GENERAL NOTES:

- ZONING: SITE IS BEING DEVELOPED UNDER THE AMENDED 5TH EDITION OF SUBDIVISION AND LAND REGULATIONS FOR R-ED (INCLUDING THE SUPPLEMENTARY REGULATIONS FOR TRADITIONAL RESIDENTIAL) NEIGHBORHOODS.
- 2. THE SUBJECT PROPERTY IS ZONED R-ED AND R-A-15 PER THE 07/28/06 COMPREHENSIVE ZONING PLAN,
- 3. PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: WP-09-102*, 5-01-10, PB-350, P-02-03, SP-09-06; F-01-196, F-02-142, SDP-02-61, SDP-02-65, WP-01-79, WP-01-122, AA-09-11, 4 PB-387.
- TOTAL AREA OF SITE: AREA OF RE-D ZONING AREA OF R-A-15 ZONING AREA OF 100 YR FLOODPLAIN: 638-Acres t AREA OF STEEP SLOPES (OUTSIDE OF FLOODPLAIN), L49 Acres ± AREA OF PROPOSED ROADWAY (PUBLIC): 7.17 Acres ! NO. OF SINGLE FAMILY DETACHED LOTS: AREA OF SINGLE FAMILY DETACHED LOTS NO. OF SINGLE FAMILY ATTACHED LOTS AREA OF SINGLE FAMILY ATTACHED LOTS: TOTAL NUMBER OF LOTS 68 Lots 9 Lots NO. OF OPEN SPACE LOTS AREA OF OPEN SPACE 25.85 Acres ± AREA OF NON-CREDITED OPEN SPACE NO. OF COMMON OPEN AREAS: 3 Areas AREA OF COMMON OPEN AREAS O.bl Acres t TOTAL APPROXIMATE LIMIT OF PROP. SITE DISTURBANCE: 1450 Acres t
- MINIMUM OPEN SPACE REQUIREMENT FOR PROJECT IS 50%. TOTAL OPEN SPACE REQUIRED.
- 20.72 Acres ± TOTAL OPEN SPACE PROVIDED 25.85 Acres ± (62.4%) RECREATIONAL OPEN SPACE REGUIRED 0.57 Acres t 0.97 Acres t RECREATIONAL OPEN SPACE PROVIDED TND OPEN SPACE REGUIRED 1.04 Acres t TND OPEN SPACE PROVIDED: 1.04 Acres ± NON-CREDITED OPEN SPACE AREAS. (SEE OPEN SPACE CHART, THIS SHEET)
- . THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS
- THE CEMETERY INVENTORY MAPS DO NOT SHOW ANY CEMETERIES WITHIN THE
- B. THE SCENIC ROADS MAP DOES NOT INDICATE ANY SCENIC ROADS WITHIN OR ADJACENT TO THE PROJECT LIMITS.
- . THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NOS, 973 AND 975 WERE USED
- IO. BOUNDARY INFORMATION IS FROM BOUNDARY SURVEYS BY GUTSCHICK, LITTLE, AND WEBER, P.A., DATED JANUARY 2007.
- SOILS DATA WAS TAKEN FROM THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND ISSUED JULY 1968.
- 12. CONTOURS SHOWN WERE TAKEN FROM AERIAL TOPOGRAPHY PREPARED DURING APRIL 2000 BY 3DI AND THEN UPDATED BY GRADE CHECKS PERFORMED BY GUTSCHICK, LITTLE & WEBER, P. A. 3. THE WETLAND DELINEATION WAS PREPARED BY EXPLORATION RESEARCH, INC.
- WHOSE FINDINGS CAN BE FOUND IN A REPORT DATED JANUARY, 2007. A NOTICE OF INTENT TO ISSUE A PERMIT IS COVERED BY MOE TRACKING \$10-NT-0134/201060454. 14. THE IOO-YEAR FLOODPLAIN LIMITS WERE DETERMINED IN A FLOODPLAIN STUDY PREPARED BY GUTSCHICK, LITTLE AND WEBER, P.A. AS PART OF F OI-196 AND SP
- 15. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- 16. WATER AND SEWER SERVICE IS PUBLIC (SEE CONTRACT # 14-4607-D).
- 17. FOR EXISTING PUBLIC WATER SEE CONTRACT # 14-1063-D, FOR EXISTING PUBLIC SEWER SEE CONTRACT # 10-1129.
- 18. TRAFFIC STUDY WAS PREPARED BY THE TRAFFIC GROUP AS PART OF SP 09-06, WHICH WAS SIGNED BY THE PLANNING BOARD ON _12-10-09 (PG 387).
- 19. THE GEOTECHNICAL REPORT WAS PREPARED BY HILLIS-CARNES ASSOCIATES IN NOVEMBER 24, 2008.
- 20. EXISTING UTILITIES WERE TAKEN FROM AVAILABLE HOWARD COUNTY RECORDS AND FIELD YERIFIED BY GUTSCHICK, LITTLE AND WEBER, P.A.
- 19. THE SUBDIVISION IS WITHIN THE METROPOLITAN DISTRICT.
- PERENNIAL STREAM BUFFERS ARE DETERMINED BY LAND USE ADJOINING THE OPEN SPACE (I.E. EMPLOYMENT = 50' BUFFER, RESIDENTIAL = 75' BUFFER). ALL USES ADJOINING AN INTERMITTENT STREAM = 50' BUFFER,
- 22. STORMWATER MANAGEMENT, BOTH QUALITY AND QUANTITY, FOR THE DEVELOPMENT PROPOSED BY THESE PLANS WILL BE SATISFIED AT THE FACILITY ON OPEN SPACE LOT TT. THE FACILITY WILL BE A WET EXTENDED DETENTION POND (TYPE P-3). THE ACILITY WILL BE PUBLICLY OWNED. ROUTINE MAINTENANCE WILL BE THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION AND NON-ROUTINE MAINTENANCE ITEMS WILL BE THE RESPONSIBILITY OF HOWARD COUNTY. THE RECHARGE REQUIREMENTS FOR THIS DEVELOPMENT WILL BE PROVIDED IN A PRIVATELY OWNED AND MAINTAINED FACILITY ON OPEN SPACE LOT TO.
- 3. VEHICULAR INGRESS AND EGRESS TO NORTH RIDGE ROAD IS PROHIBITED EXCEPT AS INDICATED. NO VEHICULAR INGRESS AND EGRESS IS ALLOWED ALONG THE
- 14, ALL STREET TREE, STREET LIGHT AND SIGN LOCATION SHOWN ON THESE PLANS WILL BE VERIFIED IN THE FIELD BY THE DEPARTMENT OF PUBLIC WORKS - TRAFFIC
- 25. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, OR PLACEMENT OF NEW STRUCTURES IS PERMITTED WITHIN LIMITS OF WEILANDS, STREAMS OR THEIR REGUIRED BUFFERS, AND IOO YEAR FLOODPLAIN AREAS, UNLESS PERMITTED UNDER AN APPROVED WAIVER PETITION OR DETERMINED TO BE ESSENTIAL OR NECESSARY
- 26. ENVIRONMENTAL IMPACTS TO THE 25' WETLAND BUFFER AND THE 50' STREAM BANK BUFFER FOR THE CONSTRUCTION OF ROAD 'A', THE PROPOSED STORM DRAIN AND OUTFALL LOCATED ALONG THE NORTHMEST SIDE OF LOT 25, THE STORM DRAIN EXTENSION LEADING TO THE STORMWATER MANAGEMENT FACILITY, AND THE OUTFALL FROM THE STORMWATER MANAGEMENT FACILITY HAVE BEEN DETERMINED TO BE "ESSENTIAL OR NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 6.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THIS DETERMINATION WAS MADE IN A LETTER FROM THE DEPARTMENT OF PLANNING AND
- 27.0PEN SPACE LOTS 69 THROUGH 74 WILL CONTAIN ACTIVE RECREATIONAL AREAS IN ACCORDANCE WITH SECTION 16.121(A)(4) OF THE SUBDIVISION REGULATIONS
- 28. THE FOREST CONSERVATION EASEMENTS AND REQUIREMENTS SHOWN ON THESE PLANS ARE IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Bureau of Highways

nief, Development Engineering Division Ce

- 29. MINIMUM BUILDING SETBACK RESTRICTIONS FROM PUBLIC ROADS AND PROPERTY LINES WILL BE PROVIDED IN ACCORDANCE WITH THE ZONING REGULATIONS ADOPTED
- 30. PERIMETER LANDSCAPING AND STREET SIDE PLANTINGS FOR LOT 5 AND STORMWATER MANAGEMENT SCREENING SHALL, BE PROVIDED AS SHOWN ON THE LANDSCAPE PLAN SHEETS . SURETY IN THE AMOUNT OF \$11,550.00 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR F-10-64. UNIT PLANTINGS AND TRASH PAD SCREENINGS ARE DEFERRED UNTIL SITE DEVELOPMENT PLAN SUBMISSION. ALL SUFFERING AND OTHER LANDSCAPING REQUIREMENTS NOT SHOWN ON THIS PLAN WILL BE SHOWN AT SITE DEVELOPMENT PLAN STAGE AND WILL BE PROVIDED IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS (AMENDED 5TH EDITION).
- 31. ZONING MAP AMENDMENT (CO. FILE NO. AA-O9-II) WAS ADMINISTRATIVELY GRANTED ON AUGUST 24, 2009 IN ORDER TO CHANGE THE 15 ACRES OF R-20 ON PARCEL 99
- 32. A I' PUBLIC EASEMENT FOR SIDEWALK MAINTENANCE, WATER HOUSE CONNECTIONS, SEMER HOUSE CONNECTIONS AND UTILITIES MILL BE PROVIDED ALONG ALL PUBLIC
- 33.RETAINING WALLS MAY BE LOCATED ACROSS INTERNAL PROPERTY LINES IN ACCORDANCE WITH SECTION 128 A.I.O. OF THE HOWARD COUNTY ZONING REGULATIONS FOR AN INTEGRATED SUBDIVISION. ALL WALLS OVER 3' IN HEIGHT WILL MEET BUILDING RESTRICTION SETBACKS.
- 34. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON 12/15/08 IN COMPLIANCE WITH SECTION 16.128 OF THE REGULATIONS.
- 35.THIS SUBDIVISON PLAN WAS PRESENTED TO THE HISTORIC DISTRICT COMMISSION ON 11/06/08 FOR THE ON-SITE HISTORIC STRUCTURE (ROGERS HOUSE) IDENTIFIED AS HO-615, THE PLAN PROPOSAL PRESERVES THE EXISTING HOUSE ON LOT 5 DESIGNED TO PROTECT THE HOUSE IN AN ADEQUATE SETTING ON AN ENLARGED LOT SIZE IN COMPLANCE WITH SECTION 16.118 OF THE REGULATIONS.
- 36. THE ENCLAVE AT ELLICOTT HILLS (WHICH WAS DEVELOPED UNDER F-OI-196 AND SDP-02-065) CLEARED ABOVE THE FOREST CONSERVATION BREAK-EVEN POINT AND HAD EXCESS FOREST RETENTION THAT COULD BE APPLIED TOWARDS THE FOREST CONSERVATION OBLIGATION FOR THE PUTURE DEVELOPMENT ON PARCEL 'B' AND PARCEL 49', PLAT NO. 15319-15323 CREATED II (ELEVEN) FOREST CONSERVATION EASEMENTS (WHICH INCLUDED EXCESS RETENTION) TO SATISFY TH FOREST CONSERVATION OBLIGATION FOR THE ENCLAVE AT ELLICOTT HILLS. FOREST CONSERVATION IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL IS BASED ON A COMBINATION OF REQUIRED OBLIGATION FOR F-OI-196 (THE ENCLAVE AT ELLICOTT HILLS) AND FOR THIS FINAL PLAN, F-10-64 (ENCLAVE AT ROGERS). PORTIONS OF FCE #3 AND FCE #6 AS PREVIOUSLY RECORDED UNDER F-01-196 ARE BEING ABANDONED BY RECORDATION OF THIS PLAT. FCEHs I, 2, 4, 5 AND 7 THROUGH II AS PREVIOUSLY RECORDED UNDER F-OI-196/ENCLAVES AT ELLICOIT HILLS WERE EXCESS FC RETENTION TO BE GREDITED TOWARDS PUTURE OBLIGATION FOR DEVELOPMENT OF PARCEL B AND PARCEL 99 (F-10-64). OBLIGATIONS FOR F-10-64 AS INDICATED UNDER THE FOREST CONSERVATION WORKSHEET ARE AS FOLLOWS: 18.27 ACRES OF RETENTION AND 4.30 ACRES OF REFORESTATION, OBLIGATIONS ARE BEING MET AS FOLLOWS: 9.42 ACRES OF ON-SITE RETENTION UNDER THIS PLAN (DOES NOT INCLUDE FLOODPLAIN/FCE#S 3A, 6A, 6B, 6C & 6F) AND 2.23 ACRES OF ON-SITE REFORESTATION (FCE#5 #3A, 6A, 6B, 6C, 6D & 6E). THE BALANCE OF 8.85 ACRES OF REQUIRED RETENTION IS MET THROUGH THE AFOREMENTIONED PREVIOUSLY RECORDED EASEMENTS. THE 2.07 ACRES OF REQUIRED REFORESTATION SHALL BE PROVIDED OFF-SITE AT MAPLE LAWN FARMS WESTSIDE DISTRICT, AREA I (PLAT Nos. 19867 TO 19872), AS SHOWN ON F-08-54, TOTAL SURETY IN THE AMOUNT OF \$130,636.00 FOR 2.23 ACRES OF REFORESTATION (97,138 SQ. FT x \$0.50 = \$48,569) AND FOR 9,42 ACRES OF RETENTION (410,335 SQ. FT x 10.20 = 182,067) SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN, F-10-64.
- 37. THE OWNER WILL PROVIDE AMENITIES FOR THIS PROJECT AT THE SITE DEVELOPMENT PLAN STAGE. THE AMENITIES MAY INCLUDE, BUT ARE NOT LIMITED TO. GAZEBOS, TOT LOTS, AND FORMAL GARDENS. THESE AMENITIES MAY BE PROPOSED ON THE SITE DEVELOPMENT PLANS FOR THE DWELLINGS (BUILDER'S PLANS), OR ON A SEPARATE "AMENITIES SITE PLAN". THE OWNER WILL CONTINUE TO WORK WITH THE DIVISION OF LAND DEVELOPMENT TO HONOR ITS COMMITMENT TO PROVIDE THESE
- 38. Stormwater Management is provided in accordance with the 2000 Maryland Stormwater Design Manual Valumes 1 ; 11. It was determined this project mot the criteria sufficed in the WDE stormwater . Wonagement Regulations Guidance for Implementation for acceptance of the 2000 Design Preliminary approval (SP 09:04) on 12/21/09 and Pinal approval (P10:04) on 4/29/10. This plan is also ... subject to the expiration of this walver unless al starmwater Management is constructed by

On Gept. 14,2010 the Planning Director approved

- · Gection 16.144 (a) requiring submission of final construction drawings within 60 days of final plan approval.
- · Gestion 14.144 (p)(1) requiring payment of all fees and (2) posting of all monies associated with developer's agreement within 120 days of final plan approval. · Gection 16.144 (a) requiring submission of final plat
- originals within 180 days of final plan approval. · Gestions 16.144 (+)(6) \$ (6) voiding plan approval for failure to pay feed, sign developer's agreement, post sureties and submit final plat originals.

Approval in subject to:

- · Gubmission of road construction originals on or
- before February 8,2011 · Payment of all feed, posting of all gureties appaciated with developers agreement on or
- before April 9, 2011 · Gulomission of final plat originals on or before April 24,2011.

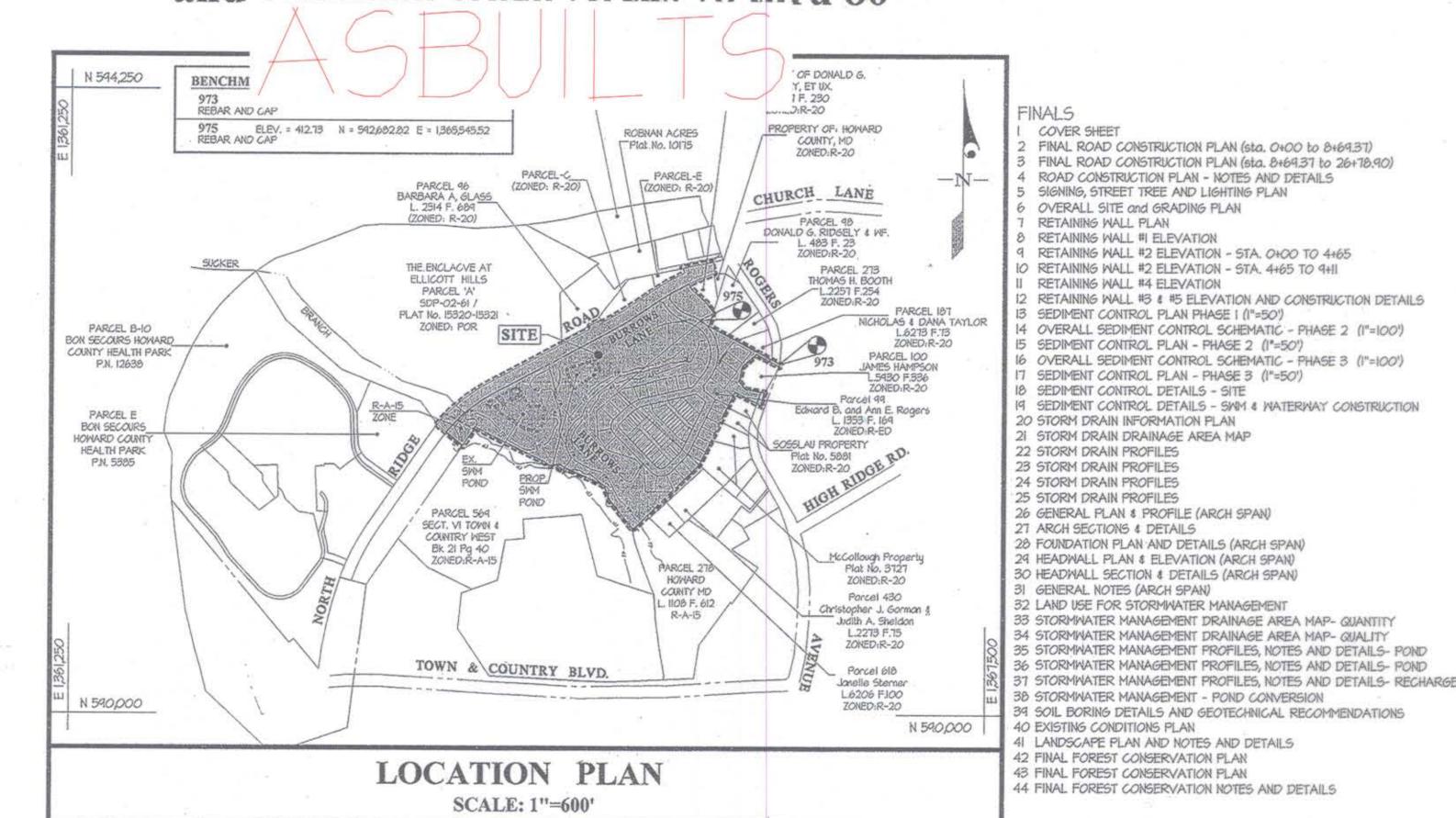
ON JULY 14, 2009, WP-09-102 WAS GRANTED FOR THE FOLLOWING . SIDEWALKS ARE ALLOWED ON ONLY ONE SIDE OF THE STREET FOR THE ENTRANCE ROAD TO MINIMIZE THE ENVIRONMENTAL FOOTPRINT OF THE RIGHT-OF-WAY, INSTEAD OF BOTH SIDES OF THE STREET AS REQUIRED IN RESIDENTIAL LOTS ARE ALLOWED TO FRONT ON NEIGHBORHOOD PARKS AND SQUARES INSTEAD BEING LIMITED FRONTAGE ON PUBLIC RAWS AS IN

16.120(C)(2), SUBJECT TO ADEQUATE PRIVATE ALLEY ACCESS.

NO SIDEWALK ALONG SOUTHEAST SIDE OF NORTH RIDGE ROAD WILL BE REQUIRED (WAIVER FROM SECTION 16.134(A)(1))

CONSTRUCTION PLAN ROCKLAND AT ROGERS

Lots 1 thru 68, Open Space Lots 69 thru 77, and Common Open Areas 78 thru 80



							SITE ANALY	YSIS CHART	• ; .				1					
HO. CO. FILE NO.	GROSS ACREASE	IOO YR FLOODPLAIN	STEEP SLOPE AREAS	NET ACREAGE		CREAGE ROSS ACJ	SFA ACREAGE (% OF GROSS AC.)	37/20		IVIDED ROSS ACJ	(% OF 6	LIC R/W 5ROSS AGJ	OPEN AR	REDITED SPACE REAS ROSS ACJ	AREAS	OPEN (ALLEYS) FA AC.)		ON OPEN EA 80 SFD AC.
SP-09-06	41,43*	638**	1.49	33.56	5.10	(12.3%)	3.04*** (1.3%)	20.72	25.85	(62.4%)	7.17	(17.3%)	0.27	(0.7%)	0.56	(18,4%)	0.05	(0.9%

HO. CO.	ZONING		SITE AC	REAGE*		REGUIRED /MAXIMUM UNITS	PROVIDED No. OF UNITS			
FILE NO.	20/11/10	6R099	100 YR FP	STEEP	NET	MAX UNIT DENGITY ALLOWED	MAX UNITS ALLOWED	SFD PROVIDED	SFA PROVIDED	TOTAL
5P-09-06	RE-D	40.78	5.45	1.49	33.34	2.0 UNITS / NET ACRE	66	oe.	43	68
35-04-00	R-A-15	0.65	0.43	0.00	0.22	15.0 UNITS / NET ACRE	3	25		

	REC./IND OPEN S	PACE CHART		
TYPE	CRITERIA	REQUIRED	PROVIDED	WHERE PROVIDED
RECREATIONAL OPEN SPACE	400 SF PER SFA LOT/300 SF PER SFD LOT	24,700 SF (0.57 Ac.)	0.91 Ac.	05 LOTS 69 THRU 74
TND OPEN SPACE*	5% OF REQUIRED OPEN SPACE	1.04 Ac.	1.04 Ac.	OS LOTS 69 THRU 74 & P/O 75

**-SEE						ZONING	REGU

Company of the second	SE	TBACK
SETBACK TYPE	SINGLE FAMILY DETACHED	SINGLE FAMILY
SITE BOUNDARY/ EXTERNAL PUBLIC RAY	30' *	30' *
FRONT/SIDE ON PUBLIC R/W	0, .	0' *
SIDE	5' *	0'
REAR	10	0' *
FACE TO FACE	₩A	30'
FACE TO SIDE / REAR TO SIDE	N/A	30'
SIDE TO SIDE	N/A	15'
REAR TO REAR	N/A	30' *

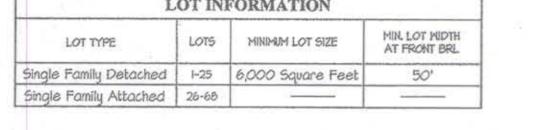
410-484-8400

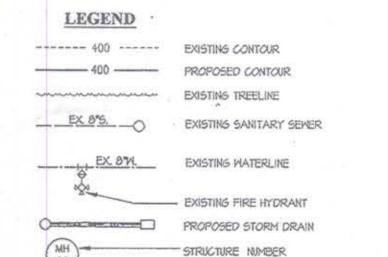
TOTAL REQUIRED: 25 UNITS X 2 SPACESAINIT = 50 SPACES GARAGES: 50 SPACES PROVIDED (2 CAR GARAGES) SFD OVERFLOW (PER DESIGN MANUAL VOL. III 2.8.2): REQUIRED = 25 UNITS × 0.5 SPACES/UNIT = 13 SPACES PROVIDED = 25 SPACES (PROVIDED IN DRIVEWAYS) TOTAL REQUIRED: 43 UNITS x 2 SPACES/UNIT = 86 SPACES

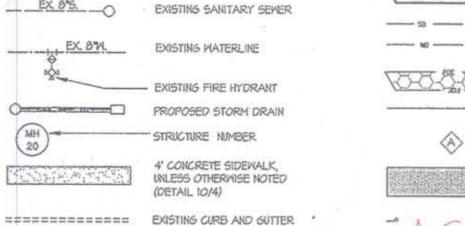
GARAGES: 86 SPACES PROVIDED (2 CAR GARAGES)

SFA OVERFLOW (FER DESIGN MANUAL VOL. III 2.8.2) REQUIRED = 43 UNITS × 0.3 SPACES = 13 SPACES TOTAL OVERFLOW REQUIRED ON-STREET = 13 SPACES TOTAL AVAILABLE ON-STREET PARKING = 46 SPACES

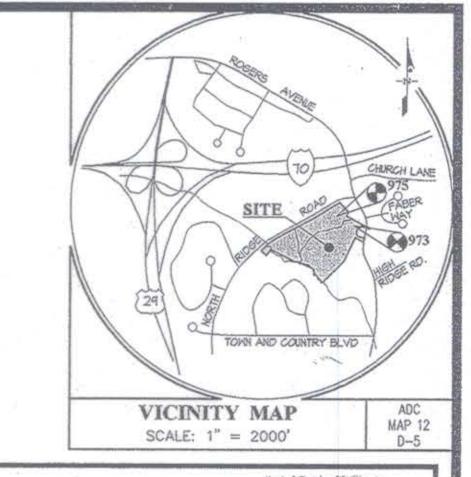
L	OT IN	FORMATION	
LOT TYPE	LOTS	MINIMUM LOT SIZE	MIN LOT WIDTH AT FRONT BRL
Single Family Detached	I-25	6,000 Square Feet	50'
Single Family Attached	26-68		

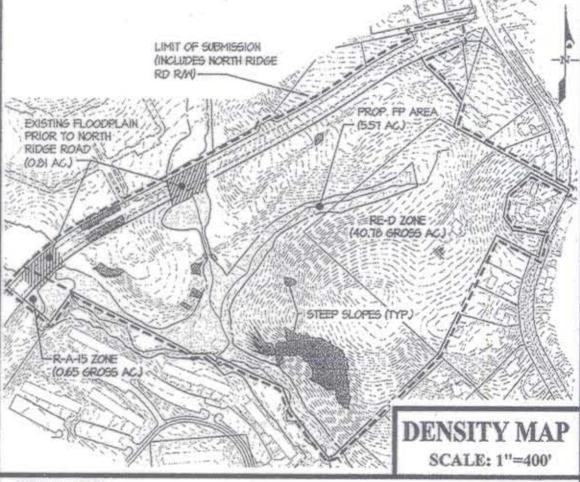




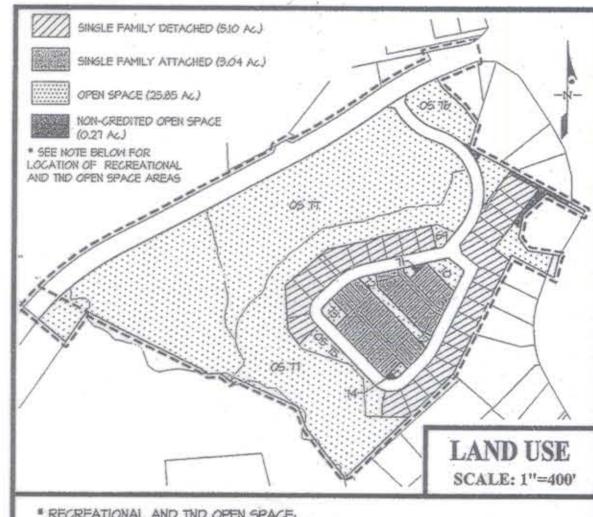








GROSS SITE AREA (41.43 AC) IS A TOTAL OF PARCEL BY (26.46 AC), PARCEL QQ (10.90 AC) AND NORTH RIDGE ROAD RIGHT-OF-WAY (4.07 AC.). THE 41.48 ACRES IS COMPRISED OF 40.78 ACRES ZONED RE-D AND 0.65 ACRES ZONED R-A-15 AS SHOWN ABOVE, STEEP SLOPE, AREAS SHOWN (1.49 ACRES) ARE 25% OR GREATER OVER A MINIMUM OF 10' VERTICAL. FOR DENSITY CALCULATIONS, SEE UNIT DENSITY TABILATION CHART ON THIS SHEET. EARLY DPZ DETERMINATION OF DENSITY FOR THIS PROJECT WAS PER A MEETING



RECREATIONAL AND THO OPEN SPACE THE REQUIRED 0.5T AC. OF RECREATIONAL OPEN SPACE WILL BE PROVIDED IN OPEN SPACE LOTS 69 THROUGH 14 AS SHOWN ABOVE. THE REQUIRED LO4 AC. OF THO OPEN SPACE WILL BE PROVIDED IN OPEN SPACE LOTS 69 THROUGH 74 AND PART OF OPEN SPACE LOT 15. PLEASE REFER TO SHEET 6 OF THIS PLAN

				SET FOR (OPEN SPACE AREAS SHOWN AT A LARG	ER SCALE.
GEND ·						
400	EXISTING CONTOUR	FP	100 YEAR FLOCER OF SSIONAL GE	RTIFICATION	SINGLE FAMILY ATTACHED	SINGLE FAMILY DETACHED
400	PROPOSED CONTOUR		I wir of wen I hereby certify that	t these documents we	ere prepared or	
	EXISTING TREELINE		approved by me, and	nd that I am a duly lici laws of the State of	ensed professional	
8*S	EXISTING SANITARY SEVER	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-WEILAND AREA No. 12975, Expiration	n Date: May 26 2016).	
	Lt.	— a — a —	STREAM / BANK BUFFER	~/1	1 6	
EX. 8W.	EXISTING WATERLINE	NO NO	WETLAND BUFFER 5/12/15	Old		2 CAR DWELLING
	- EXISTING FIRE HYDRANT	1000000	POREST CONSERVATION EASEMENT	Profess	Gutschick Ional Engineer CAR	GAR*
	PROPOSED STORM DRAIN		CENTERLINE OF STREAM	Maryland	d Reg. No. 12975AR*	14
	STRUCTURE NUMBER	♠	CENTERLINE CURVE		PRIVATE	RIVENAY PUBLIC RAY
	4' CONCRETE SIDEWALK, UNLESS OTHERWISE NOTED (DETAIL 10/4)		15' NO-WOODY VEGETATION ZONE		*-2 CAR (MIN) GARAGE TO SATISFY PARKING	FACE OF CURB ES TO BE PROVIDED FOR ALL UNITS REQUIREMENTS FOR THIS PROJECT.
	EXISTING CURB AND GUTTER ** PROPOSED CURB AND GUTTER (DET. A/4)	ASRI	AIL (MD 605.01)		NOTE: TOWNHOUSE UNITS M GARAGES. FINAL HOUSE I	TAY HAVE ATTACHED, INTEGRAL, OR DETACHED DESIGN TO BE DETERMINED AT SOP STAGE.

TYPICAL FOOTPRINASBULT SHEET | OF

SCALE ZONING G. L. W. FILE No. AS SHOWN RA-15 SHEET MAY 2015 17-18 & 24 1 OF 44

GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILE, WARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

\CADD\BRAWINGS\06079\FINALS\06079 CS01.dwg | DES. DEV | DRN. AWL | CHK. DEV

MAGIS FARM, LLC (PARCEL 99) AND NORTHRIDGE ROAD, LLC (PARCEL B) c/o Greenebaum & Rose Associates, Inc. DEVELOPER: G&R ROGERS DEVELOPMENT SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD BALTIMORE, MD 21208 ATTN: MARK BENNETT

PROFESSIONAL CERTIFICATION

HEREBY CERTIFY THAT THESE PLANS 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. 12975 EXPIRATION DATE: MAY 26, 2012



ROCKLAND AT ROGERS LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77 AND COMMON OPEN AREAS 78 THROUGH 80 A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99 HOWARD COUNTY, MARYLAND

COVER SHEET

ROAD CONSTUCTION PLAN

- 1		RB ELEV		
PT. NO	STATION	OFFSET	ELEV.	ASBUIL!
(1)	0+19.6	39.8° RT		429.74
(2)	0+26.6	21.6' RT.	430.29	430.47
(3)	0+44.6	14' RT.	430.48	431.01
(4)	0+87.0	14' RT.	429.67	429.62
(5)	1+75.4	14' RT	425.0	425.22
(6)	2164.8	14' RT.	420.42	420.45
(7)	5+06.4	14' RT.	414,04	414.10
(8)	7+49.0	14' RT.	404.46	409.70
(9)	7457.2	22' RT.	404.30	409.51
(0)	8+23.2	22' RT.	409.47	409.36
	8+31.2	14' RT.	409.67	409.55
(12)	8+44.2	14° RT.	409.86	410.04
B	8+69.5	18.4° RT.	40.45	410.31
(4)	9107.9	14' RT.	411.06	410.97
82	0-1-0	2012	111,00	HO H
(31)	SEE CHART			
(27)	SEE CHART 8+30.4		409.66	409.61
(A)		14' LT.		409.40
63	7+51.8	14' LT.	409.44	4 4,
(2H)	5608.3	14' L.T.	414.01	-
(2)	2464.8	34° LT.	420.42	420.4
(20)	1+75.9	14' L.T.	425.11	429.68
60	0+81.0	14' LT.	429.67	431.24
(38)	0+44.6	14' LT.	430.89	432.5
(2)	Q+26:6	21.6" L.T.	431.64	434.3
×	019.6	39,4' LT.		104.00
(41)	SEE CHART	and the second		
(42)	SEE CHART	The state of the s		
(43)	SEE CHART	BELOW		
		RB ELEV.		
PT. NO	STATION	OFFSET	ELEV.	ASBUIL ¹
(II)	8+31,2	14° RT.	409.61	409.55
(12)	8+44.2	14° RT.	409.86	410.04
(B)	8+64.5	18.4° RT.	40.45	410.31
(14)	9+07.9	14' RT.	411.06	410.97
(6)	12+27.9	14' RT.	411,11	410.66
75			408.84	408.89
(16)	12+96.1	14" RT.		406.6
	CONTRACTOR TO	100 90 1	406:60	1000

C.L. CURVE DATA CHART

 STREET NAME
 CURVE
 PC STA.
 PRC STA.
 PT STA.
 RADIUS TANGENT
 ARC.
 CHORD
 BEARING
 DELTA

 BURROWS LANE
 ③
 0+86.96
 2+64.84
 —
 250.00'
 92.89'
 171.88'
 174.15'
 9.53*15'42' E
 40*46'0'

 BURROWS LANE
 ⑤
 —
 2+64.84
 7+51.83
 250.00'
 367.44'
 486.94'
 413.57'
 5.17°50'23" E
 III°36'37"

(2) 0+266 216 RT. 430.98 430.4T (3) 0+446 14 RT. 429.6T 429.62 (4) 0+870 14 RT. 429.6T 429.62 (5) 1+75.9 14 RT. 420.42 420.45 (6) 2+64.8 14 RT. 420.42 420.45 (7) 3+05.9 14 RT. 420.42 420.45 (8) 1+44.0 14 RT. 409.46 409.70 (9) 1+25.2 22 RT. 409.30 409.51 (0) 1+25.2 22 RT. 409.30 409.55 (1) 10 14.2 14 RT. 409.86 410.04 (8) 164.5 184 RT. 410.65 410.31 (9) 164.2 14 RT. 410.66 409.61 (10) 164.2 14 RT. 410.66 409.61 (11) 165.2 14 LT. 409.66 409.61 (12) 165.0 14 LT. 409.66 409.61 (23) 165.0 14 LT. 409.66 409.61 (24) 165.0 14 LT. 409.64 409.40 (25) 165.0 14 LT. 420.42 420.43 (26) 165.0 14 LT. 420.42 420.43 (27) 165.0 16 LT. 420.42 420.43 (28) 165.0 16 LT. 420.42 420.43 (29) 165.0 16 LT. 420.42 430.43 (20) 165.0 16 LT. 420.42 430.43 (20) 165.0 16 LT. 430.64 431.24 (20) 165.0 16 LT. 430.64 432.51 (40) 166 384 LT. 430.64 432.51 (41) 167 167 167 167 (42) 168 168 168 168 168 (43) 169 169 168 168 168 (44) 169 168 168 168 (45) 169 168 168 168 (46) 169 168 168 168 (47) 17 189.64 410.04 (48) 189 168 168 178 (49) 189 168 178 (40) 189 168 178 (41) 189 168 168 (42) 189 168 178 (43) 189 168 178 (44) 189 168 168 (45) 189 168 168 (46) 189 168 168 (47) 189 168 (48) 189 168 168 (49) 189 168 (40) 189 168 (41) 189 (42) 189 168 (43) 189 (44) 189 (44) 189 (45) 189 (46) 189 (47) 189 (48) 189 (49) 189 (49) 189 (49) 189 (40) 189 (40) 189 (41) 189 (42) 189 (43) 189 (44) 189 (44) 189 (45) 189 (46) 189 (47) 189 (48) 189 (48) 189 (49) 189 (49) 189 (49) 189 (40) 189 (40) 189 (40) 189 (40) 189 (40) 189 (40) 189 (40) 189 (40) 189 (40) 189 (40) 189 (40) 189 (40) 189 (40) 189 (40) 189	MORTH RESPONSE CONTROL STANDARD DETAIL T-103	THE HOT COLUMN AND COL
24 2148.2 14° RT. 425.65 425.72 25 214615 14° RT. 427.16 426.72	ENTRANCE DETAIL SCALE: 1" = 30'	PLAN 5CALE: 1" = 50"
26) 22-04-6 14'-RT. 428-20 4-28-01 27) 25-35-0 14'-RT. 414-54 413-69 28-25-66-6 14'-RT. 413-00 413-12 29-25-68-0 14'-RT. 410-06 410-60 30-26-39-9 14'-RT. 40-06 40-60 30-26-39-9 14'-RT. 40-06 40-60 30-26-57-5 213'-RT. 40-9-6 40-9-61 40-26-60-1 14'-LT. 410-9-6 40-9-61 40-26-60-1 14'-LT. 410-9-6 40-9-61 40-26-60-1 14'-LT. 410-9-6 410-35 40-7-8-5 14'-LT. 410-8-0 410-35 40-7-8-5 14'-LT. 40-8-6 40-8-61 40-8-6-1 14'-LT. 40-8-6-1 40-8-6 40-8-6-1 14'-LT. 41-8-6 40-8-8-1 14'-LT. 41-8-6 40	RIIS STOP DETAIL BUS S	## SEA - JAMES
	BUS STOP DETAIL SCALE: 1" = 20" NOTES I. THE EXISTING STRUCTURE ON LOT 5 (THE ROGERS HOUSE) WAS IDENTIFIED BY THE HISTORIC DISTRICT COMMISSION AS	405 SSD = 156' 45% COMPACTION PER No. 12975, Expiration Date: May 26 2016. ASSHTO T-180 STANDARDS ASSHTO T-180 STANDARDS ASSHTO T-180 STANDARDS
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS //-3-40 Chief, Bureou of Highways Date APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING LL School Date Chief, Division of Land Development Date Chief, Development Engineering Division & Date	THE EXISTING STRUCTURE ON LOT'S THE ROGERS HOUSE WAS IDENTIFIED BY THE HISTORIC DISTRICT COMMISSION AS HO-615 AND WILL REMAIN, THE TWO AUXILARY STRUCTURES, WHICH ARE APPROXIMATELY 80 YEARS OLD WILL BE RAZED. ALL SIDEWALK IS TO BE 4" WIDE, UNLESS OTHERWISE NOTED. (DET, 10/4) ALL STORM DRAINS IN COMMON OPEN AREAS SHALL BE PRIVATELY OWNED AND MAINTAINED. FOR STORM DRAIN INFORMATION, SEE STORM DRAIN INFORMATION PLAN, SHEET 20. FOR STREET TREE AND STREET LIGHT INFORMATION, SEE SHEET 5. FOR RETAINING WALL INFORMATION SEE SHEET 7 - 12. FOR ARCH SPAN DETAILS SEE SHEET 26 - 31. SIDEWALK RAMPS PER HOWARD COUNTY STANDARD DETAIL R-4/05. CONTACT HOWARD COUNTY TRAFFIC DIVISION BEFORE INSTALLING CROSSWALK AND PEDESTRIAN WARNING SIGNS. IO. IN ACCORDANCE WITH MP-04-102 THE MARKED CROSSWALK (HO, CO. DETAIL T-7/03) IS BEING CONSTRUCTED AT CENTERLINE STATION 40-35 OF NORTH RIDGE ROAD. THE CROSS-WALK AND PEDESTRIAN CROSSING SIGNS MAY NOT BE INSTALLED AT THE TIME THE NEW INTERSECTION IS CONSTRUCTED. CONTACT HOWARD COUNTY TRAFFIC (410-313-5752) TO COORDINATE INSTALLATION. II. FOR RECREATIONAL OPEN SPACE AREAS AND LOTS, SEE PLAN, SHEET 3.	400 BURROWS LANE (PUBLIC ACCESS STREET) DESIGN SPEED = 25 MPH BURROWS LANE (PUBLIC ACCESS STREET) DESIGN SPEED = 25 MPH BURROWS LANE (PUBLIC ACCESS STREET) DESIGN SPEED = 25 MPH BURROWS LANE (AFEL 2000) ACCURATION ACC
GLWGUTSCHICK LITTLE &WEBER, P.A.		PREPARED FOR (OWNER): MAGIS FARM, LLC (PARCEL 99) AND NORTHRIDGE ROAD, LLC (PARCEL B) c/o Greenebaum & Rose Associates, Inc. DEVELOPER: G&R ROGERS DEVELOPMENT OF MARIN FINAL ROAD CONSTRUCTION PLAN ROAD CONSTRUCTION PLA
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS		DEVELOPER: G&R ROGERS DEVELOPMENT WE AND THAT I AM A DILLY LICENSED TO THAT I AM A DILLY LICENSE
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186	ol. 10-12. Add Entrance Feat., revise quardrail + grading. Dev Add Mail Pavilian + Revise Inlet location 9t	SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD BALTIMORE, MD 21208 ATTN: MARK BENNETT A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, EXPIRATION DATE: MAY 26, 2012 A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, EXPIRATION DATE: MAY 26, 2012 TAX MAP - GRID SHEET A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, EXPIRATION DATE: MAY 26, 2012 TO A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, EXPIRATION DATE: MAY 26, 2012

PARCEL-E (R-20 ZONE)

