIONAL ENGINEER OR THEIR DESIGNEE MUST CERTIFY ALL ASPECTS OF CONSTRUCTION AND CONFORMANCE TO DESIGN REQUIREMENTS.

### TYPE OF INSPECTION

- PRE-CONSTRUCTION MEETING
- COMPLETION OF SEDIMENT CONTROL MEASURES
- PRIOR TO MODIFICATION OR REMOVAL OF SEDIMENT CONTROL

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

- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS IS TO BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 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 MATERIAL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE.
- PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, OR WATERWAYS OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE.
- RECTIFY ANY NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING RECOMMENDED SPECIES: ANNUAL RYE GRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNOLA 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 THE WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDING AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- TO PROTECT IMPORTANT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS (NOTE: ROCKBURN BRANCH IS CLASS 1 WATERS):  
  
CLASS 1 WATERS - IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD OF MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
- STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
- CULVERT(S) 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.

## OVERALL PROJECT SEQUENCE OF CONSTRUCTION

- CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS BEFORE ANY CONSTRUCTION IS TO BEGIN.
- NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISIONS AT LEAST 5 DAYS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE A PRE CONSTRUCTION MEETING. NO WORK SHALL BE PERMITTED IN ANY STREAMS BETWEEN MARCH 1 AND JUNE 15.
- PLACE STABILIZED CONSTRUCTION ENTRANCES AT ALL POINTS OF EASEMENT ACCESS FROM EXISTING ROADS.
- INSTALL AND STABILIZE SEDIMENT CONTROL MEASURES, CONSISTING PRIMARILY OF SILT FENCE. SEE PLAN AND PROFILE SHEETS FOR ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES.
- INSTALL SANDBAG DIVERSIONS, TEMPORARY CULVERT PIPES, OR PUMP-AROUND PRACTICES AND DEWATERING BASINS AT ALL WATERWAY CROSSINGS AS REQUIRED. ALL WATERWAY CROSSINGS SHALL BE PERFORMED IN AN EXPEDIENT MANNER. DEWATERING BASINS ON EACH BANK WILL RECEIVE WATER PUMPED FROM THE WATERWAY CROSSING SITE. PORTABLE SEDIMENT TANKS MAY BE USED IN PLACE OF DEWATERING BASINS SO AS TO MINIMIZE DISTURBANCE OF EXISTING TREES AND VEGETATION.
- STOCKPILE TOPSOIL. ALL TOPSOIL FROM NON-TIDAL WETLANDS SHALL BE MAINTAINED SEPARATE FROM UPLAND MATERIALS AND REUSED WITHIN THE LIMITS OF THE ORIGINAL WETLAND AREA AFTER UTILITY INSTALLATION IS COMPLETED.
- EXCAVATE FOR AND INSTALL SEWER MAINS, WATERMANS AND ASSOCIATED STRUCTURES. EXCAVATION FROM TRENCHING OPERATIONS SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
- VEGETATIVELY STABILIZE BACKFILLED TRENCH AND STRUCTURE SITES AS WORK PROGRESSES.
- NOTIFY HOWARD COUNTY ENVIRONMENTAL COMPLIANCE SECTION (ECS, 410-313-1880) AND OBTAIN APPROVAL TO REMOVE EROSION AND SEDIMENT CONTROL MEASURES
- PERMANENTLY STABILIZE ANY AREAS DISTURBED DURING CLEANUP ACTIVITIES.

## STANDARD SYMBOLS

EARTH DIKE	
TEMPORARY SWALE	
PERIMETER DIKE/SWALE	
STONE CHECK DAM	
STONE OUTLET STRUCTURE	
SILT FENCE	
SUPER SILT FENCE	
STRAW BALES	
STANDARD INLET PROTECTION	
AT GRADE INLET PROTECTION	
CURB INLET PROTECTION	
MEDIAN INLET PROTECTION	
GABION INFLOW PROTECTION	
RIPRAP INFLOW PROTECTION	
SUMP PIT	
REMOVABLE PUMPING STATION	
PORTABLE SEDIMENT TANK	
INTERCEPTOR BERM	
TEMPORARY BERM	
PIPE SLOPE DRAIN	
STABILIZED CONSTRUCTION ENTRANCE	
SOIL STABILIZATION MATTING	
PLACED RIPRAP DITCH	
GABIONS	
CONCRETE GUTTER	
STONE OUTLET SEDIMENT TRAP	
RIPRAP OUTLET SEDIMENT TRAP	
STONE/RIPRAP OUTLET SEDIMENT TRAP	
PIPE OUTLET SEDIMENT TRAP	
LIMIT OF DISTURBANCE	
EXISTING CONTOURS	
PROPOSED CONTOURS	

## APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* DATE 6/10/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* DATE 6/12/13  
 DIRECTOR *[Signature]* DATE 6/10/13

OWNER:	PERMIT INFORMATION CHART					
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. WES DAUB VOICE 410-313-6194	WATER CODE:	SEWER CODE:	BUILDING	STREET ADDRESS		
		PUBLIC	PUBLIC	N/A	ROCKBURN HILL RD/RIVER RD	
	PROJECT NAME: ROCKBURN HILL SEWER/PUMP STATION AND CROSSVIEW ROAD WATER EXTENSION		TAX MAP/GRID	PARCEL NO.		
	L/F 6318/663 568/616	L/F 568/616 226/294	ZONING Rd	TAX MAP BLOCK 32	ELEC. DIST. 1	CENSUS TRACT 606903

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

NAME OF UTILITY CONTRACTOR:  
 SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.  
**HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION**  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT (SCD).  
*[Signature]* 5/30/13  
 HOWARD SOIL CONSERVATION DISTRICT

**OWNERS/DEVELOPERS CERTIFICATION:**  
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*[Signature]* 5-10-2013  
 DATE

**DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.**  
 DIRECTOR OF PUBLIC WORKS *[Signature]* DATE 5/15/13  
 CHIEF, BUREAU OF UTILITIES *[Signature]* DATE 5/15/13  
 CHIEF, UTILITY DESIGN DIVISION *[Signature]* DATE 5/10/13

**WR&A**  
 WHITMAN, REQUARDT AND ASSOCIATES, LLP  
 801 SOUTH CAROLINE STREET  
 BALTIMORE, MARYLAND  
 410 - 235 - 3450  
 5/3/13

DES:	WRA	AS-BUILTS	10/15
DRN:			
CHK:			
MAY 2013			

EROSION AND SEDIMENT CONTROL  
 GENERAL NOTES:  
 HOWARD COUNTY

**ROCKBURN HILL PUMP STATION**  
 CAPITAL PROJECT NO. S-6260  
 CONTRACT NO. 14-4715  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 6 OF 10

H-1.1 STANDARDS AND SPECIFICATIONS

FOR

MATERIALS

Table H.1: Geotextile Fabrics

Table with 7 columns: PROPERTY, TEST METHOD, MD, CD, MD, CD, MD, CD. Rows include Grab Tensile Strength, Grab Tensile Elongation, Trapezoidal Tear Strength, Puncture Strength, Apparent Opening Size, Permittivity, and Ultraviolet Resistance.

All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross direction.

Values for AOS represent the average maximum opening.

Geotextiles must be evaluated by the National Transportation Product Evaluation Program (NTPPE) and conform to the values in Table H.1.

The geotextile must be inert to commonly encountered chemicals and hydrocarbons and must be rot and mildew resistant. The geotextile must be manufactured from fibers consisting of long chain synthetic polymers and composed of a minimum of 95 percent by weight of polyolefins or polyesters, and formed into a stable network so the filaments or yarns retain their dimensional stability relative to each other, including selvages.

When more than one section of geotextile is necessary, overlap the sections by at least one foot. The geotextile must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing riprap on geotextile, do not exceed a one foot drop height.

H.1

H-4.2 STANDARDS AND SPECIFICATIONS

FOR

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

- A. Soil Preparation
1. Temporary Stabilization
a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment...
2. Permanent Stabilization
a. A soil test is required for any earth disturbance of 5 acres or more...

B.12

- d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means.

B. Topsoiling

- 1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth.
2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications.
3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

B.13

C. Soil Amendments (Fertilizer and Lime Specifications)

- 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more.
2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment.
3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydrosceding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide).

B.14

B-4.3 STANDARDS AND SPECIFICATIONS

FOR

SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

- A. Seeding
1. Specifications
a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to a seed test by a recognized seed laboratory.
2. Application
a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

B.15

B-4.4 STANDARDS AND SPECIFICATIONS

FOR

TEMPORARY STABILIZATION

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

- B. Mulching
1. Mulch Materials (in order of preference)
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color.
b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.

B.16

2. Application

- a. Apply mulch to all seeded areas immediately after seeding.
b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches.
c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre.
3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water.

B.17

B-4.4 STANDARDS AND SPECIFICATIONS

FOR

TEMPORARY STABILIZATION

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

- 1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency.
3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4.3.A.1.b and maintain until the next seeding season.

B.18

Table with 6 columns: No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), Lime Rate. Rows include Annual Ryegrass, Ryegrass, and Ryegrass Mixture.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR

NAME OF UTILITY CONTRACTOR:

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION

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

Signature and date of Howard Soil Conservation District representative.

OWNERS/DEVELOPERS CERTIFICATION:

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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.

Signature and date of owner/developer representative.

PERMIT INFORMATION CHART with columns for WATER CODE, SEWER CODE, BUILDING, STREET ADDRESS, PROJECT NAME, TAX MAP/GRID, PARCEL NO., ZONING, TAX MAP BLOCK, ELEC. DIST., CENSUS TRACT.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.
Signature and date of Department of Public Works representative.

WR&A
WHITMAN, REQUARDY AND ASSOCIATES, LLP
801 SOUTH CAROLINE STREET
BALTIMORE, MARYLAND
410 - 235 - 3450

Table with columns: DES, DRN, CHK, MAY 2013, WRA, AS-BUILTS, 10/15, BY, NO., REVISION, DATE.

EROSION AND SEDIMENT CONTROL
GENERAL NOTES/DETAILS:
HOWARD COUNTY

ROCKBURN HILL PUMP STATION
CAPITAL PROJECT NO. S-6260
CONTRACT NO. 14-4715
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

AS-BUILT SDP-7
SCALE AS SHOWN
SHEET 7 OF 10
SDP-12-081

**B-4.5. STANDARDS AND SPECIFICATIONS**

**FOR PERMANENT STABILIZATION**

**Definition:** To stabilize disturbed soils with permanent vegetation.

**Purpose:** To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

**Conditions Where Practice Applies:** Exposed soils where ground cover is needed for 6 months or more.

**Criteria:**

A. Seed Mixtures

1. General Use

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. (Enter selected mixtures), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

b. Additional planting specifications for special sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.

c. For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.

d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3.15 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

2. Turfgrass Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

ii. Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where

rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 5 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 15 to 3 pounds per 1000 square feet.