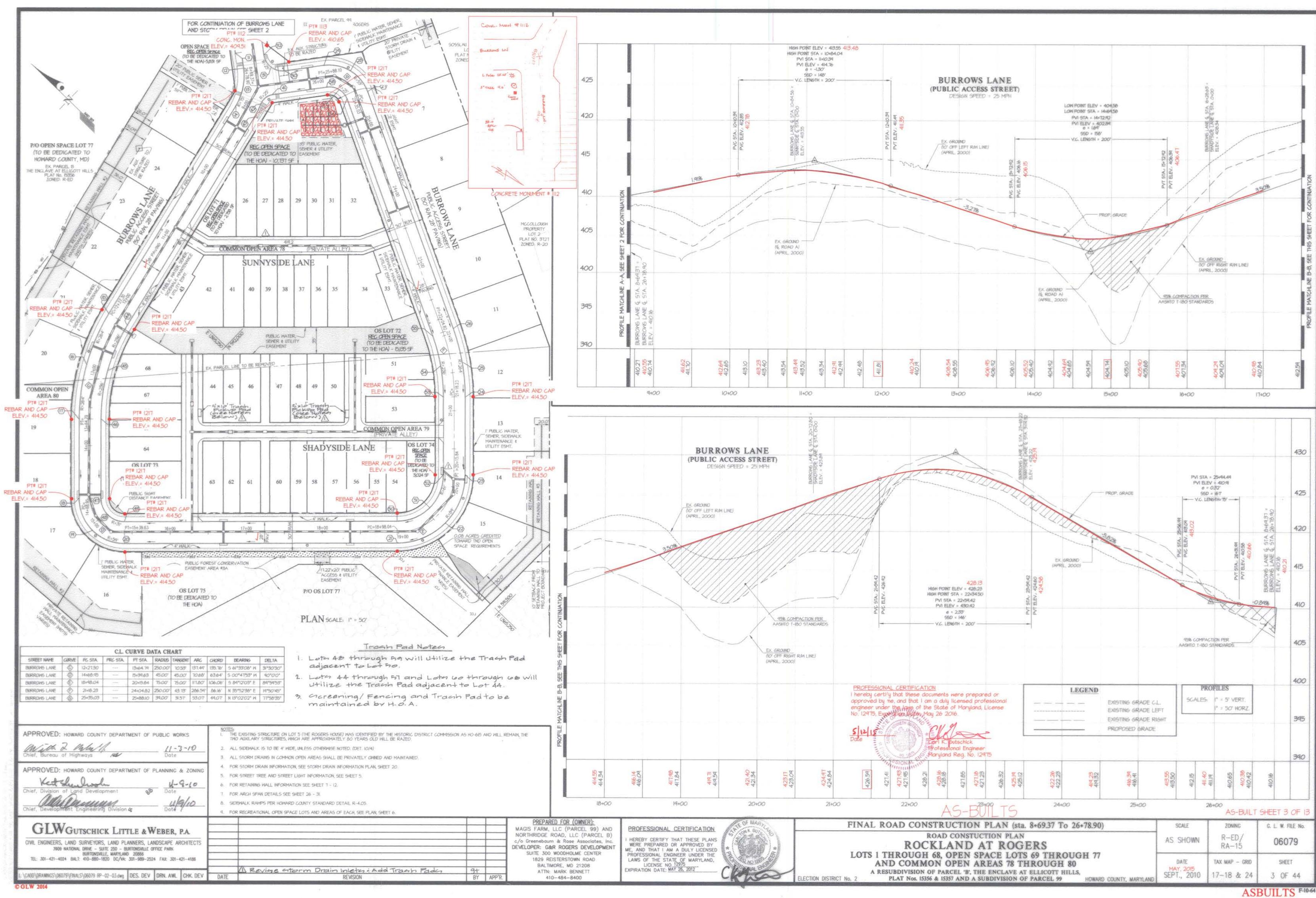
(TO BE DEDICATED TO HOWARD Waintenance COUNTY, MD)

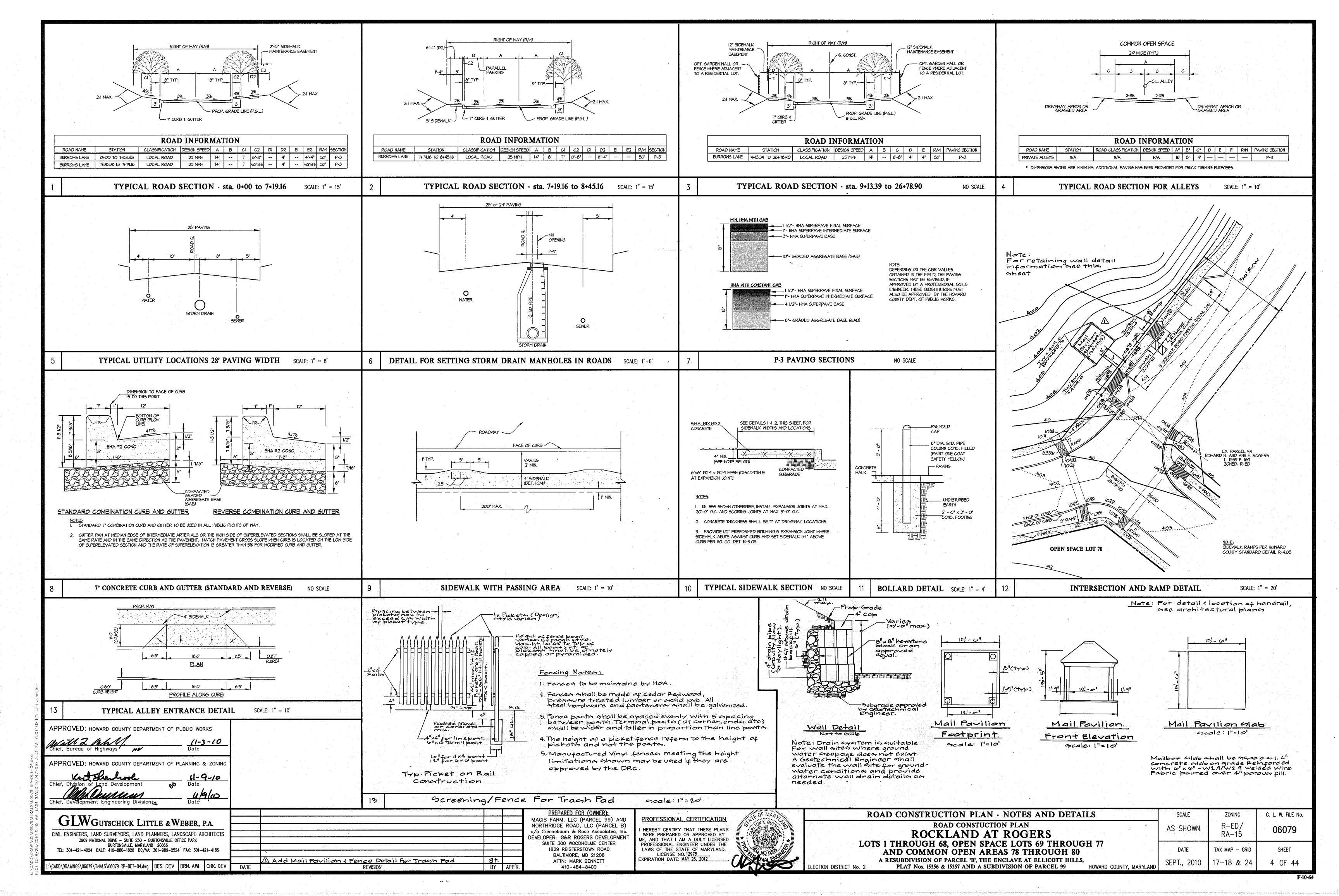
VEHICULAR INGRESS/EGRESS IS - RESTRICTED

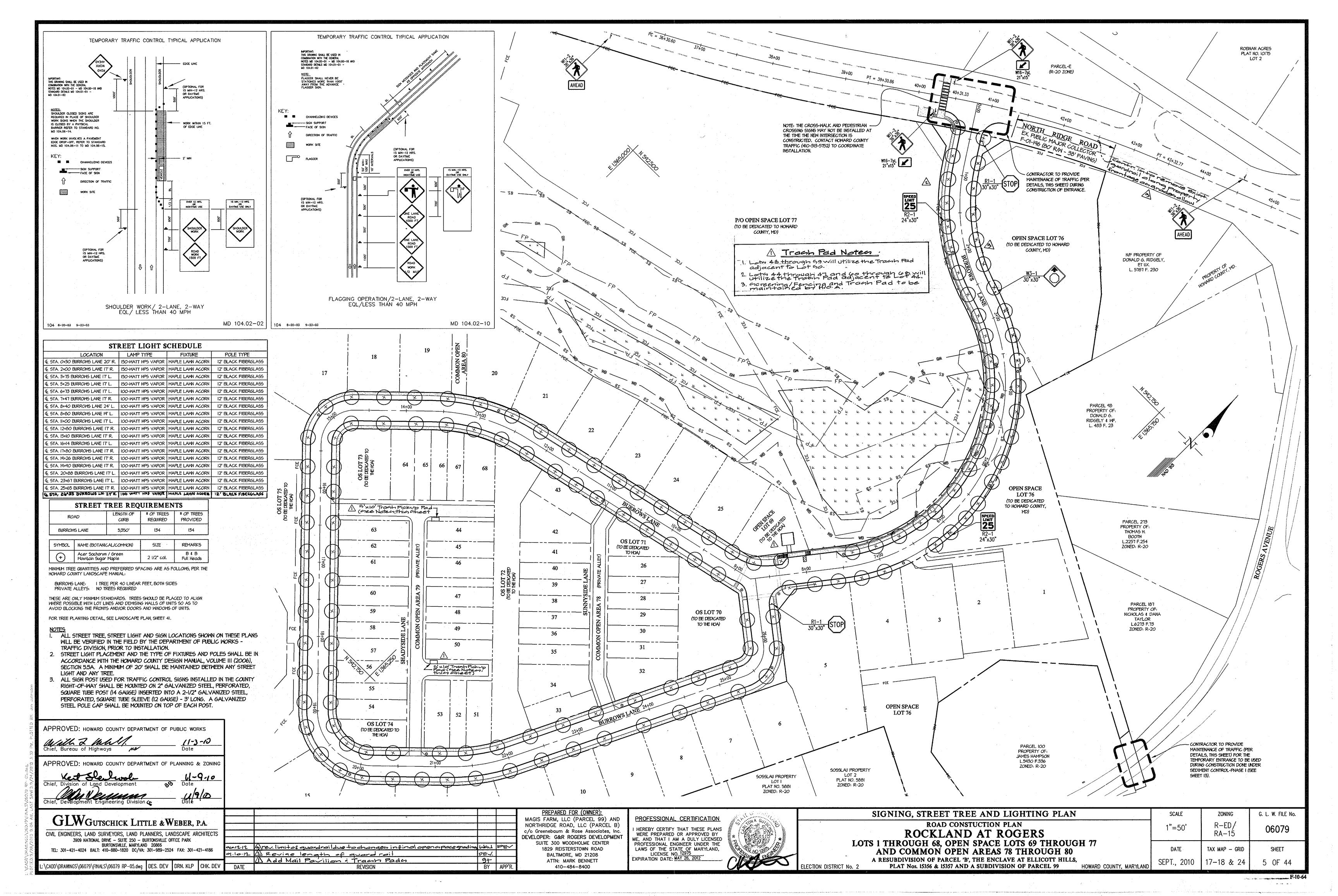
PUBLIC FOREST CONSERVATION EASEMENT AREA #60

OPEN SPACE LOT 76
(TO BE DEDICATED TO HOWARD COUNTY, MD)

PARCEL IOO PROPERTY OF: JAMES HAMPSON L5430 F.336 ZONED: R-20







FLOODPLAIN WATER SURFACE ELEVATIONS (WSEL)										
CROSS SECTION	WSEL									
302	374.8									
303	382.8									
304	385.2									
<i>30</i> 5	387.4									
306	392.3									
307	395.2									
308	398.6									
311	413.3									
202.5	361.0									

			TND	/ RECR	EATIONA	L OPEN	SPACE 7	TABULA	TION			
LOT NO.	OPEN S		OPEN S (CRED		OPEN S (NON-CRE		TND AREA		REC. OPE (CREI		i	EN SPACE REDITED)
69	5831.sf	0.13 Ac	5831 sf	0.13 Ac.	C sf	0.00 Ac	5831 sf	0.13 Ac	5831 sf	0.13 Ac	O sf	0.00 Ac
70	10737 sf	0.25 Ac	10737 sf	0.25 Ac	C sf	0.00 Ac	10737 sf	0.25 Ac	8117 sf	0.19 Ac	2620 sf	0.06 Ac
71	2758 sf	0.06 Ac	1681 sf	0.04 Ac	1077 sf	0.02 Ac	2758 sf	0.06 Ac	1681 sf	0.04 Ac	O sf	0.00 Ac
72	15135 sf	0.35 Ac	15135 sf	0.35 Ac	C sf	0.00 Ac	15135 sf	0.35 Ac	15135 sf	0.35 Ac	O sf	0.00 Ac
73	6450 sf	0.15 Ac	6450 sf	0.15 Ac	C sf	0.00 Ac	6450 sf	0.15 Ac	6450 sf	0.15 Ac	O sf	0.00 Ac
74	3024 sf	0.07 Ac	2244 sf	0.05 Ac	780 sf	0.02 Ac	3024 sf	0.07 AC	2244 sf	0.05 Ac	O sf	0.00 Ac
75	26740 sf	0.61 Ac	26740 sf	0.61 Ac	C sf	0.00 Ac	3485 sf	0.08 Ac	O sf	000 Ac	O sf	0.00 Ac
76	86134 sf	1.98 Ac	76108 st	1.75 Ac	100.26 sf	0.23 Ac	O sf	0.00 Ac	O sf	0.00 Ac	0 sf	0.00 Ac
77	981085 sf	22.52 Ac	981085 sf	22.52 Ac	C sf	0.00 Ac	O sf	0.00 Ac	O sf	000 Ac	O sf	0.00 Ac
TOTAL	1137920 st	26.12 Ac	1126037 sf	25.85 Ac	11863 sf	0.27 Ac	47421 sf	1.09 Ac	39459 sf	0.91 Ac	2620 sf	0.06 Ac

LEGEND - - - 400 - - EXISTING CONTOUR - EXISTING TREELINE ----- FP ----- 100 YEAR FLOODPLAIN LIMIT OF WEILAND METLAND AREA CENTERLINE OF STREAM ____ FLOODPLAIN CROSS-SECTION STEEP SLOPES - 25% AND GREATER TND OPEN SPACE RECREATIONAL OPEN SPACE

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

DEVELOPER'S/BUILDER'S CERTIFICATE

"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 MARYLAND 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 AJTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND 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

7-30-12

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development

Chief, Development Engineering Division (4)

GLWGUTSCHICK LITTLE & WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS

3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

:\CADD\DRAWNGS\06079\FINALS\06079 GRADING-06.dwg | DES. DEV | DRN. AWL | CHK. DEV

				PREPARED FOR (OWNER
				MAGIS FARM, LLC (PARCEL
				NORTHRIDGE ROAD, LLC (PA
				c/o Greeneboum & Rose Assoc DEVELOPER: G&R ROGERS DE\
				SUITE 300 WOODHOLME CE
				1829 REISTERSTOWN RO
	AREVISED PLAN TO REFLECT FINAL OPEN SPACE GRADING			BALTIMORE, MD 21208
10-2012	△ ADDED GRADING FOR BERM ALONG HAUL ROAD			ATTN: MARK BENNETT
DATE	REVISION -	BY	APP'R.	410-484-8400
607.5%6%natusiastava08.2%				

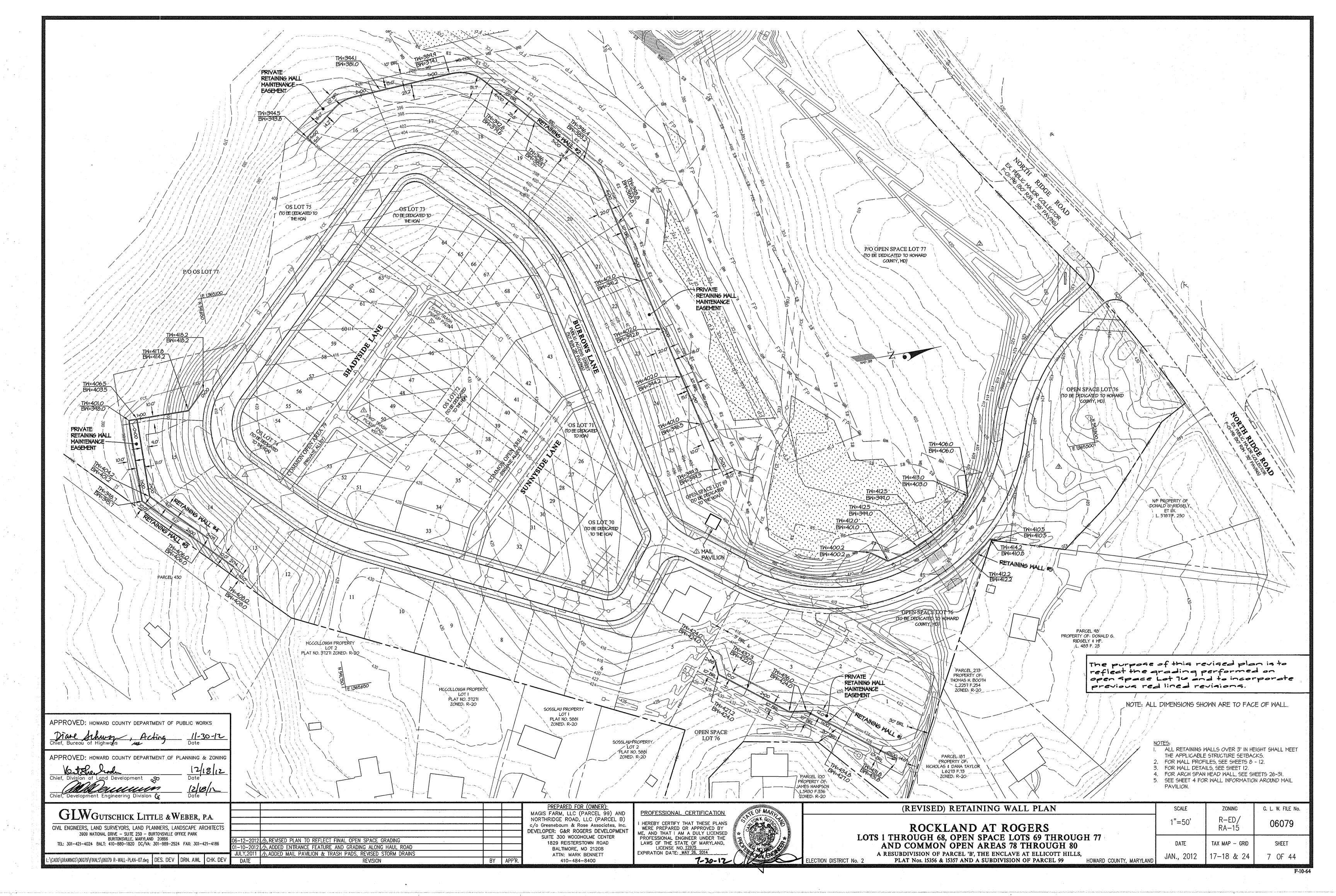
DODHOLME CENTER ERSTOWN ROAD E, MD 21208 ARK BENNETT

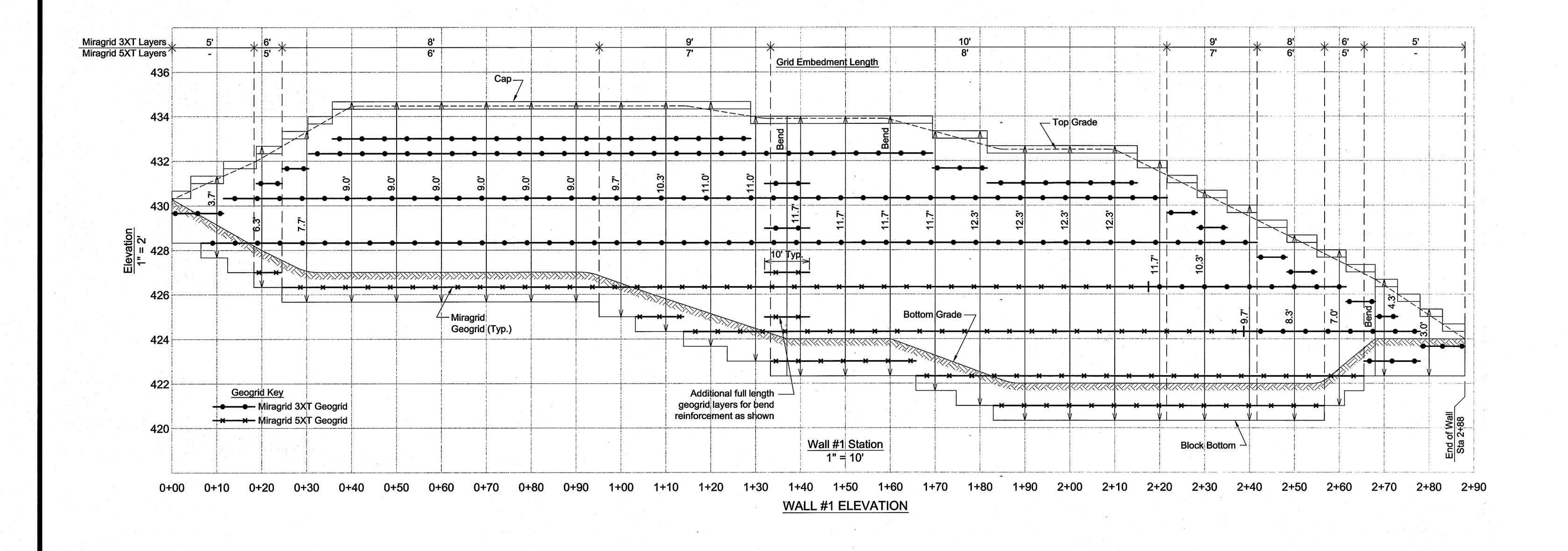
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 7-30-12

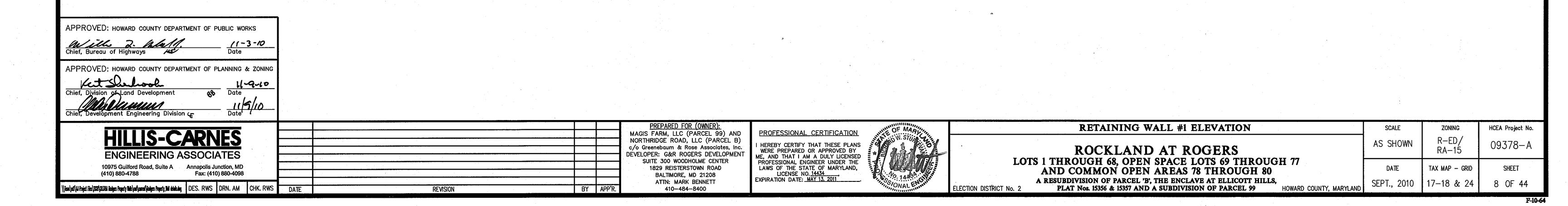


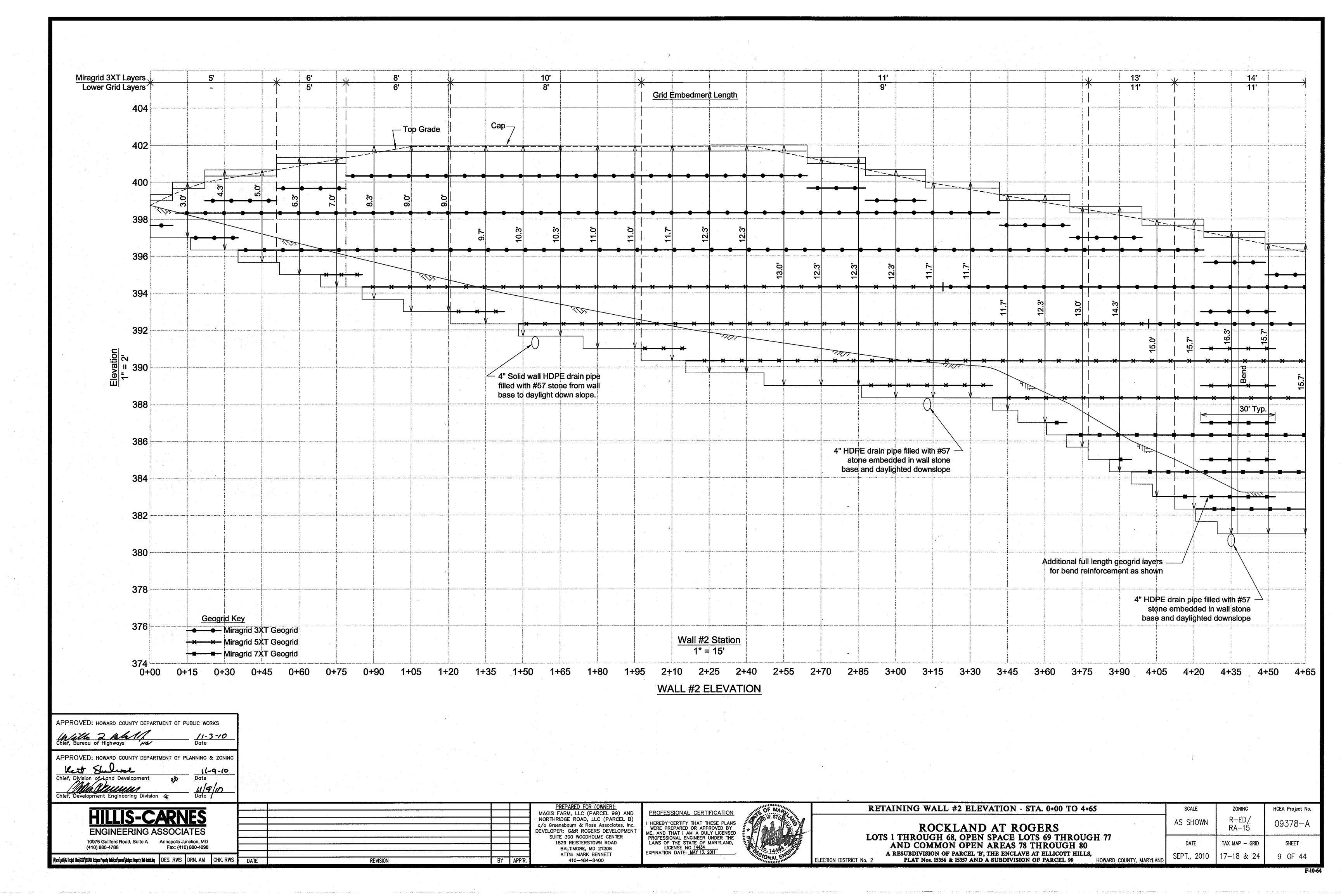
LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77 AND COMMON OPEN AREAS 78 THROUGH 80 DATE TAX MAP - GRID A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99

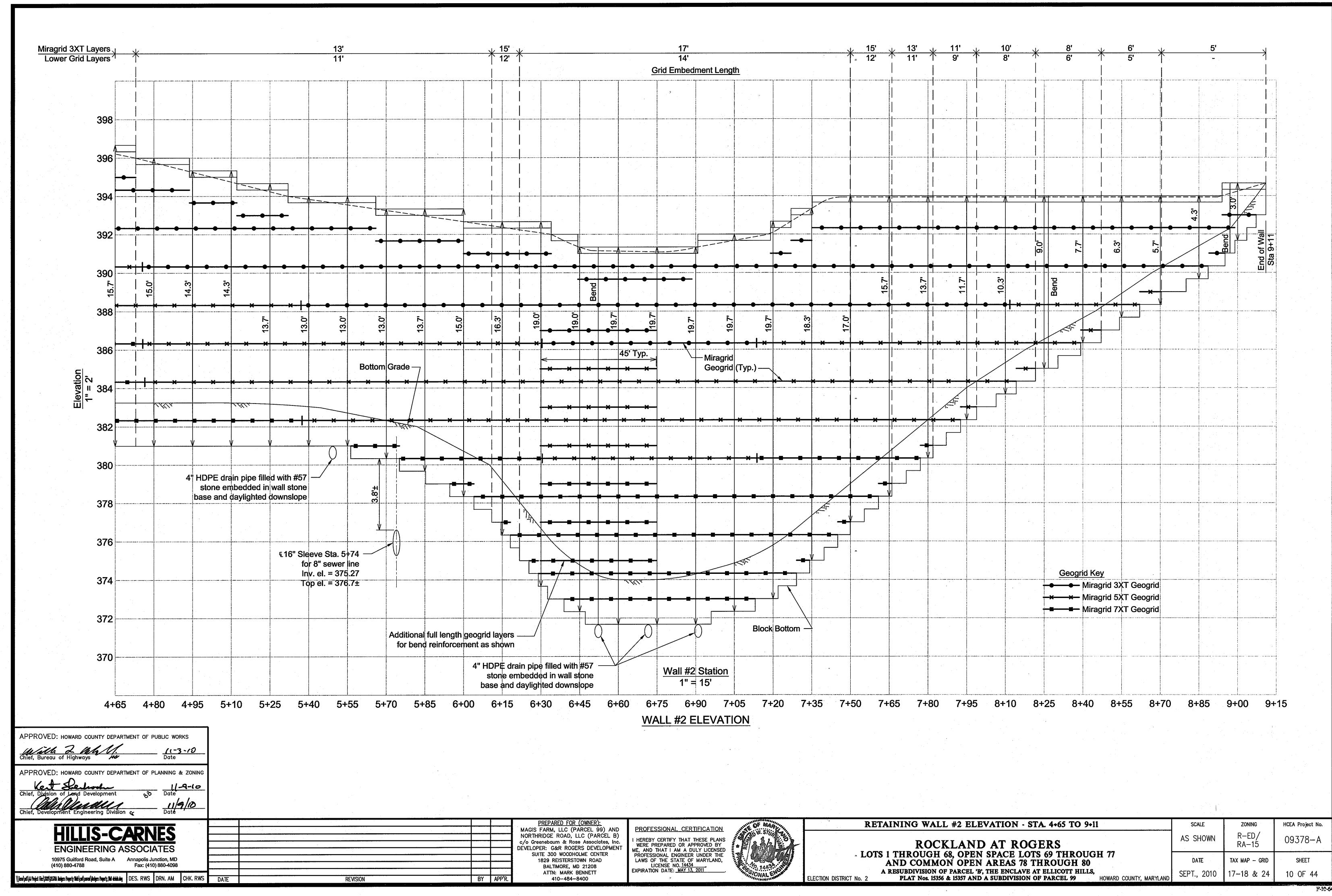
PARCEL 96 PROPERTY OF. PARCEL-C PROPERTY OF. BARBARA 54 645 PARCEL-C (R-20 ZONE) S DATE OF THE PROPERTY OF. DATE OF THE
PARCEL 98 PROPERTY OF LONALD 6. RIDGEL 19 PROPERTY OF LONALD 6. RIDGEL 19 RI
PARCEL 213 PROPERTY OF, THOMAS H, BOOTH L225T F.254 ZONED, R-20
PACCEL 161 PROPERTY OF, NICHOLAS & DANA TAYLOR L.6.213 F.13 ZONED: R-20
PARCEL IOO PROPERTY OF, JAMES HAMPSON L5930 F 336 ZONIED: R-20
Sosslay Property Lot 2 Plat No. 5560i Zoned: R-20
Sossiau Property Lioti Plat No. 566i Zoned: R-20
MCCOLLOUGH PROPERTY LOT I PLAT NO. 371271 ZONED: R-20
PLAT NO. 371271 ZONED. R-20.
PIO OS LOTA SB SB SB SB SB SB SB SB SB S
PARCEL 564 SECTION VI TOWN 4 GENCIANT WEST BOOK 21 PARGE 40
Parcel 430
Porcel 6ib
PARCEL 2710 PROPERTY OF: LI. 1108 F. 612 ZONED: R-20
D HOVARD COUNTY, MARYLAND
The purpose of this revised plan is to reflect the grading performed on open space Lat 70 and to incorporate previous red lined revisions.
PREPARED FOR (OWNER): MAGIS FARM, LLC (PARCEL 99) AND NORTHRIDGE ROAD, LLC (PARCEL 8) c/o Greenebaum & Rose Associates, inc. DEVELOPER: G&R ROGERS DEVELOPMENT SUITE 300 WOODHOLME CENTER PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ROCKLAND AT ROGERS LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77 (REVISED) OVERALL GRADING PLAN & OPEN SPACE TABULATION SCALE ZONING C. L. W. FILE No. ROCKLAND AT ROGERS WER PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77

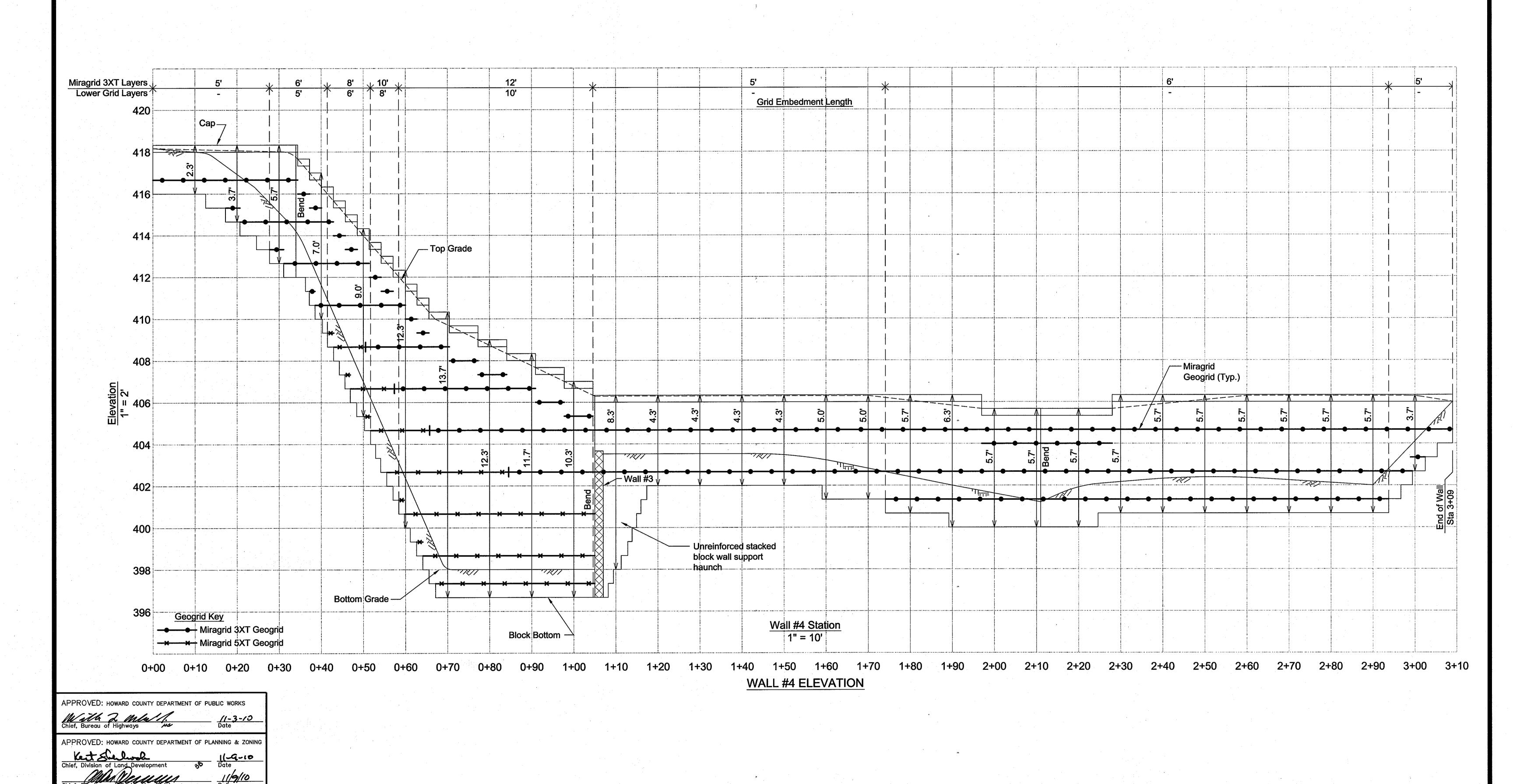












I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE STATE OF MARYLAND,
LICENSE NO. 14434
EXPIRATION DATE: MAY 13, 2011

PREPARED FOR (OWNER):

MAGIS FARM, LLC (PARCEL 99) AND
NORTHRIDGE ROAD, LLC (PARCEL B)
c/o Greenebaum & Rose Associates, Inc.
DEVELOPER: G&R ROGERS DEVELOPMENT

SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD

BALTIMORE, MD 21208

ATTN: MARK BENNETT

410-484-8400

BY APP'R.

ENGINEERING ASSOCIATES

Annapolis Junction, MD Fax: (410) 880-4098

REVISION

10975 Guilford Road, Suite A (410) 880-4788 HCEA Project No.

09378-A

SHEET

11 OF 44

AS SHOWN

DATE

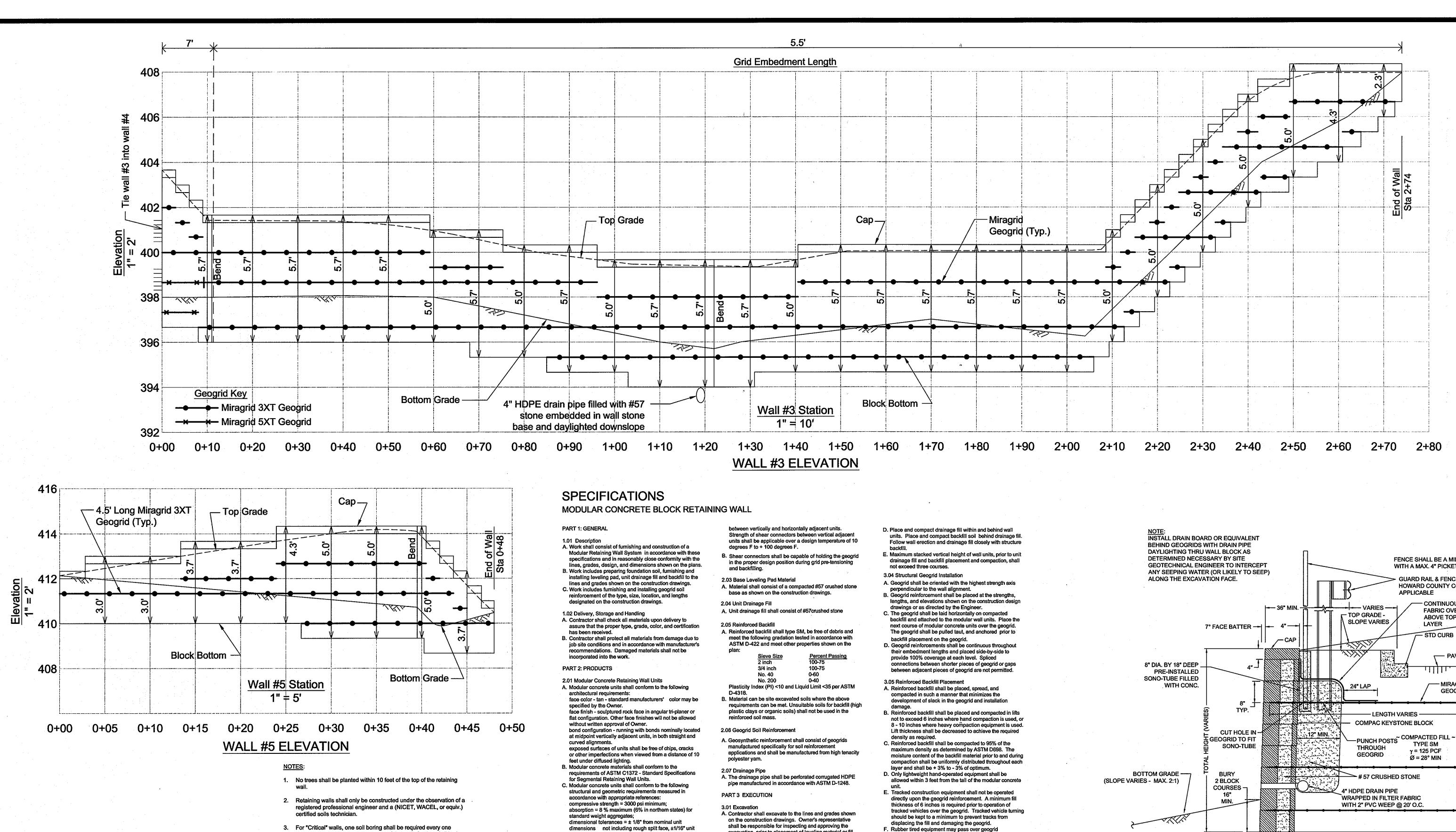
RA-15

TAX MAP — GRID

SEPT., 2010 17-18 & 24

RETAINING WALL #4 ELEVATION

ROCKLAND AT ROGERS
LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77
AND COMMON OPEN AREAS 78 THROUGH 80
A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS,
No. 2 PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99 HOWARD COUNTY, MARYLAND



- 3. For "Critical" walls, one soil boring shall be required every one hundred feet along the entire length of the wall. Copies of all boring reports shall be provided to the Howard County Inspector Prior to the start of construction.
- 4. The required bearing pressure beneath the wall system shall be verified in the field by a certified soils technician. Testing documentation must be provided to the Howard County Inspector prior to start of construction. The required bearing test shall be the Dynamic Cone Penetrometer test ASTM STP-399.
- 5. The suitability of fill material shall be confirmed by the on-site soils technician. Each 8" lift must be compacted to a minimum 95% standard proctor density and the testing report shall be made available to the Howard County Inspector upon completion of
- 6. Walls shall not be constructed on uncertified fill materials.

construction.

Walls shall not be constructed within a Howard Co. right-of-way or

- shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill
- 3.02 Base Leveling Pad A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6"
- in front and behind the modular wall unit. B. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

3.03 Modular Unit Installation

- A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated. B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of comers and curves
- C. Install shear/connecting devices per manufacturer's recommendations.

shall be in accordance with manufacturer's

reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided. G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

3.06 Cap Installation A. Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.

3.07 Field Quality Control A. The Owner shall engage inspection and testing services,

ELECTION

including independent laboratories, to provide quality assurance and testing services during construction. B. As a minimum, quality assurance testing should include foundation soil inspection, soil and backfill testing, verification of design parameters, and observation of construction for general compliance with design drawings and specifications.

FENCE SHALL BE A MIN. 36" TALL WITH A MAX. 4" PICKET SPACING GUARD RAIL & FENCE PER HOWARD COUNTY CODE WHERE - CONTINUOUS FILTER FABRIC OVER #57 STONE ABOVE TOP GEOGRID - PAVEMENT - MIRAGRID GEOGRID -PUNCH POSTS COMPACTED FILL ~ #57 CRUSHED ____ SUBGRADE APPROVED ~ STONE BASE FOR 2500 PSF BEARING

TYPICAL WALL SECTION

ENGINEERING ASSOCIATES 10975 Guilford Road, Suite A Annapolis Junction, MD

Fax: (410) 880-4098

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

<u>/1-3-10</u> Date

Chief, Bureau of Highways

(410) 880-4788

|\Tenn|val|W Project Files|2005|20074 Bodges Properly Miles|van/general/Bodges Properly Mile debuik dans | DES. RWS | DRN. AM | CHK. RWS REVISION BY APP'R.

PREPARED FOR (OWNER): MAGIS FARM, LLC (PARCEL 99) AND NORTHRIDGE ROAD, LLC (PARCEL B) c/o Greenebaum & Rose Associates, Inc. DEVELOPER: G&R ROGERS DEVELOPMENT SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD BALTIMORE, MD 21208

ATTN: MARK BENNETT

410-484-8400

height - top and bottom planes;

normal pressure;

at 2 psi normal force.

per course per the design;

pins, two per unit minimum;

2.02 Shear Connectors (if applicable)

unit size - 8" (H) x 18" (W) x 12 (D) minimum;

unit weight - 75 lbs/unit minimum for standard weight

inter-unit shear strength - 1000 plf minimum at 2 psi

D. Modular concrete units shall conform to the following

constructability requirements: (if applicable)

geogrid/unit peak connection strength - 1000 plf minimum

vertical setback = 1/8"± per course (near vertical) or 1"+

alignment and grid positioning mechanism - fiberglass

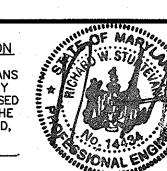
A. Shear connectors shall be 1/2 inch diameter thermoset

isopthalic polyester resin-protruded fiberglass reinforcement rods or equivalent to provide connection

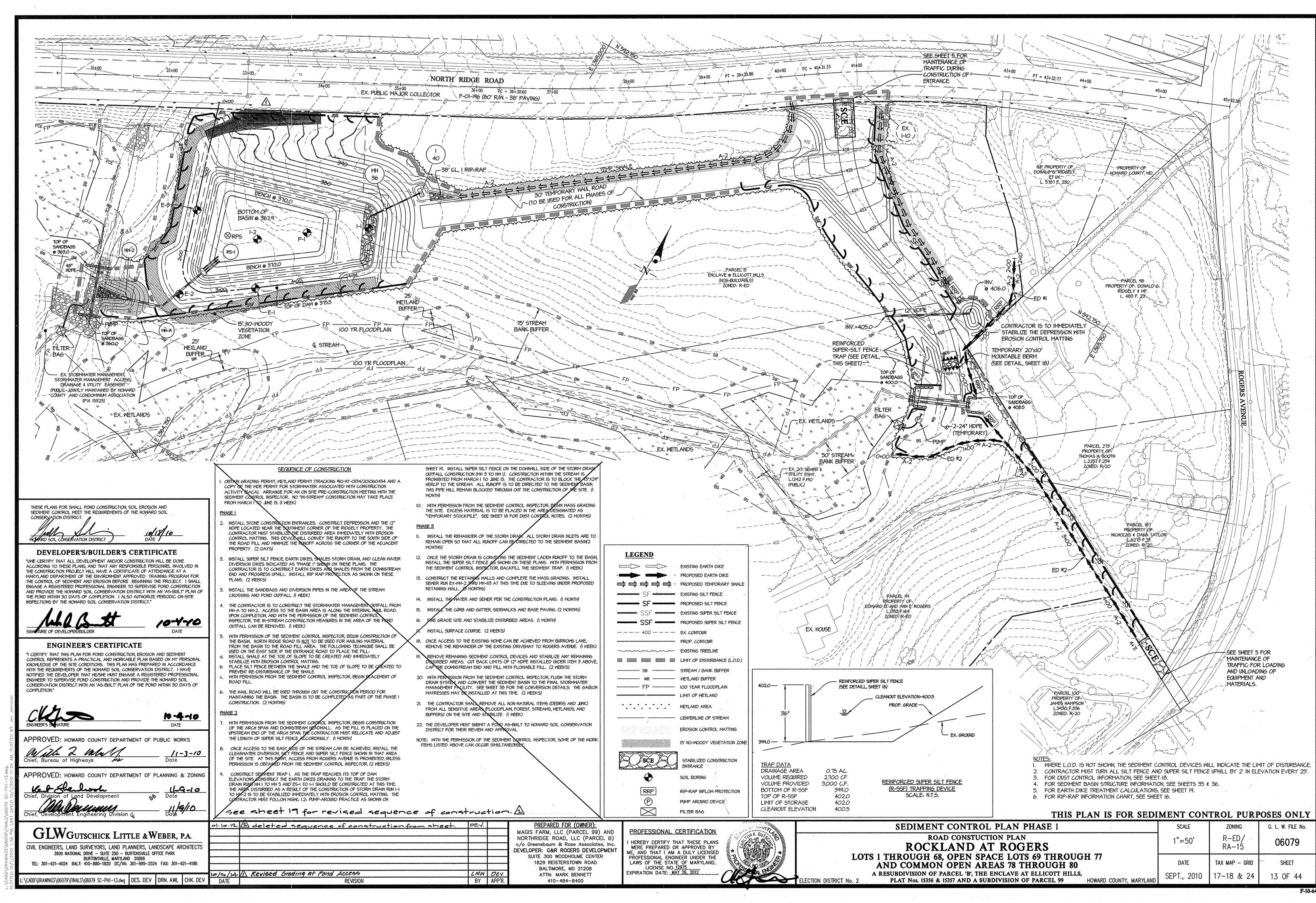
maximum horizontal gap between erected units shall be -

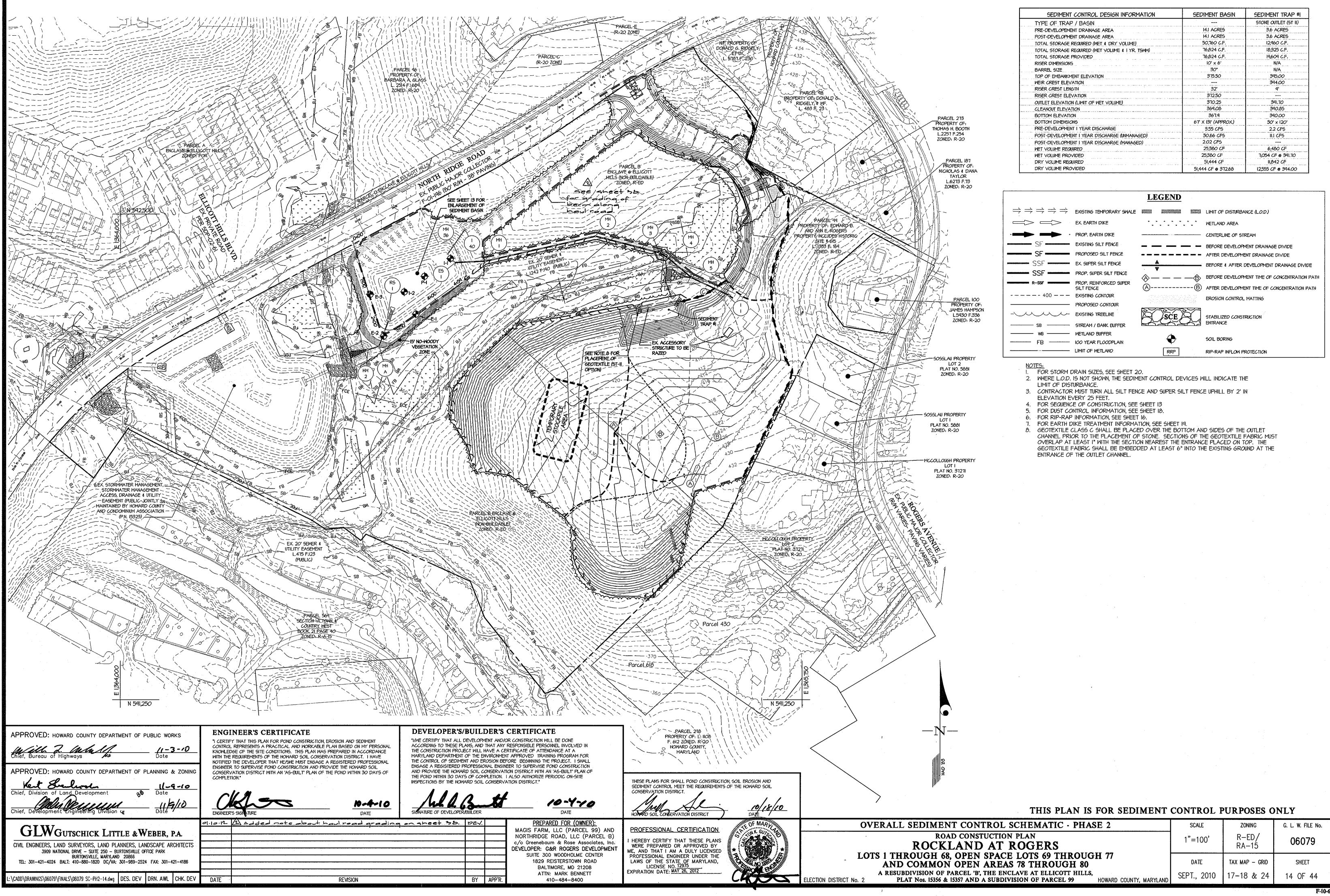
PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME. AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND,

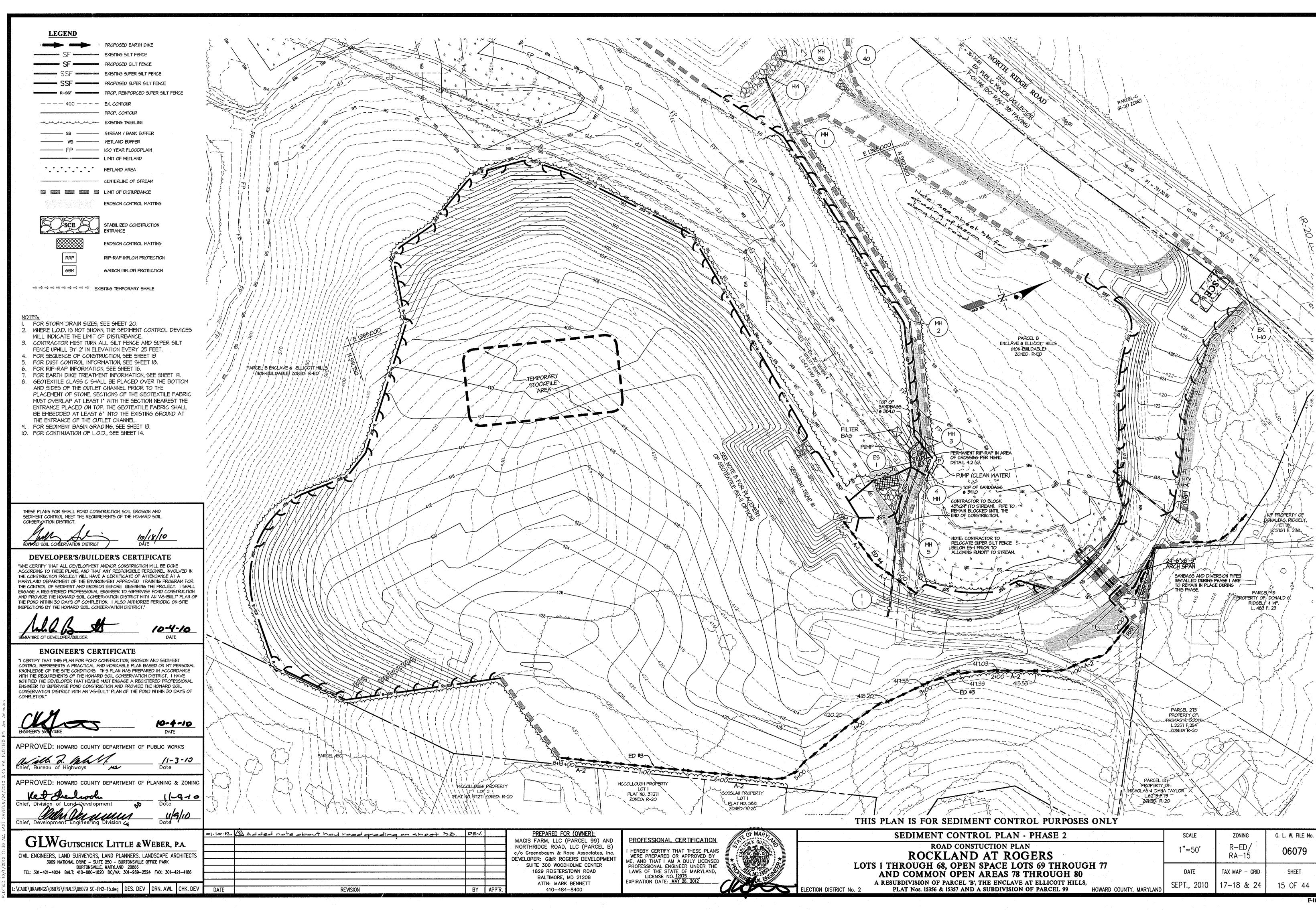
LICENSE NO. 14434 EXPIRATION DATE: MAY 13, 2011

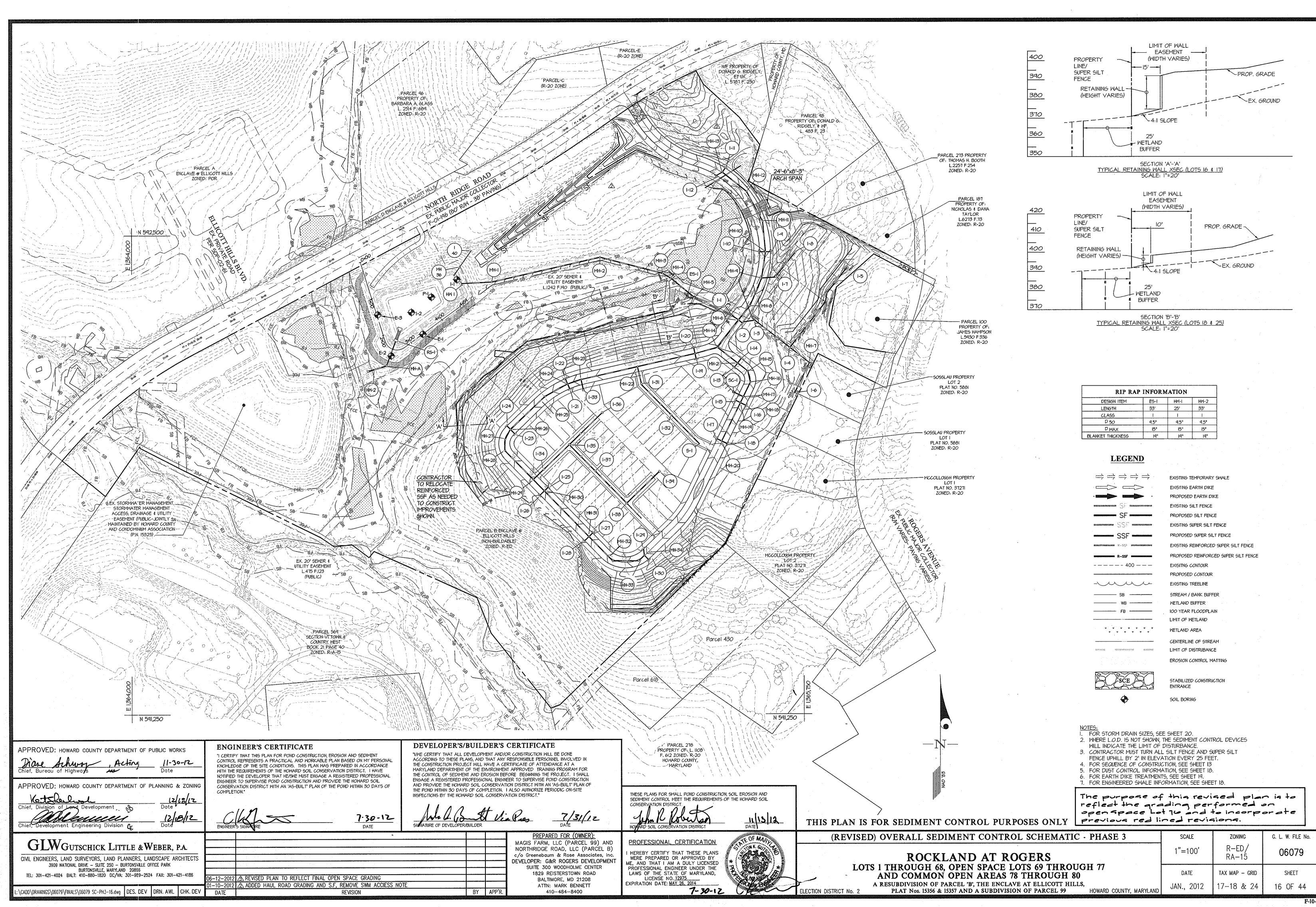


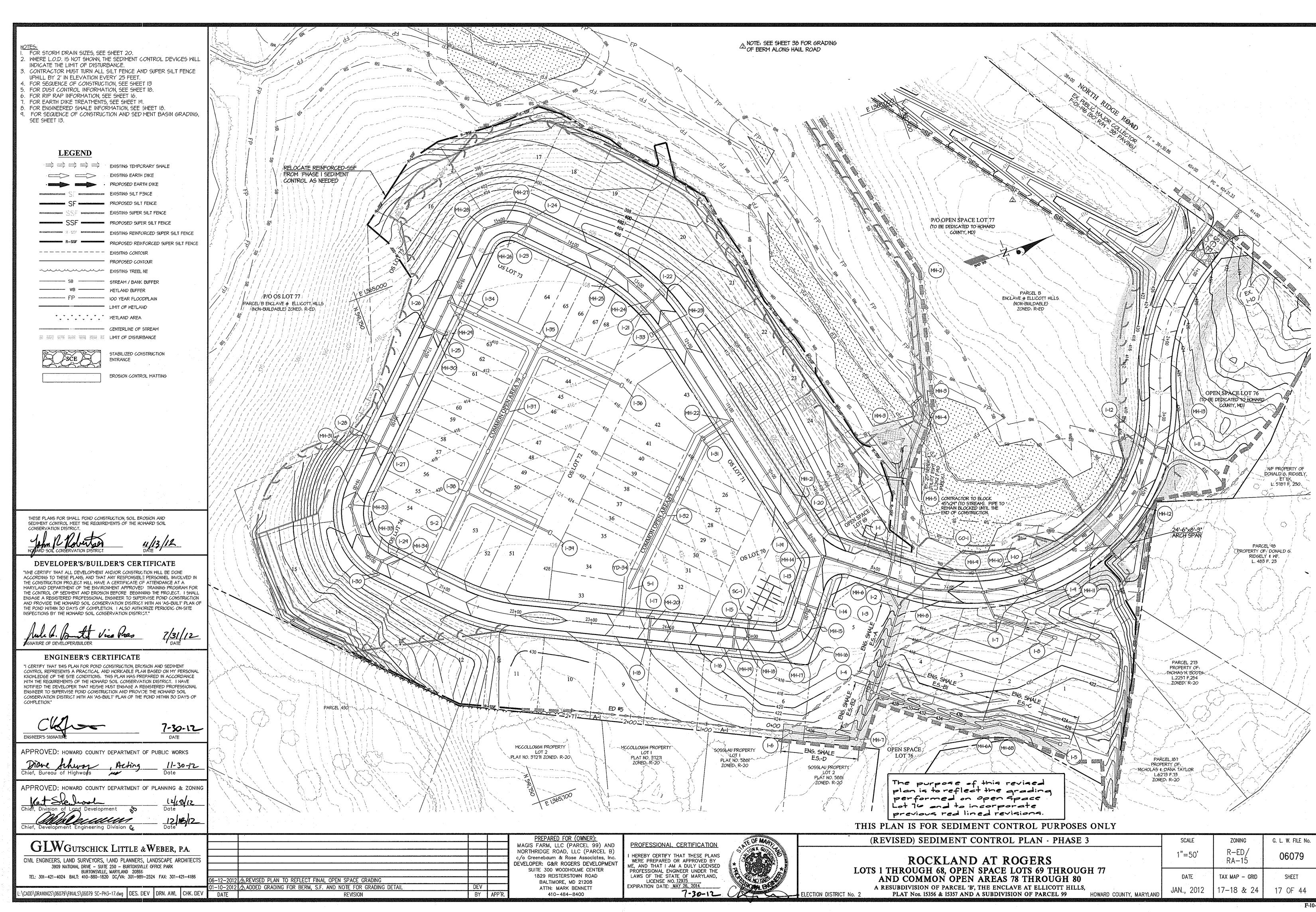
RETAINING WALL #3 & #5 ELEVATION AND CONSTRUCTION DETAILS	SCALE	ZONING	HCEA Project No.
ROCKLAND AT ROGERS	AS SHOWN	R-ED/ RA-15	09378-A
LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77 AND COMMON OPEN AREAS 78 THROUGH 80	DATE	TAX MAP — GRID	SHEET
A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, N DISTRICT No. 2 PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99 HOWARD COUNTY, MARYLAND	SEPT., 2010	17-18 & 24	12 OF 44

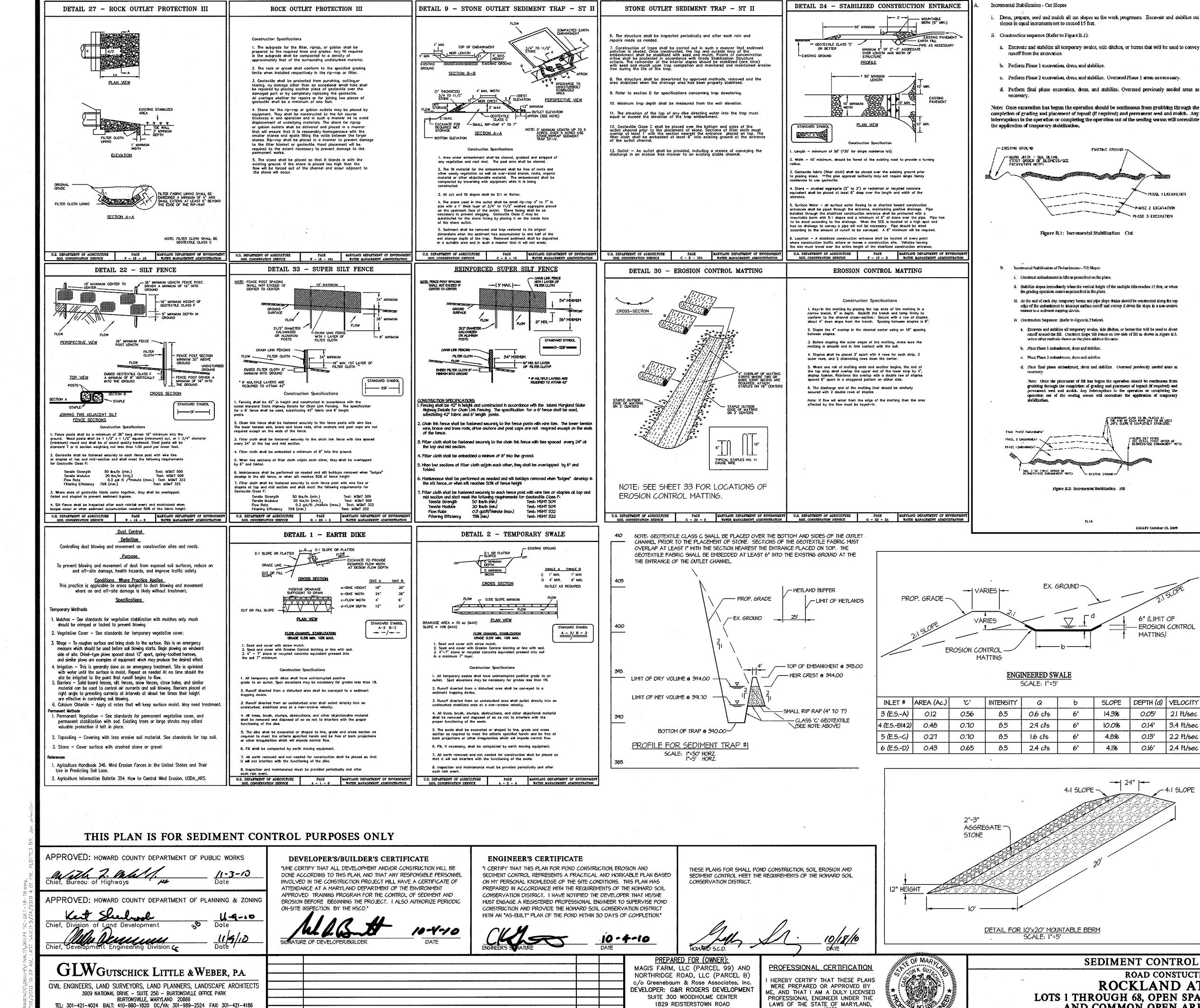












LICENSE NO. 12975

EXPIRATION DATE: MAY 26, 2012

BALTIMORE, MD 21208

ATTN: MARK BENNETT

410-484-8400

BY APP'R.

REVISION

:\CADD\DRAWNGS\06079\FINALS\06079 SC-DET-18-19.dwg | DES. DEV | DRN. AWL | CHK. DEV

STANDARD AND SPECIFICATIONS FOR TOPSOIL

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH, SOILS

OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH

MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE

THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPE

A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS

NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING

THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL

D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT

FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS,

CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS

CONSTRUCTION AND MATERIAL SPECIFICATIONS

SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED

COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET

A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT

F RECOMMENDED BY A AGRONOMIST OR SOIL SCIENTIST AND

REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING

TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME

OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS,

APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY.

ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN I 1/2" IN

B. TOPSOIL MUST BE FREE OF PLANT PARTS SUCH AS BERMUDA

C. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF

HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE

4-8 TONS/ACRE (200-400 POINDS PER LOOD SQUARE FEET) PRIOR

UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN

TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED

CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE

A. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS

A. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS

TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0. SUFFICIENT

LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.

DICTATING FERTILIZER & LIME AMENDMENTS REQUIRED TO BRING THE

. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE

AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I -

VEGETATIVE STABILIZATION METHODS AND MATERIALS (OR SEE

II. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

V. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

SOIL INTO COMPLIANCE WITH THE FOLLOWING:

GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY,

THISTLE, OR OTHERS AS SPECIFIED.

FOLLOWING PROCEDURES.

SEEDING NOTES).

LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED

HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE

TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED

FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE RESPECTIVE SOIL

PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN

PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE

AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL

). THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS

NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

SUPPLIED OF MOISTURE AND PLANT NUTRIENTS.

TOXIC TO PLANT GROWTH.

STABILIZATION SHOWN ON THE PLANS.

THE FOLLOWING:

OF ANY CONSTRUCTION. (410) 313-1855

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES AND PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. B) 14 DAYS AS TO ALL OTHER

4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. I, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL,

PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS, SOD. TEMPORARY SEEDINGS AND MULCHING (SEC. G). TEMPORARY STABILIZATION, WITH MULCH ALONE, CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE

37.4± ACRES AREA DISTURBED 15.3± ACRES AREA TO BE ROOFED OR PAVED 2.I± ACRES AREA TO BE VEGETATIVELY STABILIZED 13.2± ACRES TOTAL CUT 67,500 ± CU. YDS. TOTAL FILL 67,500 ± CU. YDS. OFF-SITE WASTE/BORROW AREA LOCATION:

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED

IO. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES. APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 3 PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN I WORKING DAY, WHICHEVER IS SHORTER.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING (UNLESS PREVIOUSLY LOOSENED).

ONE OF THE FOLLOWING SCHEDULES

2. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT. 3. TOPSOIL HAVING SOLUBLE SALT GREATER THAN 500 PARTS PER MILL SHALL NOT BE USED.

4. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN WITH SOIL STERILANTS OR CHEMICALS USED FOR WEFD CONTROL INTIL SIEFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL

B. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0 VEGETATIVE STABILIZATION - SECTION I -VEGETATIVE STABILIZATION METHODS AND MATERIALS (OR SEE

SEEDING NOTES). TOPSOIL APPLICATION A. WHEN TOPSOILLING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSION, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS

3. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4"-8"

. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4'-8' LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4°. SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILLING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER.

TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE

FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW: A. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE

TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS I. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR

ORIGINATE FROM, A PERSON OR PERSONS THAT ARE

PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06. . COMPOSTED SLUDGE SHALL CONTAIN AT LEAST I PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST

CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS 3. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF I

DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE

B. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT A RATE OF 4LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING, MD-VA PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY

OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1913.

SEDIMENT CONTROL NOTES

I. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD

COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START

DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION

HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL

FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE

PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQUARE FEET) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREA-FORM FFRTILIZER (4 LBS/1000 SQ FT)

2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (42 LBS/1000 SQ FT) AND 1000 LBS PER ACRE OF 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH I THRU APRIL 30. AND AUGUST I THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY I THRU JULY 31. SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28. PROTECT SITE BY: OPTION (I) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY I-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES & FEET OR HIGHER, USE 348 GALLONS PER ACRE (& GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED. SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING

(UNLESS PREVIOUSLY LOOSENED). SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10

FERTILIZER (14 LBS/1000 SQ FT). FOR PERIODS MARCH I THRU APRIL 30 AND FROM

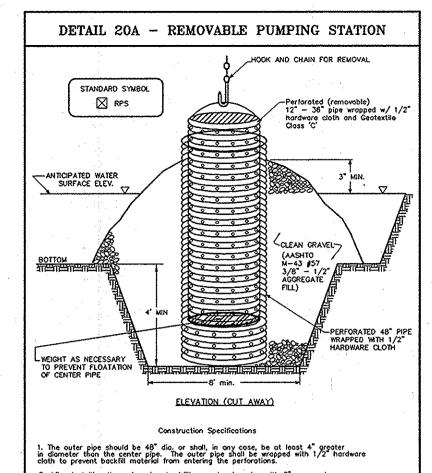
AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.). FOR THE PERIOD MAY I THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28 PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR

MULCHING: APPLY I-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED, WEED-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ FT) FOR

SEDIMENT CONTROL DETAILS - SITE ROAD CONSTUCTION PLAN

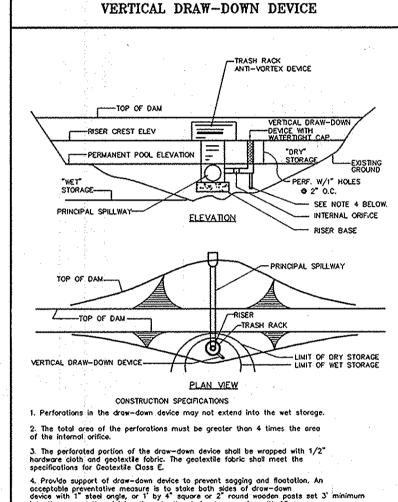
ROCKLAND AT ROGERS LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77 AND COMMON OPEN AREAS 78 THROUGH 80 A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99 LECTION DISTRICT No.

G. L. W. FILE No. NO SCALE 06079 RA-15 TAX MAP - GRID SHEET 17-18 & 24 18 OF 44 HOWARD COUNTY, MARYLAND



2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel. 4. The center pipe should extend 12" to 18" above the anticipated water surface

BASIN DRAWDOWN SCHEMATIC



THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND

into the ground then joining them to the device by wropping with 12 gauge

DEVELOPER'S/BUILDER'S CERTIFICATE

*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 MARYLAND 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."

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF



2-1-17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Development Engineering Division

2.13.12

GLWGUTSCHICK LITTLE &WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS

BURTONSVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186 :\CADD\DRAWNOS\06079\FINALS\06079 SC-DET-19 (replacement sheet).dwg | DES. DEV | DRN. AWL | CHK. DEV

3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK

DETAIL 6 - GABION INFLOW PROTECTION 2:1 SLOPE OF CBM PERSPECTIVE MEW

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.

2. Geotextile Class C shall be installed under all gabion baskets. 3. The stone used to fill the gobion baskets shall be 4" - 7" 4. Gabions shall be installed in accordance with manufacturers recommendations

5. Gabion Inflow Protection shall be used where concentrated flow is present

SEQUENCE OF CONSTRUCTION

I. OBTAIN GRADING PERMIT, WETLAND PERMIT (TRACKING #IO-NT-0134/201060454 AND A COPY OF THE MDE PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY (SACA). ARRANGE FOR AN ON SITE PRE-CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR. NO "IN-STREAM" CONSTRUCTION MAY TAKE PLACE FROM MARCH I TO JUNE 15, (I WEEK)

- 2. INSTALL STONE CONSTRUCTION ENTRANCES. CONSTRUCT DEPRESSION AND THE 12" HOPE LOCATED NEAR THE SOUTHWEST CORNER OF THE RIDGELY PROPERTY. THE CONTRACTOR MUST STABILIZE THE DISTURBED AREA IMMEDIATELY WITH EROSION CONTROL MATTING. THIS DEVICE WILL CONVEY THE RUNOFF TO THE SOUTH SIDE OF THE ROAD FILL AND MINIMIZE THE RUNOFF ACROSS THE CORNER OF THE ADJACENT PROPERTY. (2 DAYS)
- 3. INSTALL SUPER SILT FENCE, EARTH DIKES, SWALES STORM DRAIN, AND CLEAN WATER DIVERSION DIKES INDICATED AS "PHASE I" SHOWN ON THESE PLANS. THE CONTRACTOR IS TO CONSTRUCT EARTH DIKES AND SWALES FROM THE DOWNSTREAM END AND PROGRESS UPHILL. INSTALL RIP RAP PROTECTION AS SHOWN ON THESE PLANS. (2 WEEKS)
- 3. INSTALL THE SANDBAGS AND DIVERSION PIPES IN THE AREA OF THE STREAM CROSSING AND POND OUTFALL. (I WEEK)
- 4. THE CONTRACTOR IS TO CONSTRUCT THE STORMWATER MANAGEMENT OUTFALL FROM MH-A TO HW-2. ACCESS TO THE BASIN AREA IS ALONG THE INTERNAL HAUL ROAD. UPON COMPLETION, AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE IN-STREAM CONSTRUCTION MEASURES IN THE AREA OF THE POND OUTFALL CAN BE REMOVED. (I WEEK)
- WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BEGIN CONSTRUCTION OF THE BASIN. NORTH RIDGE ROAD IS NOT TO BE USED FOR HAULING MATERIAL FROM THE BASIN TO THE ROAD FILL AREA. THE FOLLOWING TECHNIQUE SHALL BE USED ON THE
- a. INSTALL SWALE AT THE TOE OF SLOPE TO BE CREATED AND IMMEDIATELY STABILIZE WITH EROSION CONTROL MATTING.
- b. PLACE SILT FENCE BETWEEN THE SWALE AND THE TOE OF SLOPE TO BE CREATED TO PREVENT RE-DISTURBANCE OF THE SWALE. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, BEGIN PLACEMENT OF ROAD FILL.
- 6. THE HAUL ROAD WILL BE USED THROUGH OUT THE CONSTRUCTION PERIOD FOR MAINTAINING THE BASIN. THE BASIN IS TO BE COMPLETED AS PART OF THE PHASE I CONSTRUCTION. (2 MONTHS)

- WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, BEGIN CONSTRUCTION OF THE ARCH SPAN AND DOWNSTREAM HEADWALL. AS THE FILL IS PLACED ON THE UPSTREAM END OF THE ARCH SPAN, THE CONTRACTOR MUST RELOCATE AND ADJUST THE LENGTH OF SUPER SILT FENCE ACCORDINGLY. (I MONTH)
- ONCE ACCESS TO THE EAST SIDE OF THE STREAM CAN BE ACHIEVED, INSTALL THE CLEANWATER DIVERSION, SILT FENCE AND SIPER SILT FENCE SHOWN IN THAT AREA OF THE SITE AT THIS POINT, ACCESS FROM ROGERS AVENUE IS PROHIBITED, UNLESS PERMISSION IS OBTAINED FROM THE SEDIMENT CONTROL INSPECTOR. (2 WEEKS)
- CONSTRUCT SEDIMENT TRAP I. AS THE TRAP REACHES ITS TOP OF DAM ELEVATIONS CONSTRUCT THE EARTH DIKES DRAINING TO THE TRAP, THE STORM DRAIN RUNS HW I TO MH 5 AND ES-I TO I-I SHOULD BE CONSTRUCTED AT THIS TIME. THE AREA DISTURBED AS A RESULT OF THE CONSTRUCTION OF STORM DRAIN RUN I-I TO MH-2 IS TO BE STABILIZED IMMEDIATELY WITH EROSION CONTROL MATTING. THE CONTRACTOR MUST FOLLOW MGMC 1.2: PUMP-AROUND PRACTICE AS SHOWN ON SHEET 19. INSTALL THE SUPER SILT FENCE ON THE DOWNHILL SIDE OF THE STORM DRAIN OUTFALL CONSTRUCTION (MH 3 TO HM I). CONSTRUCTION WITHIN THE STREAM IS PROHIBITED FROM MARCH I TO JUNE 15. THE CONTRACTOR IS TO BLOCK THE 45"X29" HEROP TO THE STREAM. THIS PIPE WILL REMAIN BLOCKED THROUGH OUT THE CONSTRUCTION

OF THE SITE. (I MONTH)

STANDARD SYMBOL RRP TRAP/BASIN BOTTOM PERSPECTIVE VIEW 1. Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom wid The channel shall be lined with 4" to 12" rip - rap to a depth of 18". (SHA Class to recycled concrete equivalent). 2. Filter cloth shell be installed under all rip-rop. Filter cloth shall 3. Entrance and exit sections shall be installed as shown on the detail

DETAIL 5 - RIP-RAP INFLOW PROTECTION

4. Rip-rop used for the lining may be recycled for permanent outlet

6. Rip-rap should blend into existing ground. 7. Rip-rop Inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale

5. Gabion Inflow Protection may be used in lieu of Rip-rap Inflow

IO. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, BEGIN MASS GRADING THE SITE. EXCESS MATERIAL IS TO BE

PLACED IN THE AREA DESIGNATED AS "TEMPORARY STOCKPILE"

SEE SHEET 18 FOR DUST CONTROL NOTES. WITH PERMISSION OF

OF THE SILT FENCE, THE CONTRACTOR MAY BEGIN PLACING FILL

THE SEDIMENT CONTROL INSPECTOR, AND AFTER THE INSTALLATION

ALONG THE HAUL ROAD. THE CONTRACTOR WILL BE ABLE TO ACCESS THE BASIN FROM NORTH RIDGE ROAD. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO NORTH RIDGE ROAD AS A RESULT OF THE ACCESS. (2 MONTHS) INSTALL THE FOLLOWING STORM DRAIN RUNS: I-I TO I-3, MH-6 TO MH-14, MH-6 TO MH-13, AND MH-9 TO 1-8. ALL STORM DRAIN INLETS

- ARE TO REMAIN OPEN SO THAT ALL RUNOFF CAN BE DIRECTED TO THE SEDIMENT BASIN. (3 WEEKS) 12. INSTALL THE WATER MAIN FROM NORTH RIDGE ROAD TO ROAD
- STATION 8+50 AND INSTALL SEMER HOUSE CONNECTIONS FOR LOTS I THROUGH 5 PER THE CONSTRUCTION PLANS. (2 WEEKS) 13. INSTALL THE SAFETY FENCE ALONG THE HEADWALL FOR THE ARCH SPAN AND BEGIN FINE GRADING BURROWS LAND FROM NORTH
- RIDGE ROAD TO ROAD STATION 8+50. (I WEEK) INSTALL THE GUARDRAILS ON BOTH SIDES OF BURROWS LAND FROM NORTH RIDGE ROAD TO ROAD STATION 8+50 AS SHOWN ON
- INSTALL THE CURB & GUTTER, SIDEWALKS AND BASE PAYING FROM NORTH ROAD TO ROAD STATION 8+50. INSTALL THE BUS PAD AT NORTH RIDGE ROAD. (2 WEEKS)

- 16. INSTALL THE REMAINDER OF THE STORM DRAIN. ALL STORM DRAIN INLETS ARE TO REMAIN OPEN SO THAT ALL RUNOFF CAN BE DIRECTED TO THE SEDIMENT BASIN(2 MONTHS)
- 17. ONCE THE STORM DRAIN IS CONVEYING THE SEDIMENT LADEN RUNOFF TO THE BASIN, INSTALL THE SUPER/SILT FENCE AS SHOWN ON THESE PLANS. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, BACKFILL THE SEDIMENT TRAP. (I WEEK)
- 18. CONSTRUCT THE RETAINING WALLS AND COMPLETE THE MASS GRADING. INSTALL SEWER RUN EX-MH-2 THRU MH-113 AT THIS TIME DUE TO SLEEVING UNDER PROPOSED RETAINING WALL. (3 MONTHS)
- INSTALL THE WATER AND SEWER PER THE CONSTRUCTION PLANS.
- 20. INSTALL THE CURB AND GUTTER, SIDEWALKS AND BASE PAVING. (2
- 21. FINE GRADE SITE AND STABILIZE DISTURBED AREAS. (I MONTH) 22. INSTALL SURFACE COURSE. (2 WEEKS)
- 23. ONCE ACCESS TO THE EXISTING HOME CAN BE ACHIEVED FROM BURROWS LANE, REMOVE THE REMAINDER OF THE EXISTING DRIVEWAY TO ROGERS AVENUE. (I WEEK)
- ANY REMAINING DISTURBED AREAS. CUT BACK LIMITS OF 12" HDPE INSTALLED UNDER ITEM 3 ABOVE, CAP THE DOWNSTREAM END AND FILL WITH FLOWABLE FILL. (2 WEEKS) 25. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR. FLUSH THE STORM DRAIN SYSTEM, AND CONVERT THE SEDIMENT

24. REMOVE REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE

- BASIN TO THE FINAL STORMWATER MANAGEMENT FACILITY. SEE SHEET 38 FOR THE CONVERSION DETAILS. THE GABION MATRESSES MAY BE INSTALLED AT THIS TIME. (2 WEEKS) 26. THE CONTRACTOR SHALL REMOVE ALL NON-NATURAL ITEMS (DEBRIS AND JUNK) FROM ALL SENSITIVE AREAS (FLOODPLAIN,
- FOREST, STREAMS, WETLANDS, AND BUFFERS) ON THE SITE AND STABILIZE. (I WEEK) 27. THE DEVELOPER MUST SUBMIT A POND AS-BUILT TO HOWARD SOIL
- CONSERVATION DISTRICT FOR THEIR REVIEW AND APPROYAL. NOTE: WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, SOME OF THE WORK ITEMS LISTED ABOVE CAN OCCUR

MGWC 1.2: Pump-Around Practice

Temporary measure for dewatering inchannel construction sites

DESCRIPTION

The work should consist of installing a temporary pump around and supporting measures to divert flow around in-

Implementation Sequence

Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):

- 1. Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.
- 2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
- 3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector; the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority
- 4. Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
- 5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
- 6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.