**Notes:** Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

Hardiness Zone (from Figure B.3): 7A Seed Mixture: NATIVE				Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
	LITTLE BLUESTEM	10	FEB 15 TO APRIL 30	1/4-1/2 in	45 pounds per acre (1.0 lb/1000 sf)	90 lb/acre (2 lb/1000 sf)	90 lb/acre (2 lb/1000 sf)
	DEERTONGUE	5	AND	1/4-1/2 in			
	TIPOGA	5	AND	1/4-1/2 in			
	BROWNSEED	2	AUG. 15 TO NOV. 30	1/4-1/2 in			
	RIVER OATS (P/VA BLEND)	5		1/4-1/2 in			

Hardiness Zone (from Figure B.3): 7A Seed Mixture: Creeping Red Fescue				Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
	CREeping RED FESCUE	30	FEB 15 TO APRIL 30	1/4-1/2 in	45 pounds per acre (1.0 lb/1000 sf)	90 lb/acre (2 lb/1000 sf)	90 lb/acre (2 lb/1000 sf)
	CREeping FESCUE	30	AND	1/4-1/2 in			
	KENTUCKY BLUEGRASS	20	AUG. 15 TO NOV. 30	1/4-1/2 in			
	ROUGH BLUEGRASS	15		1/4-1/2 in			

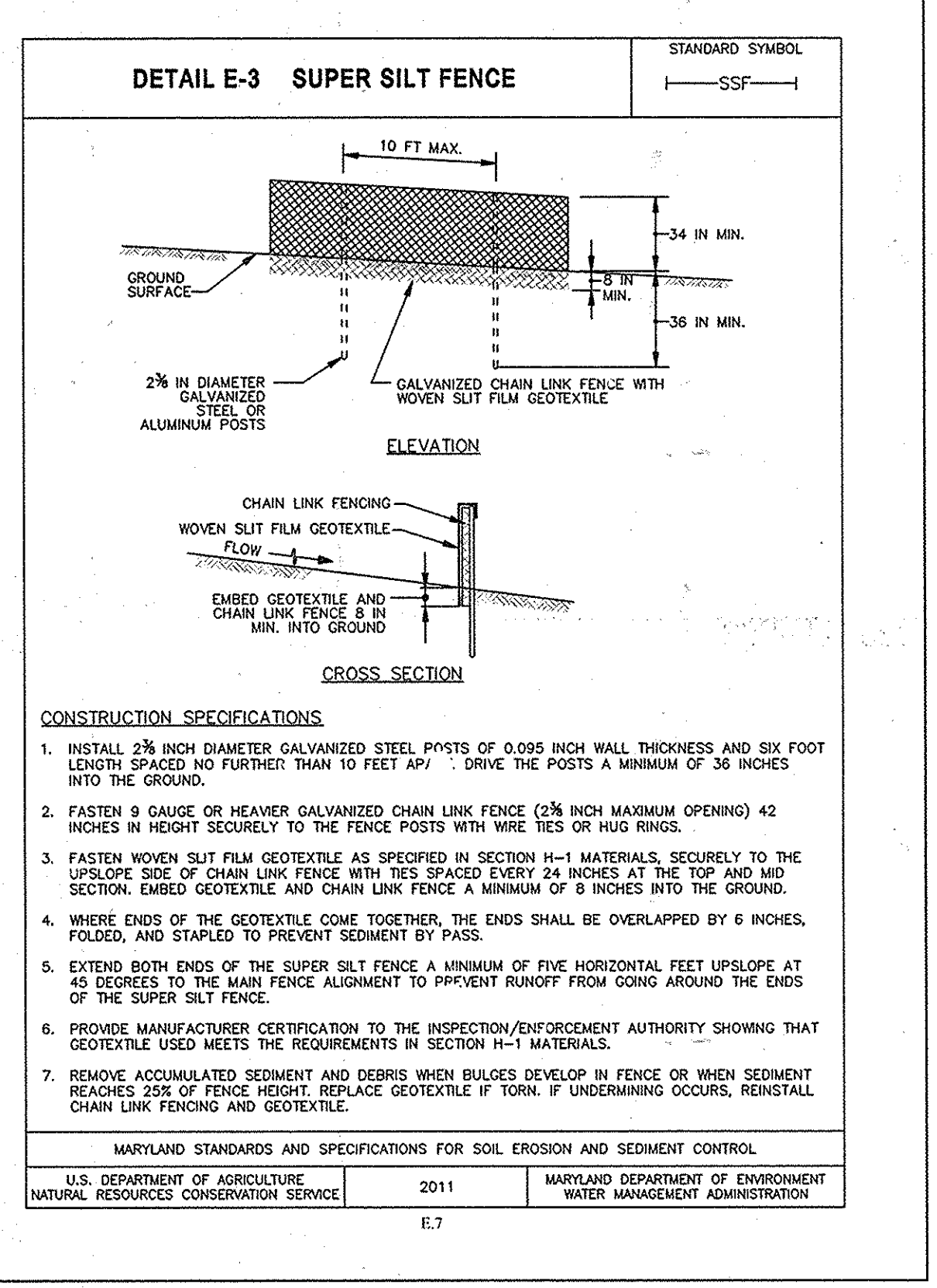
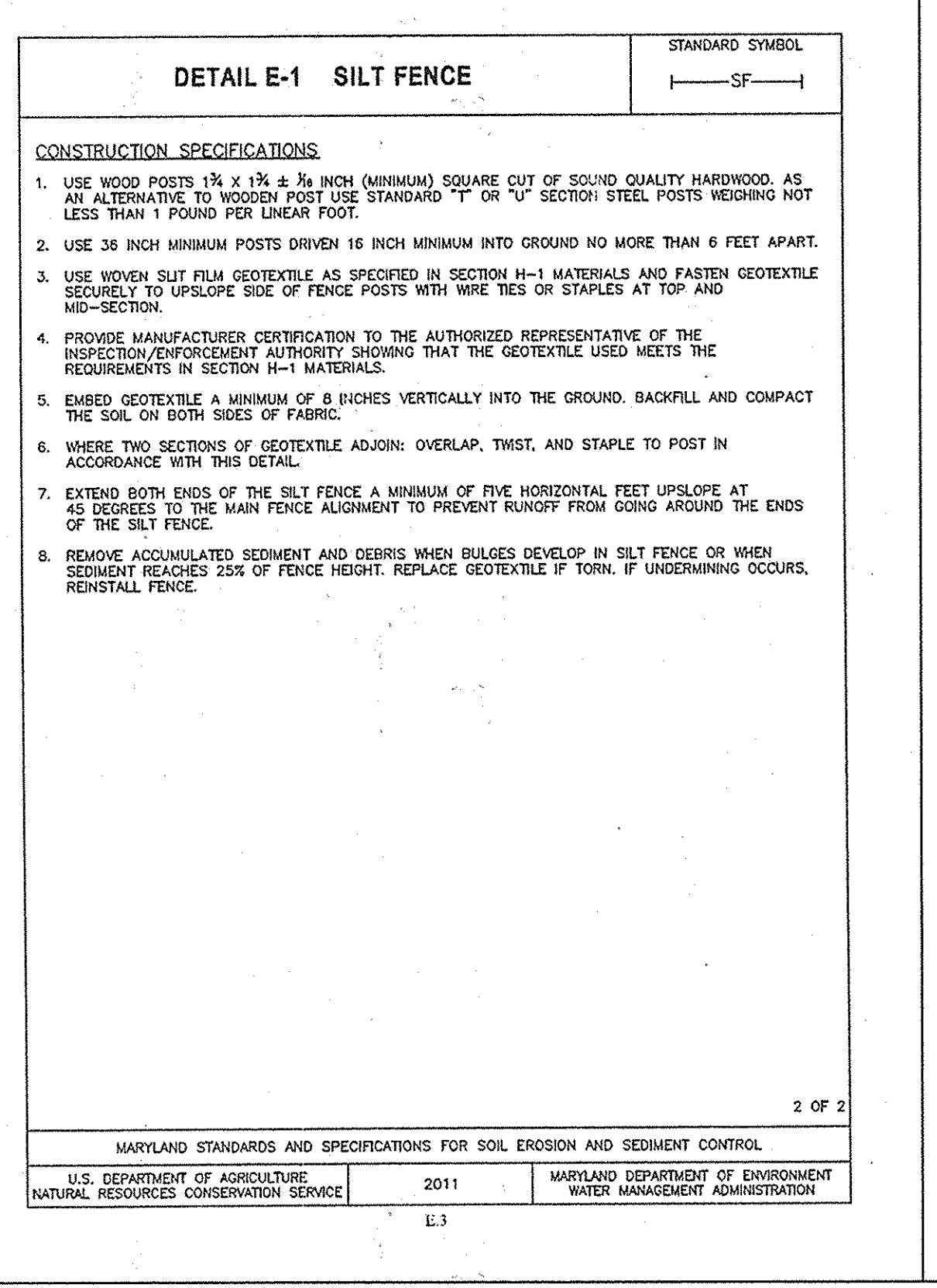
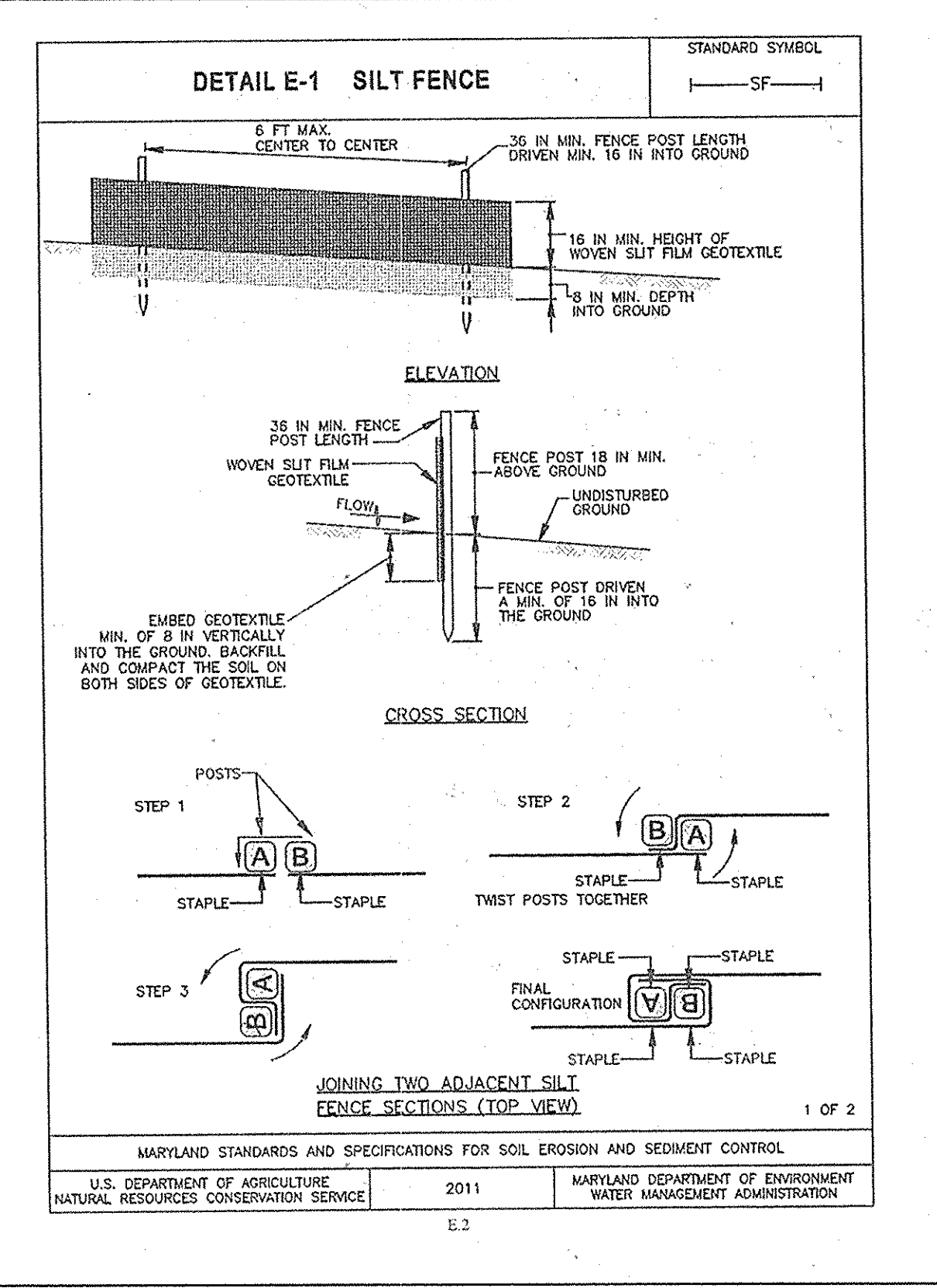
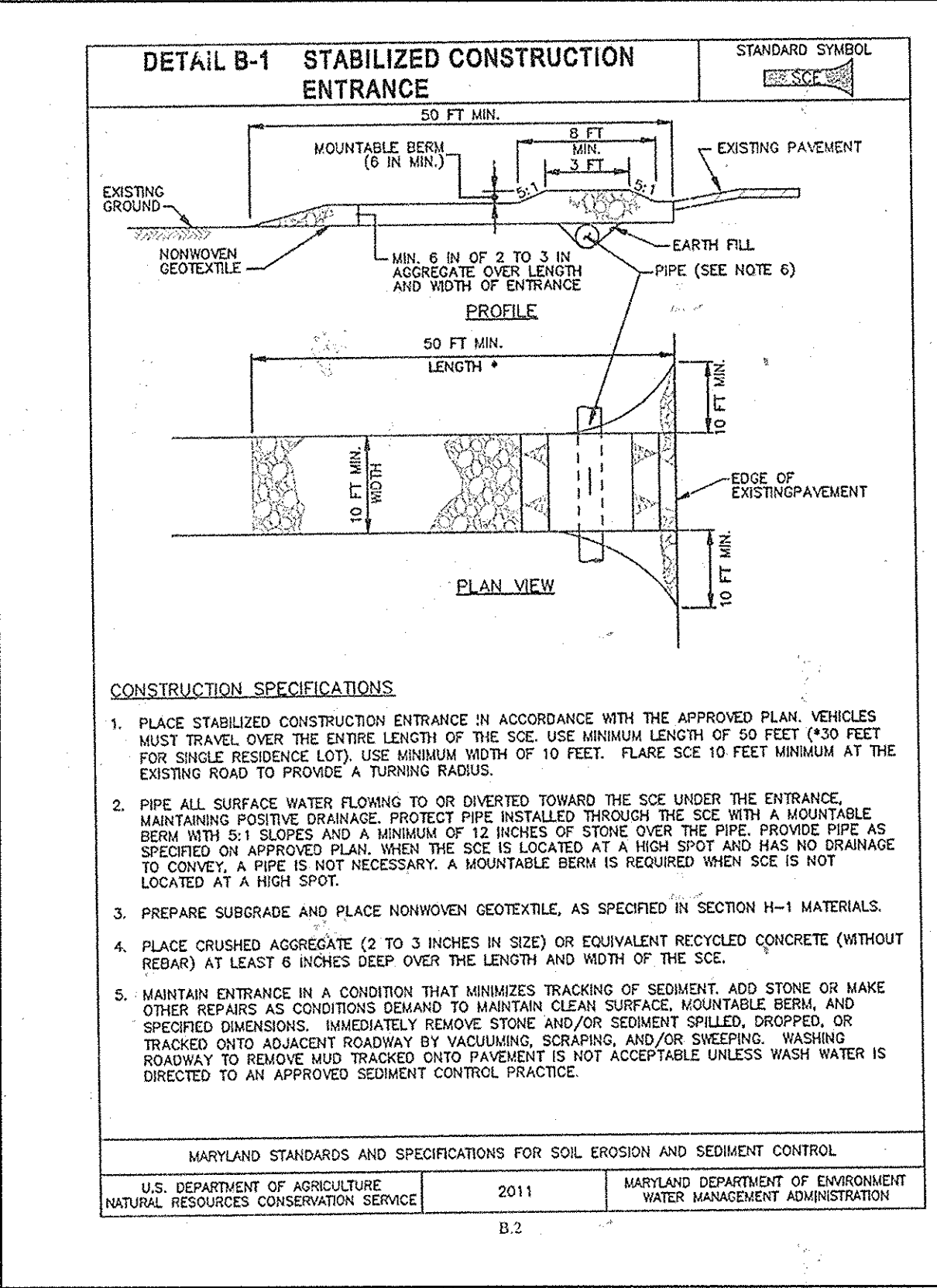
**NOTE: NATIVE SEED MIXTURE IS REQUIRED TO BE USED WITHIN THE PATAPSCO STATE PARK.**

**MAINTENANCE FERTILIZATION FOR PERMANENT SEEDINGS**  
**USE SOIL TEST RESULTS OR RATES SHOWN BELOW**

SEEDING MIXTURE	TYPE	LB/AC	LB/1000 SF	TIME	MOWING
TALL FESCUE MAKES UP 70% OR MORE OF COVER	10-10-10 OR 30-10-10	500	11.5	YEARLY OR AS NEEDED. FALL	NOT CLOSER THAN 3" IF OCCASIONAL MOWING IS DESIRED
CROWNVELTCH SERICEA LESPEDEZA BIRDFOOT TREFLOIL	0-20-0	400	9.2	SPRING, THE YEAR FOLLOWING ESTABLISHMENT AND EVERY 4-5 YEARS THEREAFTER	DO NOT MOW CROWNVELTCH
FAIRLY UNIFORM STAND OF TALL FESCUE AND SERICEA LESPEDEZA, OR BIRDFOOT TREFLOIL	5-10-10	500	11.5	FALL THE YEAR FOLLOWING ESTABLISHMENT AND EVERY 4-5 YEARS THEREAFTER	NOT REQUIRED, NO CLOSER THAN 4" IN THE FALL AFTER SEED HAS MATURED.
WEEPING LOVEGRASS & SERICEA LESPEDEZA FAIRLY UNIFORM PLANT DISTRIBUTION	5-10-10	500	11.5	SPRING, THE YEAR FOLLOWING ESTABLISHMENT AND EVERY 4-5 YEARS THEREAFTER	NOT REQUIRED, NO CLOSER THAN 4" IN THE FALL AFTER SEED HAS MATURED.
RED & CHEWING FESCUE, KENTUCKY BLUEGRASS, HARD FESCUE MIXTURES	20-10-10	250	5.8	SEPTEMBER, 30 DAYS LATER, DECEMBER, MAY 20, JUNE 30, IF NEEDED.	MOW NO CLOSER THAN 2" FOR RED FESCUE AND KENTUCKY BLUEGRASS, 3" FOR FESCUE.

- B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
- General Specifications
    - Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
    - Sod must be machine cut at a uniform soil thickness of 1/2 inch, plus or minus 1/8 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
    - Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
    - Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
    - Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.
  - Sod Installation
    - During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
    - Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
    - Whenever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
    - Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

- Sod Maintenance
  - In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
  - After the first week, sod watering is required as necessary to maintain adequate moisture content.
  - Do not mow until the sod is firmly rooted. No more than 1/2 of the grass leaf must be removed by the initial cutting or subsequent cutting. Maintain a grass height of at least 3 inches unless otherwise specified.



**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 6/10/13

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 6/12/13

DIRECTOR: *[Signature]* DATE: 6/12/13

**PERMIT INFORMATION CHART**

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	WATER CODE: PUBLIC	SEWER CODE: PUBLIC	BUILDING: N/A	STREET ADDRESS: ROCKBURN HILL RD/RIVER RD
PROJECT NAME: ROCKBURN HILL SEWER/PUMP STATION AND CROSSVIEW ROAD WATER EXTENSION	TAX MAP/GRID: 32/21	PARCEL NO.: 63/80		
L/F: 6315/663, 568/616	L/F: 568/616, 226/294	ZONING: ReB	TAX MAP BLOCK: 32	ELEC. DIST.: 1
			CENSUS TRACT: 606903	

**NAME OF UTILITY CONTRACTOR:** HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

**HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION**

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

*[Signature]* DATE: 5/30/13

**OWNERS/DEVELOPERS CERTIFICATION:**

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

*[Signature]* DATE: 5-10-2013

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND.

DIRECTOR OF PUBLIC WORKS: *[Signature]* DATE: 5/16/13

CHIEF, BUREAU OF UTILITIES: *[Signature]* DATE: 5/16/13

**WR&A**  
WHITMAN, REARDY AND ASSOCIATES, LLP  
801 SOUTH CAROLINE STREET  
BALTIMORE, MARYLAND  
410 - 235 - 3460

**STATE OF MARYLAND**  
Professional Engineer  
*[Signature]* DATE: 5/31/13

DES: WRA	AS-BUILTS	19/6
DRN:		
CHK:		
MAY 2013		
BY NO.	REVISION	DATE

**EROSION AND SEDIMENT CONTROL**  
DETAILS:  
HOWARD COUNTY

**ROCKBURN HILL PUMP STATION**

CAPITAL PROJECT NO. S-6260  
CONTRACT NO. 14-4715  
1ST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

SHEET 8 OF 10

SDP-12-081



NET TRACT AREA:

A. Total tract area.....	=	4.98
B. Area within Critical Area, Floodplain, etc.....	=	1.58
C. Area to remain in agricultural production.....	=	0.00
D. Net tract area.....	=	3.40

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

Input the number "1" under the appropriate land use zoning, and limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CJA
0	0	1	0	0	0

E. Afforestation Threshold.....	15% x D =	0.51
F. Conservation Threshold.....	20% x D =	0.68

EXISTING FOREST COVER:

G. Existing forest cover (excluding Critical Area).....	=	2.28
H. Area of forest above afforestation threshold.....	=	1.77
I. Area of forest above conservation threshold.....	=	1.60

BREAK EVEN POINT:

J. Forest retention above threshold with no mitigation.....	=	1.00
K. Clearing permitted without mitigation.....	=	1.28

PROPOSED FOREST CLEARING:

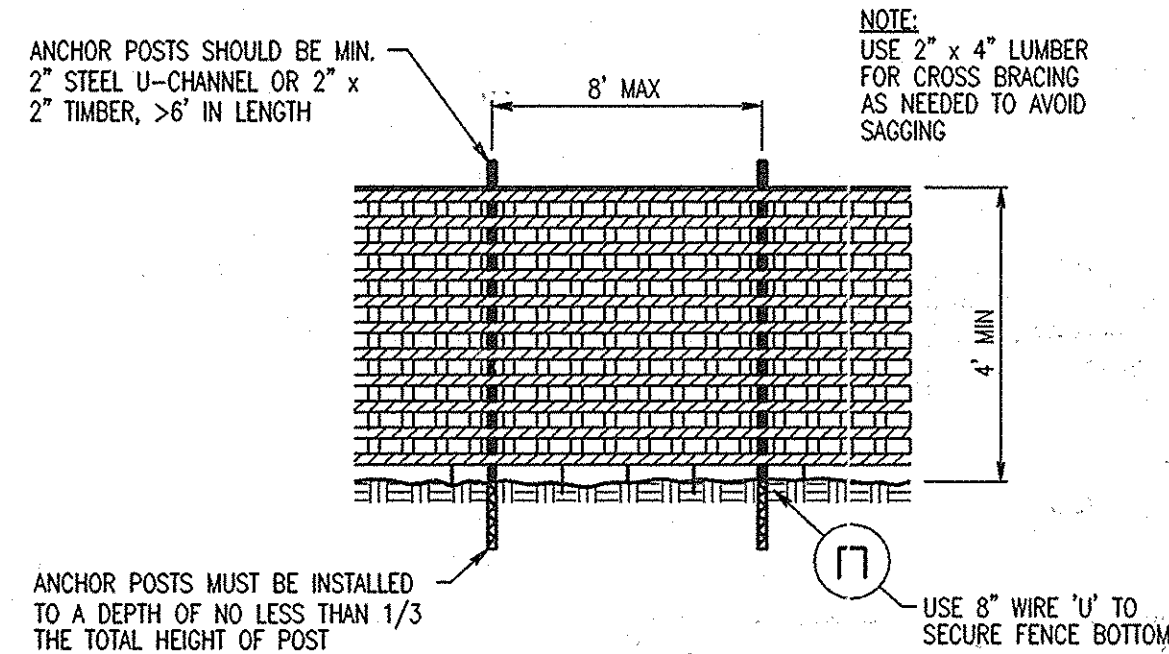
L. Total area of forest to be cleared.....	=	2.28
M. Total area of forest to be retained.....	=	0.00

PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold.....	=	0.40
P. Reforestation for clearing below conservation threshold.....	=	1.36
Q. Credit for retention above conservation threshold.....	=	0.00
R. Total reforestation required.....	=	1.76
S. Total afforestation required.....	=	0.00
T. Total reforestation and afforestation required.....	=	1.76

REFORESTATION OBLIGATION

DUE TO THE LINEAR NATURE OF THIS PROJECT AND LIMITED AVAILABILITY FOR AREAS TO PLANT HOWARD COUNTY HAS ELECTED TO FULFILL THE REFORESTATION OBLIGATION THAT THIS PROJECT VIA THE FEE-IN-LIEU PROGRAM. AT A REQUIREMENT OF 1.76 ACRES AND A FOREST CONSERVATION FEE-IN-LIEU OF \$0.75 A SQUARE FOOT HOWARD COUNTY WILL HAVE A FOREST CONSERVATION OBLIGATION OF \$57,499.