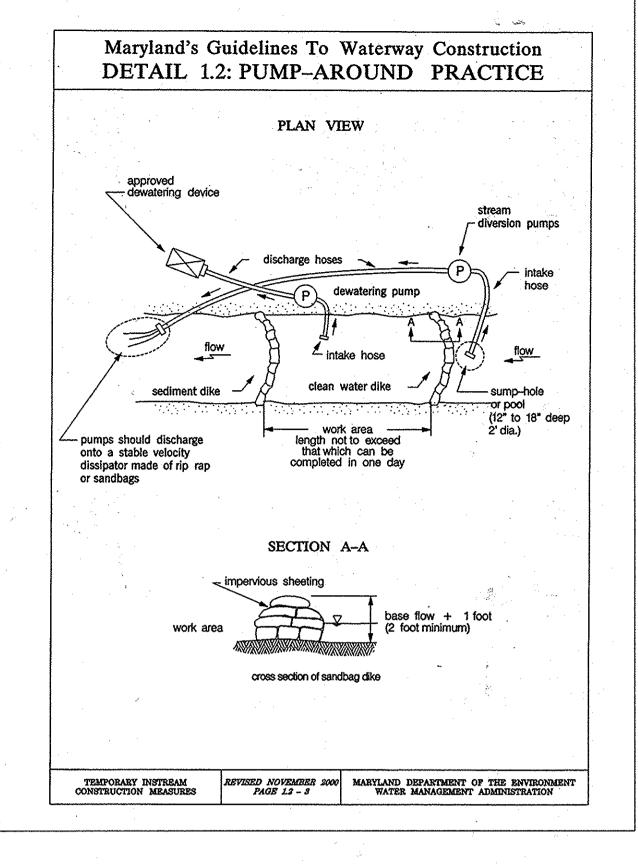
PAGE 1.2 - 1

TEMPORARY INSTREAM CONSTRUCTION MEASURE

MARYLAND DEPARTMENT OF THE ENVIRONMEN WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 201

MGWC 1.2: PUMP-AROUND PRACTICE

- Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
- 8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (See Section 4, Stream Crossings, Maryland Guidelines to
- 9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross-sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
- 10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon . establishment of a new sediment dike below the old one, the old sediment dike should be removed.
- 11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
- 12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
- 13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
- 14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.



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 STOCKPILES OR STORED IN NONTIDAL WETLANDS, NON-TIDAL WETLAND BUFFERS, WATERWAYS, OR 100 YEAR FLOODPLAIN. 2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT
- ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOOD PLAIN. 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. '. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES:
- ANNUAL RYE GRASS (LOLIUM MULTIFLORUM) MILLET (SETARIA ITALICA)
- BARLEY (HORDEUM SPECIES) OATS (SP.)
- 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 I WATERS: IN STREAM WORK SHALL 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.

MGWC 1.4: DIVERSION PIPE

Temporary measure for dewatering inchannel construction sites

PAGE 1.2 - 2

MARYLAND DEPARTMENT OF THE ENVIRONMEN

WATERWAY CONSTRUCTION GUIDELINE

DESCRIPTION

The work should consist of installing flow diversion pipes in combination with sandbag or stone diversions when construction activities occur within the stream channel.

EFFECTIVE USES & LIMITATIONS

TEMPORARY INSTREAM CONSTRUCTION MEASURE

Diversion pipes with an insufficient flow capacity can cause the channel diversion to fail thereby resulting in severe erosion of the disturbed channel section under construction. Therefore, in-channel construction activities should occur only during periods of low flow.

MATERIAL SPECIFICATIONS

Materials for stream diversions should meet the following requirements

- Riprap: Stone should be washed and have a minimum diameter of 6 inches (15 centimeters) • Sandbags: Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
- Sheeting: Sheeting should consist of polyethylene or other material which is impervious and resistant to

INSTALLATION GUIDELINES

All erosion and sediment control devices including mandatory dewatering basins should be installed as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during low flow conditions. If necessary, silt fence or straw bales should be installed

Diversion pipes with sandbag or stone barriers should be completed as follows (refer to Detail 1.4):

- 1. Sandbag/stone barriers should be sized and installed as detailed in MGWC 1.5: Sandbag/Stone Diversion. The materials should be sized to withstand baseflow velocities.
- 2. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
- 3. Sediment-laden water from the construction area should be pumped to a dewatering basin
- 4. The diversion pipe should have a minimum capacity sufficient to convey the 2-year flow for projects with a duration of two weeks or greater. For projects of shorter duration, the capacity of the pipe can be reduced
- 5. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.
- 6. Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal.

MARYLAND DEPARTMENT OF THE ENVIRONMEN TEMPORARY INSTREAM CONSTRUCTION MEASURES WATERWAY CONSTRUCTION GUIDELINE Revised November 20 PAGE 1.4 - 1

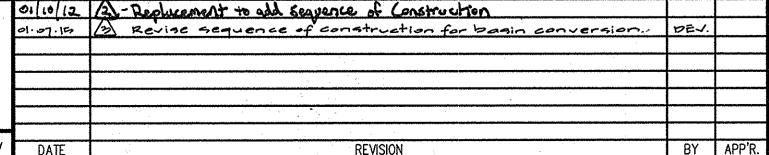
PLAN VIEW lewatering T sandbag /stone barrier LONGITUDINAL SECTION VIEW barrier height is as defined in the sandbag /stone top of stream bank

Maryland's Guidelines To Waterway Construction

DETAIL 1.4: DIVERSION PIPE

Earth Dike	Treatment (ED #1)					Earth Dike	Treatment (ED #	ප)				· · · · · · · · · · · · · · · · · · ·
STARTING STATION	ENDING STATION	PERCENT	AREA	TOTAL AREA	TREATMENT	STARTING STATION	ENDING STATION	PERCENT	AR	EA	TOTAL AREA	TREATMENT
2+10	0+00	6.20%	77,780 SF 1.79 AC.		A-2	7+96	6+00	3.5%	13,855 SF	0.32 AC.		A-2
						6+00	4+00	1.5%	51,700 SF	1.19 AC.	1.51 AC.	A-2
					. *	4+00	2+00	1.0%	27,415 SF	0.63 AC.	2.14 AC.	A-2
						2+00	0+00	3.0%	47000 SF	1.08 AC.	3.22 AC.	A-2
				*								
Earth Dike 7	Treatment (ED #2).			•	Earth Dike	Treatment (ED #	14)	•			
STARTING STATION	ENDING STATION	PERCENT	AREA	TOTAL AREA	TREATMENT	STARTING STATION	ENDING STATION	PERCENT	AR	EA	TOTAL AREA	TREATMENT
4+73	2+00	8.25%	22,830 SF 0.52 AC.	0.52	A-2	1+27	0+00	1.0%	65,820 SF	1.51 AC.	1.51 AC.	A-l
2+42	0+00	<i>8.25</i> %	20,490 SF 0.47 AC.	0.99	A-2	· ·						7 ×
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					Earth Dike	Treatment (ED#	15)	•	·.		
		•		1		STARTING	ENDING	PERCENT	AR	=	TOTAL AREA	TREATMENT
	•					STATION	STATION	LINDER			1017677167	11427111111111

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY



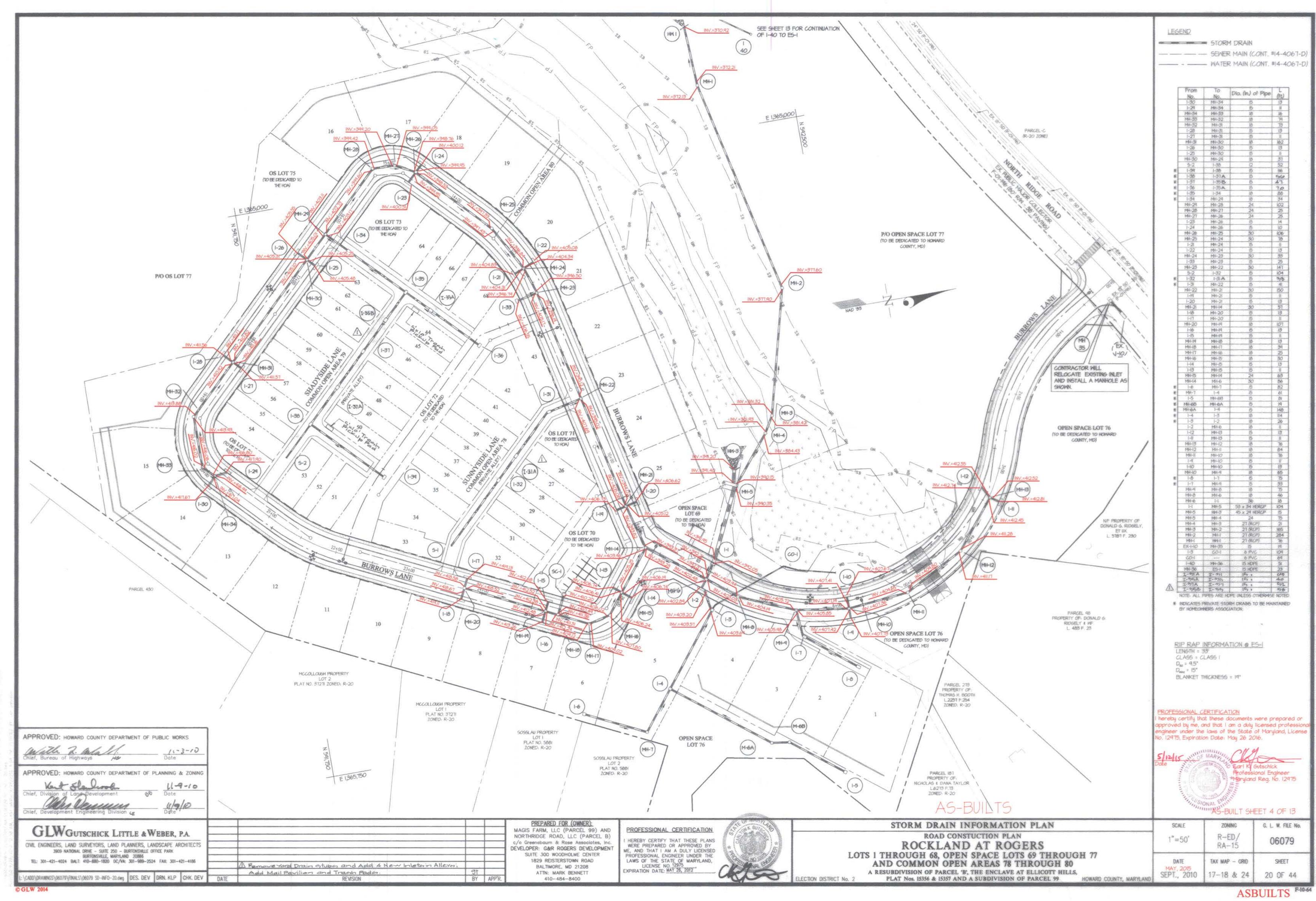
PREPARED FOR (OWNER): MAGIS FARM, LLC (PARCEL 99) AND NORTHRIDGE ROAD, LLC (PARCEL B) c/o Greenebaum & Rose Associates, Inc. DEVELOPER: G&R ROGERS DEVELOPMENT SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD BALTIMORE, MD 21208 ATTN: MARK BENNETT

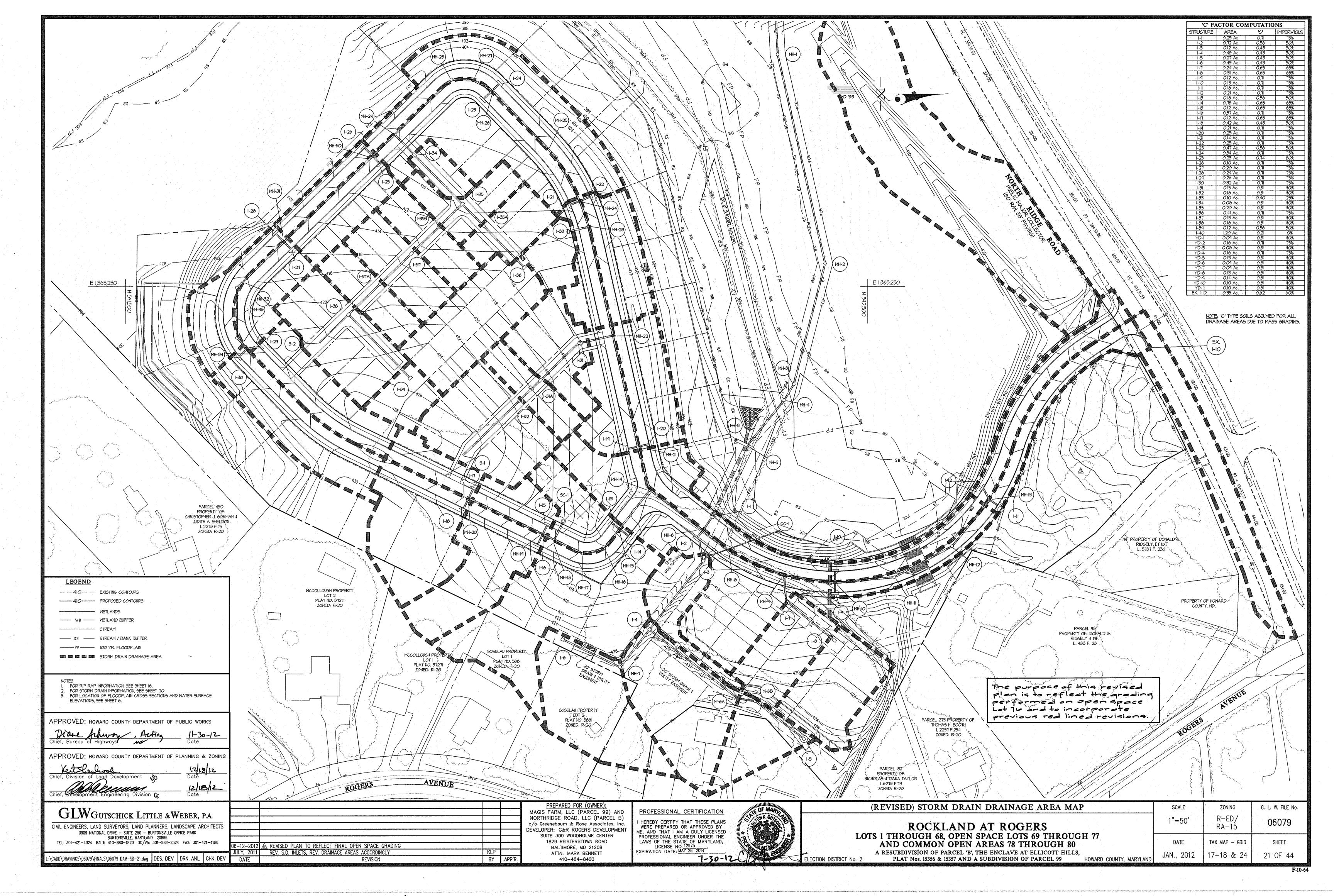
410-484-8400

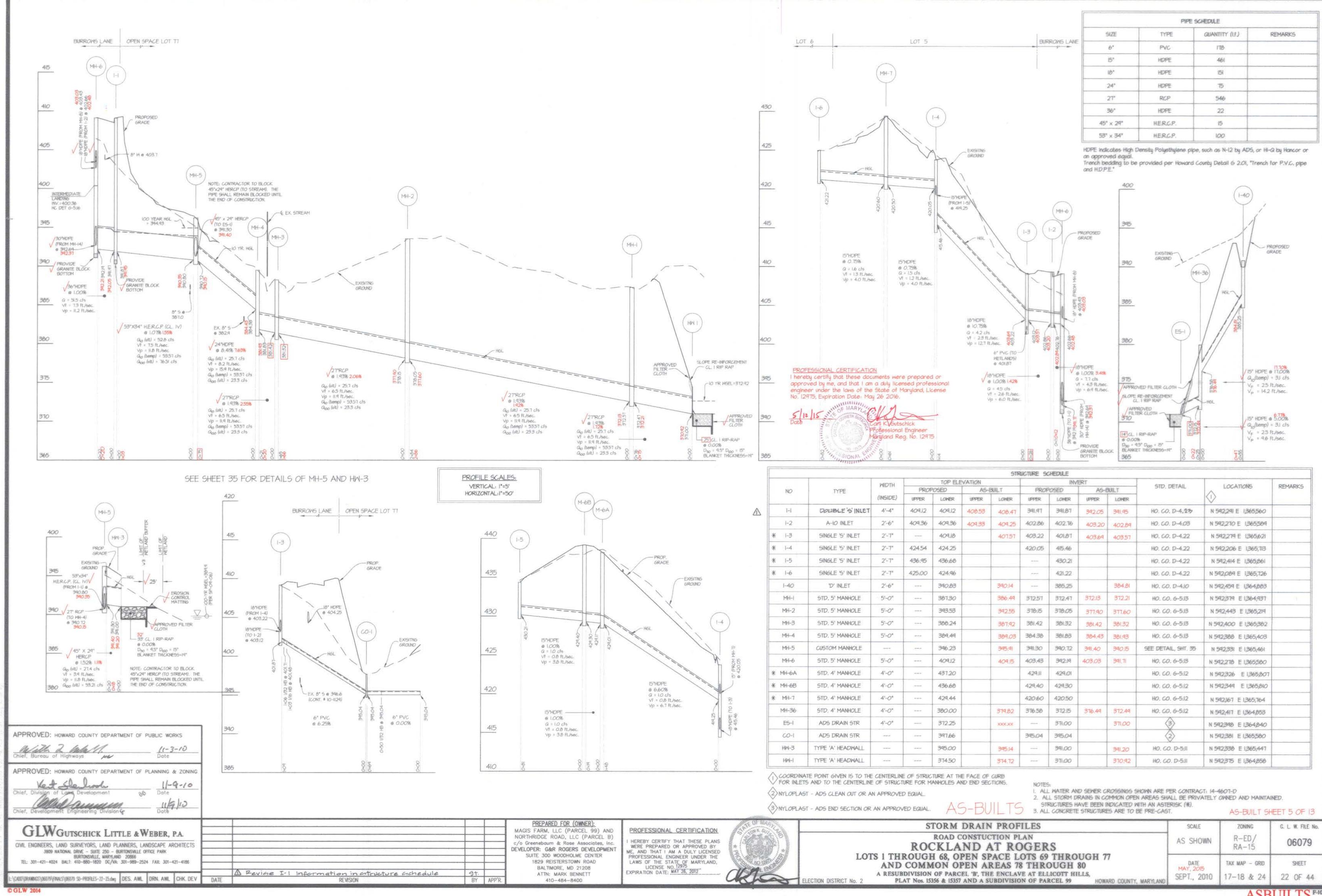
PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE PLANS-WERE PREPARED OR APPROVED BY

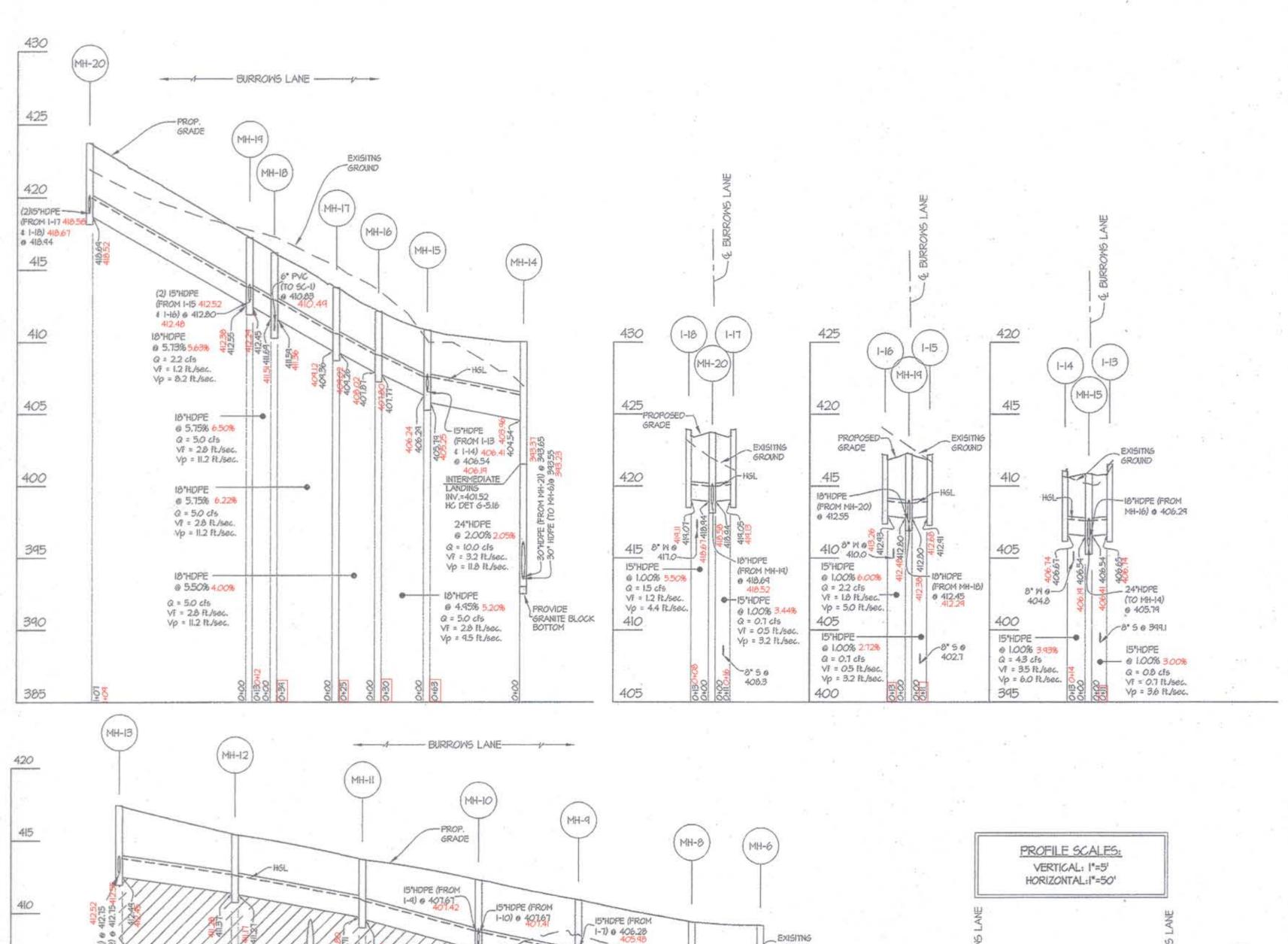
IE, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 1297 XPIRATION DATE: MAY 26, 201

REVISED SEDIMENT CONTROL DETAILS - SWM & WATERWAY CONSTRUCTION SCALE G. L. W. FILE No. ZONING 06079 AS SHOWN **ROCKLAND AT ROGERS** RA-15 LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77 TAX MAP - GRID SHEET AND COMMON OPEN AREAS 78 THROUGH 80 A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS. JAN., 2012 17-18 & 24 19 OF 44 FLECTION DISTRICT No. 2 PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99 HOWARD COUNTY MARYLAND









6" PVC @ 399.75-

0 2.00% 2.19%

Q = 6.5 cfs Vf = 3.7 ft/sec. Vp = 8.5 ft/sec.

18"HDPE

EX. 8" 5-9 345.7

(CONT. # 10-1129)

@ 2.00%

Q = 65 cfs1.909

VF = 3.7 Ft/sec.

Vp = 8.5 Rt/sec

				2			STE	aucture sx	The state of the s						
	975	23.65	MIDTH	ppor	TOP ELEVA PROPOSED		DOWN X	ppor		ERT	2011 7	STD. DETAIL	LOCATIONS	REMARKS	
	NO	TYPE	(INSIDE)	UPPER	LOWER	UPPER	BUILT	UPPER	LOWER	UPPER	LOWER		1	5-5	
*	1-7	DOUBLE 'S' INLET	2'-6"	411.85	411.69			406.71	406.61			Ho. co. D-4.23	N 542342 E 1365,677		
*	1-8	DOUBLE 'S' INLET	2'-6"	418.50	418.01				412.75			Ho. CO. D-4.23	N 592,455 E 1,365,728		
	1-9	A-IO INLET	2'-6"	412.60	412.40	412.67	412.49		407.78	- V	407.73	HO. CO. D-4.03	N 592,456 E 1,365,663		
	1-10	A-IO INLET	2'-6"	412.60	412.40	412.52	412.29		407.80	100	407.67	HO. CO. D-4.03	N 592,456 E 1,365,635		
	1-11	A-IO INLET	2'-6"	417.74	417.54	417.70	417.42		412.86		412.81	HO. CO. D-4.03	N 592,675 E 1,365,545		
	1-12	· A-IO INLET	2'-6"	417.74	417.54	418.02	417.63		412.88		412.55	HO. CO. D-4.03	N 542,652 E 1,365,530		
	1-13	A-IO INLET	2'-6"	411.18	410.94	410.91	410.87	-	406.65		406.74	HO. CO. D-4.03	N 592,155 E 1,365,569		
	1-14	COG-15 INLET	4'-0"	411.27	410.88	411.28	410.83		406.67		406.74	MD-374.62	N 542,177 E 1365,587		
	1-15	A-IO IÑLET	2'-6"	417.76	417.18	417.50	417.08	750	412.91		412.68	HO. CO. D-4.03	N 592,068 E 1365,573		
	1-16	A-IO INLET	2'-6'	417.76	417.18	417.62	417.01	2400	412.93		413.26	HO. CO. D-4.03	N 592,056 E 1,365,598		
	1-17	A-IO INLET	2'-6"	424.23	423,65	424.04	423.44		419,05		419.13	HO. CO. D-4.03	N 591,968 E 1,365,524		
	1-18	A-IO INLET	2'-6"	424.23	423.65	424.24	423.51	***	419.07		419.11	HO. CO. D-4.03	N 591,956 E 1,365,549		
	MH-6	STD. 5' MANHOLE	5-0°		409.12		409.15	403.43	392.19	403.03	402.48	Ho. CO. 6-5.13	N 592,278 E 1,365,580		
	MH-8	STD. 4' MANHOLE	4'-0"	***	409.37	fto	409.46	404.45	404,35	404.19	403.94	Ho. co. 6-5.12	N 592,315 E 1,365,610		
	MH-9	STD. 4' MANHOLE	4'-0"		410.90			406.28	405.94	405,98	405.72	Ho. co. 6-5.12	N 592388 E 1365,640		
	MH-10	STD. 4' MANHOLE	4'-0"		412.27		412.26	407.67	407.35	407.42	407.19	Ho. Co. 6-5.12	N 592,456 E 1,365,650		
	MH-II	, STD. 4' MANHOLE	4'-0"		413.69		413.80	409.71	409.51	409.80	409.65	Ho. CO. G-5.12	N 542536 E 1,365,643		
	MH-12	STD. 4' MANHOLE	4'-0"		415.42		415.39	411.37	411.27	411.28	411.17	Ho. CO. 6-5.12	N 542,614 E 1,365,601		
	MH-13	STD. 4' MANHOLE	4'-0"		417.44		417.39	412.75	412.49	412.55	412,45	Ho. co. 6-5.12	N 592,664 E 1,365,588		
	MH-14	STD. 5' MANHOLE	5'-0"	*77*	410.04		410.17	404.54	392.53	403.96	393.23	HO. CO. 6-5.13	N 542,207 E 1,365,525		
	MH-15	STD. 4' MANHOLE	4'-0"	***	410.90		411.06	406.54	405.79	406.41	405.25	Ho. co. 6-5.12	N 592,166 E 1,365,577		
	MH-16	STD. 4' MANHOLE	4'-0"		412.07		412.22	407.87	407.77	408.02	407.80	HO. CO. 6-5.12	N 592,145 E 1,365,604		
	MH-17	STD. 4' MANHOLE	4'-0"		413.70		413.57	409.36	409.26	409.12	409.02	HO. CO. 6-5,12	N 592,116 E 1,365,611		
-1.1	MH-IB	STD. 4' MANHOLE	41-0°	and a	416.15		416.06	411.69	410.83	411.69	410.49	Ho. co. 6-5.12	N 542,018 E 1,365,542	10	
	MH-I9	STD. 4' MANHOLE	4'-0"		417.15		417.05	412.80	412.45	412.52	412.29	HO. CO. G-5.12	N 592/062 E 1365/584	W.K.	
	MH-20	STD. 4' MANHOLE	4'-0"	ere.	423.61		423.66	418.94	418.69	418.58	418.52	Ho. co. 6-5.12	N 591,962 E 1,365,536		
	MH-35	STD. 4' MANHOLE	4'-0"	nee.	432.20		432.32	429,07	428,97			HO. CO. 6-5.12	N 592,865 E 1,365,311		

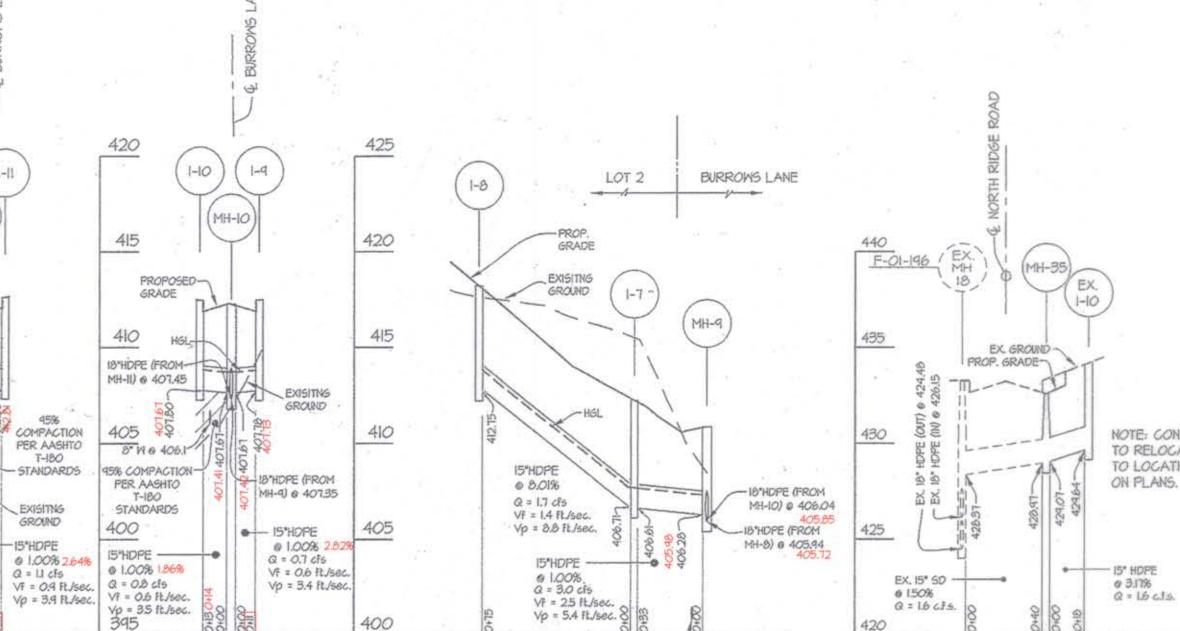
(I) COORDINATE POINT GIVEN IS TO THE CENTERLINE OF STRUCTURE AT THE FACE OF CURB FOR INLETS AND TO THE CENTERLINE OF STRUCTURE FOR MANHOLES AND END SECTIONS.

(2) NYLOPLAST - ADS END SECTION OR APPROVED EQUAL.

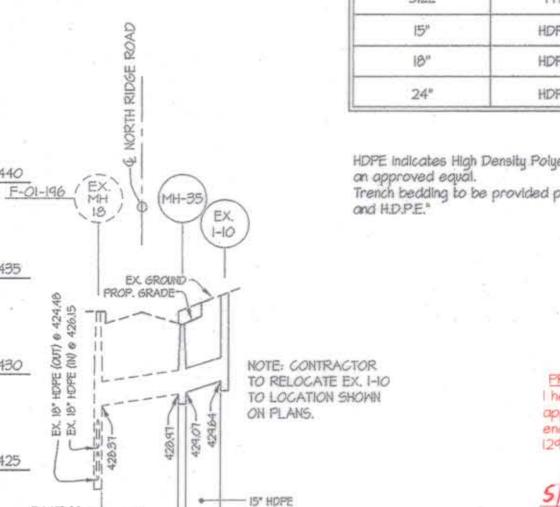
I. ALL WATER AND SEMER CROSSINGS SHOWN ARE PER CONTRACT: 14-4607-D 2. ALL STORM DRAINS IN COMMON OPEN AREAS SHALL BE PRIVATELY OWNED

AND MAINTAINED. STRUCTURES HAVE BEEN INDICATED WITH AN ASTERISK (%).

3. ALL CONCRETE STRUCTURES ARE TO BE PRE-CAST.



EX. 8" 5 @ 400.81-(CONT. # 10-1129)



	PIF	E SCHEDULE .	
SIZE	TYPE	QUANTITY (I.F.)	REMARKS
15"	HDPE	246	
18"	HDPE	636	
24"	HDPE	63	3

HDPE Indicates High Density Polyethylene pipe, such as N-12 by ADS, or HI-Q by Hancor or Trench bedding to be provided per Howard County Detail 6 2.01, "Trench for P.V.C. pipe

> 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. 12975, Expiration Dates Irlay, 26 2016.

Maryland Reg. No. 12975

16 RIII TG

AS-DULIS	76.	AS-BUILT SHE	ET 6 OF 13
STORM DRAIN PROFILES	SCALE	ZONING	G. L. W. FILE No.
ROAD CONSTUCTION PLAN ROCKLAND AT ROGERS	AS SHOWN	R-ED/ RA-15	06079
LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77 AND COMMON OPEN AREAS 78 THROUGH 80	DATE MAY, 2015	TAX MAP - GRID	SHEET
A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, ELECTION DISTRICT No. 2 PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99 HOWARD COUNTY, MARYLAND	SEPT., 2010	17-18 & 24	23 OF 44

GLWGutschick Little &Weber, P.A.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Bureau of Highways

95% COMPACTION PER AASHTO -

T-180 STANDARDS

18"HDPE

Q = 2.4 cfs

@ 1.47% 154%

VF = 13 ft/sec.

Vp = 6.3 ft/sec.

18"HDPE

@ 1.86% 1.76%

VF = 1.3 ft/sec.

Vp = 55 ft/sec.

Q = 23 cfs

@ 2.70% 2.T3%

Vp = 65 ft/sec.

18"HDPE

Q = 3.7 cfs

VF = 2.1 ft./sec.

@ 2.00% 2.03%

Vp = 7.2 ft/sec.

REVISION

Q = 23 cfs Vf = 1.5 ft/sec.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CAGG\ORAMHGS\GGG79\FINALS\GGG79 SG-PROFILES-22-25.dwg DES. AWL DRN. AWL CHK. DEV DATE

PREPARED FOR (OWNER): MAGIS FARM, LLC (PARCEL 99) AND NORTHRIDGE ROAD, LLC (PARCEL B) c/o Greenebaum & Rose Associates, Inc. DEVELOPER: G&R ROGERS DEVELOPMENT SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD BALTIMORE, MD 21208 ATTN: MARK BENNETT

410-484-8400

18"HDPE (FROM

T-2) @ 402.66

INV.=400.36 HC DET 6-5.16

18"HOPE (FROM

MH-14) @ 392.69

30"HDPE (FROM

1-1) # 392.19

GRANITE BLOCK BOTTOM

BY APP'R.

PROVIDE

GRADE

18"HDPE (FROM ---

MH-12) 0 412.49

405

400

15"HDPE -

e 1.00% 1.27% Q = 1.3 cfs

VF = 1,0 ft/sec.

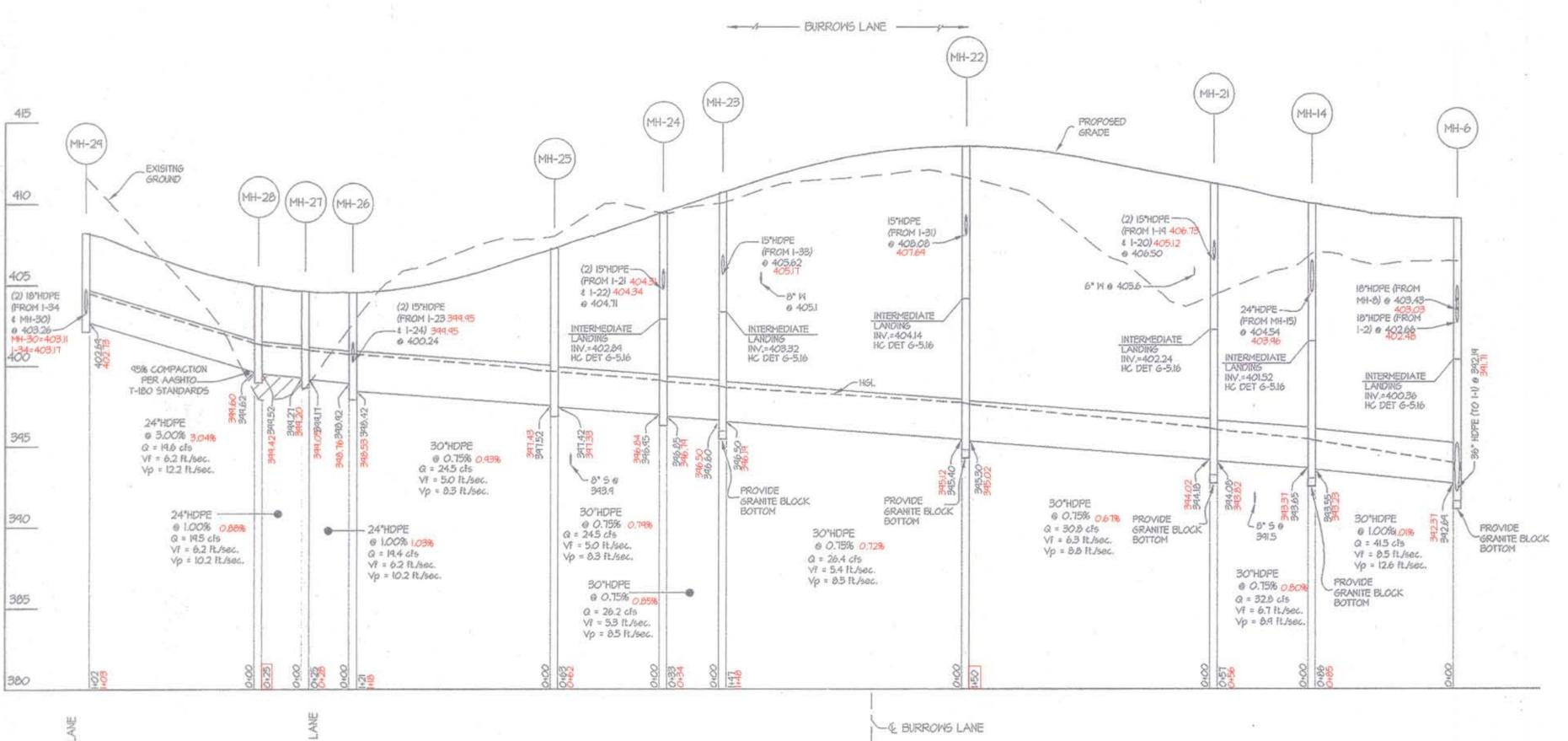
Vp = 4.1 ft/sec.

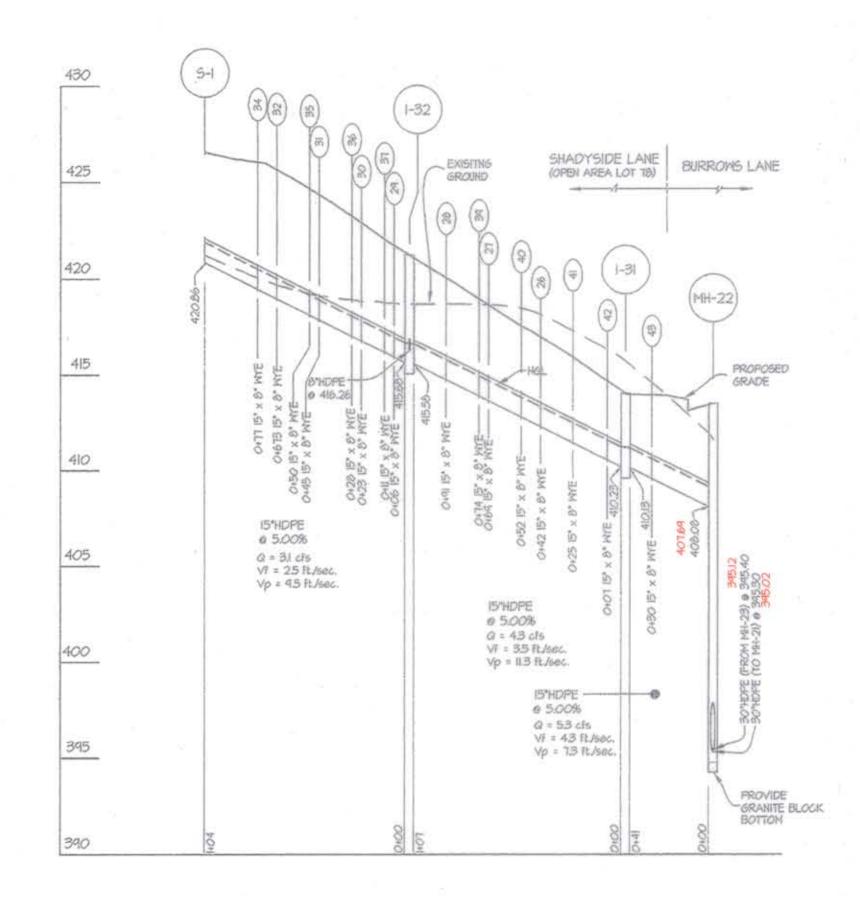
415

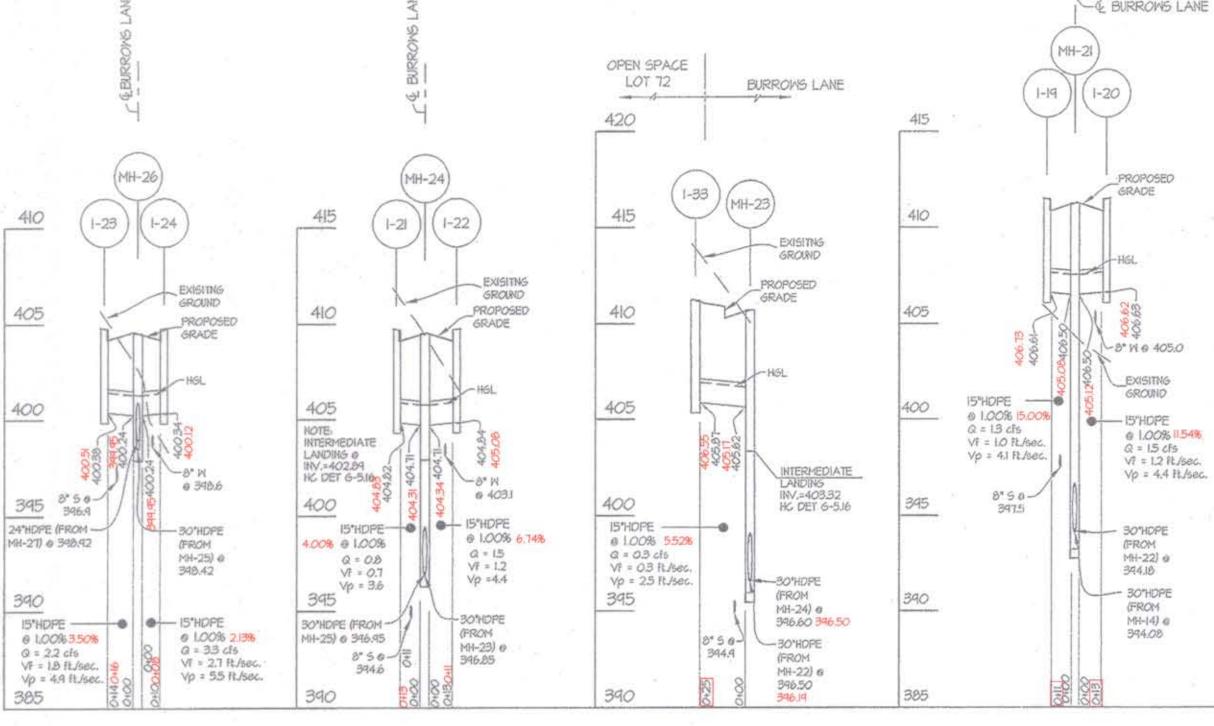
PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY MER PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE STATE OF MARYLAND,
LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2012



ASBUILTS F-10-6







PROFILE SCALES: VERTICAL: I*=5' HORIZONTAL:I*=50'

LOT No.	INV. OF MAIN LINE	INV. 8" HDPE MAIN	INV. 8" HDPE PROP. LINE
(26)	412.30	412.59	412.72
(27)	413.65	413.94	414.07
(28)	414.75	415.04	415.17
29	415.94	416.23	416.36
(30)	416.79	417.08	417.21
(31)	417.89	418.18	418.31
(32)	418,99	419.28	419,41
(33)	420.86	421.15	421.24
(34)	419.49	419.78	419.91
(35)	418.14	418.43	418.56
(36)	417.04	417.33	417.46
(37)	416.19	416.48	416.61
(38)	nere.	416.26	416.36
(34)	413.90	414,19	414.32
(40)	412.80	413.09	413.22
(41)	411.46	411.75	411.88
(42)	41056	410,85	410.98
(43)	409.58	409.87	410.00
Over All	Vino oni	INS ARE 8" HDP	E AND DIAL A

	PIF	E SCHEDULE	
SIZE	TYPE	QUANTITY (LF.)	REMARKS
8" (YARD DRAINS)	HDPE	216	
15"	HDPE	349	
24"	HDPE	152	
30°	HDPE	657	

HDPE indicates High Density Polyethylene pipe, such as N-12 by ADS, or Hi-Q by Hancor or an approved equal.

Trench bedding to be provided per Howard County Detail G 2.01, "Trench for P.V.C. pipe and H.D.P.E."

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. 12975, Expiration Date: May 26 2016.

Cart K. Gutschick
Photessional Engineer
Morgland Reg. No. 12975

							STR	UCTURE SC						
			WIDTH		TOP ELE				INV			STD. DETAIL	LOCATIONS	REMARKS
NO NO		TYPE	(INSIDE)		PROPOSED		WILT .		POSED	AG-E			()	
_	035500	No. 727 - Inches per		UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	Commission and another	- V	
	1-19	A-IO INLET	2'-6"	411.58	411.39	411.71	411,49		406.61		406.73	HO. CO. D-4.03	N 592,178 E 1,365,469	
	1-20	A-10 INLET	2'-6"	411.58	411.39	411.57	411.37	1000	406.63		406.62	HO. CO. D-4.03	N 542,205 E 1,365,463	
	1-21	A-IO INLET	2'-6"	409.87	409.55	409.75	409.37	Seec	404.82		404.83	Ho. co. D-4.03	N 592,100 E 1,365,140	
	1-22	A-IO INLET	2'-6"	409.87	409.55	409.77	409.54	300	404.84		405.08	HO. CO. D-4.03	N 592,126 E 1,365,129	
	1-23	A-IO INLET	2'-6"	404.79	404.74	404.73	404.65		400.38		400.51	HO. CO. D-4.03	N 591,983 E 1,364,996	
	1-24	A-IO INLET	2'-6"	404.79	404.74	404.68	404.55		400.34		400.12	HO. CO. D-4.03	N 592,003 E 1,364,977	
*	1-31	DOUBLE 'S' INLET	2'-7 1/2"	414.23	414.00			410.23	410.13			HO. CO. D-4.23	N 592,II2 E 1,365,326	
*	1-32	DOUBLE 'S' INLET	2'-7 1/2"	421.44	421.09			416.26	415.58			Ho. Co. D-4.23	N 592,031 E 1,365,404	
	1-33	SINGLE 'S' INLET	2'-7"		411,27		411.29		405.87		406.55	HO. CO. D-4,22	N 592,096 E 1,365,176	
_	MH-6	STD. 5' MANHOLE	5'-0"	ware.	409.12		409.15	403.43	392.19	403.03	391.71	Ho. co. 6-5,13	N 542,278 E 1365,580	^
	MH-14	STD. 5' MANHOLE	5'-0"	***	410.04		410.17	404.54	342.55	403.96	393.23	Ho. co. 6-5.13	N 542,207 E 1,365,525	
	MH-21	STD, 5' MANHOLE	5'-0"		411.26		411.28	406.50	394,08	405.12	393.82	Ho. co. 6-5.13	N 592,191 E 1,365,466	
	MH-22	STD. 5' MANHOLE	5'-0"		413.52		413.47	408.08	395.30	407.69	395.02	HO. CO. G-5.13	N 592,157 E 1,365,316	
	MH-23	STD, 5' MANHOLE	5'-0"	printer.	410.65		410.76	405.62	396.50	405.17	396,19	HO, CO. G-5.13	N 592,124 E 1,365,169	
	MH-24	STD. 5' MANHOLE	5'-0°		409.45		409.42	404.71	396.85	404.34	396.79	HO. CO. 6-5.13	N 592,112 E 1,365,134	
	MH-25	STD. 5' MANHOLE	5'-0°		407.22		407.29	397.63	397.53	397.43	397.33	HO. CO. G-5.13	N 592,079 E 1,365,075	
	MH-26	STD. 5' MANHOLE	5'-0"		404.53			400.24	398.42	399.95	398.53	HO. CO. G-5.13	N 591,994 E 1,364,985	
	MH-27	STD. 4' MANHOLE	4'-0"	242	404.63		404.66	399.27	344.17	399.20	399.05	HO. CO. 6-5J2	N 591,968 E 1,364,972	8
	MH-28	STD. 4' MANHOLE	4'-0"	leave.	404.95		405.07	399.62	399.52	399.60	399.42	HO. CO. G-5.12	N 591,939 E 1,364,971	
	MH-29	STD. 4' MANHOLE	4'-0"		408.31		408.49	403.26	402.69	403.17	402.73	HO. CO. G-5,12	N 591,862 E 1,365,045	

COORDINATE POINT GIVEN IS TO THE CENTERLINE OF STRUCTURE AT THE FACE OF CURB FOR INLETS AND TO THE CENTERLINE OF STRUCTURE FOR MANHOLES AND END SECTIONS.

2 NYLOPLAST - ADS END SECTION OR APPROVED EQUAL.

NOTES:

I. ALL WATER AND SEWER CROSSINGS SHOWN ARE PER CONTRACT: 14-4607-D

2. ALL STORM DRAINS IN COMMON OPEN AREAS SHALL BE PRIVATELY OWNED AND MAINTAINED. STRUCTURES HAVE BEEN INDICATED WITH AN ASTERISK (*).

3. ALL CONCRETE STRUCTURES ARE TO BE PRE-CAST.

AS-BUILTS

AS-BUILT SHEET 7 OF 13

-	TWE	_	_		
U	LLW	GUTSCHICK	LITTLE	& WEBER,	P.A.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Bureau of Highways

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSMILE OFFICE PARK
BURTONSMILE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

			- ×	
				la
				1
		 -		
DATE	REVISION	BY	APP'R	

PREPARED FOR (OWNER):

MAGIS FARM, LLC (PARCEL 99) AND
NORTHRIDGE ROAD, LLC (PARCEL B)
o/o Greenebaum & Rose Associates, Inc.
DEVELOPER: G&R ROGERS DEVELOPMENT
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208

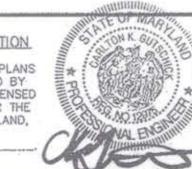
ATTN: MARK BENNETT

410-484-8400

PROFESSIONAL CERTIFICATION

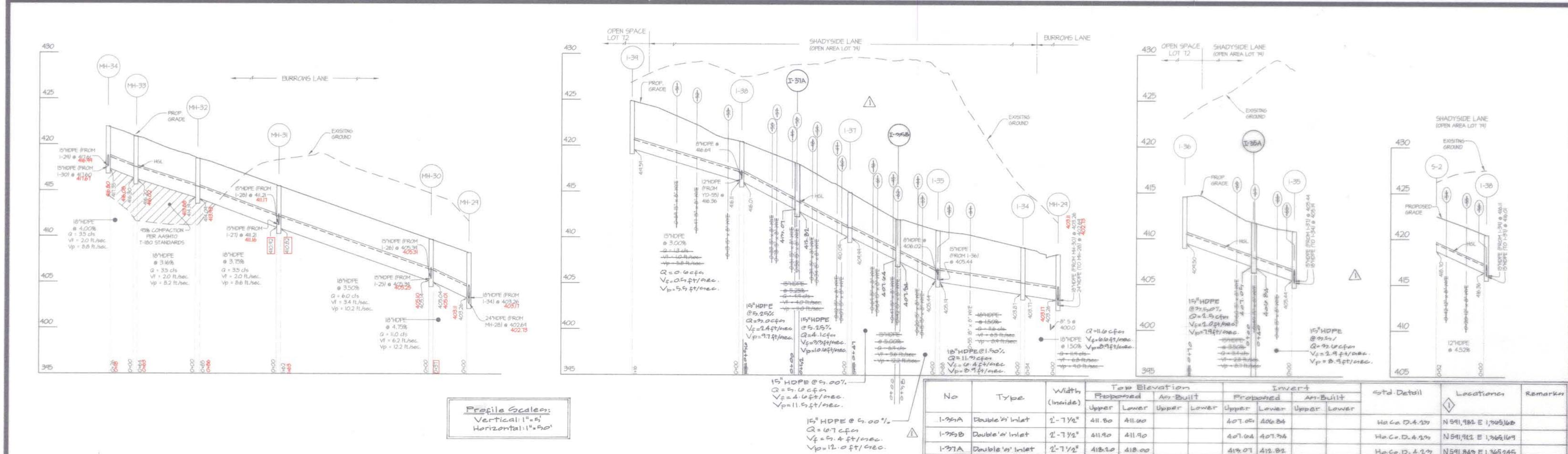
B)
Inc.
MENT

I HEREBY CERTIFY THAT THESE PLANS
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. 12975
EXPIRATION DATE: MAY 26, 2012



ROAD CONSTUCTION PLAN
ROCKLAND AT ROGERS
LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77
AND COMMON OPEN AREAS 78 THROUGH 80
A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS,
N DISTRICT No. 2 PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99 HOWARD COUNTY, MARY

	AS SHOWN	ZONING R-ED/ RA-15	G. L. W. FILE No. 06079		
RYLAND	DATE MAY, 2015 SEPT., 2010	TAX MAP - GRID 17-18 & 24	SHEET 24 OF 44		



- & BURROWS LANE 4 BURROWS LANE PROP. GRADE EXISITNS GROUND @ 410.342 HEADWALL 420 (FROM MH-33) @ 409.3 GRADE 410 15 HOPE IB'HOPE (FROM @ 1.00% ---EXISITNS MH-3I) @ 405.14 G = 1,6 cfn GROUND - 18 HOPE VF = 1.3 Ft/9ec -BOTTOM OF (FROH MH-30) Vp = 4.4 ft/sec. FOOTER @ 405 410 95% COMPACTION 403.38 PER AAGHTO EX GROUND -- IS HOPE 8" 5 e -T-180 STANDARDS 8.20 @ 1.00% Q = 1.5 cfs 8° W @ 4033 - 2'-0" __ 18"HDPE Vf = 1.2 ft/sec. FOOTER Vp = 4.3 ft./sec. (FROM MH-29) # 405.04 405.01 405 15"HDPE 15"HDPE ---● IS'HOPE 15"HDPE ---BOTTOM OF-@ I 00% 0 1,00% @ 1.00% 0 1.00% FOOTER @ Q = 0.6 cfs Q = 1.9 cfs Q = 12 ds Q = 15 chs 345.54 VF = 0.5 FL/sec. VF = 1,0 ft./sec VF = 1,6 ft/5ec. VF = 1.2 FL/sec_ Vp = 43 ft/sex. 58 8 05 Vp = 3.1 ft./sec. Vp = 4.7 ft/sec Vp = 4.1 ft./sec. 395 400

	YARD	DRAIN SCHEDUL	E	
LOT No.	INV. OF MAIN LINE	INV. 8" HDPE @ MAIN	INV. 8" HDPE PROP. LINE	
(44)	406.41	406.70	406.83	
(45)	407.76	408.05	408.18	
46)	408.86	409.65	409.28	
41)	410.68	410.91	41(.)]	
(48)	412.10	412.39	412.52	
49	413.25	413.54	413.67	
(50)	414.41	414.70	414.83	
(5)	418.18	418.47	418.60	
(52)	417.52	417.81	417,94	
(53)	416.50	416.79	416,92	
(54)	418.22	418.39	418.52	
(55)	417.22	417.39	417.52	
56		416.69	416.79	
(57)	414.15	414.44	414,57	
(58)	412.99	413.28	413,41	
(54)	411.84	412,13	412.26	
60	410.42	410.71	410.84	
61	408.61	408.90	409.03	
62	407.51	407.80	407.93	
63	406.16	406.45	406.58	
64	404.69	404.98	405.11	
65		406.02	406.12	
66)	406.03	406.32	406.45	
67)	406.89	407.18	40131	
68	407.57	407.86	407.99	

						A CONTRACTOR OF THE PARTY OF TH	412.82			Ho.Co.D. S.27	N 591,849 E 1,365,245	
					STE	RUCTURE SX	HEDULE					
	MIDTH									STD DETAIL	LOCATIONS	REMARKS
TYPE	(Nicime)			7.	7	-	P-12-12-12-12-12-12-12-12-12-12-12-12-12-		T	SID. DEIML	A LOUATIONS	REMARKS
	(INDIDE)	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER		V	
A-IO INLET	2'-6"	410.08	409.73	410.22	409.84	m-10-du	405.50		405.48	HO, GO, D-4:03	N 591,842 E 1,365,083	
A-IO INLET	2'-6"	410.08	409.73	410.21	409.84	***	405.52		405.55	HO. CO. D-4.03	N 541,822 E 1,365,063	
A-IO INLET	2'-6"	415.90	415.55	416.02	415.67	4.000	411.32		411.57	HO. GO. D-4:03	N 591,722 E 1,365,199	
A-IO INLET	2'-6"	415.90	415.55	416.02	415.63	_	411.34		411.56	HO. GO. D-4:03	N 541,703 E 1,365,179	
A-IO INLET	2'-6"	422.36	422.01	422.47	422.08		417.72		417.90	HD. CO. D-4.03	N 541,681 E 1,365,332	
A-IO INLET	2'-6"	422.36	422.01	422.16	421.80		417.73		417,67	HO. CO. D-4.03	N 591,660 E 1,365,351	
DOUBLE '5' INLET	2'-7 1/2"	409.03	408.91			403,87	403.77			HO. CO. D-4.23	N 591,889 E 1365,072	
DOUBLE '5' INLET	2'-7 1/2"	410.86	410.74			406,02	405.19			HO. GO. D-4.23	N 541,954 E 1,365,134	
SINGLE S' INLET	2'-7"	414.59	414,59			T+++ :	40950			HO, CO. D-4.22	N 592,037 E 1,365,224	
DOUBLE '5' INLET	2'-7 1/2"	415.12	414,79			410.09	409.99			HO, CO, D-4.23	N 591,885 E 1,365,206	
DOUBLE 'S' INLET	2'-7 1/2"	42056	420.36			416.69	416:01			Ho. co. D-4,23	N 591,800 E 1365,288	
SINGLE 'S' INLET	2'-7"	424.92	424.80				419.59			HO. CO. D-4,22	N 541,884 E 1,365,374	
STD. 4' MANHOLE	4"O"		408.31		408.49	403.26	402.69	403.17	402.73	Ho. Go. 6-5.12	N 591,862 E 1365,045	
STD, 4' MANHOLE	4'-0"		409.69		409.84	405.39	405,04	405.31	405.01	Ho. Co. 6-5.12	N 591,833 E 1,365,074	
STD. 4' MANHOLE	4'-0"		415.51		415.65	411.21	410.82	411.17		HO. GO. 6-5.12	N 541,713 E 1,365,140	
STD. 4' MANHOLE	4'-0"		418.21		418.63	414,19	414.09	413.93	413.88	HO. CO. 6-5:12	N 541,650 E 1365,251	
STD. 4' MANHOLE	4'-0"		421.27		420.86	416.30	416.20	416.08	416.02	HO. GO. 6-5.12	N 541,650 E 1,365,314	
	A-IO INLET A-IO INLET A-IO INLET A-IO INLET A-IO INLET A-IO INLET DOUBLE 'S' INLET SINGLE 'S' INLET SINGLE 'S' INLET STD. 4' MANHOLE STD. 4' MANHOLE STD. 4' MANHOLE STD. 4' MANHOLE	A-IO INLET DOUBLE '5' INLET A'-O" STD. 4' MANHOLE 4'-O" STD. 4' MANHOLE 4'-O" STD. 4' MANHOLE 4'-O"	A-IO INLET A-IO I	TYPE (INSIDE) IPPER LONER A-IO INLET 2'-6" 4IO.08 409.73 A-IO INLET 2'-6" 4I5.90 4I5.55 A-IO INLET 2'-6" 4I5.90 4I5.55 A-IO INLET 2'-6" 4I5.90 4I5.55 A-IO INLET 2'-6" 422.36 422.01 A-IO INLET 2'-6" 422.36 422.01 DOUBLE 'S' INLET 2'-7 I/2" 409.03 408.91 DOUBLE 'S' INLET 2'-7 I/2" 410.96 410.74 SINGLE 'S' INLET 2'-7 I/2" 414.59 DOUBLE 'S' INLET 2'-7 I/2" 420.56 420.36 SINGLE 'S' INLET 2'-7 I/2" 424.92 424.90 STD. 4' MANHOLE 4'-0" 409.69 STD. 4' MANHOLE 4'-0" 409.69 STD. 4' MANHOLE 4'-0" 415.51 STD. 4' MANHOLE 4'-0" 415.51 STD. 4' MANHOLE 4'-0" 415.51 STD. 4' MANHOLE 4'-0" 415.51	TYPE (INSIDE) PROPOSED AS- UPPER LOWER UPPER A-IO INLET 2'-6" 4I0.08 409.73 4I0.22 A-IO INLET 2'-6" 4I5.90 4I5.55 4I6.02 A-IO INLET 2'-6" 4I5.90 4I5.55 4I6.02 A-IO INLET 2'-6" 422.36 422.01 422.47 A-IO INLET 2'-6" 422.36 422.01 422.16 DOUBLE 'S' INLET 2'-7 I/2" 409.03 408.91 DOUBLE 'S' INLET 2'-7 I/2" 4I0.86 4I0.74 SINGLE 'S' INLET 2'-7 I/2" 4I5.12 4I4.59 DOUBLE 'S' INLET 2'-7 I/2" 429.56 420.36 SINGLE 'S' INLET 2'-7 I/2" 424.92 424.80 STD. 4' MANHOLE 4'-0" 406.31 STD. 4' MANHOLE 4'-0" 409.69 STD. 4' MANHOLE 4'-0" 415.51 STD. 4' MANHOLE 4'-0" 415.51 STD. 4' MANHOLE 4'-0" 415.51 STD. 4' MANHOLE 4'-0" 415.51	TYPE MIDTH TOP ELEVATION PROPOSED AS-BUILT INSIDE UPPER LOWER UPPER LOWER IMPER L	TYPE MIDTH (INSIDE) TOP ELEVATION PROPOSED AS-BUILT AS-	TYPE (INSIDE) PROPOSED AS-BUILT PROPOSED UPPER LOWER LOWER UPPER LOWER LOWER UPPER LOWER LOWER UPPER L	TYPE HIDTH TOP ELEVATION INVERT PROPOSED AS-BUILT AS-	TYPE MIDTH FROPOSED AS-BUILT AS-BUILT FROPOSED AS-BUILT AS-BUILT FROPOSED AS-BUILT AS-BUI	TYPE HIDTH TOP ELEVATION INVERT STD. DETAIL	TYPE (INSIDE) TOP ELEVATION SA-BUILT PROPOSED AS-BUILT STD. DETAIL LOCATIONS AS-BUILT PROPOSED AS-BUILT PROPOSED AS-BUILT PROPOSED AS-BUILT AS-BUIL

421.79 417.61 417.35 417.04 416.80

(1) COORDINATE POINT GIVEN IS TO THE CENTERLINE OF STRUCTURE AT THE FACE OF CURB FOR INLETS AND TO THE CENTERLINE OF STRUCTURE FOR MANHOLES AND END SECTIONS.

(2) NYLOPLAST - ADS END SECTION OR APPROVED EQUAL

STD. 4' MANHOLE

	PIF	E SCHEDULE	
SIZE	TYPE	QUANTITY (LF.)	REMARKS
8" (YARD DRAINS)	HDPE	300	
12"	HDPE	52	
15"	HDPE	507	
18"	HDPE	496	

HDPE indicates High Density Polyethylene pipe, such as N-12 by ADS, or HI-Q by Hancor or an approved equal.

Trench bedding to be provided per Howard County Detail 6 2.01, "Trench for P.V.C. pipe and H.D.P.E." AS-BUILTS

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. 12975, Expiration Date: May 26 2016.

N 591671 E 1,365,341

Maryland Reg. No. 12975

1. ALL WATER AND SENER CROSSINGS SHOWN ARE PER CONTRACT, 14-4607-D 2. ALL STORM DRAINS IN COMMON OPEN AREAS SHALL BE PRIVATELY OWNED AND MAINTAINED. STRUCTURES HAVE BEEN INDICATED WITH AN ASTERISK (%).

3. ALL CONCRETE STRUCTURES ARE TO BE PRE-CAST.

AS-BUILT SHEET 8 OF 13

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITEC
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20856 IEL 301-421-4024 RALE 410-880-1820 DC VVA 301-989-2524 FAX: 301-421-4185

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Thief, Bureau of Highways

PREPARED FOR (OWNER): BALTIMORE, MD 21208 Remove Yard Drain atuba add Inleta 35A, 35B = 37A ATTN: MARK BENNETT

REVISION

MAGIS FARM, LLC (PARCEL 99) AND NORTHRIDGE ROAD, LLC (PARCEL B) c/o Greenebaum & Rose Associates, Inc. DEVELOPER: G&R ROGERS DEVELOPMENT SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD

410-484-8400

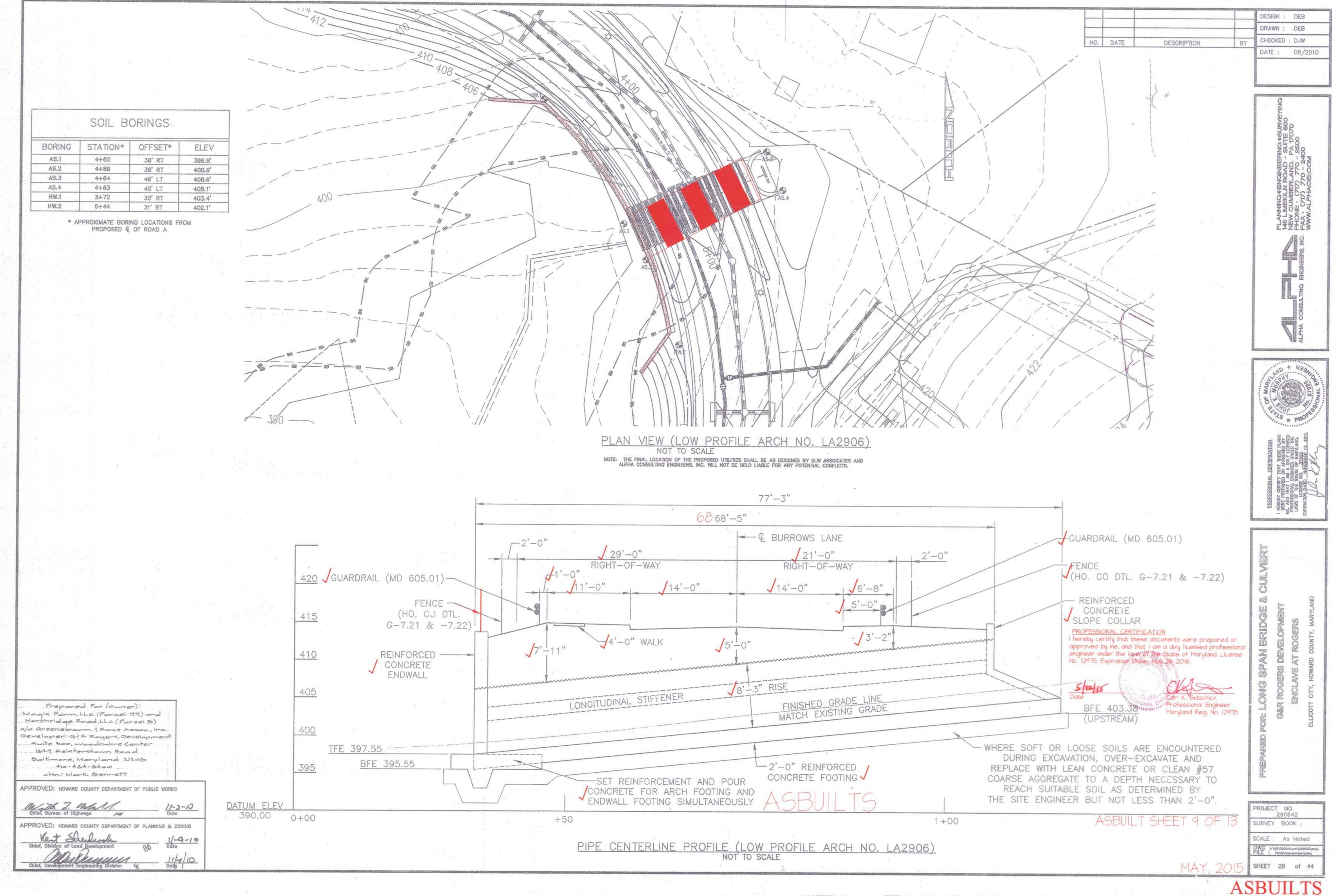
PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2012

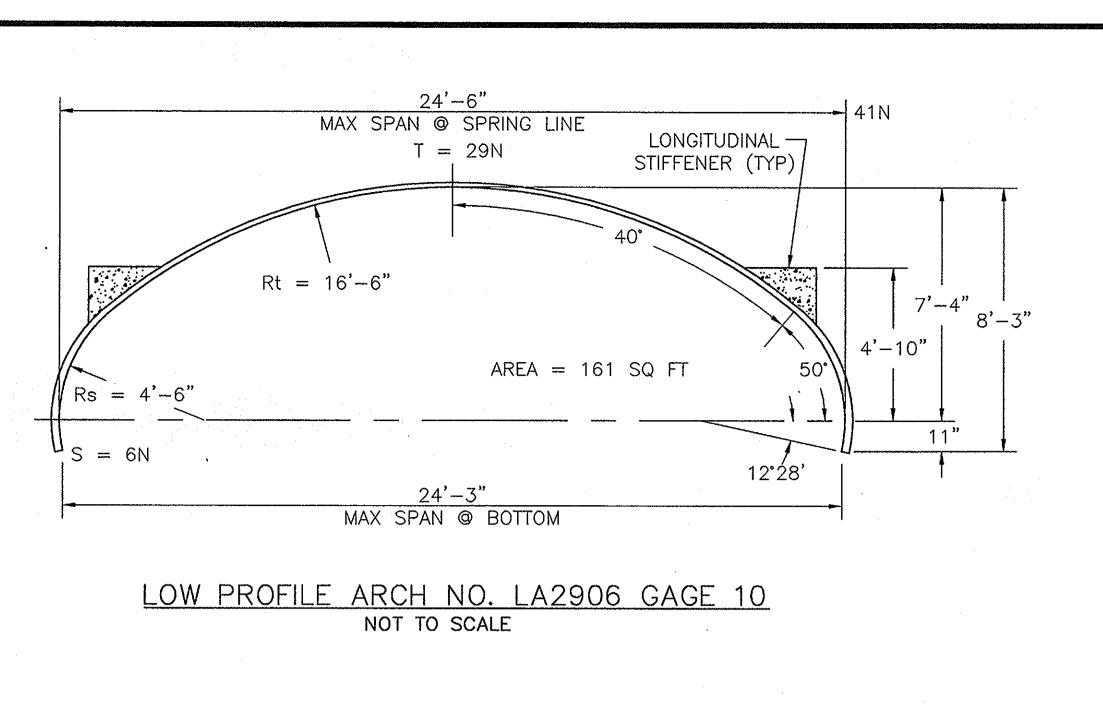


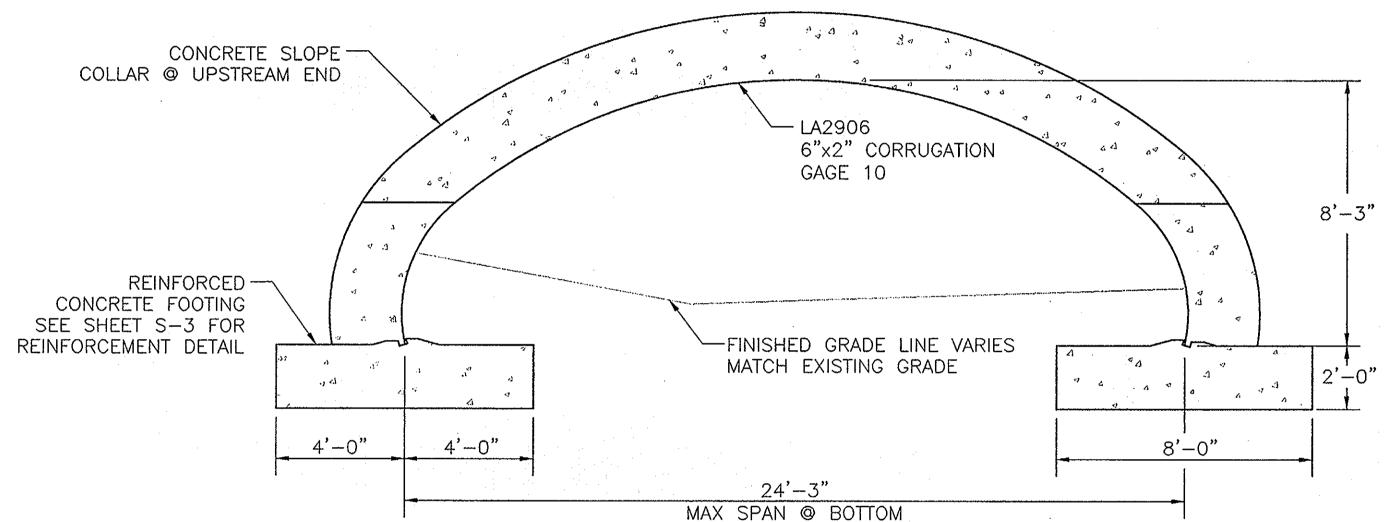
STORM DRAIN PROFILES ROAD CONSTUCTION PLAN ROCKLAND AT ROGERS LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77 AND COMMON OPEN AREAS 78 THROUGH 80 A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS,

421.96

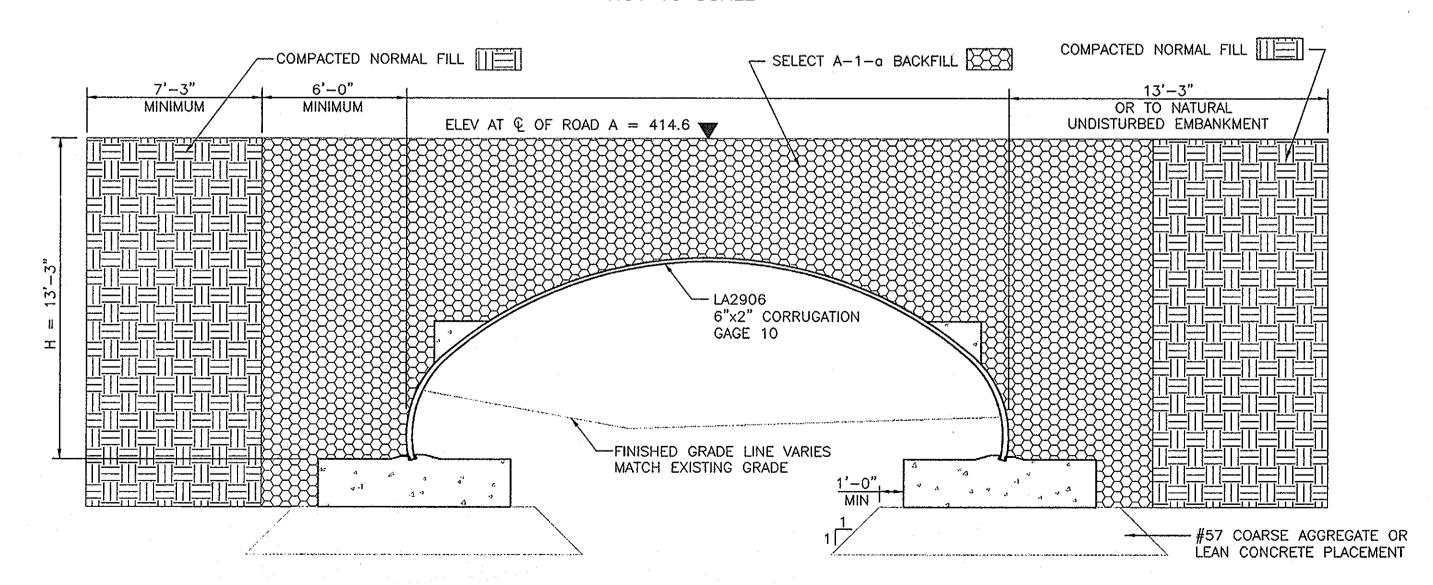
STORM DRAIN PROFILES	SCALE	ZONING	G. L. W. FILE No.	
ROAD CONSTUCTION PLAN ROCKLAND AT ROGERS	AS SHOWN	R-ED/ RA-15	06079	
THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77 AND COMMON OPEN AREAS 78 THROUGH 80 RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99 HOWARD COUNTY, MARYLAND	DATE MAY, 2015 SEPT., 2010	TAX MAP - GRID 17-18 & 24	SHEET 25 OF 44	







CROSS SECTION AT UPSTREAM END NOT TO SCALE



TYPICAL SELECT BACKFILL SECTION NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Prepared For (owner):

Magis Farm, LLC (Parcel 99) and
Northridge Road, LLC (Parcel B)

Northridge Road, LLC (Parcel B)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Prepared For (owner):

Magis Farm, LLC (Parcel 99) and
Northridge Road, LLC (Parcel B)

Prepared For (owner):

Magis Farm, LLC (Parcel 99) and
Northridge Road, LLC (Parcel B)

Prepared For (owner):

Magis Farm, LLC (Parcel 99) and
Northridge Road, LLC (Parcel B)

Prepared For (owner):

Magis Farm, LLC (Parcel 99) and
Northridge Road, LLC (Parcel B)

Prepared For (owner):

Magis Farm, LLC (Parcel 99) and
Northridge Road, LLC (Parcel B)

Prepared For (owner):

Magis Farm, LLC (Parcel 99) and
Northridge Road, LLC (Parcel B)

Prepared For (owner):

Magis Farm, LLC (Parcel 99) and
Northridge Road, LLC (Parcel B)

Prepared For (owner):

Magis Farm, LLC (Parcel 99) and
Northridge Road, LLC (Parcel B)

Prepared For (owner):

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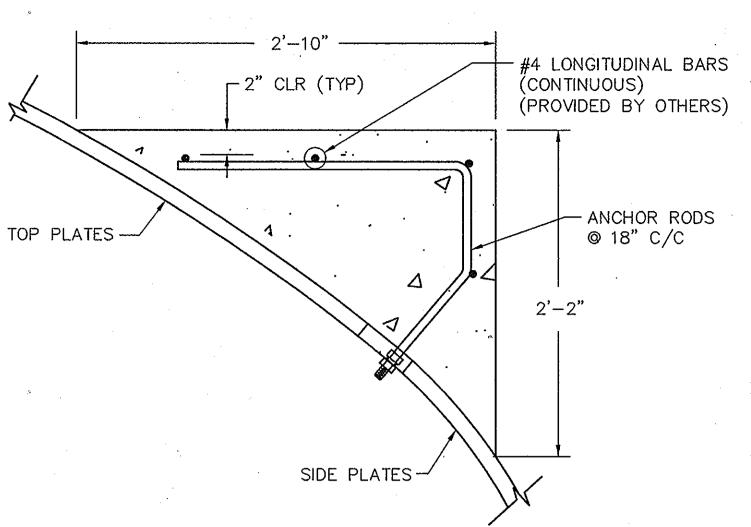
Northridge Road, LLC (Parcel B)

Prepared For (owner):

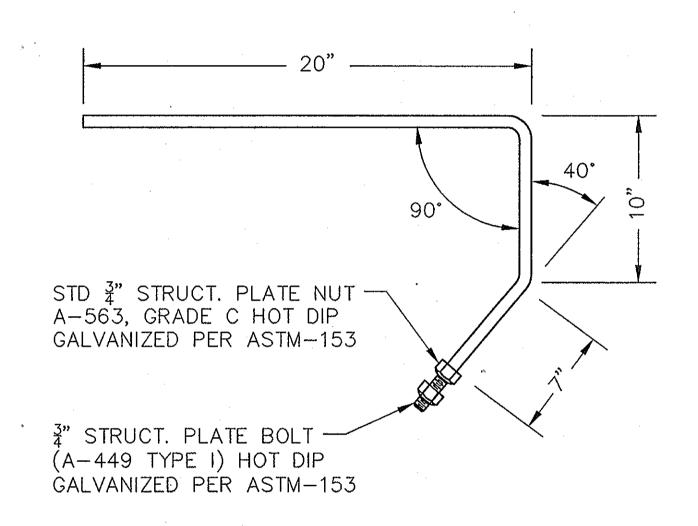
Magis Farm, LLC (Parcel B)

Northridge Road, LLC (Parcel B)

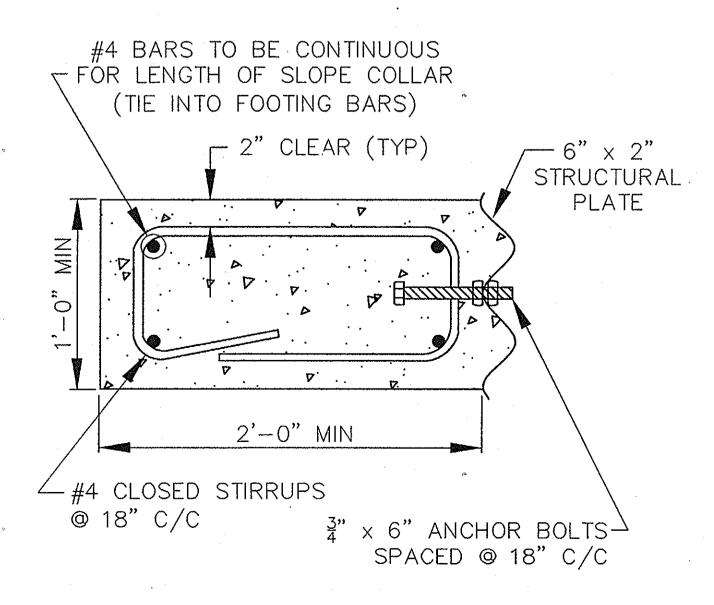
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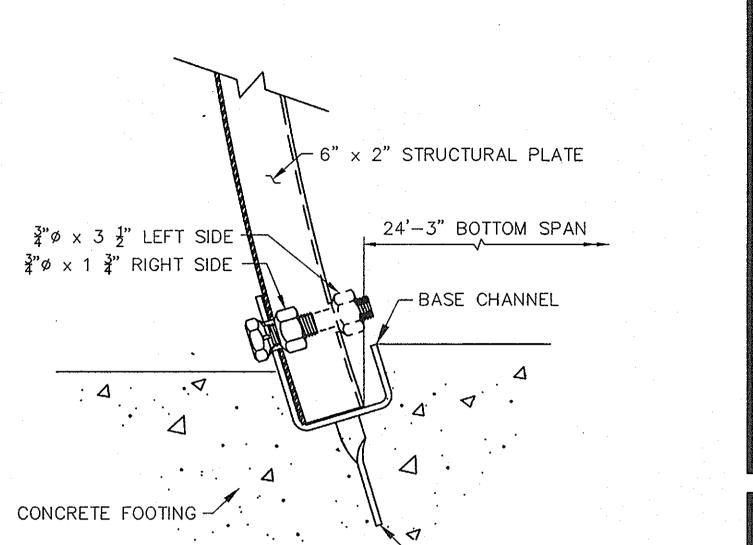
LONGITUDINAL STIFFENER DETAIL
NOT TO SCALE



BENT ROD DETAIL NOT TO SCALE



CONCRETE SLOPE COLLAR
REINFORCEMENT DETAIL
NOT TO SCALE



NO. DATE

DESCRIPTION

-1" x 3 7" KNOCKOUT ANCHORS

(BEND DOWN AND TWIST)

LOW PROFILE ARCH NO. LA2906 GAGE 10 NOT TO SCALE

AASHTO M	145 —	TABLE 2	MODIF	IED)	
GROUP CLASSIFICATION	A	–1	A-2 (MODIFIED)		
SIEVE ANALYSIS, PERCENT PASSING	A1a	A1b	A-2-4	A-2-5	
NO. 10 (2.00 mm)	50 max		tude side side		
NO. 40 (0.425 mm) .	30 max	50 max			
NO. 100 (0.150 mm)		E-846 SALE (SALE)	50 max	50 max	
NO. 200 (0.075 mm)	15 max	25 max	20 max	20 max	
Characteristics of fraction pas	sing No. 40 (0.	425 mm)			
Liquid Limit			40 max	41 max	
Plasticity Index	6 max	6 max	10 max	10 max	
Usual Material Types		ragments ind Sand	Silty or Clayey Gravel and Sand		

SELECT BACKFILL CHART

HY	/DRAULIC	DESIG	GN INF	ORMAT	ION	
DESIGN STORM	RIVER STA	FLOW, Q (cfs)	WSEL (ft)	MAX DEPTH (ft)	VEL CHNL (fps)	SCOUR
100 YEAR	UPSTREAM 225	127	408.24	1.44	7.09	NONE
100 YEAR	DOWNSTREAM 150	127	399.65	0.55	13.88	NONE

PREPARED FOR: LONG SPAN BRIDGE & CULVERGR ROGERS DEVELOPMENT
ENCLAVE AT ROGERS
ELLICOTT CITY, HOWARD COUNTY, MARYLAND

PROJECT NO.