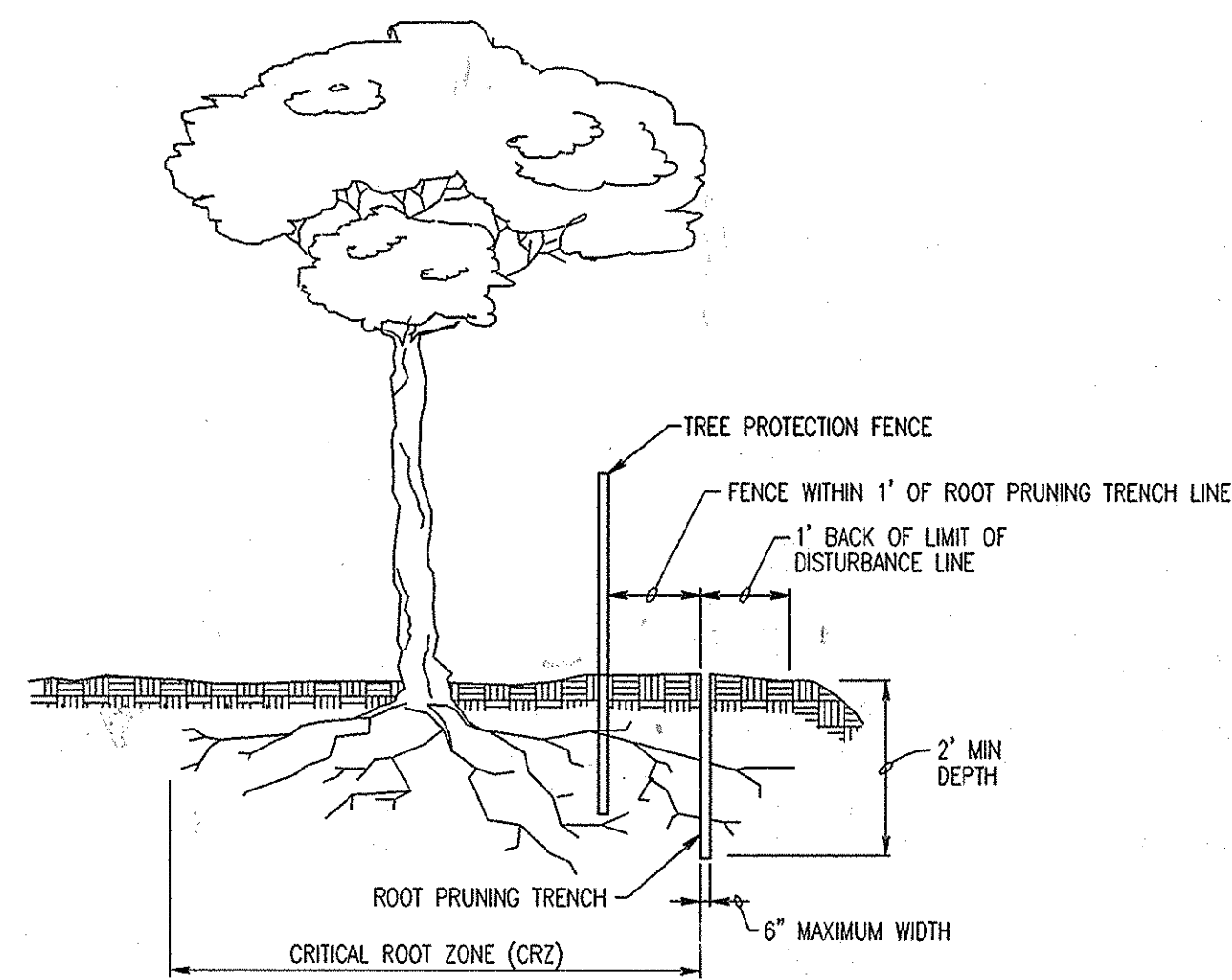
- NOTES:
- BLAZE ORANGE PLASTIC MESH FENCE FOR TREE PROTECTION DEVICE.
  - BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS OR AS SHOWN ON THE PLAN(S).
  - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
  - AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVERE LARGE ROOTS WHEN INSTALLING POSTS.
  - PROTECTION SIGNAGE IS TO BE PROVIDED AND PLACED IF REQUIRED BY THE COUNTY.
  - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

**PLASTIC MESH TREE PROTECTION FENCE**

NO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* DATE: 6/10/13  
 Chief, Division of Land Development: *[Signature]* DATE: 6/12/13  
 Director: *[Signature]* DATE: 6/12/13



THE CRITICAL ROOT ZONE (CRZ):  
 FOR TREES ALONG THE EDGES OF STANDS, THE CRZ RADIUS = 1 FOOT FOR EVERY 1 INCH OF TREE DIAMETER.  
 FOR RETENTION AREAS LESS THAN 10,000 SF AND ISOLATED SPECIMEN TREES, THE CRZ RADIUS = 1.5 FEET FOR EVERY 1 INCH OF TREE DIAMETER.

NOTES:

- RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS OR AS SHOWN ON THE PLAN(S).
- BOUNDARIES OF RETENTION AREAS TO BE STAKED AND FLAGGED PRIOR TO ROOT PRUNING TRENCHING.
- EXACT LOCATION OF TRENCH SHALL BE IDENTIFIED.
- ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
- TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR OTHER HIGH ORGANIC SOIL.

**DETAIL - ROOT PRUNING**

NO SCALE

**TREE CONSERVATION NOTES**

PRE-CONSTRUCTION ACTIVITIES

PRIOR TO THE START OF ANY CONSTRUCTION:

- THE CONTRACTOR SHALL LOCATE THE LIMITS OF DISTURBANCE (LOD) IN THE FIELD PRIOR TO ANY CONSTRUCTION ACTIVITIES. THEN INSTALL ALONG THE LOD BLAZE ORANGE FENCING. LOD SHALL BE PLACED OUTSIDE OF CRITICAL ROOT ZONES OF TREES TO BE PRESERVED WHEREVER POSSIBLE.

BLAZE ORANGE FENCING:

- BLAZE ORANGE FENCING SHALL BE PLACED ON ALL LIMITS OF DISTURBANCE, EXCEPT WHERE INGRESS/EGRESS IS REQUIRED.
- ALL FENCING SHALL BE INSTALLED PRIOR TO CONSTRUCTION ACTIVITIES.
- FENCING SHALL BE FIRMLY ANCHORED AT SPACING NO GREATER THAN EIGHT FEET AND CONSTRUCTED IN A MANNER WHICH PRECLUDES SAGGING.
- ALL FENCING SHALL BE MAINTAINED IN A GOOD CONDITION AND PROMPTLY REPAIRED OR RESTORED AS THE SITUATION WARRANTS, FOR THE PROTECTION OF THE ADJACENT TREES/WOODLANDS.

SIMULTANEOUS WITH CLEARING, THE FOLLOWING STEPS SHOULD BE UNDERTAKEN TO REDUCE STRESS TO EXISTING TREES:

- FERTILIZE TREES WITHIN 20 FEET OF THE CONSTRUCTION AREA AT THE RATE OF 3 POUNDS OF NITROGEN PER 1000 SQUARE FEET OF ROOT ZONE DISTURBED. APPLY FERTILIZER TO ENTIRE CRITICAL ROOT ZONE OUT TO THE BLAZE ORANGE FENCING.
- FERTILIZER SHOULD BE AT LEAST 50 PERCENT SLOW RELEASE NITROGEN AND CONTAIN OTHER ESSENTIAL ELEMENTS AND MICRO-NUTRIENTS.
- WATER CRITICAL ROOT ZONE IMMEDIATELY AFTER APPLYING FERTILIZER TO SATURATE THE TOP 6 INCHES OF SOIL.
- A MULCH, 1 TO 4 INCHES DEEP COMPRISED OF WOOD CHIPS OR SHREDDED BARK OR LEAVES, SHALL BE APPLIED IN THE CRITICAL ROOT ZONE ADJACENT TO THE BLAZE ORANGE FENCING.

CONSTRUCTION PHASE

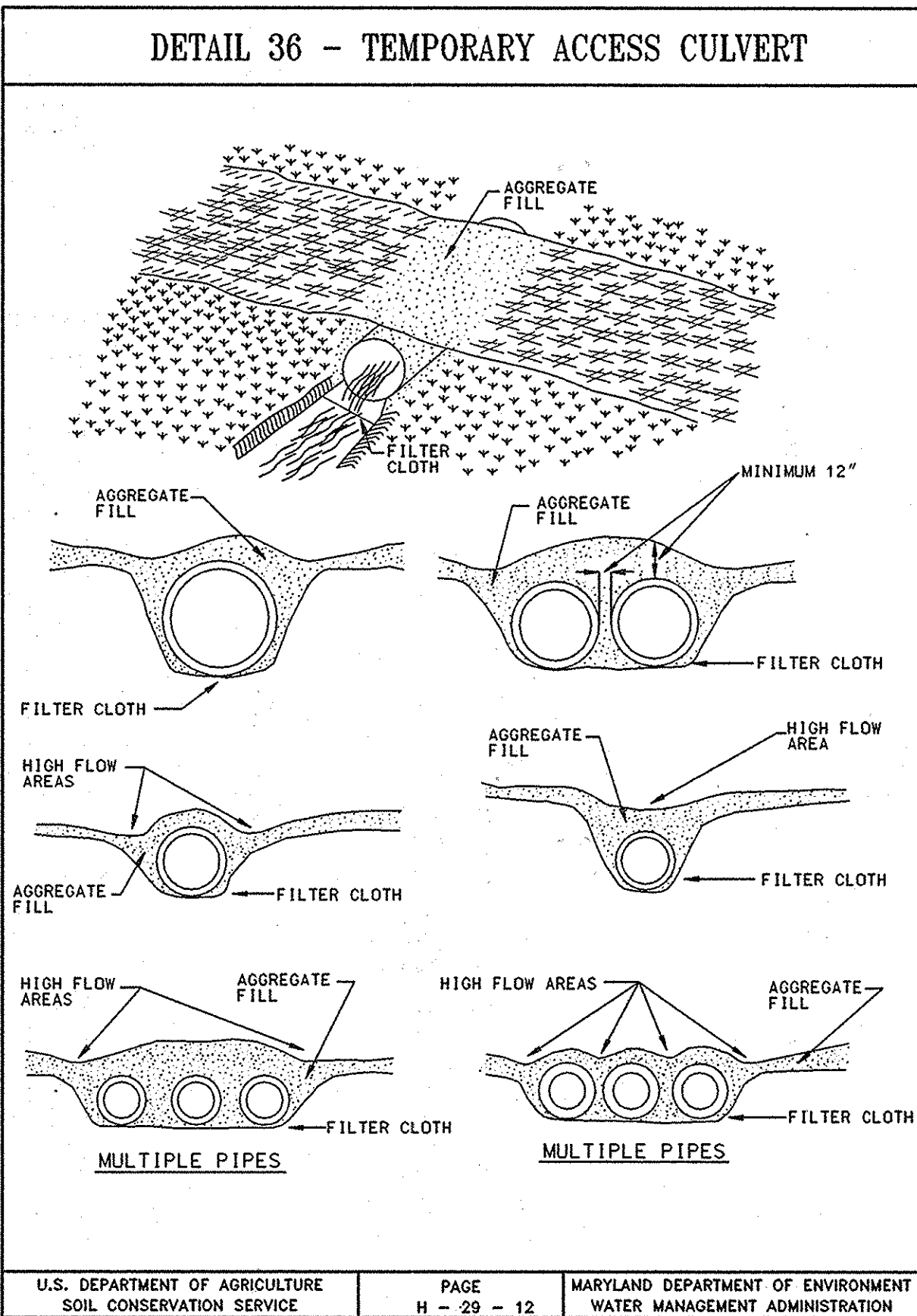
- EXCAVATED AND BACK FILL MATERIAL SHALL NOT BE PLACED OR SIDE CAST WITHIN THE CRITICAL ROOT ZONES OF TREES TO BE PROTECTED.
- CONSTRUCTION EQUIPMENT SHALL NOT BE DRIVEN INTO OR THROUGH PROTECTED TREES. NOR SHALL SWING GRAPES OR BACKHOES BE ALLOWED IN THEIR CANOPIES.
- TREES SHALL BE NO STACKING OR STORING OF SUPPLIES WITHIN THE CRITICAL ROOT ZONES OF TREES TO BE PROTECTED.
- TREES TO BE REMOVED SHALL BE TAKEN OUT WITHOUT DAMAGING PROTECTED TREES.
- ALL GRADING SHALL TAKE PLACE OUTSIDE OF THE CRITICAL ROOT ZONE OF THE TREES TO BE PROTECTED.
- ALL EQUIPMENT SHALL BE KEPT INSIDE THE BLAZE ORANGE FENCING AND WITHIN THE LIMITS OF DISTURBANCE.
- IN THE EVENT OF DROUGHT, THE PROTECTED TREES SHALL BE MONITORED FOR SIGNS OF STRESS AND WATERED AS NEEDED.