SURVEY BOOK

SCALE: As Noted

DWG Y:\09\290642.aph\290642\dwg
FILE : Plans\raggersproperty.dwg

SHEET 27 of 44

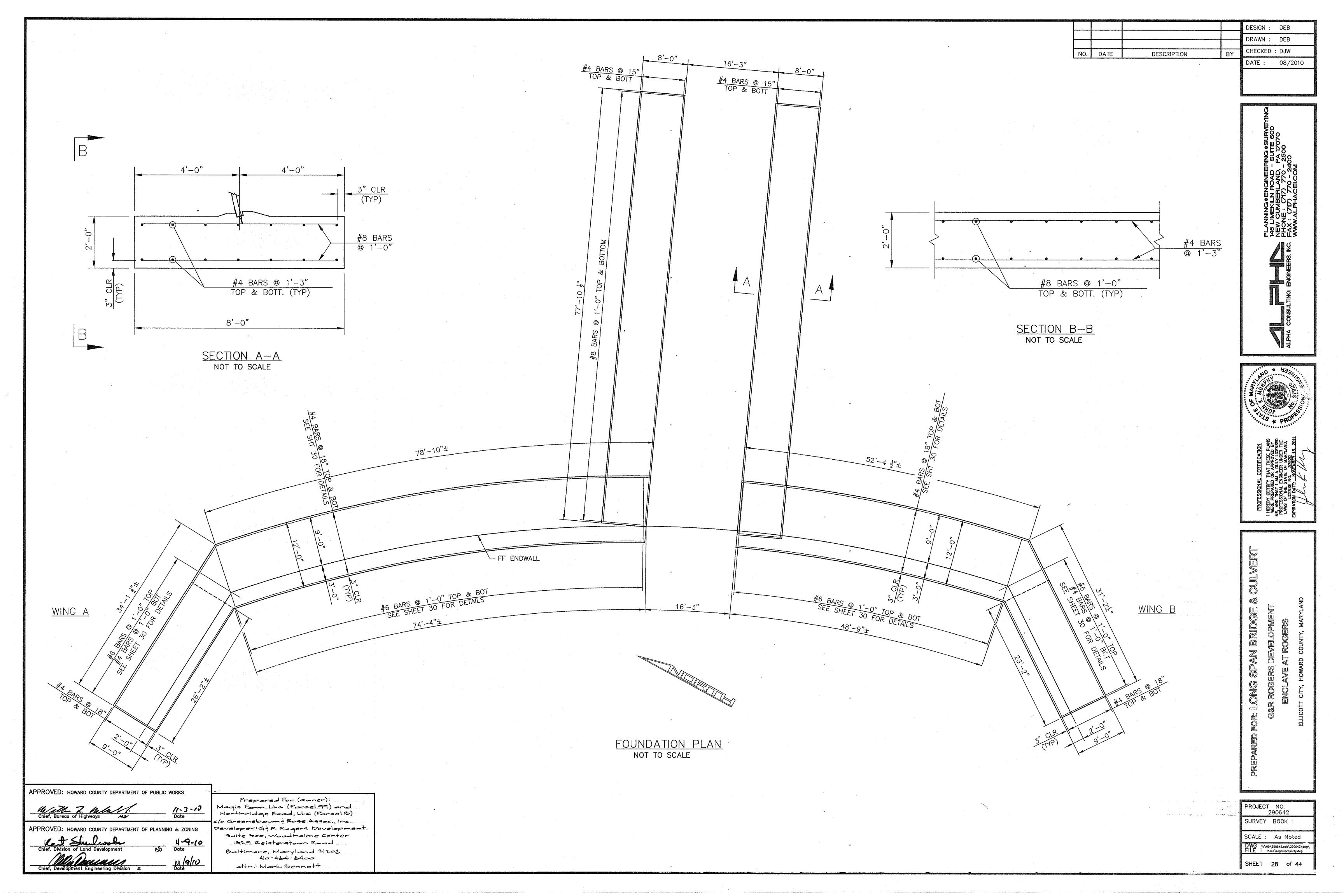
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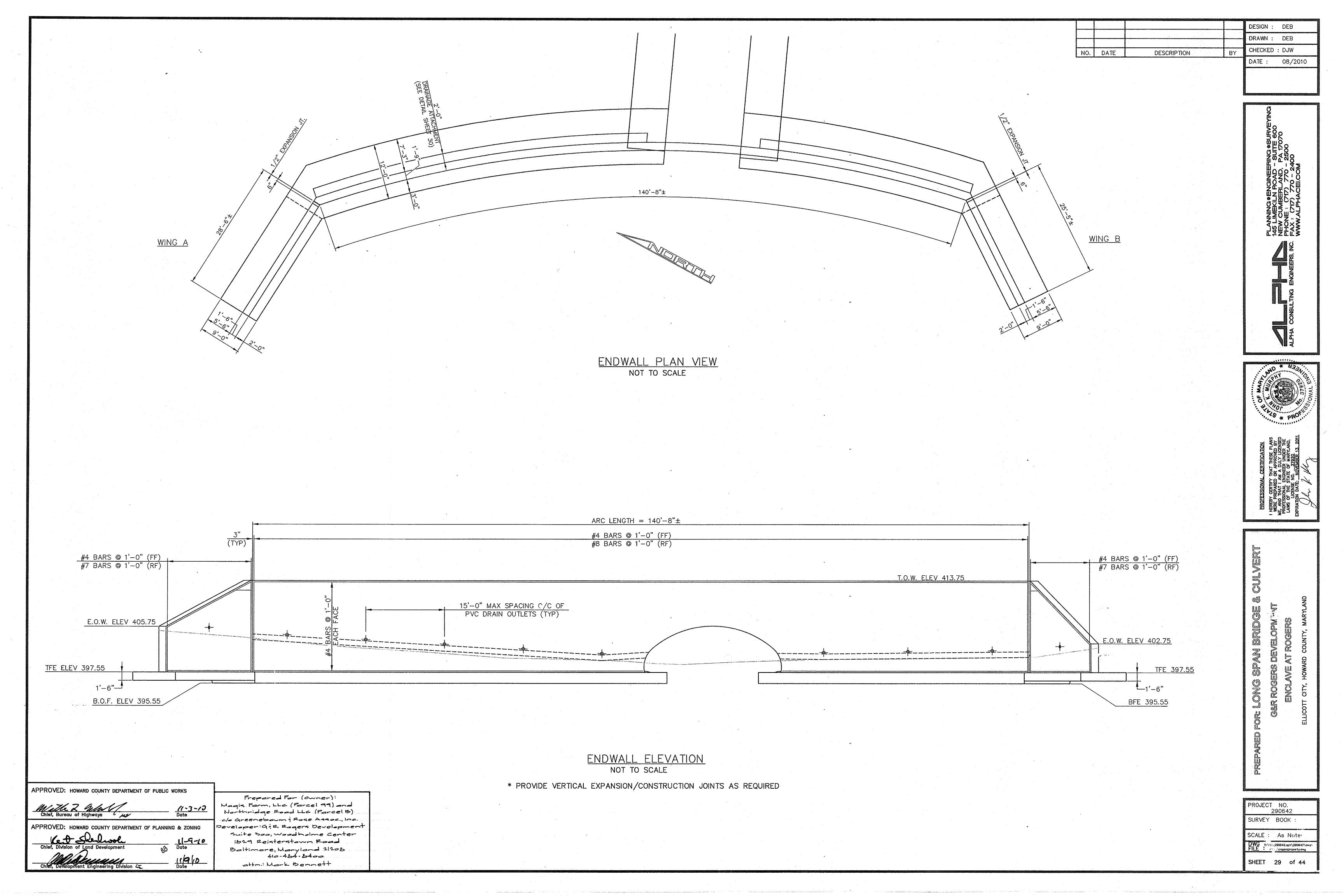
DESIGN: DEB

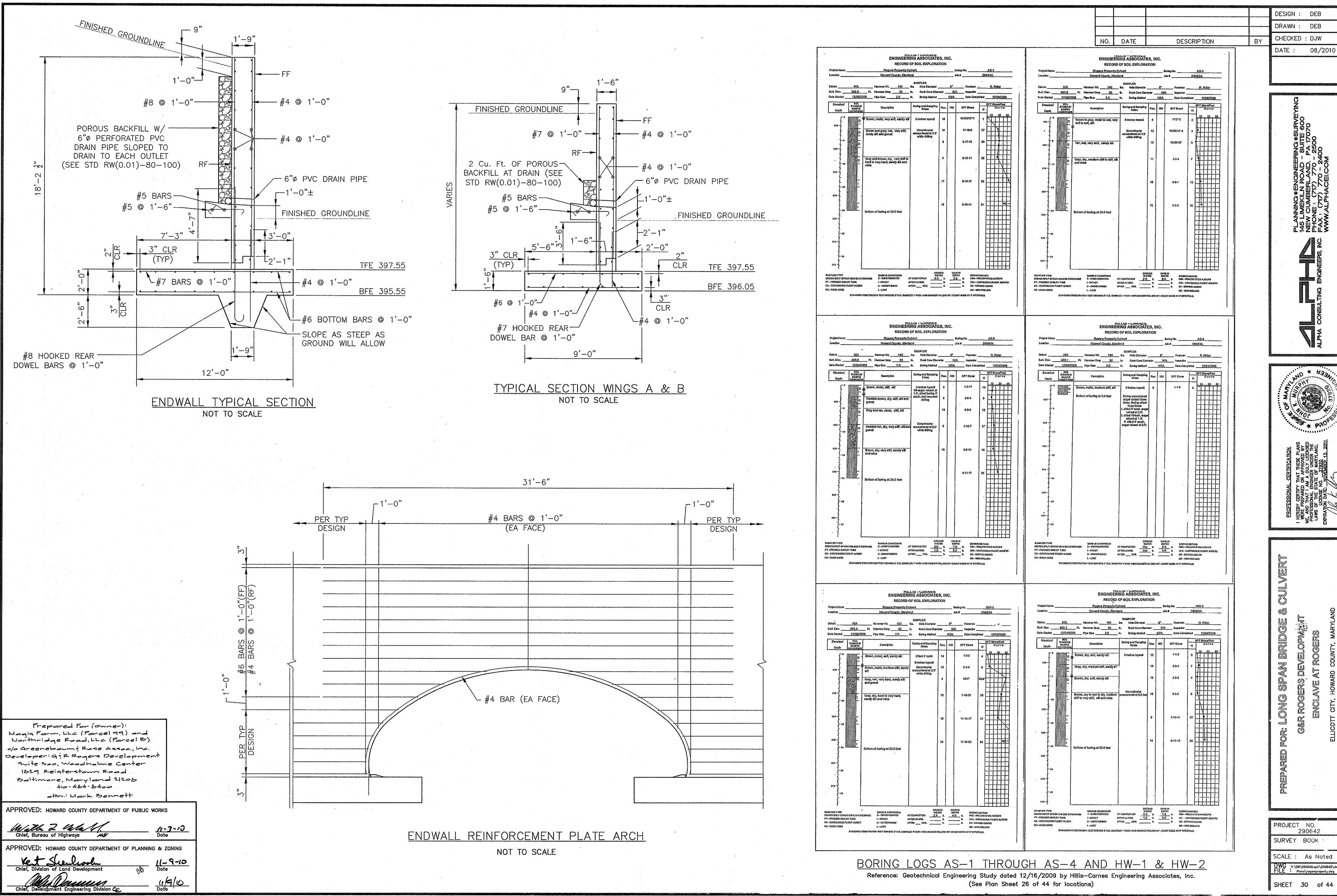
DRAWN: DEB

CHECKED : DJW

DATE: 08/2010







DESIGN: DEB DRAWN: DEB CHECKED : DJW DATE: 08/2010

ENCLAVE,

PROJECT NO. 290642 SURVEY BOOK

SCALE: As Noted DWG Y:\09\290842.aph\290642\dwg'
FILE : Plans\rogereproperty.dwg

NOTES & SPECIFICATIONS

DEFINITIONS:

- 1. CLIENT: LONG SPAN BRIDGE & CULVERT
- 2. OWNER: GREENBAUM & ROSE ASSOCIATES, INC.
- 3. CONTRACTOR: GRAY & SONS, INC.
- 4. DESIGN ENGINEER: ALPHA CONSULTING ENGINEERS, INC.
- 5. CIVIL ENGINEER: GUTSCHICK, LITTLE & WEBER, P.A.
- 6. GEOTECHNICAL ENGINEER: HILLIS-CARNES ENGINEERING ASSOCIATES, INC.

IF ANY OF THE ABOVE RESPONSIBILITIES CHANGE IT IS THE OWNER'S RESPONSIBILITY TO NOTIFY LSBC PRIOR TO THE START OF WORK. IT IS THE OWNER'S RESPONSIBILITY TO MAKE SURE ALL PARTIES LISTED ABOVE ARE AWARE OF THEIR ROLES, REQUIREMENTS, RESPONSIBILITIES AND FINAL SUBMITTALS.

GENERAL:

- 1. CONTRACTOR SHALL NOTIFY SITE ENGINEER OF ANY DISCREPANCIES, OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN ALL CASES UNLESS OTHERWISE DIRECTED, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN AND BE
- 2. CONTRACTOR SHALL VERIFIY ALL CONDITIONS, DIMENSIONS AND ELEVATIONS, ETC. AT THE SITE AND SHALL COORDINATE WORK PERFORMED BY ALL TRADES. DO NOT SCALE
- 3. SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE CIVIL ENGINEER PRIOR TO FABRICATION.
- 4. SIZES, LOCATIONS, LOADS AND ANCHORAGE OF EQUIPMENT SHALL BE VERIFIED IN THE FIELD WITH EQUIPMENT MANUFACTURERS (SUPPLIERS) PRIOR TO FABRICATION OR INSTALLATION OF SUPPORTING STRUCTURES.
- 5. TEMPORARY BRACING SHALL BE PROVIDED WHEREVER NECESSARY TO TAKE CARE OF ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING WIND. SUCH BRACING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY OR UNTIL ALL THE STRUCTURAL ELEMENTS ARE COMPLETE.
- 6. DURING AND AFTER CONSTRUCTION THE CONTRACTOR AND/OR OWNER SHALL KEEP LOADS ON THE STRUCTURE WITHIN THE LIMITS OF THE DESIGN LOAD.
- 7. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION WITHIN AND ADJACENT TO THE JOB SITE.
- 8. CIVIL ENGINEER IS RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL DESIGN.
- 9. ROAD PAVEMENT DESIGN AND ITS APPURTENANCE STRUCTURE ARE CIVIL ENGINEER'S RESPONSIBILITY. REFER ALL PAVEMENT AND ROADWAY DRAINAGE SYSTEM TO CIVIL DRAWING(S).

CONCRETE:

- 1. ALL FOUNDATION CONCRETE (FOOTINGS, WALLS, ETC.) SHALL BE NORMAL WT CONCRETE WITH A COMPRESSIVE STRENGTH EQUAL TO AT LEAST 3,500 PSI WITHIN 28 DAYS AFTER CASTING. THE WATER/CEMENT RATIO SHALL BE NO GREATER THAN 0.50 AND SLUMP SHALL BE 2-4".
- 2. ALL CONCRETE WORK SHALL BE PLACED, CURED, STRIPPED, AND PROTECTED AS DIRECTED BY THESE SPECIFICATIONS AND ACI STANDARDS AND PRACTICES.
- 3. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING AND FORMWORK.
- 4. CONCRETE DESIGN AND DETAILING SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-02. CONTRACTOR SHALL SUBMIT MIX DESIGNS TO THE SITE ENGINEER ACCOMPANIED BY APPROPRIATE GRAPHS AND BACKGROUND DATA FOR APPROVAL. MIX DESIGN SHALL INDICATE 7 AND 28 DAY STRENGTHS, CEMENT CONTENT, AIR CONTENT, WATER/CEMENT RATIO, AMOUNT OF FINE AND COARSE AGGREGATES AND ADMIXTURES.

 MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

 FOOTINGS AND OTHER CONCRETE:

 3500 PSI
 UNREINFORCED CONCRETE:
 2000 PSI
- 5. ALL EXTERIOR CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED.
- 6. USE OF ADDITIVES SHALL NOT BE PERMITTED UNLESS SPECIFICALLY APPROVED BY THE GEOTECHNICAL ENGINEER.
- 7. THE CONCRETE SUBCONTRACTOR SHALL NOT REPRODUCE ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR UTILIZATION AS SHOP DRAWINGS.
- 8. CONCRETE SHALL BE CONSOLIDATED BY MEANS OF MECHANICAL VIBRATION. VIBRATORS SHALL BE INSERTED AND REMOVED VERTICALLY AT REGULAR INTERVALS NOT TO EXCEED 18" TO ENSURE UNIFORM CONSOLIDATION. IN NO CASE SHALL VIBRATORS BE USED TO TRANSPORT CONCRETE INSIDE THE FORMS.
- 9. FORM WORK SHALL FOLLOW ACI 347, "RECOMMENDED PRACTICE FOR CONRETE FORM WORK". FORMS SHALL CONFORM TO THE WORKING DRAWING TO SHAPE, LINE AND DIMENSIONS OF MEMBERS AND SHALL BE SUBSTANTIALLY FREE FROM SURFACE DEFECTS AND SUFFICIENTLY TIGHT TO PREVENT LEAKAGE. THEY SHALL BE PROPERLY BRACED AND TIED TO MAINTAIN POSITION AND SHAPE.
- 10. FRESH CONCRETE SHALL BE PROTECTED FROM RAINS, FLOWING WATER AND MECHANICAL INJURY, SUN, DRYING WINDS AND FREEZING FOR A PERIOD OF 7 DAYS. THE TEMPERATURE OF THE CONCRETE MUST BE KEPT ABOVE 50° FOR AT LEAST 7 DAYS.
- 11. GROUND WATER AND SURFACE WATER WITHIN THE SUBGRADE EXCAVATION AREA MUST BE MAINTAINED BELOW THE BOTTOMS OF THE FOOTER ELEVATION AND THE BOTTOMS OF THE EXCAVATION DURING PREPARATION OF THE SUBGRADE.

GEOTECHNICAL NOTES:

- 1. GEOTECHNICAL SITE INFORMATION PROVIDED BY GEOTECHNICAL INVESTIGATION REPORT PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC., DATED DECEMBER 16, 2009.
- 2. ALL STRUCTURAL FILL SOILS SHALL HAVE A MINIMUM DRY DENSITY OF 105 PCF. FILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR ASTM D698 (AASHTO T99) WITH THE EXCEPTION OF THE TOP FOOT WHICH WILL BE 100% OF THE MAXIMUM DRY DENSITY.
- 3. ALL STRUCTURAL FILL MATERIAL SHALL BE PLACED IN LAYERS WHICH, BEFORE COMPACTION, SHALL NOT EXCEED EIGHT INCHES. EACH LAYER SHALL SPREAD TO ENSURE CONFORMITY OF MATERIALS IN EACH LAYER.
- 4. VIRGIN / UNDISTURBED SOILS ARE DEFINED AS SOILS WITH A MINIMUM SPT "N" VALUE OF 12.

FOOTINGS:

- 1. PLATE ARCH FOOTINGS ARE BASED ON AN ALLOWABLE SOIL BEARING PRESSURE OF 4000 PSF AND HEADWALL FOOTINGS ARE BASED ON AN ALLOWABLE SOIL BEARING PRESSURE OF 3000 PSF. ANY SOIL CONDITION ENCOUNTERED DURING EXCAVATION THAT IS CONTRARY TO THOSE USED FOR DESIGN OF FOOTINGS AS OUTLINED IN THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE SITE GEOTECHNICAL ENGINEER FOR DIRECTION BEFORE PROCEEDING.
- 2. BOTTOM OF FOOTINGS SHALL BE A MINIMUM OF 3'-0" BELOW FINISHED GRADE, UNLESS A LOWER ELEVATION IS NOTED. FOOTING ELEVATIONS NOTED ARE ESTIMATED BASED ON AVAILABLE GEOTECHNICAL AND GRADING INFORMATION. ALL FOOTINGS ADJACENT TO EXISTING FOOTINGS SHALL BE LOWERED TO MATCH EXISTING FOOTING ELEVATION.
- 3. ALL FOUNDATION SUBGRADES SHALL BE INSPECTED AND APPROVED UNDER THE SUPERVISION OF THE REGISTERED PROFESSIONAL SITE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE PRIOR TO POURING CONCRETE. FOOTING MAY BE LOWERED TO ACHIEVE HE MINIMUM FOOTING SUBGRADE BEARING CAPACITY OF 4000 PSF FOR THE PLATE ARCH AND 3000 PSF FOR THE HEADWALL.

REINFORCING STEEL:

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

- REINFORCING BARS SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615, GRADE 60. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185. BARS SHALL BE BRANDED BY THE MANUFACTURER WITH BARS SIZE AND GRADE OF STEEL AND CERTIFIED MILL REPORTS SHALL BE SUBMITTED TO SITE ENGINEER FOR RECORD. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONRETE STRUCTURES", LATEST EDITION. PROVIDE CORNER BARS AT JUNCTION OF CONCRETE WALLS AND WALL FOOTING AND LAP 48 x BAR DIAMETER.
- 2. WITH WALL REINFORCING AS SHOWN IN TYPICAL DETAILS, SIZE AND SPACING OF CORNER BARS TO BE SAME AS HORIZONTAL WALL REINFORCING, UNLESS SHOWN OTHERWISE. WHERE CONTINUOUS BARS ARE CALLED FOR, THEY SHALL RUN CONTINUOUSLY AROUND CORNERS AND LAPPED AS NECESSARY MIN. 48 X BAR DIAMETER. PROVIDE STANDARD HOOKS AT DISCONTINUOUS ENDS. TENSION AND COMPRESSION LAP SPLICES SHALL NOT BE LESS THAN THE SPLICE LENGTHS AS GIVEN IN ACI—318. GENERALLY LAP TOP BARS AT MIDSPAN AND BOTTOM BARS AT SUPPORTS. PROVIDE PLACING ACCESSORIES IN ACCORDANCE WITH ACI RECOMMENDATIONS.
- 3. PROVIDE THE FOLLOWING MINIMUM CONCRETE COVER FOR REINFORCEMENT:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"

11-3-10

CONCRETE EXPOSED TO EARTH OR WEATHER:

NO. 6 THROUGH NO. 18 BARS 2"
NO. 5 BAR, W31 OR D31 WIRE AND SMALLER 1 1/2"

CONCRETE SLABS, WALLS, JOISTS: NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND

NO. 14 AND NO. 18 BARS NO. 11 BARS AND SMALLER

3/4

BEAMS, COLUMNS:
PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS

1 1/2"

Prepared For (owner):

Magis Farm, LLc (Parcel 99) and

Northridge Road, LLc (Parcel B)

clo Greeneboum & Rose Assoc., Inc.

Developer: G: R Rogers Development

Suite 300. Woodholme Center

1829 Reisterstown Road

Baltimore, Maryland 2/200 410-484-8400 attn.: Mark Bennett EARTHWORK SPECIFICATIONS:

- 1. ALL LABOR, MATERIAL AND EQUIPMENT FOR THE EARTHWORK SHALL BE FURNISHED BY THE CONTRACTOR. THE CONTRACTOR SHALL PERFORM ALL WORK AND SERVICES EXCEPT THOSE SET OUT AND FURNISHED BY LONG SPAN BRIDGE & CULVERT, (LSBC). SEE LSBC SCOPE OF WORK THIS SHEET.
- 2. THIS WORK SHALL CONSIST OF ALL CLEARING AND GRADING, PREPARATION OF THE LAND TO BE FILLED, FILLING OF THE LAND, SPREADING AND COMPACTION OF THE FILL, AND ALL SUBSIDARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE PROJECT LINES, GRADES, SLOPES AND SPECIFICATIONS.
- 3. THIS WORK IS TO BE ACCOMPLISHED UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER OR HIS DESIGNATED REPRESENTATIVE. PLACEMENT OF BACKFILL MATERIAL WILL NOT BE PERMITTED UNLESS THE ENGINEER OR DESIGNATED REPRESENTATIVE (QA/QC FIELD TECHNICIAN) IS ON SITE.

SUCH ADDITIONAL INVESTIGATION AS THEY MAY DEEM NECESSARY FOR THE PLANNING AND PROPER EXECUTION OF THE WORK.

- 4. PRIOR TO BIDDING THE WORK, THE CONTRACTOR SHALL EXAMINE, INVESTIGATE AND INSPECT THE CONSTRUCTION SITE AS TO THE NATURE AND LOCATION OF THE WORK AND LOCAL CONDITIONS AT THE CONSTRUCTION SITE INCLUDING, WITHOUT LIMITATION, THE CHARACTER OF SURFACE OR SUBSURFACE CONDITIONS AND OBSTACLES TO BE ENCOUNTERED ON AND AROUND THE CONSTRUCTION SITE; AND SHALL MAKE
- 5. THE GEOTECHNICAL INFORMATION FOR THIS PROJECT IS BASED ON SUBSURFACE INFORMATION PROVIDED BY HILLIS—CARNES ENGINEERING ASSOCIATES, INC. THE SUBGRADE SOIL BENEATH THE CONTINUOUS FOOTING FOUNDATION SHALL HAVE AN ALLOWABLE BEARING CAPACITY OF 4000 PSF FOR THE PLATE ARCH AND 3000 PSF FOR THE HEADWALL. THE SUBGRADE SOIL CONDITION, GRADE AND THE ROCK QUALITY SHALL BE VERIFIED BY THE PROFESSIONAL SITE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE IN THE FIELD. ALL STONE SUBGRADE SHALL BE COMPACTED WITH A VIBRATORY PLATE COMPACTOR IN NO MORE THAN 8" LIFTS AND VERIFIED BY THE PROFESSIONAL SITE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE.
- 6. IF CONDITIONS OTHER THAN THOSE INDICATED BY THE CONFIRMATORY SUBSURFACE BORING PROGRAM ARE ENCOUNTERED BY THE CONTRACTOR, LONG SPAN BRIDGE & CULVERT (LSBC) SHOULD BE NOTIFIED IMMEDIATELY. THE MATERIAL, WHICH THE CONTRACTOR BELIEVES TO BE A CHANGED CONDITION SHOULD NOT BE DISTURBED SO THAT LSBC AND/OR THEIR DESIGNATED REPRESENTATIVE CAN INVESTIGATE THE CONDITION.
- 7. THE WORK FOR CLEARING AND GRUBBING INCLUDES FURNISHING ALL LABOR, MATERIALS, TRANSPORTATION, SUPERVISION, TOOLS AND CONSTRUCTION MACHINERY WHICH MAY BE NECESSARY TO ACCOMPLISH THE CLEARING AND GRUBBING FOR THIS PROJECT AREA.
- 8. ALL TREES, BUSHES, ETC., SHALL BE REMOVED FROM THE LIMITS OF THE PROPOSED AREAS TO RECEIVE FILL OR OTHER ENGINEERED STRUCTURE. THE AREAS MAY BE EXTENDED OUTSIDE THE ACTUAL LINES OF CONSTRUCTION ONLY TO THE DISTANCE REQUIRED TO PROVIDE THE CONTRACTOR WITH SUFFICIENT SPACE TO PERFORM THE WORK.
- 9. ALL STUMPS, VEGETATION, BRUSH, DEBRIS OR DELETERIOUS MATERIALS SHALL BE REMOVED FROM THE LIMITS OF THE FILL OR OTHER ENGINEERED STRUCTURES.
- 10. THE WORK FOR STRIPPING INCLUDES FURNISHING ALL LABOR, MATERIALS, TRANSPORTATION, SUPERVISION, TOOLS AND CONSTRUCTION MACHINERY WHICH MAY BE NECESSARY TO BE PROVIDED BY THE CONTRACTOR.
- 11. WHEN THE CONSTRUCTION/OPERATION SEQUENCE REQUIRES, THE AREA OF FILL OR OTHER ENGINEERED STRUCTURES SHALL BE PROPERLY STRIPPED. THIS STRIPPING SHALL INCLUDE TOPSOIL AND OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL BE REMOVED TO ITS FULL DEPTH AND STOCKPILED FOR USE IN THE FINAL COVER. ANY RUBBISH, ORGANIC AND OBJECTIONABLE SOILS AND OTHER DELETERIOUS MATERIAL SHALL BE PROPERLY DISPOSED OF AT A SITE APPROVED BY OWNER OR LSBC.
- 12. THE LINES AND GRADES SHALL BE ESTABLISHED BY USING CONTROL BENCHMARKS PROVIDED BY LICENSED SURVEYORS.
- 13. SOFT OR SPONGY COHESIVE OR SILTY MATERIALS ENCOUNTERED AT THE BASE OF THE EXCAVATION SHALL BE REMOVED AT THE DIRECTION OF THE SITE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE. THE EXCAVATION FOR THE FOOTING WALL FOUNDATIONS SHALL BE OBSERVED AND SUBGRADE BEARING CAPACITY CERTIFIED BY THE SITE GEOTECHNICAL ENGINEER UPON COMPLETION OF THIS TASK. AT THE DIRECTION OF THE SITE GEOTECHNICAL ENGINEER OR HIS DESIGNATED REPRESENTATIVE, SOFT MATERIAL WILL BE REMOVED TO A DEPTH DIRECTED BY THE SITE GEOTECHNICAL ENGINEER OR HIS DESIGNATED REPRESENTATIVE, AND REPLACED WITH GRANULAR BACKFILL COMPACTED TO AT LEAST 100 PERCENT OF THE MAXIMUM DRY UNIT WEIGHT DENSITY AT A MOISTURE CONTENT WITHIN 2 PERCENT OF OPTIMUM AS DETERMINED BY AASHTO T-99 METHOD / ASTM D 698.
- 14. NO SELECT GRANULAR BACKFILL MAY BE PLACED WITHOUT BEING OBSERVED BY LSBC'S SHAPE CONTROL TECHNICIAN.
- 15. GROUND WATER AND SURFACE WATER WITHIN THE SUBGRADE EXCAVATION AREA MUST BE MAINTAINED AT LEAST 3 FEET BELOW THE FOOTER ELEVATION DURING PREPARATION OF THE SUBGRADE. IF ADDITIONAL EXCAVATION IS REQUIRED TO REMOVE UNSUITABLE MATERIALS, THE WATER MUST BE MAINTAINED 3 FEET BELOW THE DEEPEST EXCAVATION ELEVATION.
- 16. THE SUBGRADE SHALL BE COMPACTED WITH A SOIL VIBRATORY COMPACTOR OR EQUIVALENT WITH A DYNAMIC FORCE OF 50,000 POUNDS (MIN). THE TOP 1-FOOT OF THE SUBGRADE SOIL SHALL BE COMPACTED TO AT LEAST 100 PERCENT OF THE MAXIMUM DRY UNIT WEIGHT AT A MOISTURE CONTENT WITHIN 2 PERCENT OF OPTIMUM AS DETERMINED BY AASHTO T-99 METHOD (STANDARD PROCTOR). ALL COMPACTION AND SUBGRADE BEARING CAPACITY TO BE VERIFIED BY THE SITE GEOTECHNICAL ENGINEER OR REPRESENTATIVE.
- 17. ALL SELECT GRANULAR BACKFILL MATERIAL AROUND THE CULVERT AND ABOVE THE FOOTING SHALL CONSIST OF AASHTO M145 A-1-a or A-1-b. RECYCLED CONCRETE MATERIAL SHALL NOT BE ALLOWED. THE SELECT BACKFULL MATERIAL SHALL HAVE FINES (PASS NO. 200 SIEVE MEATERIAL) LESS THAN 20% BY WEIGHT. SEE TYPICAL SELECT BACKFILL CHART ON SHEET 2.
- 18. THE SELECT GRANULAR BACKFILL MATERIAL AND SITE SOIL BACKFILL FOR THE ADJOINING EMBANKMENT MATERIAL SHALL BE TESTED IN THE LABORATORY FOR GRAIN SIZE DISTRIBUTION (AASHTO T-27 FOR GRANULAR MATERIAL; AASHTO T-88 FOR SOIL MATERIAL) AND MOISTURE-DENSITY RELATIONSHIP (AASHTO T-99). THE TESTING DESCRIBED ABOVE IS FOR PURPOSES OF VERIFICATION OF SITE SOIL BACKFILL PARAMETERS AND IS IN ADDITION TO THE GENERAL PROJECT SPECIFICIATION FOR THE EMBANKMENT BACKFILL, BUT DOES NOT SUPERSEDE PROJECT SPECIFICATION THAT MAY BE MORE STRINGENT.
- 19. ALL BACKFILL OPERATIONS SHALL PLACE THE MATERIAL EVENLY ON BOTH SIDES OF THE PLATE ARCH AND EACH LIFT SHALL EXTEND FOR THE ENTIRE LENGTH OF THE PLATE ARCH PRIOR TO PLACEMENT OF THE NEXT SEQUENTIAL LIFT. FILL PLACEMENT SHALL BEGIN IN THE MIDDLE OF THE PLATE ARCH LENGTH AND EXTEND EQUALLY ON BOTH SIDES IN THE UPSTREAM AND DOWNSTREAM DIRECTIONS.
- 20. THE SELECT GRANULAR BACKFILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 8—INCH LOOSE DEPTH. THE LIFT THICKNESS MAY BE REDUCED BY THE SITE GEOTECHNICAL ENGINEER OR HIS DESIGNATED REPRESENTATIVE TO OBTAIN THE REQUIRED COMPACTION, FILL ALL VOIDS, ACHIEVE THE PROPER SEATING OF THE BACKFILL MATERIAL AND ACHIEVE THE STABILITY OF THE BACKFILL MATERIAL AND THE PLATE ARCH. THE GRANULAR BACKFILL SHALL BE COMPACTED TO 95 PERCENT OF THE MAXIMUM DRY UNIT WEIGHT AS DETERMINED BY THE STANDARD PROCTOR TEST (AASHTO T—99). FIELD NUCLEAR DENSITY TEST SHALL BE PERFORMED AT A MINIMUM FREQUENCY OF TWO TESTS PER LIFT AND EVERY 25 FEET ON EACH SIDE OF THE STRUCTURE. GREATER EMPHASIS SHALL BE GIVEN TO A UNIFORM DEGREE OF COMPACTION THROUGHOUT EACH LIFT THAN TO ACHIEVING A DEGREE OF COMPACTION GREATER THAN THE MINIMUM SPECIFIED CRITERIA. DESIGN OF SELECT GRANULAR BACKFILL SHALL BE DONE BY SITE GEOTECHNICAL ENGINEER.
- 21. ALL GRANULAR MATERIAL SHALL BE COMPACTED USING MECHANICAL DEVICES, HAND DEVICES, VIBRATING PLATES OR OTHER EQUIPMENT APPROVED BY THE SITE GEOTECHNICAL ENGINEER. COMPACTION EQUIPMENT WEIGHING MORE THAN 24,000 POUNDS SHALL NOT BE USED WITHIN 2.5 FEET OF THE CORRUGATED METAL STRUCTURE. THE COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE MATERIAL UNDER THE HAUNCH OF THE PLATE ARCH (I.E. BELOW THE SPRING LINE OF THE PLATE ARCH).
- 22. THE SOIL BACKFILL (COMPACTED NORMAL BACKFILL) WITHIN 18'-3" OR TO NATURAL UNDISTURBED EMBANKMENT BACKFILL SHALL BE PLACED IN LAYERS NOT OF THE SELECTED GRANULAR TO EXCEED 8-INCH LOOSE DEPTH. THE LIFT THICKNESS MAY BE REDUCED BY THE SITE GEOTECHNICAL ENGINEER TO OBTAIN THE REQUIRED COMPACTION. THE SOIL BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY UNIT WEIGHT AS DETERMINED BY THE STANDARD PROCTOR TEST (AASHTO T-99) AND TO A MOISTURE CONTENT WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE SAME TEST. FIELD NUCLEAR DENSITY TESTS SHALL BE PERFORMED AT A MINIMUM FREQUENCY OF FOUR TESTS PER EVERY OTHER LIFT AND EVERY 25 FEET ON THE SOIL BACKFILL ON EACH SIDE OF THE STRUCTURE. THE TESTING DESCRIBED ABOVE IS IN ADDITION TO THE GENERAL PROJECT SPECIFICATION FOR EMBANKMENT BACKFILL AND DOES NOT SUPERSEDE PROJECT SPECIFICATIONS THAT ARE MORE STRINGENT THAN THESE REQUIREMENTS. THE SITE GEOTECHNICAL ENGINEER IS REPSONSIBLE FOR TESTING AND RECORDING MEASUREMENTS OF THE SOIL BACKFILL.
- 23. IF AT ANY TIME LONGITUDINAL CRACKS DEVELOP IN THE BACKFILL SURROUNDING THE PIPE TO A DISTANCE OF 30 FEET FROM THE SPRING LINE OF THE PLATE ARCH, THESE FEATURES MUST BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE FIELD QA/QC PERSONNEL AND THE SITE GEOTECHNICAL ENGINEER.
- 24. WHILE COMPACTING GRANULAR BACKFILL MATERIAL WITH A VIBRATOR COMPACTOR AND ADJACENT TO THE PLATE ARCH, THE OPPOSITE SIDE OF THE PLATE ARCH SHOULD BE OBSERVED TO NOTE IF VIBRATIONS ARE LOOSENING THE GRANULAR MATERIALS ON THAT SIDE. THIS MAY BE MORE PREVALENT AT HIGHER ELEVATION OF THE BACKFILL WITH RESPECT TO THE PLATE ARCH. IF THIS CONDITION OCCURS, THE FIELD QA/QC TECHNICIAN AND SITE GEOTECHNICAL ENGINEER SHOULD BE NOTIFIED PRIOR TO PLACEMENT OF THE SEQUENTIAL LIFT ON EITHER
- 25. THE STRUCTURE SHOULD NOT BE CROSSED WITH EQUIPMENT HEAVER THAN A D-4 DOZER. NO OTHER EQUIPMENT OR HIGHWAY (HS-25) LOADING SHALL BE ALLOWED TO CROSS THE STRUCTURE UNTIL THE ASPHALT PAVEMENT IS PLACED UNLESS THERE IS A MINIMUM OF 12 INCHES OF SOIL COVER OR SPAN/B INCHES OF SOIL COVER WHICHEVER IS GREATER, COVERING THE PLATE ARCH. TOP FILLING SHOULD BEGIN AT THE MIDDLE OF THE STRUCTURE (LENGTH WISE) WITH BACKFILL BEING PUSHED UP AND OVER THE STRUCTURE WITH A D-4 OR PREFERABLY SMALLER TYPE DOZER. THE FILL SHOULD BE PUSHED OVER THE STRUCTURE IN A MANNER 45 TO 90 DEGRESS TO THE AXIS OF THE STRUCTURE. FIELD NUCLEAR DENSITY TEST SHALL BE PERFORMED AT A MINIMUM FREQUENCY OF FOUR TESTS PER EVERY LIFT ON THE SOIL BACKFILL ON EACH SIDE OF THE STRUCTURE. THE TESTING DESCRIBED ABOVE IS IN ADDITION TO THE GENERAL PROJECT SPECIFICATION FOR EMBANKMENT BACKFILL AND DOES NOT SUPERSEDE PROJECT SPECIFICATIONS THAT ARE MORE STRINGENT THAN THESE REQUIREMENTS. THE CONTRACTOR SHALL SUBMIT TO THE OWNER SAMPLES OF ALL PROPOSED SOIL BACKFILL MATERIAL FOR LABORATORY TESTING TO VERIFY MOISTURE AND DENSITY RELATIONSHIPS (AASHTO T-99/ASTM D 698) AND GRAIN SIZE RELATIONSHIPS (AASHTO T-27 / ASTM C 136).
- 26. ALL CONSTRUCTION TO BE CERTIFIED AT THE END OF THE JOB BY A PROFESSIONAL ENGINEER (CIVIL ENGINEER OR STIE GETOECHNICAL ENGINEER) THAT ALL WORK PERFORMED BY CONTRACTOR MEETS THESE DESIGN REQUIREMENTS AND SPECIFICATIONS. CERTIFICATION TO BE SUBMITTED TO LSBC AND THE LOCAL JURISDICTION FOR RECORD FILE.
- 27. NO SELECT GRANULAR BACKFILL MAY BE PLACED WITHOUT BEING OBSERVED BY LSBC'S SHAPE CONTROL TECHNICIAN.

REQUIRED SUBMITTALS:

SHOP DRAWINGS OF ALL CONCRETE WORK.

THE CONTRACTOR MUST SUBMIT THE FOLLOWING ITEMS TO THE SITE CIVIL ENGINEER FOR APPROVAL IN WRITING AT LEAST 2 WEEKS PRIOR TO USE:

NO.