POST-CONSTRUCTION ACTIVITIES

- THE CONTRACTOR SHALL RETAIN A CERTIFIED TREE EXPERT, LANDSCAPE ARCHITECT, FORESTER OR ARBORIST TO DEVELOP A TREE REPAIR PLAN. THE TREE REPAIR PLAN MUST BE APPROVED BY THE COUNTY.

NAME OF UTILITY CONTRACTOR:  
 SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.  
**HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION**  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* DATE: 5/30/13  
 HOWARD SOIL CONSERVATION DISTRICT.

OWNERS/DEVELOPERS CERTIFICATION:  
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*[Signature]* DATE: 5-10-2013

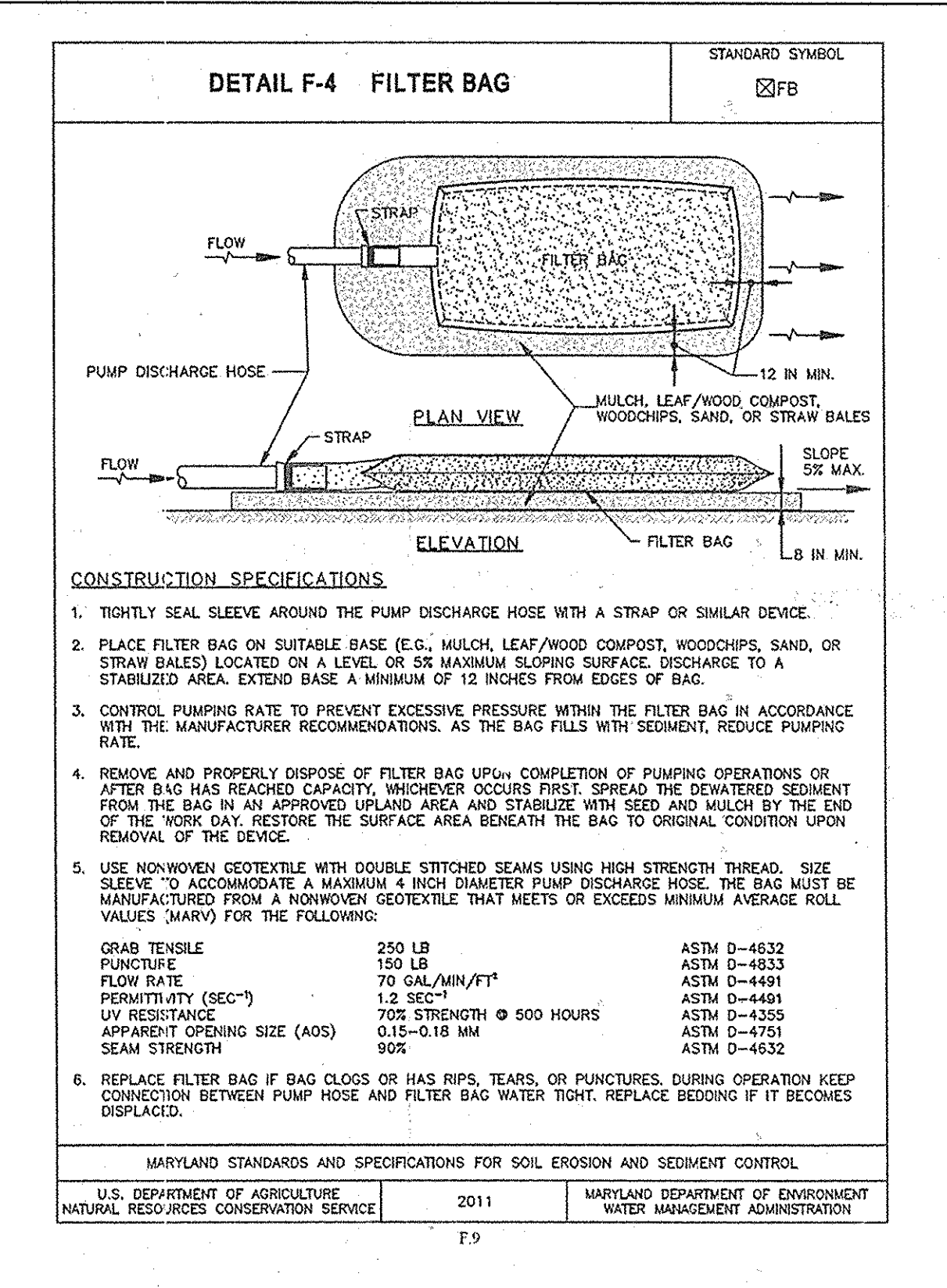
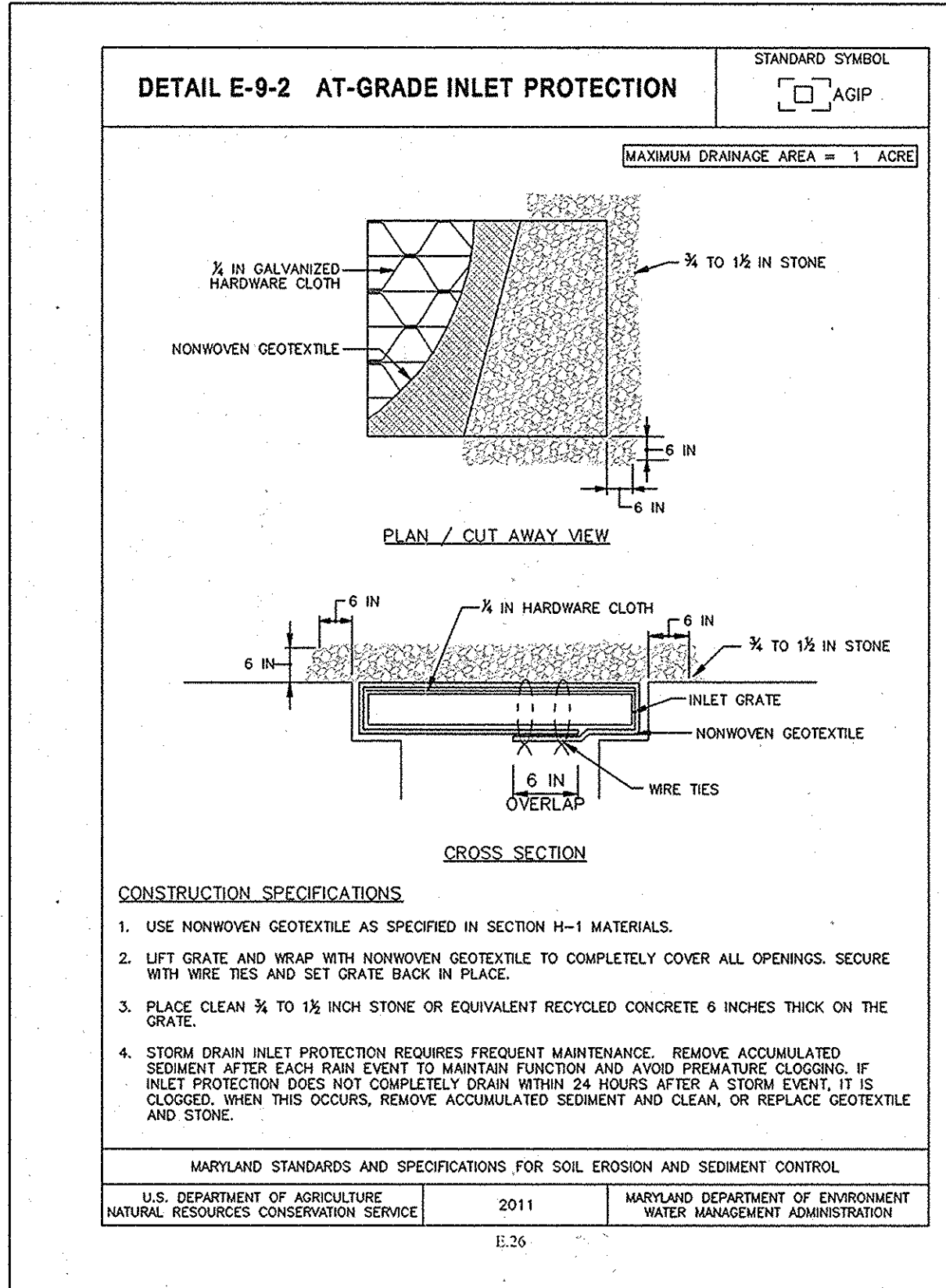


**TEMPORARY ACCESS CULVERT**

Construction Specifications

- Restrictions - No Construction or removal of a temporary access culvert will be permitted between October 1 through April 30 for Class III and Class IV Trout Waters or between March 1 through June 15 for non-trout waterways.
- Culvert Strength - All culverts shall be strong enough to support their cross sectional area under maximum expected loads.
- Culvert Size - The size of the culvert pipe shall be the largest pipe diameter that will fit into the existing channel without major excavation of the waterway channel or without major approach fills. If a channel width exceeds 3 feet, additional pipes may be used until the cross sectional area of the pipes is greater than 60 percent of the cross sectional area of the existing channel. The minimum size culvert that may be used is a 12" diameter pipe. In all cases, the pipe(s) shall be large enough to convey normal stream flows.
- Culvert Length - The culvert(s) shall extend a minimum of one foot beyond the upstream and downstream toe to the aggregate placed around the culvert. In no case shall the culvert exceed 40 feet in length.
- Filter Cloth - Filter cloth shall be placed on the streambed and streambanks prior to placement of the pipe culvert(s) and aggregate. The filter cloth shall cover the streambed and extend a minimum six inches and a maximum one foot beyond the end of the culvert and bedding material. Filter cloth reduces settlement and improves crossing stability.
- Culvert Placement - The invert elevation of the culvert shall be installed on the natural streambed grade to minimize interference with fish migration (free passage of fish).
- Culvert Protection - The culvert(s) shall be covered with a minimum of one foot of aggregate. If multiple culverts are used they shall be separated by at least 12" of compacted aggregate fill.
- Stabilization - All areas disturbed during culvert installation shall be stabilized within 14 calendar days of the disturbance in accordance with the Standard for "Critical Area Stabilization With Permanent Seeding."

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H - 29 - 12 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



- CONSTRUCTION SPECIFICATIONS
- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
  - PLACE FILTER BAG ON SUITABLE BASE (E.G. MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR AS MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
  - CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
  - REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE "WORK DAY". RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
  - USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MANY) FOR THE FOLLOWING:
- |                                   |                            |             |
|-----------------------------------|----------------------------|-------------|
| GRAB TENSILE                      | 250 LB                     | ASTM D-4832 |
| PUNCTURE                          | 150 LB                     | ASTM D-4833 |
| FLOW RATE                         | 70 GAL/MIN/FT <sup>2</sup> | ASTM D-4491 |
| PERMITTIVITY (SEC <sup>-1</sup> ) | 1.2 SEC <sup>-1</sup>      | ASTM D-4461 |
| UV RESISTANCE                     | 70% STRENGTH @ 500 HOURS   | ASTM D-4355 |
| APPARENT OPENING SIZE (AOS)       | 0.15-0.18 MM               | ASTM D-4753 |
| SEAM STRENGTH                     | 90%                        | ASTM D-4532 |
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL  
 U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION E:36

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 9250 BENDIX ROAD  
 COLUMBIA, MD 21045  
 ATTN: MR. WES DAUB  
 VOICE 410-313-6194

PERMIT INFORMATION CHART  
 WATER CODE: PUBLIC  
 SEWER CODE: N/A  
 BUILDING: ROCKBURN HILL RD/RIVER RD  
 PROJECT NAME: ROCKBURN HILL SEWER/PUMP STATION AND CROSSVIEW ROAD WATER EXTENSION  
 TAX MAP/GRID: 32/21  
 PARCEL NO.: 63/80  
 ZONING: ReD  
 TAX MAP BLOCK: 32  
 ELEC. DIST.: 1  
 CENSUS TRACT: 606903

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.  
 Chief, Bureau of Public Works: *[Signature]* DATE: 5/15/13  
 Chief, Bureau of Engineering: *[Signature]* DATE: 5/15/13  
 Chief, Bureau of Utilities: *[Signature]* DATE: 5/15/13  
 Chief, Utility Design Division: *[Signature]* DATE: 5/10/13