DATE

DESCRIPTION

1. MANUFACTURE CERTIFICATION FOR YIELD STRENGTH OF REINFORCING STEEL 2. MANUFACTURE CERTIFICATION FOR CONCRETE DESIGN.

CONSTRUCTION OVERSIGHTS CERTIFICATIONS:

THE PLATE ARCH CONSTRUCTION REQUIRES ENGINEERING OVERSIGHT AND INSPECTION. THE GEOTECHNICAL ENGINEERS MUST PROVIDE LSBC CERTIFICATION REPORTS OF ALL FOOTINGS AND RETAINING WALL/HEADWALLS REINFORCING PLACEMENT AND THE FOLLOWING ITEMS:

- 1. SUBGRADE BEARING CAPACITY AND BACKFILL (SELECT GRANULAR AND COMPACTED NORMAL BACKFILL) COMPACTION TESTING FIELD REPORTS, TESTING RESULTS, TESTING LOCATION, AND REGISTERED PROFESSIONAL ENGINEER'S CERTIFICATION.
- 2. FIELD REPORTS OF CONCRETE PLACEMENT REVIEW, LABORATORY TEST RESULTS OF CONCRETE CYLINDER BREAKS AT 7 AND 28 DAYS AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
- 3. FINAL REPORT OF CONSTRUCTION CERTIFICATION THAT THE CONSTRUCTION WAS PERFORMED IN ACORDANCE WITH THE DESIGN AND THE MATERIAL TESTING AND INSPECTION VERIFYING SAME, STAMPED BY A REGISTERED PROFESSIONAL ENGINEER.

FILTER FABRIC:

FILTER FABRIC SHALL BE PLACED BETWEEN WEEPHOLES AND THE GRANULAR MATERIAL. THE FILTER FABRIC CLOTH SHALL CONFORM TO THE FOLLOWING ASTM TESTS:

ASTM D4632 - MINIMUM TENSILE STRENGTH = 120 LBS
ASTM D4632 - MAXIMUM ELONGATION = 50%

ASTM D4833 — MINIMUM PUNCTURE STRENGTH = 50 LBS
ASTM D4533 — MINIMUM TEAR STRENGTH = 50 LBS
ASTM D4751 — APPARENT OPENING SIZE < 0.84 MM

ASTM D4491 - MINIMUM PERMEABILITY = 0.01 CM/SEC
ASTM D4355 - ULTRAVIOLET EXPOSURE STRENGTH RETENTION = 70%

FILTER FABRIC SHALL BE PLACED IN ACCORDANCE WITH THE SUGGESTED METHODS BY THE MANUFACTURER OR WITH PA DOT SPECIFICATIONS.

ENVIRONMENTAL PERMITTING:

THESE PLANS DO NOT ADDRESS ENVIRONMENTAL PERMITTING REQUIREMENTS WHICH MUST BE ADDRESSED AND APPLIED FOR WITH THE STATE AND ARMY CORP OF ENGINEEERS. THE PLATE ARCH CULVERT LIES WITHIN THE STREAM BUFFER.

WATER APPLICATIONS:

WHEN WALLS ARE INSTALLED IN WATER APPLICATIONS (SUCH AS STORM WATER PONDS, STREAMS, BULKHEADS, AREAS ADJACENT TO FLOODPLAINS, ETC.) ALL CLEAN GRAVEL MUST BE USED AS INFILL UP TO 1' ABOVE THE 100 YEAR FLOOD ELEVATION OF HIGH WATER LEVEL. THIS GRAVEL MUST BE FREE DRAINING AND HAVE LESS THAN 10 FINES (#57 OR EQUIVALENT). THE BURIED BLOCK, LEVELING PAD AND REINFORCED ZONE (UP TO THE EXTENT OF THE GRAVEL INFILL) MUST BE WRAPPED IN FILTER FABRIC (MIRAFI 140N OR EQUIVALENT) TO PREVENT THE MIGRATION OF FINES. A HORIZONTAL LAYER OF FILTER FABRIC SHALL BE PLACED ON TOP OF THE GRAVEL. RIP RAP IS REQUIRED IN FRONT OF THE BOTTOM THREE COURSES OF WALLS INSTALLED IN TIDAL WATERS. RIP RAP MAY ALSO BE REQUIRED TO PREVENT SCOURING AND EROSION WHERE PIPES THAT FREQUENTLY CARRY WATER EXIT THROUGH WALLS.

LONG SPAN BRIDGE & CULVERT, SCOPE OF WORK

- LONG SPAN BRIDGE & CULVERT (LSBC) WILL DELIVER, FURNISH AND ASSEMBLE THE LONG SPAN LOW PROFILE ARCH ON FOOTINGS DESIGNED BY ALPHA CONSULTING ENGINEERS, INC AND PREPARED BY SITE CONTRACTOR. THE BASE CHANNEL WILL BE FURNISHED BY LSBC AND INSTALLED IN THE CONCRETE FOUNDATIONS BY THE SITE CONTRACTOR IN ACCORDANCE WITH THE PLANS.
- 2. LSBC WILL CONDUCT A PRE-CONSTRUCTION MEETING PRIOR TO FOUNDATION PREPARATION AND ARCH ASSEMBLY. ATTENDANCE AT THE PRE-CONSTRUCTION MEETING IS MANDATORY FOR THE OWNER OR OWNER'S REPRESENTATIVE (E.G. SITE CIVIL ENGINEER, SITE CONTRACTOR, AND CONCRETE CONTRACTOR) AND SITE GEOTECHNICAL ENGINEER. IT IS THE OWNER'S RESPONSIBILITY TO HAVE EACH PARTY IN ATTENDANCE. IF A PARTY IS NOT IN ATTENDANCE IT IS THE OWNER'S RESPONSIBILITY TO INFORM THAT ENTITY OF ITS RESPONSIBILITIES AND DUTIES PRIOR TO THE START OF WORK.
- 3. LSBC WILL PROVIDE A SHAPE CONTROL TECHNICIAN TO MONITOR STRUCTURE'S SHAPE AND OBSERVE THE PROPER PLACEMENT AND COMPACTION OF THE SELECT FILL MATERIAL.
- 4. LSBC WILL REQUIRE THE SITE CONTRACTOR TO UNLOAD THE STRUCTURAL PLATES AND BASE CHANNEL. LSBC WILL REQUIRE THE SITE CONTRACTOR TO PROVIDE ACCESS TO THE STRUCTURE FOR A RUBBER TIRED CRANE. PARELLEL ACCESS ROADS SHALL BE WITHIN 30 FEET OF THE CENTERLINE OF THE STRUCTURE ON EACH SIDE.

SAFETY

1. ALL CONTRACTORS (AND VENDORS), THEIR REPRESENTATIVES & CREW MUST BE QUALIFIED/CERTIFIED TO PERFORM ALL WORK AT SITE WITHIN THEIR SCOPE. THEY MUST ADHERE TO OSHA'S HEALTH & SAFETY RULES.

RESPONSIBILITY

1. SCOPE OF WORK FOR THIS PROJECT IS DESIGN OF PLATE ARCH, FOOTING AND HEADWALL. ALPHA CONSULTING ENGINEERS, INC. IS RESPONSIBLE FOR THAT ONLY. ACCEPTANCE OF THE PLAN DRAWINGS BY OUR CLIENT & THE OWNER/DEVELOPER MEANS THEY AGREE TO OUR SCOPE & RESPONSIBILITIES.

PLANNING ENGINEERING SURVEYS
145 LIMEKILN ROAD - SUITE 600
NEW CUMBERLAND, PA 17070
NEW CUMBERLAND, PA 17070
PHONE: (717) 770 - 2500
MWW.ALPHACEL.COM

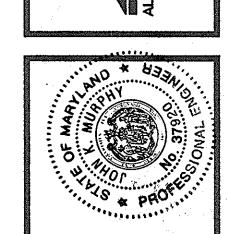
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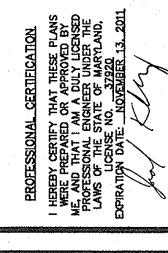
DRAWN: DEB

CHECKED : DJW

DATE: 08/2010

DEB





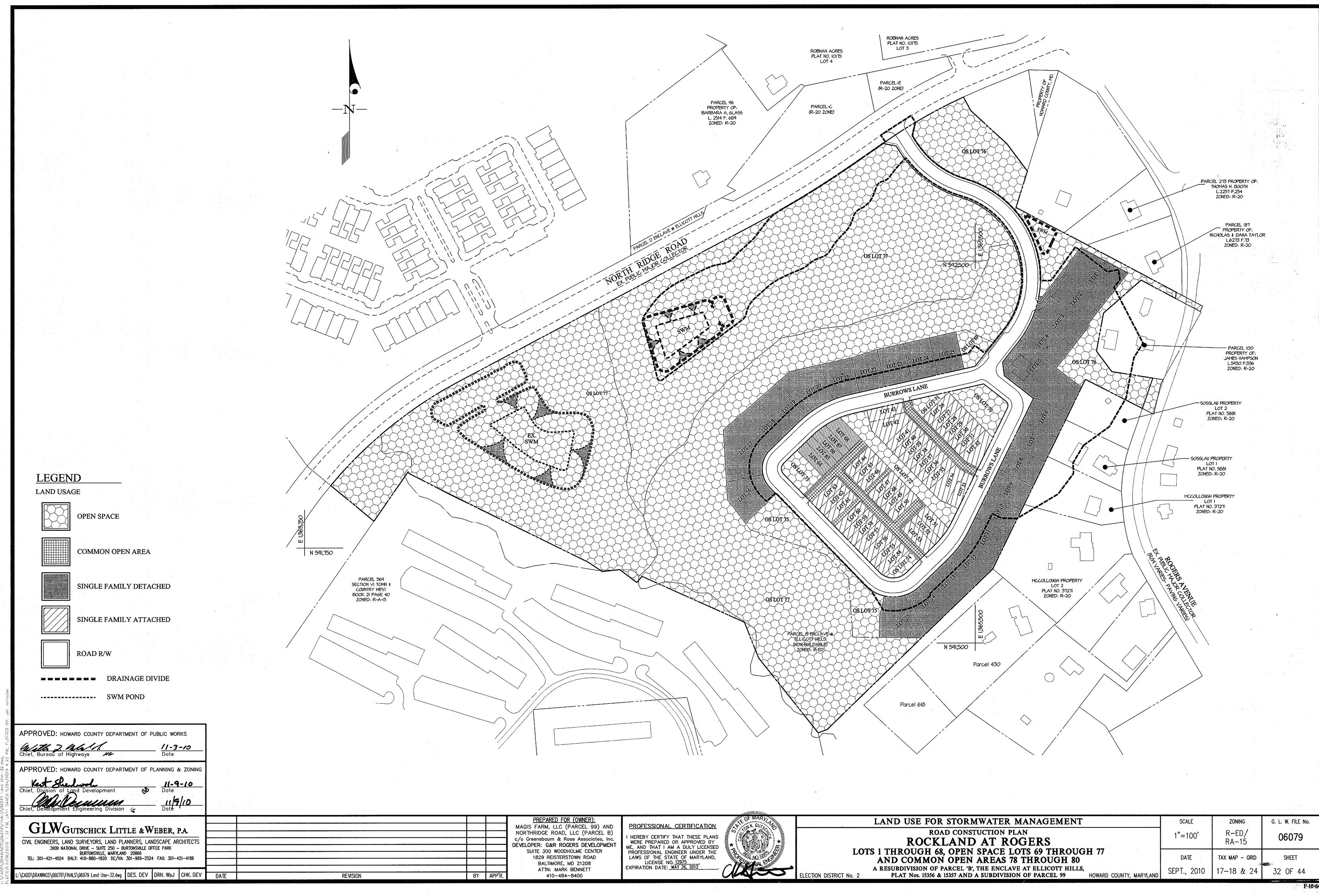
r: Long span Bridge & Cugr Rogers development enclave at rogers

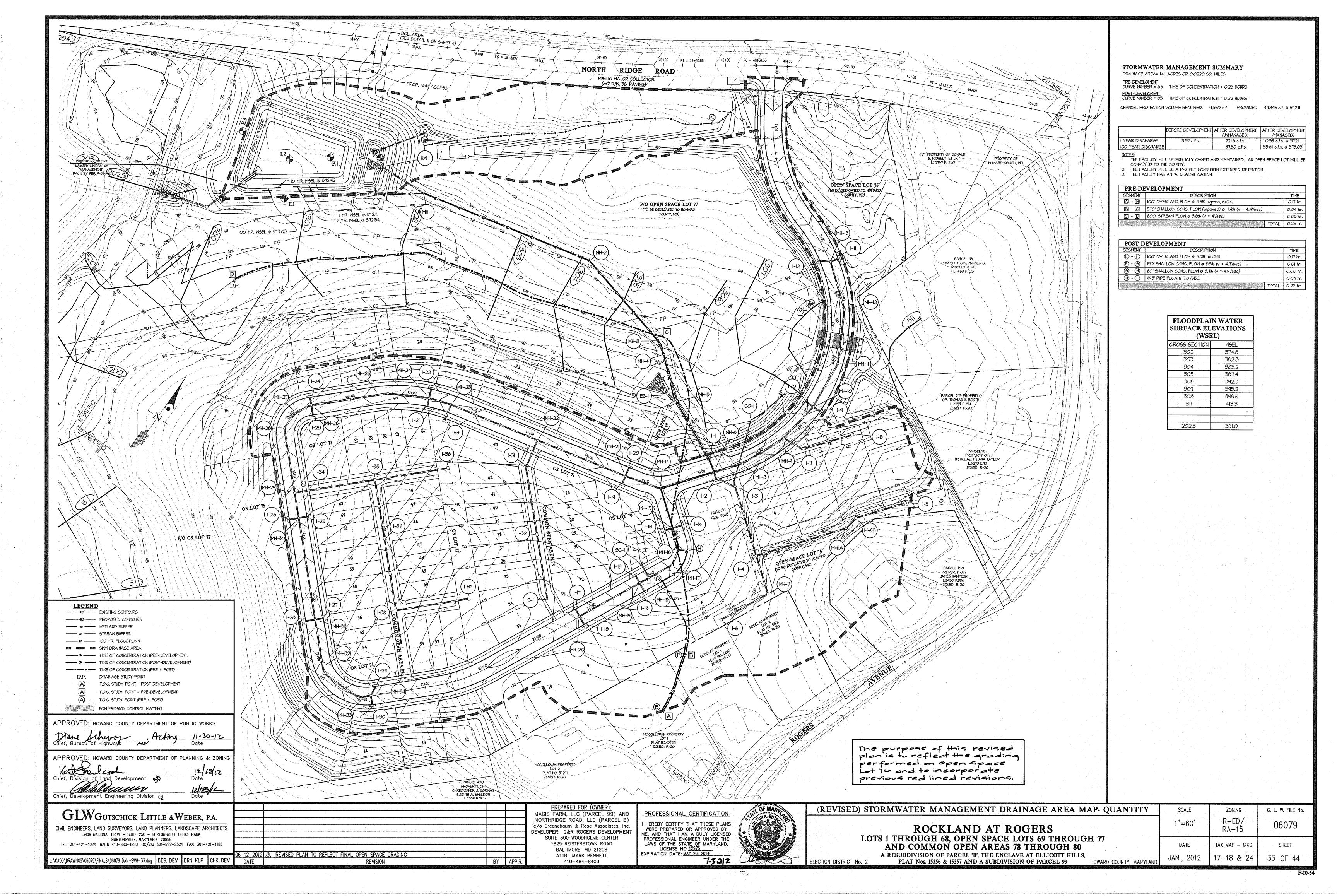
PROJECT NO. 290642 SURVEY BOOK

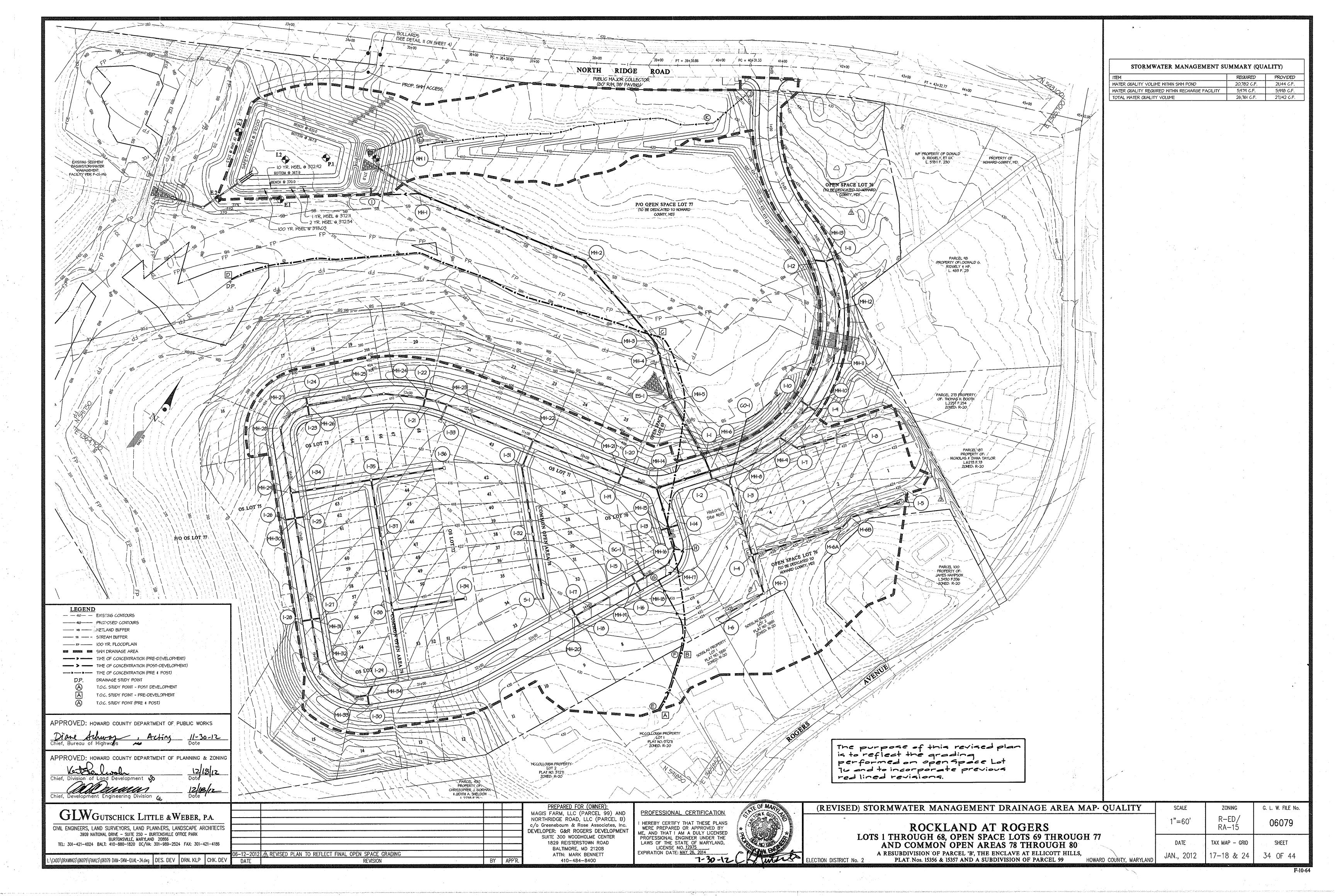
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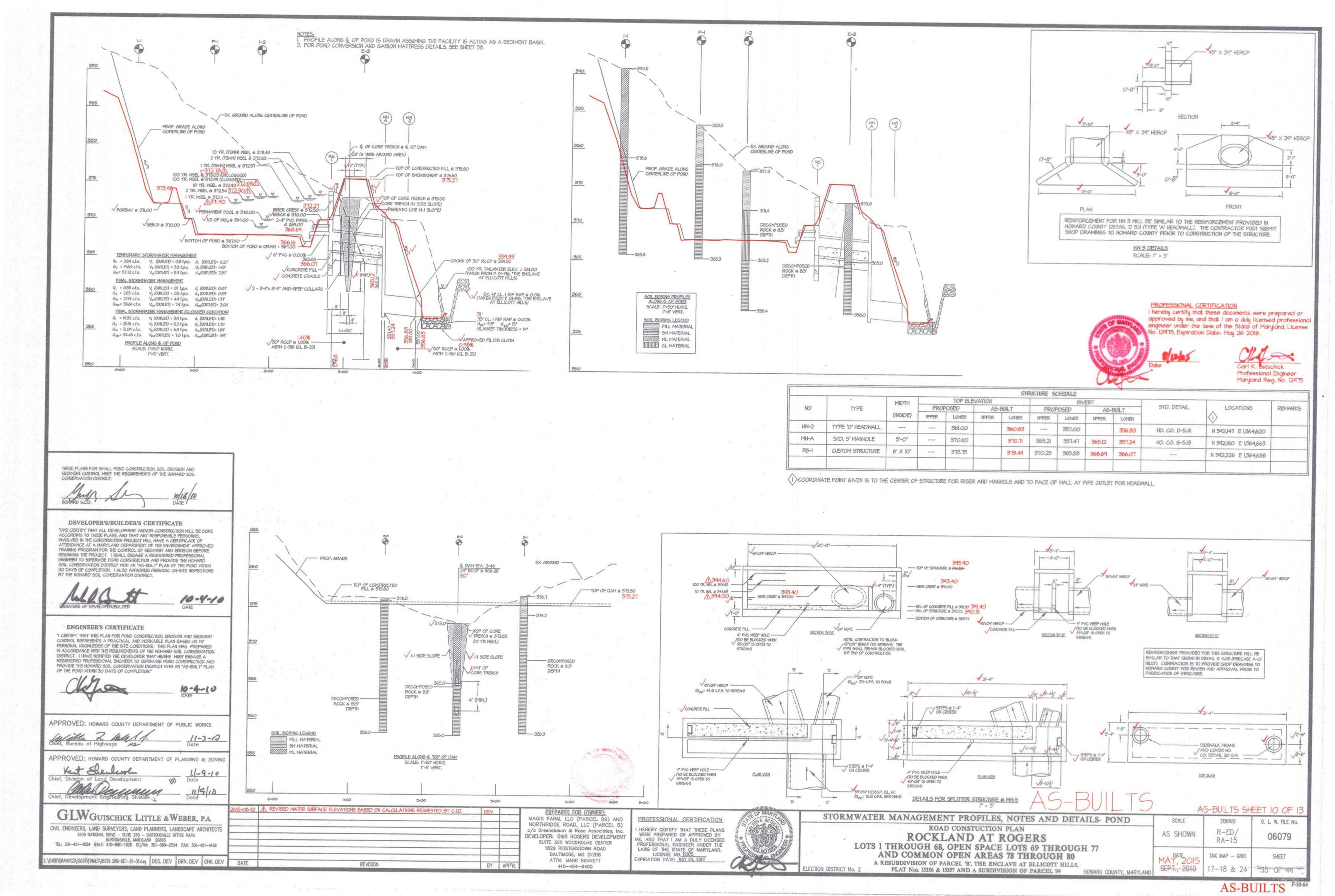
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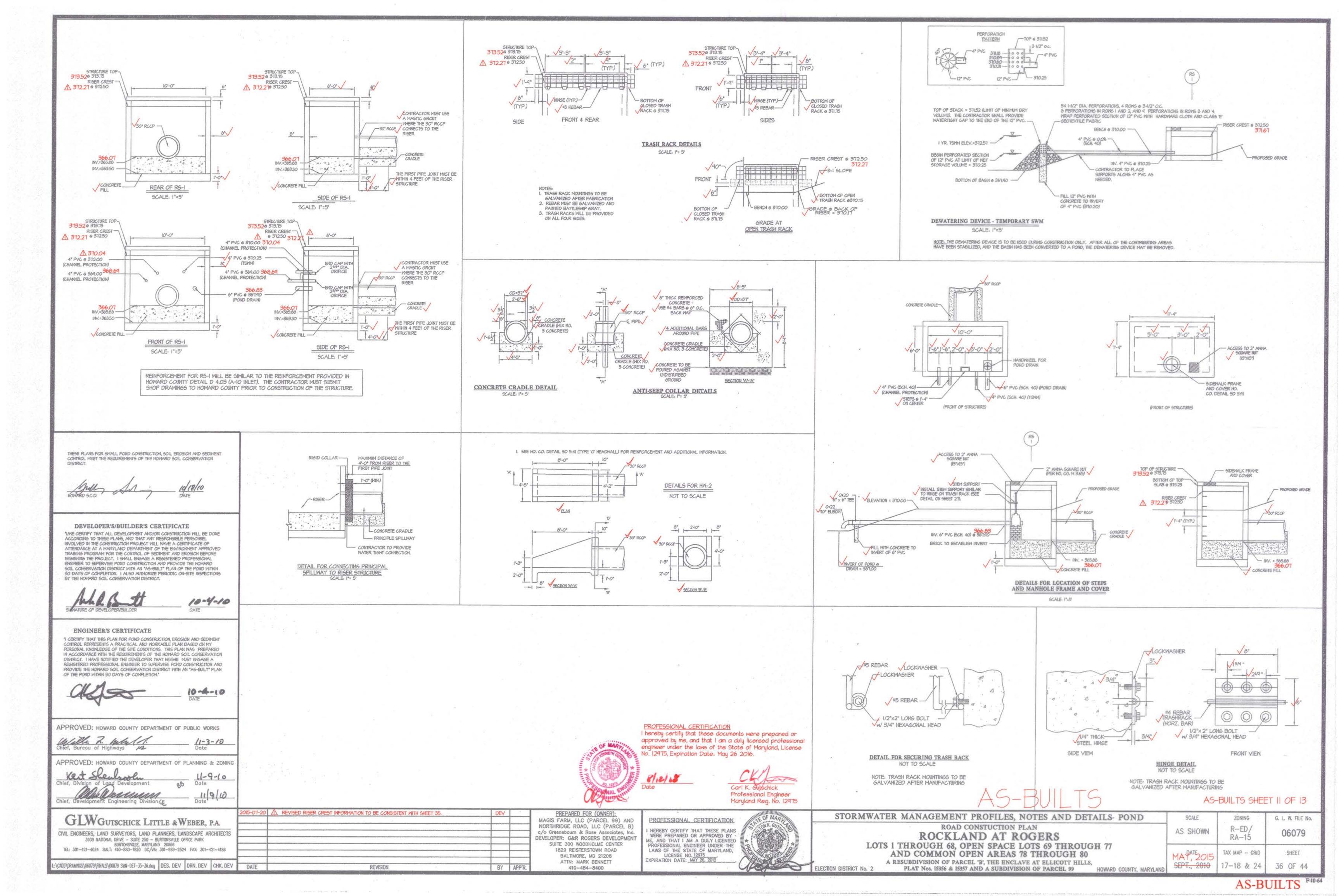
SHEET 31 of 44

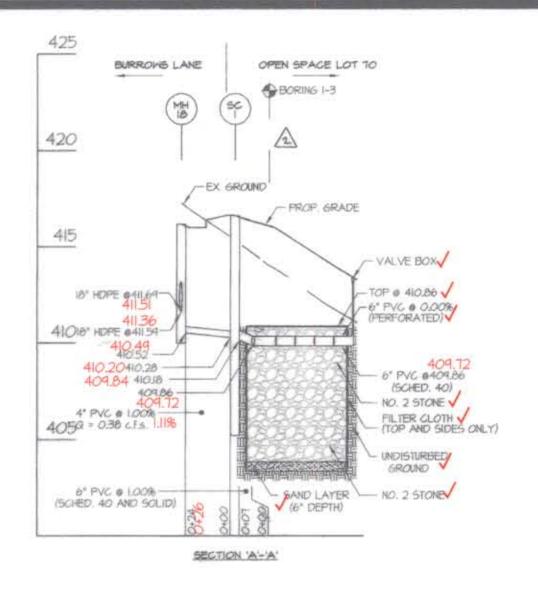












THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION

DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND

HESE PLANS FOR SMALL POND CONSTRUCTION, SOIL BROSION AND

SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL

DEVELOPER'S/BUILDER'S CERTIFICATE

ACCORDING TO THESE PLANS, AND THAT ARY RESPONSIBLE PERSONNEL

INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF

"IME CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE

ATTENDANCE AT A MARYLAND 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

CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT

PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED

DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

GLWGUTSCHICK LITTLE &WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS

3909 NATIONAL DRIVE - SUITE 250 - BURTONSWILLE OFFICE PARK

BURTONSVILLE, MARYLAND 20866

TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

IN ACCORDANCE WITH THE RECURREMENTS OF THE HOWARD SOIL CONSERVATION

REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND

PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN

10-4-10

CONTROL REPRESENTS A PRACTICAL AND HORKABLE PLAN BASED ON MY

CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL

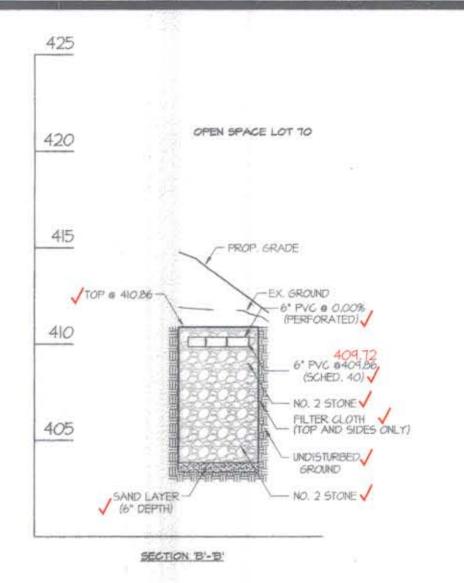
NATURAL RESOURCES CONSERVATION SERVICE

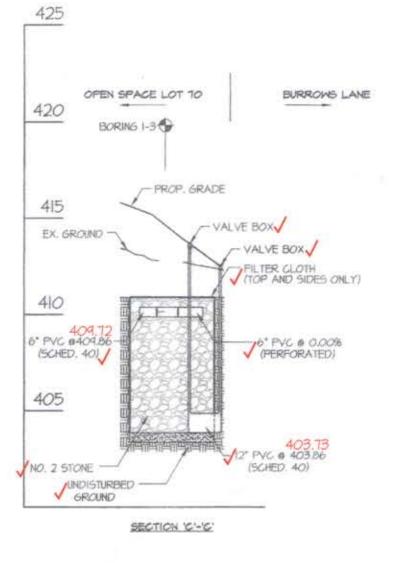
BY THE HOWARD SOIL CONSERVATION DISTRICT.

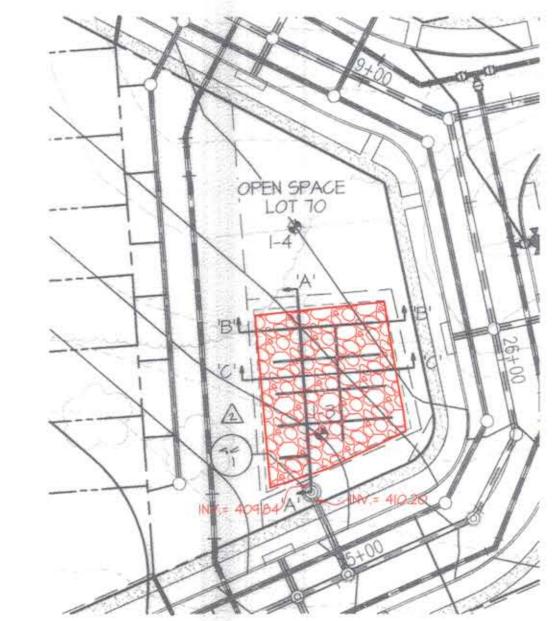
ENGINEER'S CERTIFICATE

OF THE POND WITHIN 30 DAYS OF COMPLETION."

CONSERVATION DISTRICT.







OPEN SPACE LOT TO RECHARGE FACILITY PLAN SCALE:: 1"=30"

NOTE: MH-A, THE PERFORATED PVC PIPE, AND THE SAND FILTER WILL BE PRIVATELY OWNED AND MAINTAINED

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES (I-1)

The monitoring wells and structures shall be inspected on a quarterly basis and after every

Water levels and sediment build up in the monitoring wells shall be recorded over a period of several days to insure trench drainage.

A logbook shall be maintained to determine the rate at which the facility drains.

When the facility becomes clogged so that it does not drain down within the 72 hour time period, corrective action shall be taken. The maintenance logbook shall be available to Howard County for inspection to insure

compliance with operation and maintenance criteria.

Once the performance characteristics of the infiltration facility have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMCEPTOR WATER QUALITY DEVICE

The Stormceptor water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the Stormceptor unit yearly at a minimum, utilizing the Stormceptor Inspection/Monitoring Form. Inspections shall be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When the sediment depths exceed the level specified in Table 6 of the Stormceptor Technical Manual, the unit must be cleaned.

The Stormceptor water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.

The maintenance of the Stormceptor unit shall be done using a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in the unit. Proper cleaning and disposal of the removed materials and liquid must be followed by

The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the owner shall have them removed. Structural parts

of the Stormceptor unit shall be repaired as needed. The owner shall retain and make the Stormceptor Inspection/Monitoring Forms available the Howard County officials upon their request.

01.10.12 /2 Remove Menhale'A'. \CABB\DRAMMCS\06079\FRNALS\06079\SWN-RECHARGE-37.dwg DES. DEV DRN. DEV CHK. DEV DATE REVISION BY APP'R

PREPARED FOR (OWNER): MAGIS FARM, LLC (PARCEL 99) AND NORTHRIDGE ROAD, LLC (PARCEL B) c/o Greeneboum & Rose Associates, Inc. DEVELOPER: G&R ROGERS DEVELOPMENT SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD LAWS OF THE STATE OF MARYLAND,

I hereby certify that these documents were prepared or

approved by me, and that I am a duly Ilcensed professional

engineer under the laws of the State of Maryland, License

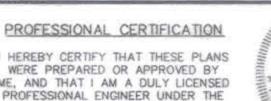
PROFESSIONAL CERTIFICATION

BALTIMORE, MD 21208

ATTN: MARK BENNETT

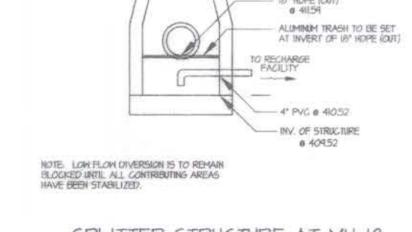
410-484-8400

No. 12975, Expiration Date: May 26 2016.



LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2012

rafessional Engineer



SPLITTER STRUCTURE AT MH-18 SCALE:: 1"=5"

Rinker 028

CONSTRUCTION SPECIFICATIONS These specifications are appropriate to all pands facility number 1& 3. All references to ASTM and AASHTO specifications apply to the most recent

Site Preparation

For Technical Assistance Please Call

Rinker Materials - Stormcepter at (832) 590-5352

Stormceptor Insert/Project Form

inished Grade Elevation (ff)

nlet Pipe | Inside Divon (in)

Julet Pipe 2 Inside Diam (in)

Insert Serial # (Stock or Installed Only)

% Impervious

if Other Please Specify

Designer Contact

Contact

l'houe

Please fax to Rinker Materials Engineering at

(832)590-5399 or e-mail to ecareusco/arinker.com

STC 900 Precast Concrete Stormceptor STC 900 Precast Concrete STC 90

(900 U.S. Gallon Capacity)

- 30%0 -

72°Ø

Section Thru Chamber

1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.

The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.

4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.

2. The Cover Should be Positioned Over The Outlet Drop Pipe and The Oil Port.

Outlet Pipe Inside Diam. (in)

Weir Height

Development ENCLAVE AT ROGERS

DOUG VANDE RYT 410-880-1820

301-421-4186

MARK BENNETT

410-484-8400

410-484-1943

GREENBAUM & ROSE

Concrete Pipe Division

610 Orifica

Plan View

Access opening

(See note #2)

24°Ø Outlet

GUTSCHICK LITTLE & WEBER

let Pipe Invert In

Stormceplor

Sales Person:

Date Required:

Project Information

Submerged Insert (Water or 2nd Drop Pipe Blev. (R.))

CHRIS BIXBY

410-833-9833

1.0 AC.

ENGLAVE AT ROGERS

ELLICOTT CITY / HOWARD State

Insert Type

Draimage Area

Application

Project Name

Contact Information

City/County

Contact

Contact

Other Information

Frame and Cover

Inlet

Wair

Stermceptor Model: STC 900

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 20 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material – The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment conform to Unified Soil Classification CC, SC, CH, or CL and must have at least 30 % passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such

special designs must have construction supervised by a geotechnical-

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be troversed by not less then one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepstoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a maisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10-year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment

Structure Backfill

Bockfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average alump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

1. Materials -(Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenences shall conform to the requirements of AASHTO Specification M-274 with waterlight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when sail and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or llanges. Aluminum Pipe, when used with flowable fill or when sail and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or wo coats of asphalt. Hot dip galvanized balts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

 Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely waterlight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neaprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches in diameter. flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepunched to the flange balt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead,

 Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall centorm to "Structure Backfill".

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the

Plastic Pipe - The following criteria shall apply for plastic pipe:

Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprop

Rock riprap shall meet the requirements of Maryland Department of Transportation, state Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprop and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interlere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching.