WHITMAN, REQUARDT AND ASSOCIATES, LLP  
 801 SOUTH CAROLINE STREET  
 BALTIMORE, MARYLAND  
 410 - 285 - 3450

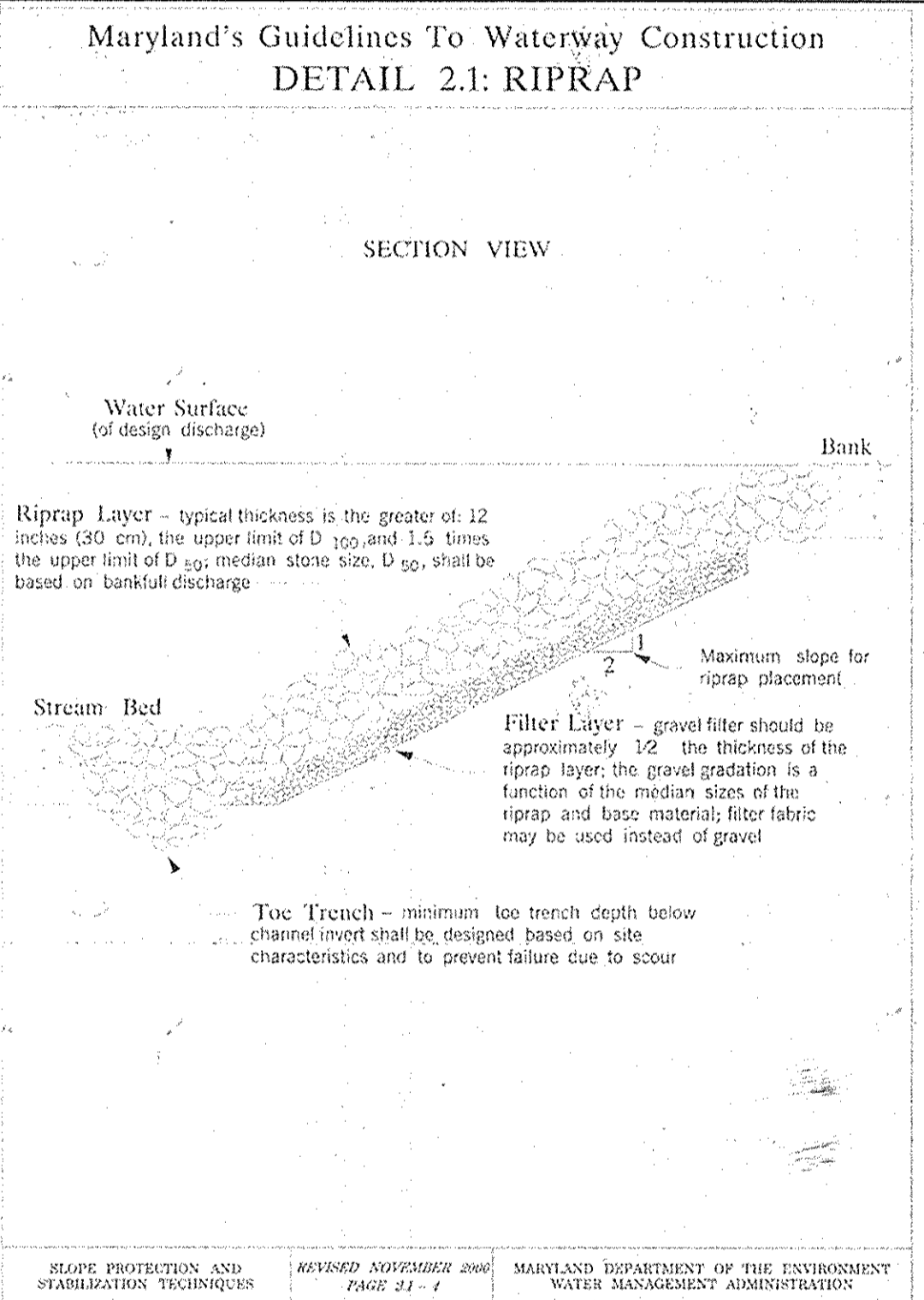
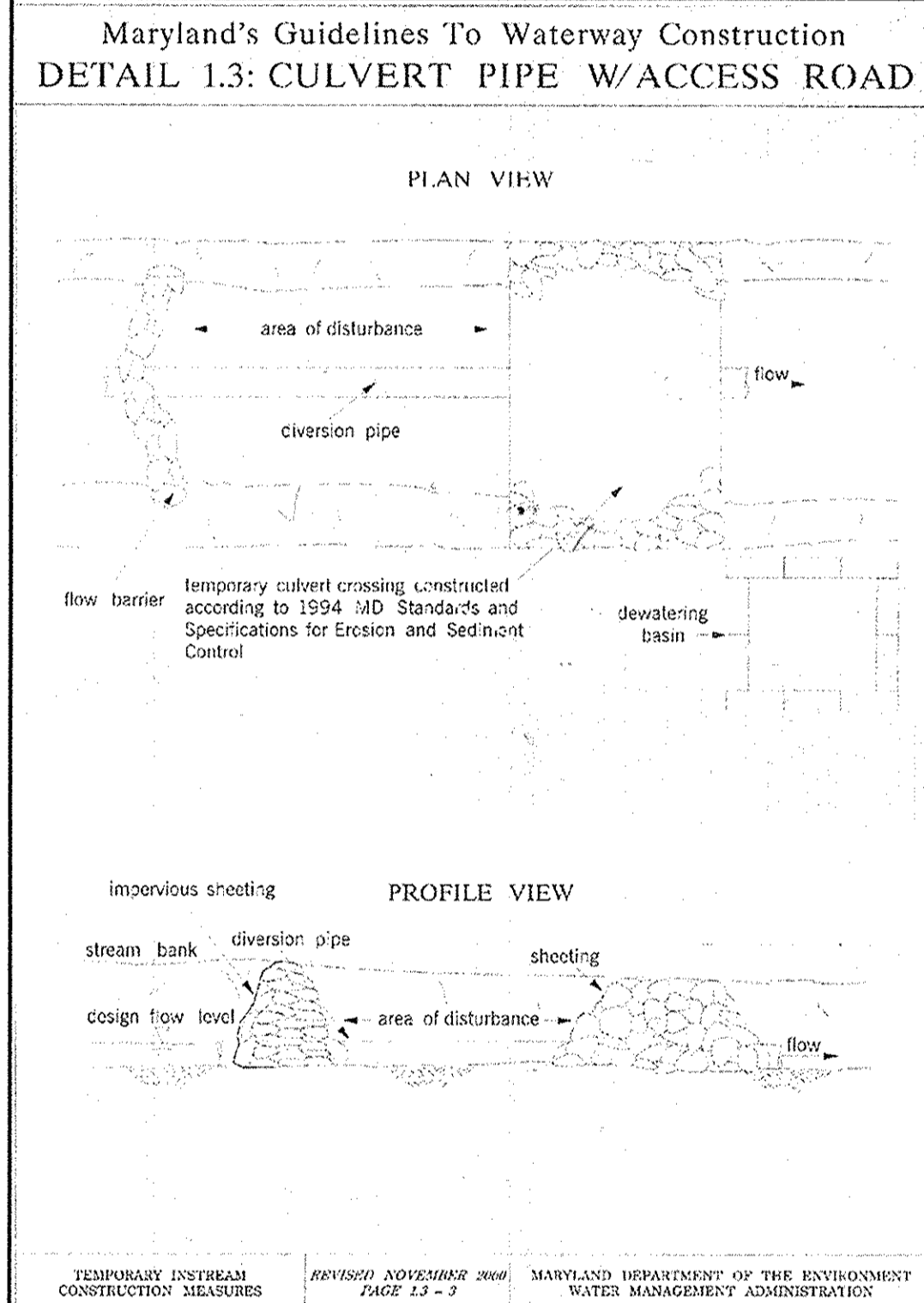
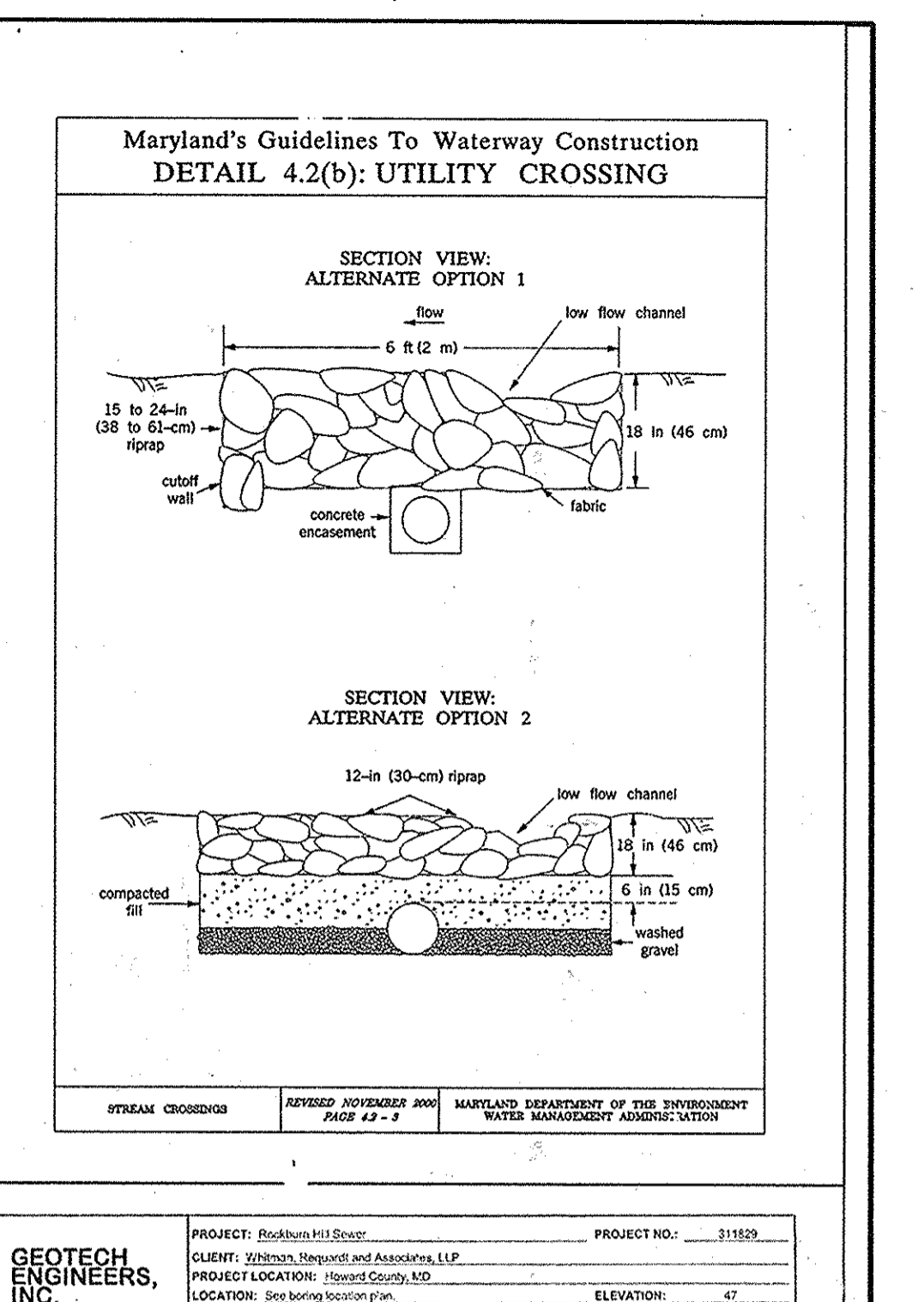
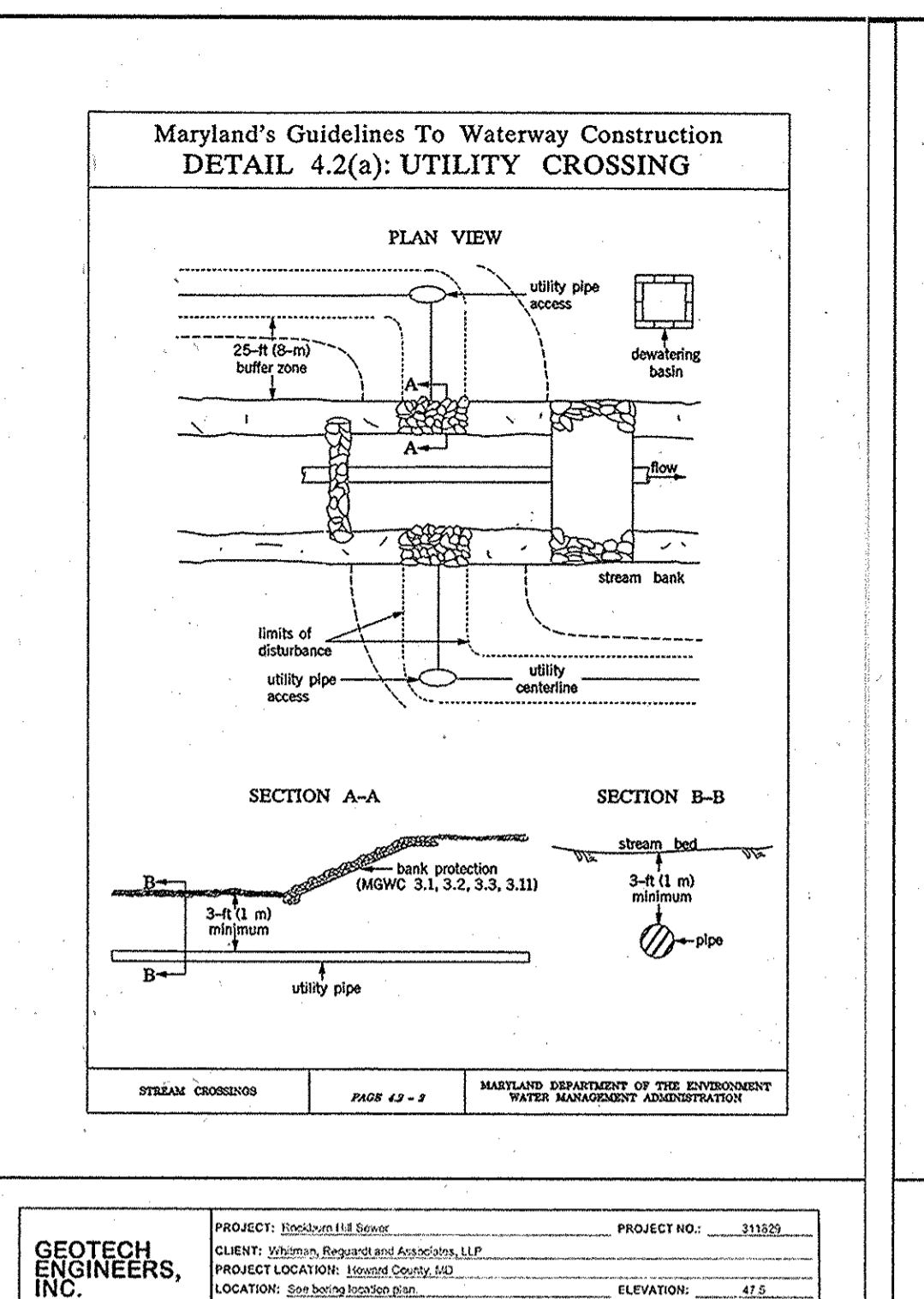
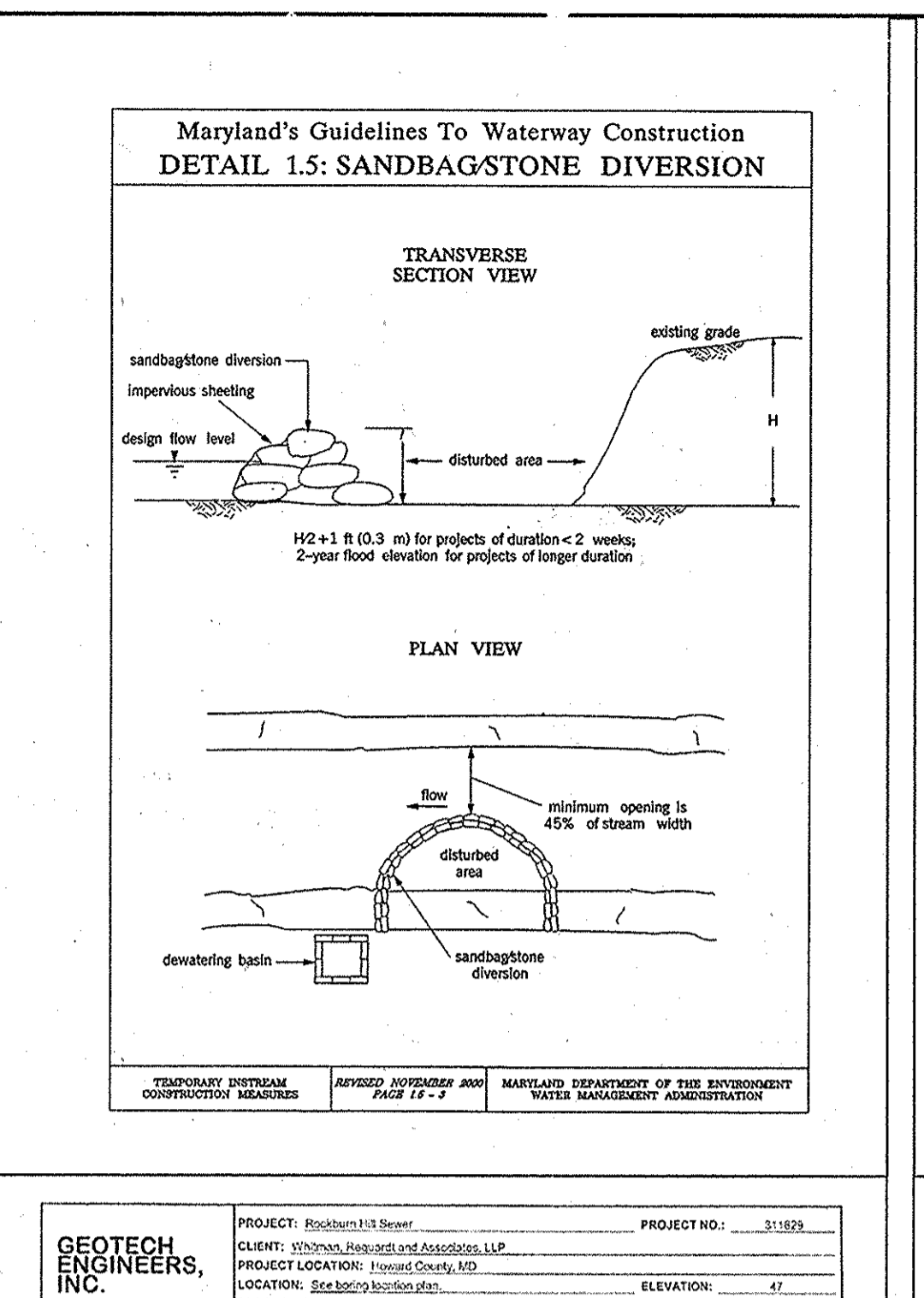
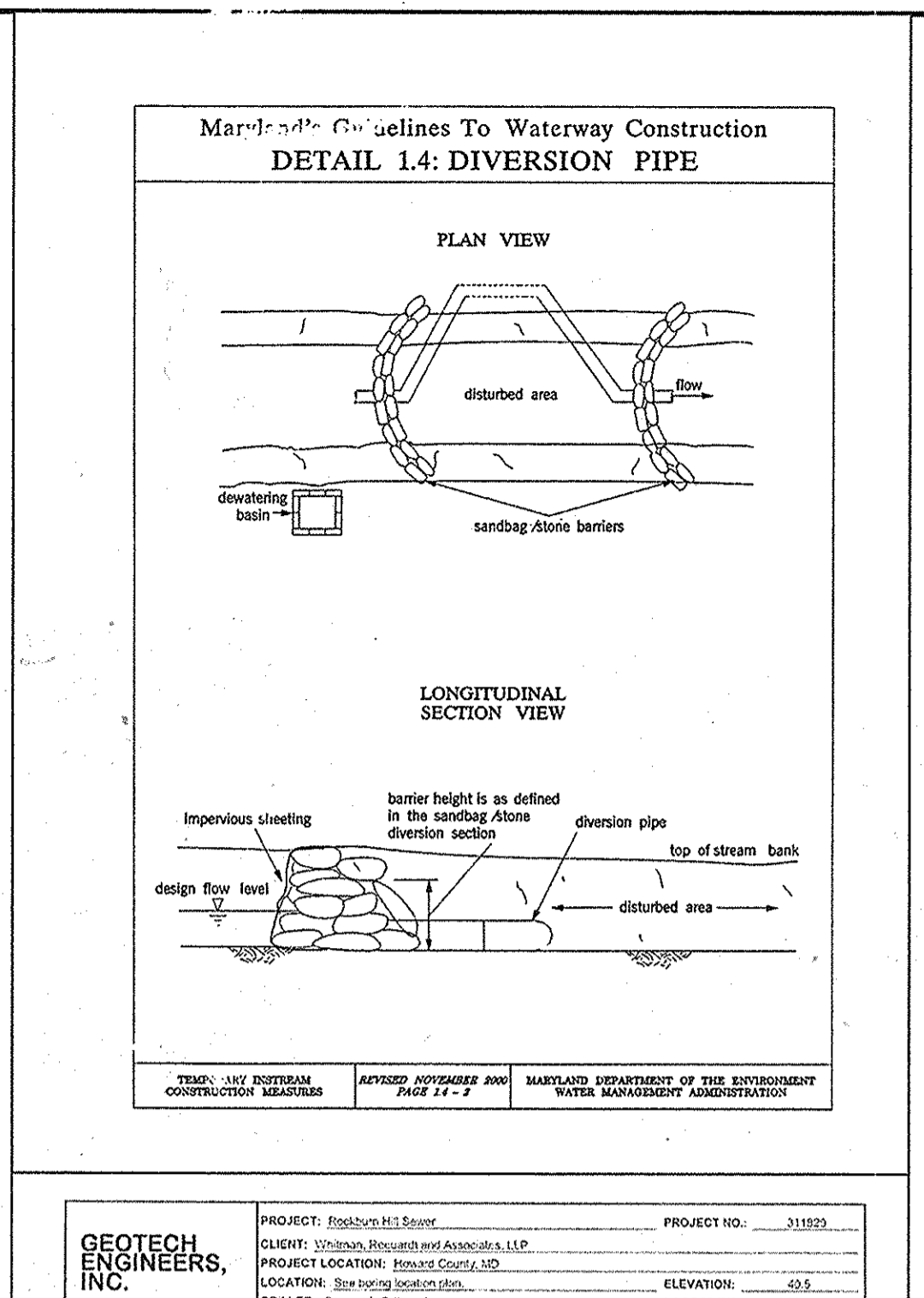
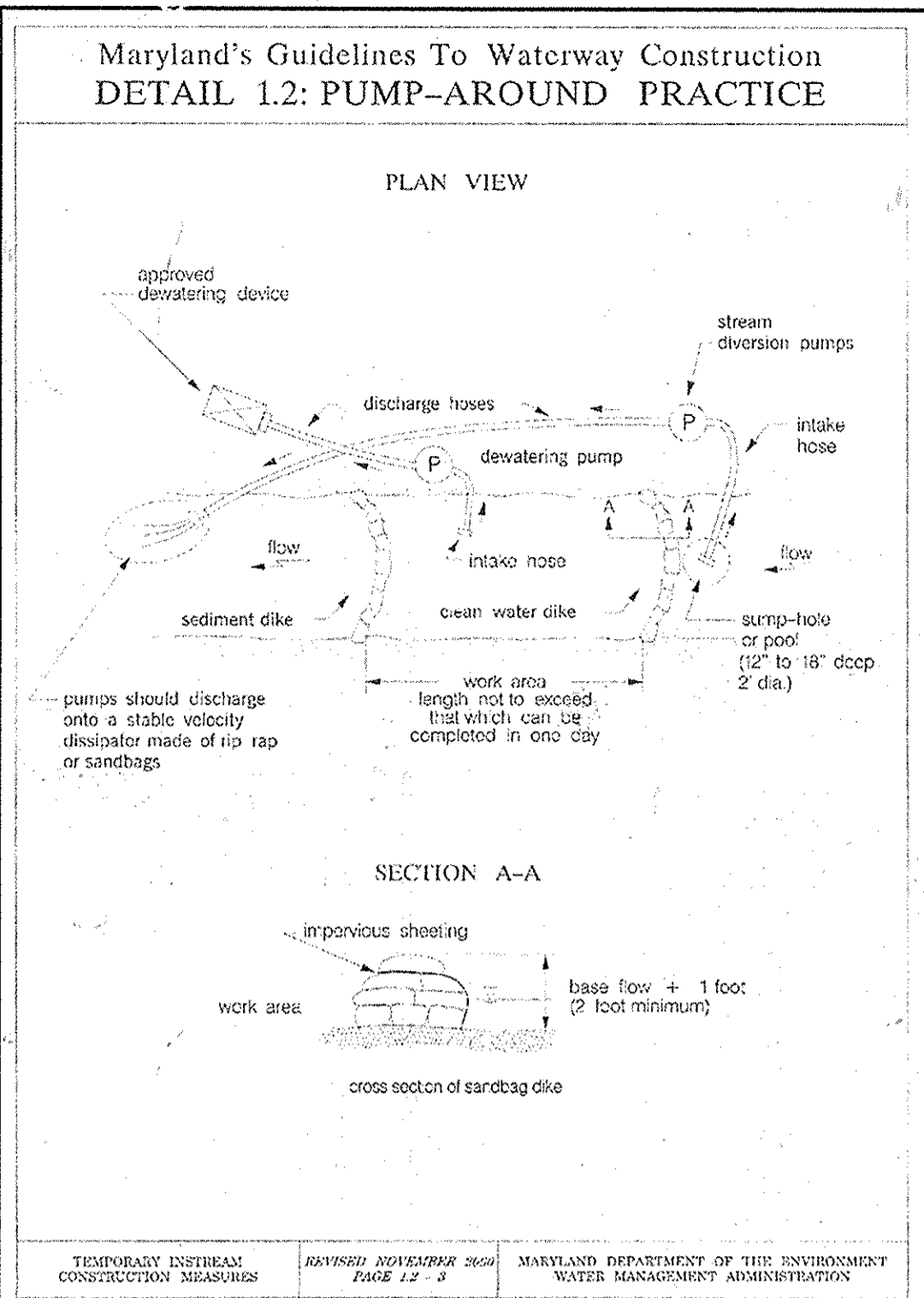
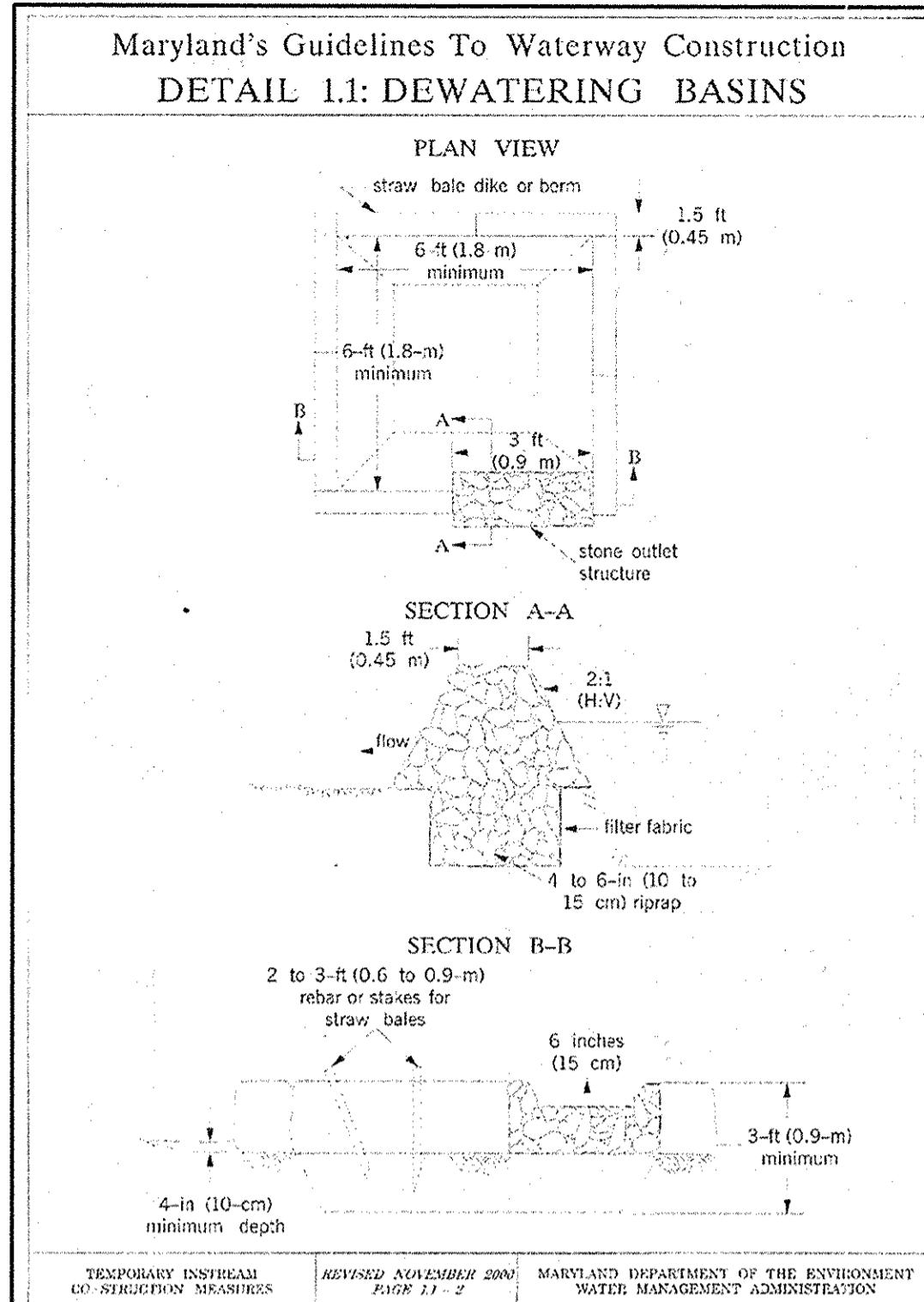
STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 3112

DES:	WRA	AS-BUILTS	10/15
DRN:			
CHK:			
MAY 2013	BY NO.	REVISION	DATE

EROSION AND SEDIMENT CONTROL  
 DETAILS  
 600 SCALE MAP NO. 32 BLOCK NO. 21.

ROCKBURN HILL PUMP STATION  
 CAPITAL PROJECT NO. S-6260  
 CONTRACT NO. 14-4715  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 9 OF 10  
 SDP-12-081



### GEOTECH ENGINEERS, INC. LOG OF BORING No. FM-1

Elevation (ft)	Description	Depth (ft)	TEST RESULTS			
			Moisture (%)	Specific Gravity (G <sub>s</sub> )	Unit Weight (pcf)	Penetration (lb)
44.0	Disturbed fill with rock fragments (FILL), moist	0.0	20	2.65	110	10
35.0	Boring terminated at 1.5 ft	1.5				

Figure  
PAGE 1 of 1

### GEOTECH ENGINEERS, INC. LOG OF BORING No. MH-1A

Elevation (ft)	Description	Depth (ft)	TEST RESULTS			
			Moisture (%)	Specific Gravity (G <sub>s</sub> )	Unit Weight (pcf)	Penetration (lb)
47.0	2" topsoil	0.0	20	2.65	110	10
45.0	Brown silty sand with gravel (FILL), moist, some roots	0.0	20	2.65	110	10
43.0	Brown lean CLAY (CL), moist	0.0	20	2.65	110	10
41.0	Multi color silty SAND (SM), moist, some rock fragments	0.0	20	2.65	110	10
39.0	Boring terminated at 6 ft	6.0				

Figure  
PAGE 1 of 1

### GEOTECH ENGINEERS, INC. LOG OF BORING No. MH-10

Elevation (ft)	Description	Depth (ft)	TEST RESULTS			
			Moisture (%)	Specific Gravity (G <sub>s</sub> )	Unit Weight (pcf)	Penetration (lb)
47.0	3" topsoil	0.0	20	2.65	110	10
45.0	Brown silty sand with gravel (FILL), some roots, moist	0.0	20	2.65	110	10
43.0	Brown sandy lean CLAY (CL)	0.0	20	2.65	110	10
41.0	Boring terminated at 4.5 ft	4.5				

Figure  
PAGE 1 of 1

### GEOTECH ENGINEERS, INC. LOG OF BORING No. MH-11

Elevation (ft)	Description	Depth (ft)	TEST RESULTS			
			Moisture (%)	Specific Gravity (G <sub>s</sub> )	Unit Weight (pcf)	Penetration (lb)
47.0	3" topsoil	0.0	20	2.65	110	10
45.0	Brown silty sand with gravel (FILL), moist, some large boulders between 0.6'	0.0	20	2.65	110	10
43.0	Boring terminated at 4.5 ft	4.5				

Figure  
PAGE 1 of 1

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* DATE: 6/10/13

Chief, Division of Land Development: *[Signature]* DATE: 6/12/13

Director: *[Signature]* DATE: 6/13/13

OWNER:	PERMIT INFORMATION CHART							
	WATER CODE:	SEWER CODE:	BUILDING:	STREET ADDRESS:	TAX MAP/GRID:	PARCEL NO.:	ZONING:	TAX MAP BLOCK:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. WES DAUB VOICE 410-313-6194	PUBLIC	PUBLIC	N/A	ROCKBURN HILL RD/RIVER RD	32/21	63/80	Red	32

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* DATE: 5/13/13

Chief, Bureau of Engineering: *[Signature]* DATE: 5/10/13

Chief, Bureau of Utilities: *[Signature]* DATE: 5/10/13

### GEOTECH ENGINEERS, INC. LOG OF BORING No. RHPS

Elevation (ft)	Description	Depth (ft)	TEST RESULTS			
			Moisture (%)	Specific Gravity (G <sub>s</sub> )	Unit Weight (pcf)	Penetration (lb)
47.0	2" topsoil	0.0	20	2.65	110	10
45.0	Brown silty SAND (SM), some decayed root, moist	0.0	20	2.65	110	10
43.0	1" m-siltstone below 5.0'	0.0	20	2.65	110	10
41.0	Greenish gray Decomposed Rock	0.0	20	2.65	110	10
39.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
37.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
35.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
33.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
31.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
29.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
27.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
25.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
23.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
21.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
19.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
17.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
15.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
13.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
11.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
9.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
7.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
5.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
3.0	Highly weathered, gray GNEISS ROCK, moderately to highly fractured	0.0	20	2.65	110	10
1.0	Boring terminated at 31 ft	31.0				

Figure  
PAGE 1 of 1

WR&A  
WHITMAN, REQUARDT AND ASSOCIATES, LLP  
801 SOUTH CAROLINE STREET  
ALTIMORE, MARYLAND  
410 - 235 - 3450

DES: WRA / 1 AS-BUILT 10/15

DRN:

CHK:

MAY 2013

AS-BUILT

EROSION AND SEDIMENT CONTROL DETAILS

60% SCALE MAP NO. 32 BLOCK NO. 21

NAME OF UTILITY CONTRACTOR:  
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

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

Howard Soil Conservation District  
DATE: 5/30/13

OWNERS/DEVELOPERS CERTIFICATION:  
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Wes Daub  
DATE: 5-10-2013

ROCKBURN HILL PUMP STATION  
CAPITAL PROJECT NO. S-6260  
CONTRACT NO. 14-4715  
1ST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
SHEET 10 OF 10  
SDP-12-081