Erosion and Sediment Control

Construction operations will be carried out in such a mariner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

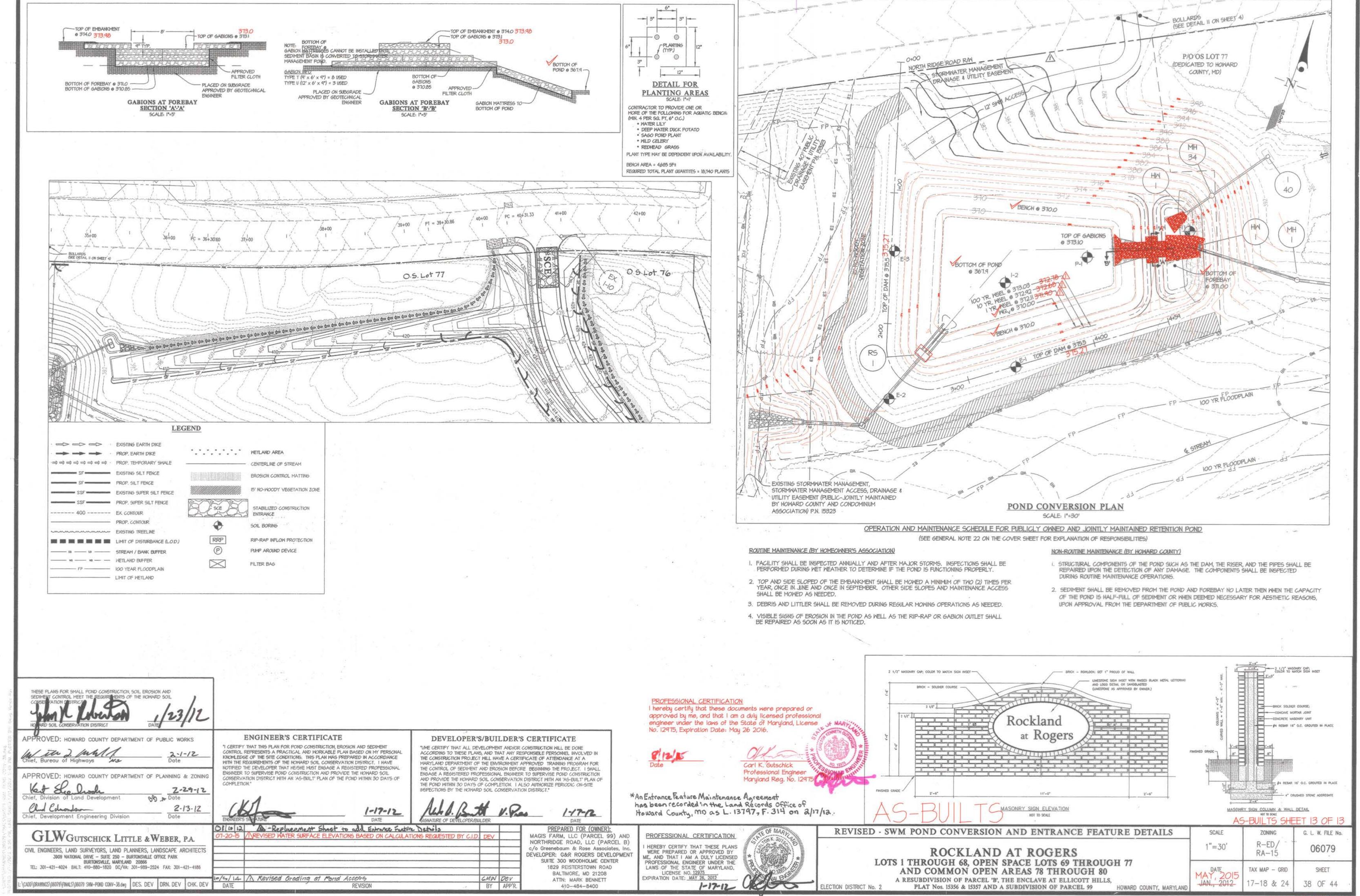
ASBUILT SHEET

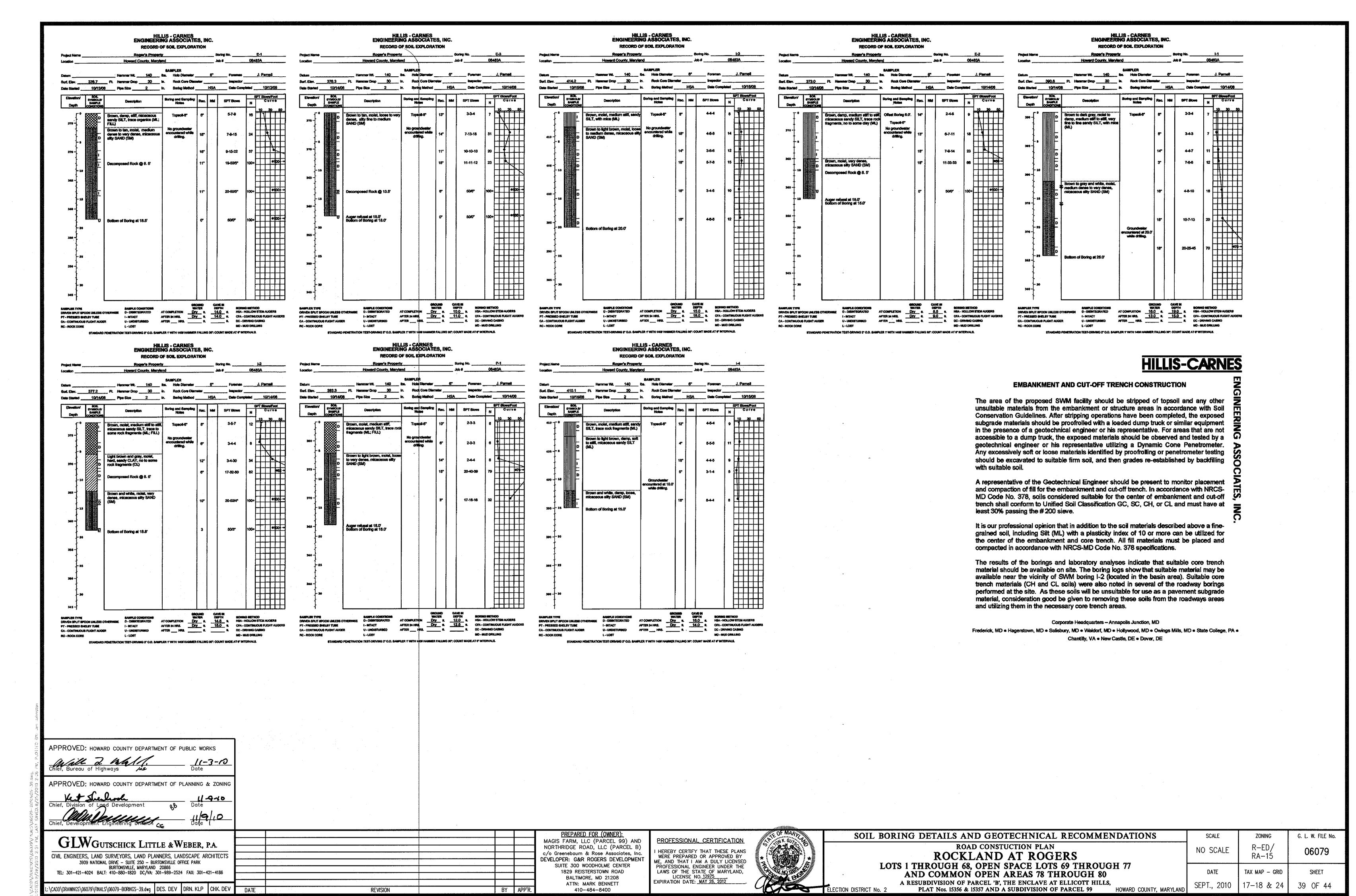
SCALE ZONING G. L. W. FILE No. AS SHOWN 06079 RA-15 SEPT., 2010 HOWARD COUNTY, MARYLAND

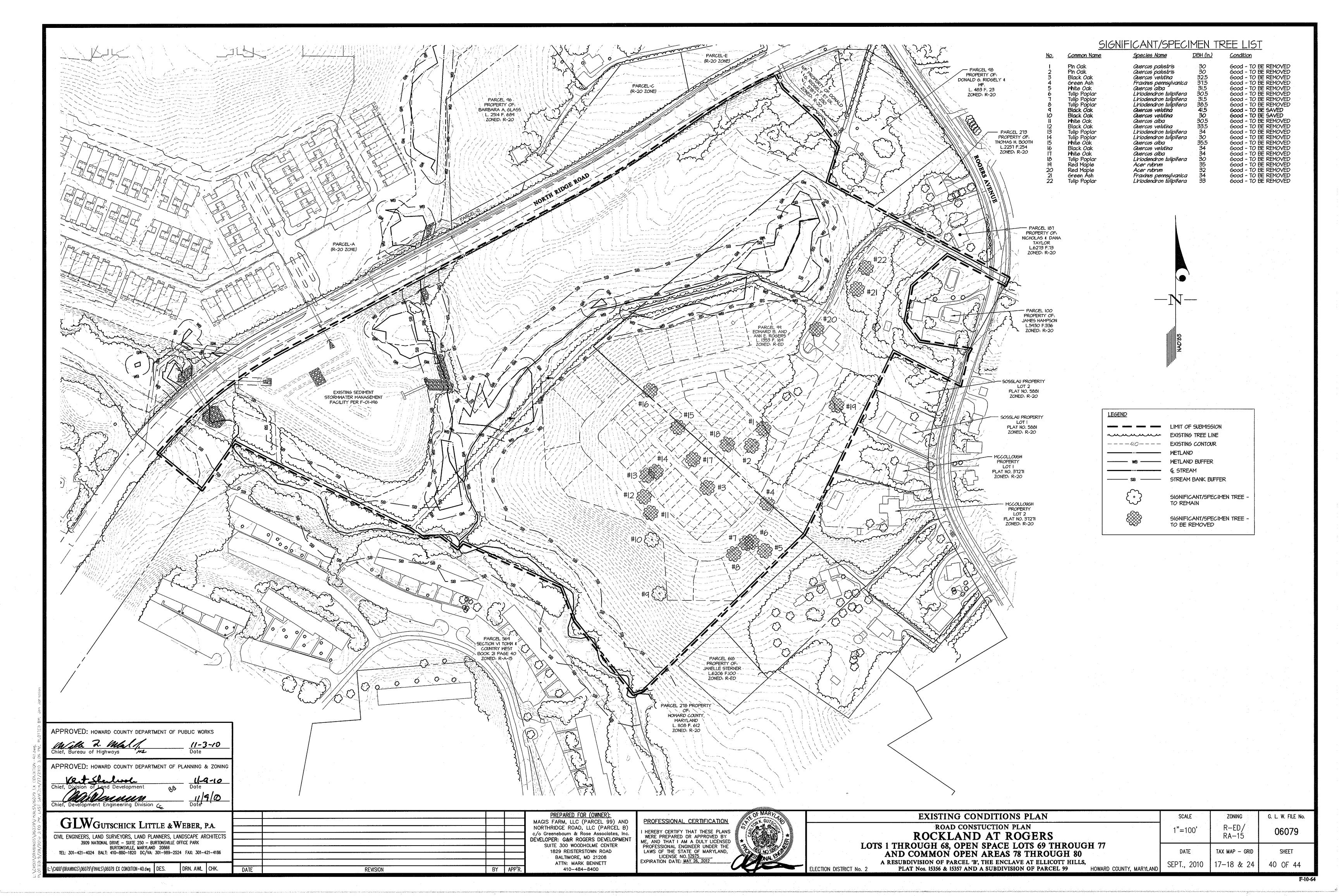
Maryland Reg. No. 12975

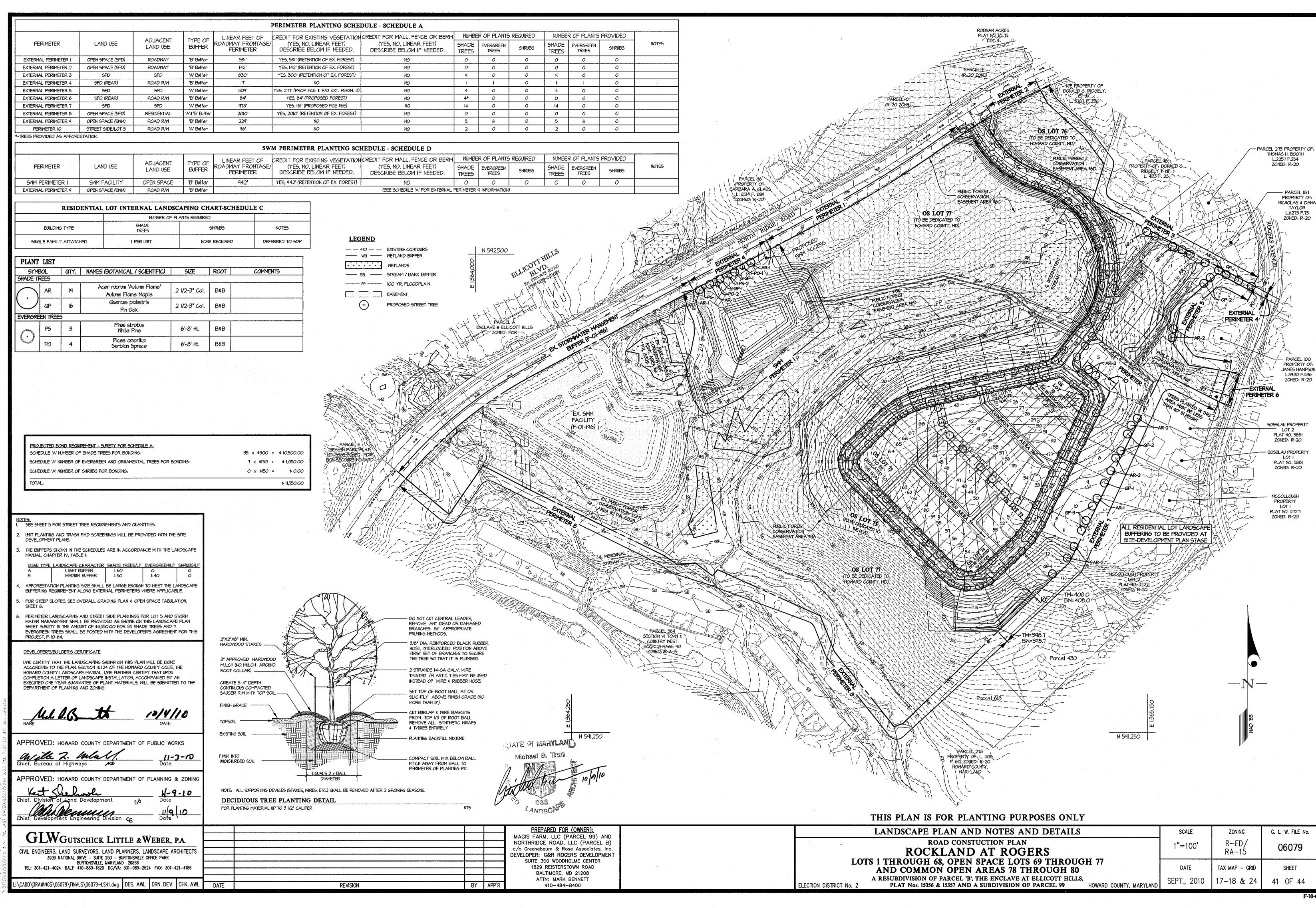
STORMWATER MANAGEMENT PROFILES, NOTES AND DETAILS- RECHARGE ROAD CONSTUCTION PLAN

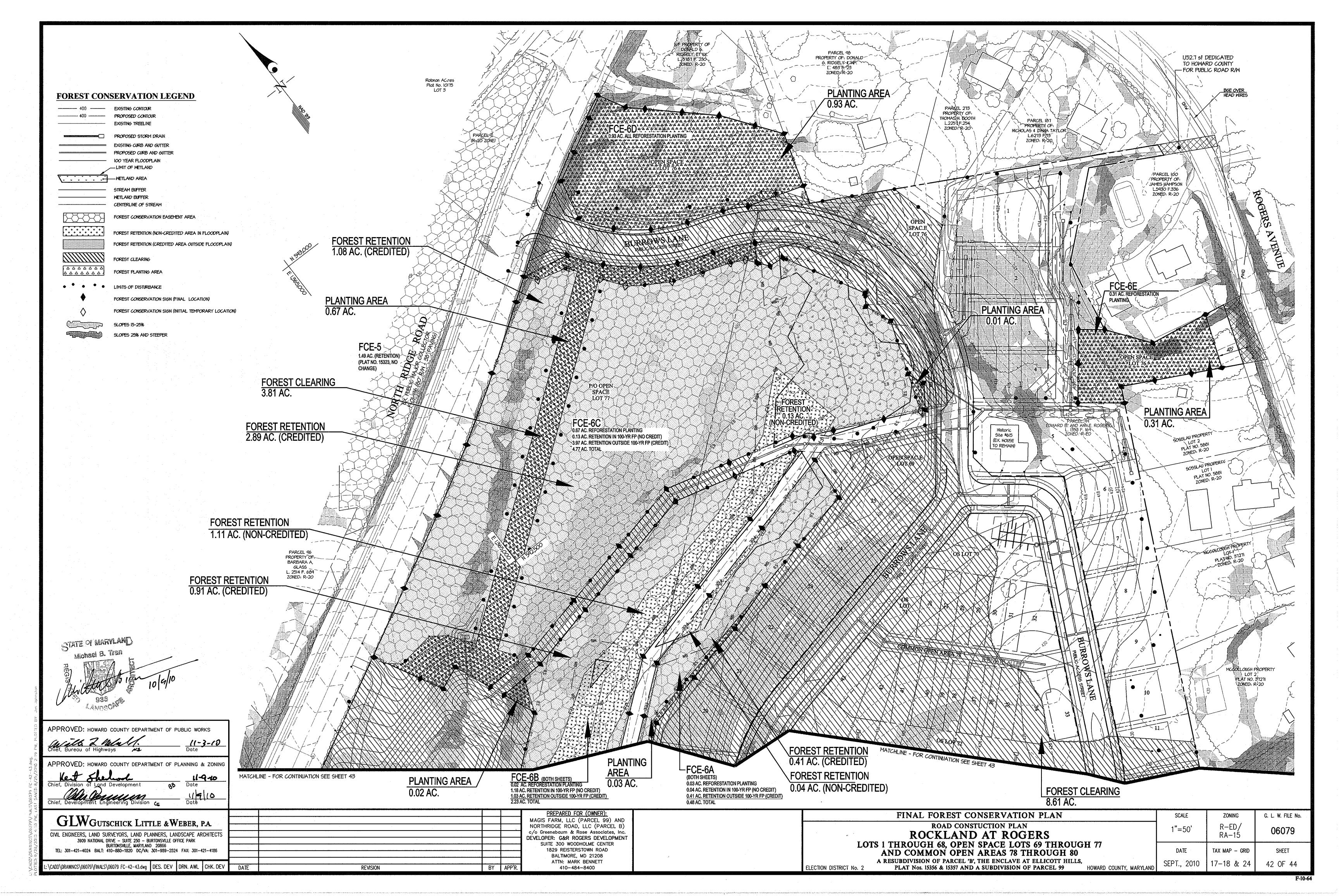
ROCKLAND AT ROGERS LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77 AND COMMON OPEN AREAS 78 THROUGH 80 A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99 LECTION DISTRICT No. 2

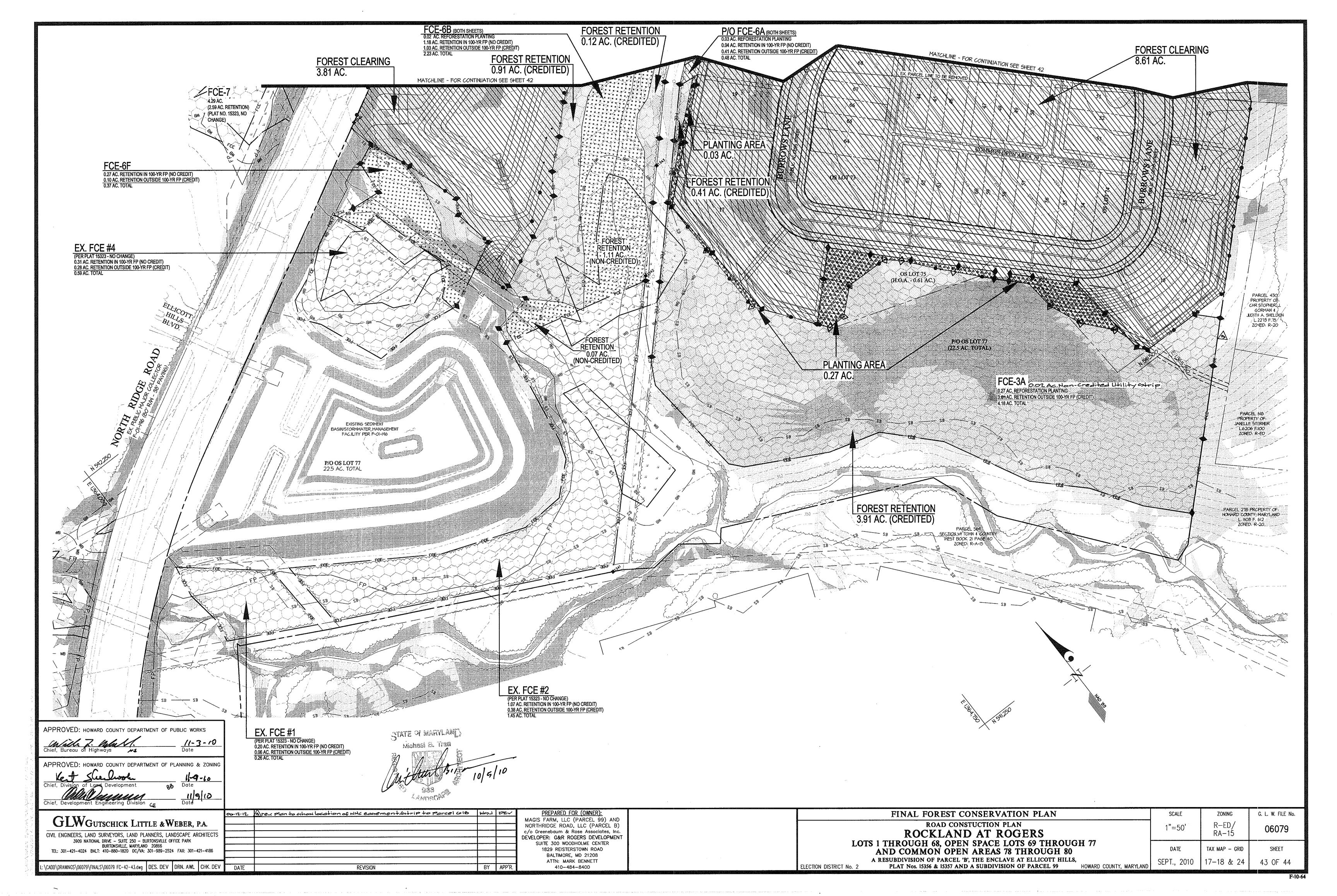












FOREST CONSERVATION WORKSHEET	F-01-196 and	ADJUSTMENTS FOR DEVELOPMENT	COMPOSITE
SITE DATA	SDP-02-65	OF ROGER'S PROPERTY (PARCEL 99) AND PARCEL "B"	TOTAL
GROSS SITE AREA	76.68	10.90 (Parcel 99)	87.58
AREA WITHIN 100-YEAR FLOOD PLAIN EASEMENT	13.59	0.57 (on Parcel 99)	14.16
NET TRACT AREA	63.09	10.33 (on Parcel 99)	73.42
LAND USE CATEGORY (R-ED, POR)	Residential - Suburban	same	same
2. INFUT DATA			
a. Net tract area	63.09	10.33	73.42
3. REFORESTATION THRESHOLD (20% OF NET TRACT)	12.62	2.07	14.68
C. AFFORESTATION THRESHOLD (15% OF NET TRACT)	9.46	1.55	11.01
D. EXISTING FOREST ON NET TRACT AREA	43.48	<i>6.3</i> 5	49.83
E. FOREST AREAS ON NET TRACT TO BE CLEARED	14.14	12.42 (add'l clearing on P. 99 and Par. "B")	31.56
F. FOREST AREAS ON NET TRACT TO BE RETAINED	24.34	N/A (see composité total)	18.27
3. REFORESTATION CALCULATIONS			
A LICE TRACE EXPECT OF EARTHY ARM & PREMISES ARM THRESHALD	19,14		31.56
A. NET TRACT FOREST CLEARING ABOVE REFORESTATION THRESHOLD B. NET TRACT FOREST RETENTION ABOVE REFORESTATION THRESHOLD (2F-2B)	11.52		3.59
C. REFORESTATION PLANTING REQUIRED FOR CLEARING ABOVE THRESHOLD (0.25 X 3A)	4.79	various security (residual) and apply of the contract of	189
D. CREDIT FOR RETENTION ABOVE REFORESTATION THRESHOLD (2F-2B)	11.52		354
E. TOTAL REFORESTATION PLANTING REQUIRED (3C-3D)	NONE		4.30
		Control Contro	
4. BREAK EVEN POIN (BEP) CALCULATIONS			
	10,50		07.44
A. MAXIMUM CLEARING ALLOWED WITH NO REFORESTATION PLANTING (20-28)/1.25	24.53		27.96
B. MINIMUM NET TRACT RETENTION AT 88° 0.20(20-28)+28 OR 20-4A	18.75		21.67
5. FOREST CONSERVATION REGULAED			
A. FOREST RETENTION AREA (2F)			18.27
B. FOREST PLANTING AREA (3E)			4.30
C. TOTAL MINIMUM FCE REQUIRED FOR RETENTION AND REFORESTATION			22.57

FOREST CONSERVATION EASEMENT NO.	EASEMENT RECORDING REFERENCE (DPZ FILE NO.)	ACREAGE OF CREDITED FOREST RETENTION (RETENTION OUTSIDE 100-YR FLOODPLAIN)	NON-CREDITED FOREST RETENTION ACREAGE (RETENTION INSIDE 100-YR FLOODPLAIN & SMALL IRREGULAR AREAS FOR NATURAL REGENERATION)	ACREAGE OF REFORESTATION PLANTING	ACREAGE OF (FCE) FOREST CONSERVATION EASEMENT
ı	PN. 15319, NO CHANGE (F-01-196 AND SDP-02-65)	0.06	0.20	0	0.26
2	PN. 15319, NO CHANGE (F-01-196 AND SDP-02-65)	0.38	TO.1	0	1.45
3A	REPLACES FCE-3*	3.91	0.00	027	4.18
4	PN. 15319, NO CHANGE (F-01-196 AND SDP-02-65)	0.28	0.31	0	0.59
5	PN. 15319, NO CHANGE (F-01-196 AND SDP-02-65)	1.49	0.00	0	1.49
6A	NEW FCE 6A-6F (REPLACES FCE-6)*	0.41	0.04	0.03	0.48
6B		1.03	1.18	0.02	2.23
€€		3.97	0.13	0.67	4.77
6D		0.00	0.00	0.93	0.43
6E		0.00	0.00	031	0.31
6F		0.10	021	0.00	0.31
7	PN. 15319, NO CHANGE (F-01-196 AND SDP-02-65)	2.54	1.70	0.	4.29
8	PN. 15319, NO CHANGE (F-01-196 AND SDP-02-65)	2.74	0.00	0	2.74
q	PN. 15314, NO CHANGE (F-01-196 AND SDP-02-65)	0.81	4.89	0	5.70
10	PN. 15319, NO CHANGE (F-01-196 AND SDP-02-65)	0.40	1.94	/ 0	2.34
11	PN. 15314, NO CHANGE (F-O1-146 AND SDP-02-65)	0.10	0.28	0	0.38
TOTAL PRO	/IDED ON-SITE	18.27	12.01	223	3251
TOTAL PRO	/IDED OFF-SITE**			2.01	

- * EXISTING FCE-3 AND FCE-6 (AS RECORDED ON PN 15314) ARE IMPACTED BY THE DEVELOPMENT ON PARCEL 49 AND PARCEL "B" WHICH REQUIRES ABANDONING 0.67 ACRES FROM FCE-3 AND 2.15 ACRES FROM FCE-6. THE REMAINDER AREAS OF FCE-3 AND FCE-6 THAT ARE NOT IMPACTED BY THE PROPOSED DEVELOPMENT ARE ABSORBED INTO THE NEW FOREST CONSERVATION EASEMENTS FCE 3A AND FCE 6A THROUGH OF (SEE THE DIAGRAM TITLED "IMPACT TO EX. FCE-3 AND EX. FCE-6" ON THIS SHEET).
- ** THE 2.01 ACRES OF REFORESTATION OBLIGATION HAS BEEN MET BY USING EXCESS FOREST CONSERVATION AT MAPLE LAWN FARMS, WESTSIDE DISTRICT. AREA I (PLAT NOS. 19867 TO 19872) AS SHOWN ON F-08-54. SURETY HAS BEEN PROVIDED THROUGH THE DEVELOPER'S AGREEMENTS FOR EACH PHASE OF MAPLE LAWN FARMS. FILE NUMBERS FOR EACH DEVELOPER'S AGREEMENT CAN BE FOUND ON THE FOREST CONSERVATION TRACKING CHART ON F-08-54.

FOREST CONSERVATION	PLANTING	G QUAN	TITY SC	HEDUL	E		
FOREST PLANTING LOCATION NO.	FCE-3A	FCE-6A	FCE-6B	FCE-6C	FCE-6D	FCE-6E	TOTAL
AREA TO BE PLANTED (IN AC.)	0.27	0.03	0.02	0.67	0.93	0.31	2.23
BASE QUANTITY OF 2" CAL. TREES REQUIRED (AT 100 TREES/AC.)	27	3	2	67	43	31	223
CREDIT FOR LANDSCAPE TREES				N	/A		
REQUIRED QUANTITY OF 2"-2 I/2" CAL. TREES TO BE PLANTED	27	3	2	67	43	31	223

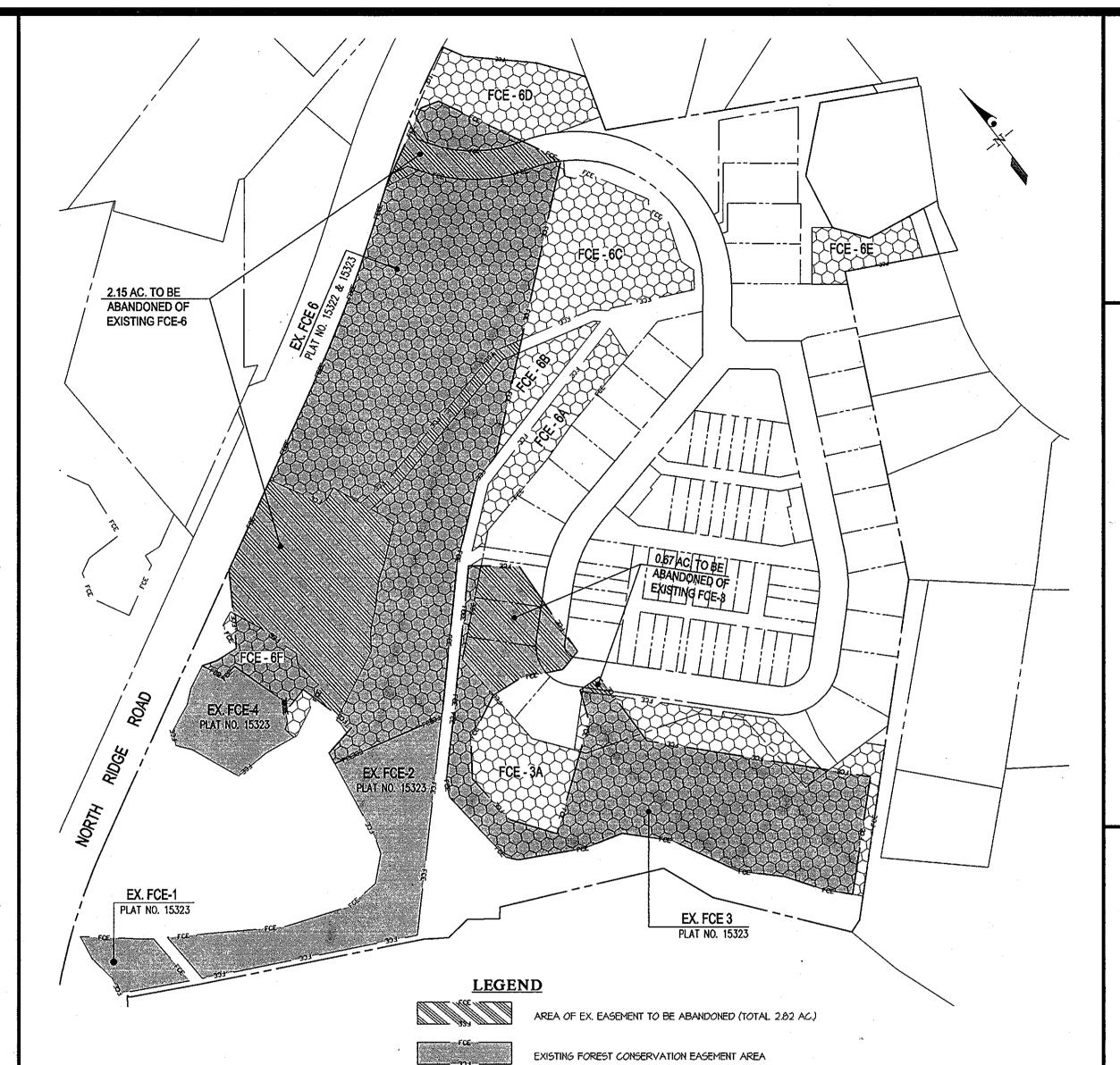
FOREST CONSERVATION PLANT LIST									
PLANT NAME (BOTANICAL/COMMON)	FOREST PLANTING AREA								
	FCE-3A	FCE-6A	FCE-6B	FCE-6C	FCE-6D	FCE-6E	TOTAL		
ACER RUBRUM/RED MAPLE	7	0	0	17	23	8	55		
CERCIS CANADENSIS/EASTERN REDBUD	7	3	2	17	24	8	61		
LIRIODENDRON TULIPFERA/TULIP TREE	7	0	0	17	23	7	54		
QUERCUS PALUSTRIS/PIN OAK	6	0	0	16	23	8	53		
TOTAL	27	3	2	67	43	31	223		

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

THE QUANTITY SHOWN ABOVE IS FOR PLANTING WITH 2"-2 I/2" CAL. TREES AT 20' X 20' SPACING.

STATE OF MARYLANI

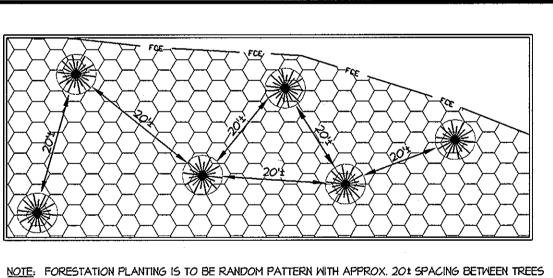
REVISION



IMPACT TO EX. FCE-3 AND EX. FCE-6

SCALE: 1" = 150'

PROPOSED FOREST CONSERVATION EASEMENT AREA (3A and 6A-6F)



POSSIBLE FORESTATION PLANTING PATTERN NO SCALE

CONSTRUCTION PERIOD PROTECTION PROGRAM

- (TO BE PERFORMED AT FINAL PLAN STAGE) THE LIMIT OF FOREST RETENTION SHALL BE STAKED AND FLAGGED.
- 2. A PRE-CONSTRUCTION MEETING AT THE SITE SHOULD BE HELD TO CONFIRM THE LIMITS OF CLEARING SPECIFIED. THE MEETING SHOULD INCLUDE THE OWNER OR THE OWNER'S REPRESENTATIVE, THE ON-SITE FOREMAN IN CHARGE OF LAND DISTURBANCE, THE ENVIRONMENTAL CONSULTANT AND THE APPROPRIATE HOWARD
- FOREST PROTECTION DEVICES AND SIGNS (SEE DETAILS) SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING. THE PROTECTION DEVICES AND SIGNS SHALL BE MAINTAINED DURING THE ENTIRE CONSTRUCTION PERIOD. NONE OF THE DEVICES SHALL BE ANCHORED OR ATTACHED IN ANY WAY TO THE TREES TO
- EQUIPMENT, VEHICLES AND BUILDING MATERIALS SHALL NOT BE WITHIN THE PROTECTED AREA. ACTIVITIES STRICTLY TO IMPLEMENT ANY REFORESTATION PLANTING AND MAINTENANCE (I.E. WATERING, FERTILIZING THINNING, PRUNING, REMOVAL OF DEAD AND DISEASED TREES WHERE NECESSARY, ETC.) OF THE CONSERVATION AREA ARE PERMITTED. CLEARING FOR THE PURPOSE OF SODDING OR PLANTING GRASS IS NOT PERMITTED WITHIN THE FOREST CONSERVATION AREAS ONCE THEY'RE ESTABLISHED.
- 5. AT THE END OF THE CONSTRUCTION PERIOD, THE DESIGNATED QUALIFIED PROFESSIONAL SHALL CONVEY TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM CERTIFICATION THAT ALL FOREST RETENTION AREAS HAVE BEEN PRESERVED, ALL REFORESTATION AND/OR AFFORESTATION PLANTINGS (IF APPLICABLE) HAVE BEEN INSTALLED AS REQUIRED BY THE FOREST CONSERVATION PLAN, AND THAT ALL PROTECTION MEASURES REQUIRED FOR THE POST-CONSTRUCTION PERIOD HAVE BEEN INSTALLED. UPON REVIEW OF THE FINAL CERTIFICATION DOCUMENT FOR COMPLETENESS AND ACCURACY, THE PROGRAM COORDINATOR WILL NOTIFY THE OWNER OF RELEASE FROM THE CONSTRUCTION PERIOD OBLIGATIONS. THE 2-YEAR (MIN.) POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD THEN COMMENCES.

GENERAL NOTES

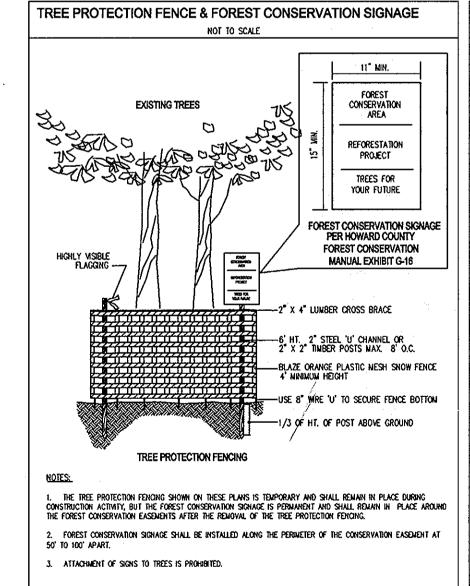
TECHNIQUES AND PRACTICES.

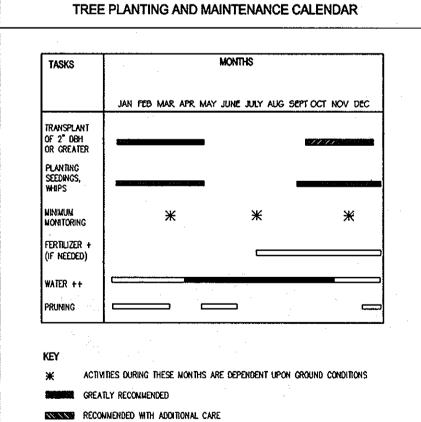
- I. THIS REFORESTATION PLAN IS PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF SUBTITLE 12 "FOREST CONSERVATION"...OF THE HOWARD COUNTY CODE."
- 2. IMPLEMENTATION OF THIS PLAN MUST BE PERFORMED BY A CONTRACTOR THAT IS KNOWLEDGEABLE AND EXPERIENCED IN AFFORESTATION/REFORESTATION
- 3. AT FINAL PLAN STAGE, THE OWNER IS RESPONSIBLE FOR A 2-YEAR (MIN.) POST-CONSTRUCTION MAINTENANCE PERIOD WHICH INVOLVES ACTIVITIES NECESSARY TO ENSURE SURVIVAL AND GROWTH OF THE CONSERVATION AREA. TWO INSPECTIONS PER YEAR BY A QUALIFIED PROFESSIONAL AT BEGINNING AND END OF THE GROWING SEASON, ARE RECOMMENDED IN ORDER TO TAKE REMEDIAL STEPS AS NECESSARY. IF, AFTER ONE YEAR, THE POSSIBILITY EXISTS THAT THE ORIGINAL PLANTING (IF APPLICABLE) WILL NOT MEET SURVIVAL RATE STANDARDS, THE APPLICANT MAY CHOOSE TO ESTABLISH REINFORCEMENT PLANTINGS.
- AT THE END OF THE POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD, CERTIFICATION BY A QUALIFIED CONSULTANT WILL BE REQUIRED BEFORE TO THE OWNER CAN BE RELEASED FROM HIS/HER FOREST CONSERVATION OBLIGATION TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION
- 5. THE DEVELOPER/BUILDER SHALL (IN WRITING) NOTIFY ALL LOT OWNERS OF THIS DEVELOPMENT OF THE EXISTENCE OF FOREST CONSERVATION AREAS AND THAT DISTURBANCE TO THE FOREST CONSERVATION AREAS OR THE REMOVAL OF FOREST CONSERVATION SIGNAGE IS PROHIBITED.
- 6. REFORESTATION/AFFORESTATION TREE PLANTINGS SHOULD BE INSTALLED IN A CURVILINEAR PATTERN TO FACILITATE MAINTENANCE BUT AVOID A GRID APPEARANCE. EACH SPECIES OF TREE SHALL BE DISTRIBUTED EVENLY WITHIN EACH FOREST CONSERVATION EASEMENT AREA.
- THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- THE ENCLAVE AT ELLICOTT HILLS (WHICH WAS DEVELOPED UNDER F-01-196 AND SDP-02-065) CLEARED ABOVE THE FOREST CONSERVATION BREAK-EVEN POINT AND HAD EXCESS FOREST RETENTION THAT COULD BE APPLIED TOWARDS THE FOREST CONSERVATION OBLIGATION FOR THE FUTURE DEVELOPMENT ON PARCEL 'B' AND PARCEL '99'. PLAT NO. 15319-15323 CREATED II (ELEVEN) FOREST CONSERVATION EASEMENTS (WHICH INCLUDED EXCESS RETENTION) TO SATISFY THE FOREST CONSERVATION OBLIGATION FOR THE ENCLAVE AT ELLICOTT HILLS. FOREST CONSERVATION IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL IS BASED ON A COMBINATION OF REQUIRED OBLIGATION FOR F-01-196 (THE ENCLAVE AT ELLICOTT HILLS) AND FOR THIS FINAL PLAN, F-10-64 (ENCLAVE AT ROGERS). PORTIONS OF FCE #3 AND FCE #6 AS PREVIOUSLY RECORDED UNDER F-01-196 ARE BEING ABANDONED BY RECORDATION OF THIS PLAT. FCE#S I, 2, 4, 5 AND 7 THROUGH II AS PREVIOUSLY RECORDED UNDER F-OI-196/ENCLAVES AT ELLICOTT HILLS WERE EXCESS FC RETENTION TO BE CREDITED TOWARDS FUTURE OBLIGATION FOR DEVELOPMENT OF PARCEL B AND PARCEL 94 (F-10-64). OBLIGATIONS FOR F-10-64 AS INDICATED UNDER THE FOREST CONSERVATION WORKSHEET ARE AS FOLLOWS: 18.27 ACRES OF RETENTION AND 4.30 ACRES OF REFORESTATION. OBLIGATIONS ARE BEING MET AS FOLLOWS: 9.42 ACRES OF ON-SITE RETENTION UNDER THIS PLAN (DOES NOT INCLUDE FLOODPLAIN/FCE#S 3A, 6A, 6B, 6C & 6F) AND 2.23 ACRES OF ON-SITE REFORESTATION (FCE#S #3A, 6A, 6B, 6C, 6D & 6E). THE BALANCE OF 8.85 ACRES OF REQUIRED RETENTION IS MET THROUGH THE AFOREMENTIONED PREVIOUSLY RECORDED EASEMENTS. THE 2.07 ACRES OF REQUIRED REFORESTATION SHALL BE PROVIDED AT MAPLE LAWN FARMS, MESTSIDE DISTRICT, AREA I (PLAT NOS. 1987) TO 19872) AS SHOWN ON F-08-54. TOTAL SURETY IN THE AMOUNT OF \$130,636.00 FOR 2.23 ACRES OF REFORESTATION (47,138 SQ. FT x \$0.50 = \$48,564) AND FOR 4.42 ACRES OF RETENTION (410,335 SQ. FT x \$0.20 = \$82,067) SHALL BE POSTED WITH

FOREST CONSERVATION PROGRAM SEQUENCE

THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN, F-10-64.

- I. OBTAIN ALL NECESSARY PERMITS.
- 2. STAKEOUT LIMITS OF DISTURBANCE.
- 3. FIELD MEETING TO REVIEW AND VERIFY LIMIT OF DISTURBANCE FOR THE SITE GRADING AND CONSTRUCTION.
- 4. INSTALL FOREST CONSERVATION SIGNS AND FOREST PROTECTION DEVICES (FENCES) ALONG THE PORTION OF THE LIMIT OF DISTURBANCE (THAT INVOLVES CLEARING AND/OR RETENTION OF TREES).
- COMMENCE SITE CONSTRUCTION.
- 6. PREPARE SITE SOIL BY MULCHING AND REMOVAL OF TRASH AND WEEDS INCLUDING AN APPLICATION OF HERBICIDES TO CONTROL NOXIOUS WEEDS AND
- 7. INSTALL FOREST PLANTING AND THE REMAINDER OF THE CONSERVATION SIGNS ALONG THE EDGE OF THE CONSERVATION EASEMENT. MOVE CONSERVATION SIGNS INSTALLED IN #4 (ABOVE) TO THE EDGE OF THE CONSERVATION EASEMENT.
- 8. INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE CONSTRUCTION PERIOD OBLIGATIONS, START OF POST-CONSTRUCTION MANAGEMENT PERIOD.
- 9. POST-CONSTRUCTION MANAGEMENT FOR A PERIOD OF 2 YEARS (MIN.).
- IO. FINAL INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE OWNER'S FOREST CONSERVATION SURETY.





DEPENDENT UPON SITE CONDITIONS

DEPENDENT UPON SITE CONDITIONS; WEEKLY WATERING IS GREATLY RECOMMENDED FROM MAY THROUGH OCTOBER UNLESS WEEKLY RAINFALL EQUALS 1"

THE PLANTING AND CARE OF TREES IS MOST SUCCESSFUL WHEN COORDINATED WITH THE LOCAL CLIMATIC CONDITIONS. THIS CALENDAR SUMMARIZES SOME OF THE RECOMMENDED TIME FRAMES FOR BASIC REFORESTATION AND STRESS REDUCTION ACTIVITIES.

SOURCE: ADAPTED FROM THE MARYLAND STATE FOREST CONSERVATION MANUAL

GLWGUTSCHICK LITTLE &WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK

:\CADD\DRAWINGS\06079\FINALS\06079 FC-44.dwg | DES. JRS | DRN. JRS | CHK. MBT

BURTONSVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

PREPARED FOR (OWNER): MAGIS FARM, LLC (PARCEL 99) AND NORTHRIDGE ROAD, LLC (PARCEL B) c/o Greenebaum & Rose Associates, Inc DEVELOPER: G&R ROGERS DEVELOPMENT SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD BALTIMORE, MD 21208

BY APP'R.

ATTN: MARK BENNETT

410-484-8400

ROAD CONSTUCTION PLAN ROCKLAND AT ROGERS
LOTS 1 THROUGH 68, OPEN SPACE LOTS 69 THROUGH 77

FINAL FOREST CONSERVATION NOTES AND DETAILS

AND COMMON OPEN AREAS 78 THROUGH 80 A RESUBDIVISION OF PARCEL 'B', THE ENCLAVE AT ELLICOTT HILLS, PLAT Nos. 15356 & 15357 AND A SUBDIVISION OF PARCEL 99 ELECTION DISTRICT No. 2 HOWARD COUNTY, MARYLAND

G. L. W. FILE No. SCALE 06079 AS SHOWN RA-15 TAX MAP - GRID SEPT., 2010 | 17-18 & 24 44 OF 44